CLINICIAN'S POCKET DRUG REFERENCE 2009

Leonard G. Gomella
Steven A. Haist
Aimee G. Adams

the SCUT MONKEY DRUG MANUAL
TIPS FOR SAFE PRESCRIPTION WRITING**

LEGIBILITY
1. Take time to write legibly.
2. Print if this would be more legible than handwriting.
3. Use a typewriter or computer if necessary. In the near future, physicians will generate all prescriptions by computer to eliminate legibility problems.
4. Carefully print the order to avoid misreading. There are many “sound alike” drugs and medications that have similar spellings (ie, Celexa and Celebrex). See a listing of sound alike drug names at www.eDrugbook.com.

DANGEROUS PRESCRIPTION WRITING PRACTICES
1. Never use a trailing zero. Correct: 1 mg; Dangerous: 1.0 mg. If the decimal is not seen, a 10-fold overdose can occur.
2. Never leave a decimal point “naked.” Correct: 0.5 mL; Dangerous: .5 mL. If the decimal point is not seen, a 10-fold overdose can occur.
3. Never abbreviate a drug name because the abbreviation may be misunderstood or have multiple meanings.
4. Never abbreviate U for units as it can easily be read as a zero, thus “6 U regular insulin” can be misread as 60 units. The order should be written as “6 units regular insulin.”
5. Never use qd (abbreviation for once a day). When poorly written, the tail of the “q” can make it read qid or four times a day.

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www.eDrugbook.com
www.thescutmonkey.com

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NATURAL AND HERBAL AGENTS

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We are pleased to present the 8th edition of the *Clinician’s Pocket Drug Reference*. This book is based on the drug presentation style used since 1983 in the *Clinician’s Pocket Reference*, popularly known as the Scut Monkey Book. Our goal is to identify the most frequently used and clinically important medications, including branded, generic, and OTC products. The book includes well over 1000 medications and is designed to represent a cross-section of commonly used products in medical practices across the country.

Our style of drug presentation includes key “must-know” facts of commonly used medications, essential for both the student and practicing physician. The inclusion of common uses of medications rather than just the official FDA-labeled indications are based on the uses of the medication supported by publications and community standards of care. All uses have been reviewed by our editorial board.

It is essential that students and residents in training learn more than the name and dose of the medications they prescribe. Certain common side effects and significant warnings and contraindications are associated with prescription medications. Although health-care providers should ideally be completely familiar with the entire package insert of any medication prescribed, such a requirement is unreasonable. References such as the *Physician’s Desk Reference* and the drug manufacturer’s Web site make package inserts readily available for many medications, but may not highlight clinically significant facts or key data for generic drugs and those available over the counter.

The limitations of difficult-to-read package inserts were acknowledged by the Food and Drug Administration in 2001, when it noted that physicians do not have time to read the many pages of small print in the typical package insert. Newer drugs are now producing more user-friendly package insert summaries that highlight important drug information for easier practitioner reference. Although useful, these summaries do not commingle with similarly approved generic or “competing” similar products.

The editorial board and contributors have analyzed the information on both brand and generic medications and has made this key prescribing information available in this pocket-sized book. Information in this book is meant for use by health-care professionals who are familiar with these commonly prescribed medications.

This 2009 edition has been completely reviewed and updated by our editorial board and technical contributors. More than 45 new drugs have been added, and dozens of changes in other medications based on FDA actions have been incorporated, including deletions of discontinued brand names and compounds. Where appropriate,
emergency cardiac care (ECC) guidelines are provided based on the latest recommendations from the American Heart Association (Circulation, Volume 112, Issue 24 Supplement; December 13, 2005). New for this edition is a convenient emergency medication summary in the back of the book for more rapid reference.

Editions of this book are also available in a variety of electronic or eBook formats. Visit www.eDrugbook.com for a link to the electronic versions currently available. Additionally, this web site has enhanced content features such as a comprehensive listing of “look alike–sound alike” medications that can contribute to prescribing errors.

We express special thanks to our spouses and families for their long-term support of this book and the entire Scut Monkey project (www.thescutmonkey.com). The Scut Monkey Project is designed to provide new medical students and those in the allied health professions with the basic tools needed when entering the world of hands-on patient care.

The contributions of the members of the editorial board, contributors and the team at McGraw-Hill are deeply appreciated. Your comments and suggestions are always welcome and encouraged because improvements to this and all our books would be impossible without the interest and feedback of our readers. We hope this book will help you learn some of the key elements in prescribing medications and allow you to care for your patients in the best way possible.

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Medications are listed by prescribing class and the individual medications are then listed in alphabetical order by generic name. Some of the more commonly recognized trade names are listed for each medication (in parentheses after the generic name) or if available without prescription, noted as OTC (over-the-counter).

**MEDICATION KEY**

**Generic Drug Name (Selected Common Brand Names) [Controlled Substance]**

**WARNING:** Summarized versions of the “Black Box” precautions deemed necessary by the FDA. These are significant precautions and contraindications concerning the individual medication. **Uses:** This includes both FDA-labeled indications bracketed by * and other “off-label” uses of the medication. Because many medications are used to treat various conditions based on the medical literature and not listed in their package insert, we list common uses of the medication in addition the official “labeled indications” (FDA approved) based on input from our editorial board. **Action:** How the drug works. This information is helpful in comparing classes of drugs and understanding side effects and contraindications. **Spectrum:** Specifies activity against selected microbes for antimicrobials. **Dose: Adults.** Where no specific pediatric dose is given, the implication is that this drug is not commonly used or indicated in that age group. At the end of the dosing line, important dosing modifications may be noted (ie, take with food, avoid antacids, etc). **Caution:** [pregnancy/fetal risk categories, breast-feeding (as noted below)] cautions concerning the use of the drug in specific settings. **CI:** Contraindications. **Disp:** Common dosing forms. **SE:** Common or significant side effects. **Notes:** Other key useful information about the drug.

**CONTROLLED SUBSTANCE CLASSIFICATION**

Medications under the control of the US Drug Enforcement Agency (Schedules I–V controlled substances) are indicated by the symbol [C]. Most medications are “uncontrolled” and do not require a DEA prescriber number on the prescription. The following is a general description for the schedules of DEA-controlled substances:
Schedule (C-I): All nonresearch use forbidden (eg, heroin, LSD, mescaline).

Schedule (C-II): High addictive potential; medical use accepted. No telephone call-in prescriptions; no refills. Some states require special prescription form (eg, cocaine, morphine, methadone).

Schedule (C-III): Low to moderate risk of physical dependence, high risk of psychologic dependence; prescription must be rewritten after 6 months or 5 refills (eg, acetaminophen plus codeine).

Schedule (C-IV): Limited potential for dependence; prescription rules same as for schedule III (eg, benzodiazepines, propoxyphene).

Schedule (C-V): Very limited abuse potential; prescribing regulations often same as for uncontrolled medications; some states have additional restrictions.

FDA FETAL RISK CATEGORIES

Category A: Adequate studies in pregnant women have not demonstrated a risk to the fetus in the first trimester of pregnancy; there is no evidence of risk in the last two trimesters.

Category B: Animal studies have not demonstrated a risk to the fetus, but no adequate studies have been done in pregnant women.

or

Animal studies have shown an adverse effect, but adequate studies in pregnant women have not demonstrated a risk to the fetus during the first trimester of pregnancy, and there is no evidence of risk in the last two trimesters.

Category C: Animal studies have shown an adverse effect on the fetus, but no adequate studies have been done in humans. The benefits from the use of the drug in pregnant women may be acceptable despite its potential risks.

or

No animal reproduction studies and no adequate studies in humans have been done.

Category D: There is evidence of human fetal risk, but the potential benefits from the use of the drug in pregnant women may be acceptable despite its potential risks.

Category X: Studies in animals or humans or adverse reaction reports, or both, have demonstrated fetal abnormalities. The risk of use in pregnant women clearly outweighs any possible benefit.

Category ?: No data available (not a formal FDA classification; included to provide complete dataset).
BREAST-FEEDING CLASSIFICATION

No formally recognized classification exists for drugs and breast-feeding. This shorthand was developed for the *Clinician’s Pocket Drug Reference*.

+ Compatible with breast-feeding  
M Monitor patient or use with caution  
± Excreted, or likely excreted, with unknown effects or at unknown concentrations  
?/– Unknown excretion, but effects likely to be of concern  
– Contraindicated in breast-feeding  
? No data available
check, follow, or monitor
Ab: antibody, abortion
Abd: abdominal
ABMT: autologous bone marrow transplantation
ac: before meals (ante cibum)
ACE: angiotensin-converting enzyme
ACH: acetylcholine
ACLS: advanced cardiac life support
ACS: acute coronary syndrome, American Cancer Society, American College of Surgeons
ACT: activated coagulation time
ADH: antidiuretic hormone
ADHD: attention-deficit hyperactivity disorder
ADR: adverse drug reaction
AF: atrial fibrillation
AHA: American Heart Association
ALL: acute lymphocytic leukemia
ALT: alanine aminotransferase
AMI: acute myocardial infarction
AML: acute myelogenous leukemia
AMP: ampule
ANA: antinuclear antibody
ANC: absolute neutrophil count
APAP: acetaminophen [N-acetyl-p-aminophenol]
aPTT: activated partial thromboplastin time
ARB: angiotensin II receptor blocker
ARDS: adult respiratory distress syndrome
ARF: acute renal failure
AS: aortic stenosis
ASA: aspirin (acetylsalicylic acid)
AST: aspartate aminotransferase
ATP: adenosine triphosphate
AUC: area under the curve
AUB: abnormal uterine/vaginal bleeding
AV: atrioventricular
AVM: arteriovenous malformation
BCL: B-cell lymphoma
BPM: beats per minute
BID: twice daily
BM: bone marrow, bowel movement
↓BM: bone marrow suppression, myelosuppression
BMD: bone mineral density
BMT: bone marrow transplantation
BOO: bladder outlet obstruction
BP: blood pressure
↓BP: hypotension
BPH: benign prostatic hyperplasia
BSA: body surface area
BUN: blood urea nitrogen
Ca: calcium
CA: cancer
CABG: coronary artery bypass graft
CAD: coronary artery disease
CAP: community-acquired pneumonia
caps: capsule
carditox: cardiotoxicity
CBC: complete blood count
CCB: calcium channel blocker
CDC: Centers for Disease Control and Prevention
CF: cystic fibrosis
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<td>CHF</td>
<td>congestive heart failure</td>
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<td>chronic myelogenous leukemia</td>
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<td>central nervous system</td>
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<td>combo</td>
<td>combination</td>
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<td>complicated</td>
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<td>cont</td>
<td>continuous</td>
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<td>COPD</td>
<td>chronic obstructive pulmonary disease</td>
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<td>COX</td>
<td>cyclooxygenase</td>
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<td>chest pain</td>
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<td>CPP</td>
<td>central precocious puberty</td>
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<td>CR</td>
<td>controlled release</td>
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<td>creatinine clearance</td>
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<td>chronic renal failure</td>
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<td>CSF</td>
<td>cerebrospinal fluid</td>
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<td>cardiovascular</td>
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<td>CVA</td>
<td>cerebrovascular accident, costovertebral angle</td>
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<td>CVH</td>
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<td>CYP</td>
<td>cytochrome P450 enzyme</td>
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<td>÷</td>
<td>divided</td>
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<tr>
<td>D</td>
<td>diarrhea</td>
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<td>day</td>
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<td>DA</td>
<td>dopamine</td>
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<tr>
<td>derm</td>
<td>dermatologic</td>
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<tr>
<td>D₃LR</td>
<td>5% dextrose in lactated Ringer solution</td>
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<tr>
<td>D₃NS</td>
<td>5% dextrose in normal saline</td>
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<tr>
<td>D₃W</td>
<td>5% dextrose in water</td>
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<tr>
<td>DI</td>
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<td>Disp</td>
<td>dispensed as; how the drug is supplied</td>
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<td>DKA</td>
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<td>dlL</td>
<td>deciliter</td>
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<td>DMARD</td>
<td>disease-modifying antirheumatic drug; drugs in randomized trials to decrease erosions and joint space narrowing in rheumatoid arthritis (eg, d-penicillamine, methotrexate, azathioprine)</td>
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<td>diabetic nephropathy</td>
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<td>DOT</td>
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<td>Dz</td>
<td>disease</td>
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<td>electrocardiogram</td>
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<td>erectile dysfunction</td>
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<td>EGFR</td>
<td>epidermal growth factor receptor</td>
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<td>EIB</td>
<td>exercise induced bronchoconstriction</td>
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<td>ELISA</td>
<td>enzyme-linked immunosorbent assay</td>
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<td>EMG</td>
<td>electromyelogram</td>
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<td>EMIT</td>
<td>enzyme-multiplied immunoassay test</td>
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<td>epi</td>
<td>epinephrine</td>
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<td>EPS</td>
<td>extrapyramidal symptoms (tardive dyskinesia, tremors and rigidity, restlessness [akathisia], muscle contractions [dystonia], changes in breathing and heart rate)</td>
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<td>ER</td>
<td>extended release</td>
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<td>ESRD</td>
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<td>extravasation</td>
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<td>FAP</td>
<td>familial adenomatous polyposis</td>
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<td>follicle-stimulating hormone</td>
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<td>5-FU</td>
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<td>Fxn</td>
<td>function</td>
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<td>g</td>
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<td>GABA</td>
<td>gamma-aminobutyric acid</td>
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Abbreviations

G-CSF: granulocyte colony-stimulating factor
GC: gonorrhea
gen: generation
GERD: gastroesophageal reflux disease
GF: growth factor
GFR: glomerular filtration rate
GI: gastrointestinal
GIST: Gastrointestinal stromal tumor
GM-CSF: granulocyte-macrophage colony-stimulating factor
GnRH: gonadotropin-releasing hormone
G6PD: glucose-6-phosphate dehydrogenase
gtt: drop, drops (gutta)
GU: genitourinary
GVHD: graft-versus-host disease
h: hour(s)
HA: headache
HBsAg: hepatitis B surface antigen
HBV: hepatitis B virus
HCL: hairy cell leukemia
Hct: hematocrit
HCTZ: hydrochlorothiazide
HD: hemodialysis
hep: hepatitis
hepatotox: hepatotoxicity
Hgb: hemoglobin
HIT: heparin-induced thrombocytopenia
HITTS: heparin-induced thrombosis-thrombocytopenia syndrome
HIV: human immunodeficiency virus
HMG-CoA: hydroxymethylglutaryl coenzyme A
HPV: human papillomavirus
HR: heart rate
↑HR: increased heart rate (tachycardia)
hs: at bedtime (hora somni)
HSV: herpes simplex virus
5-HT: 5-hydroxytryptamine
HTN: hypertension
Hx: history of
IBD: irritable bowel disease
IBS: irritable bowel syndrome
IBW: ideal body weight
ICP: intracranial pressure
IFIS: intraoperative floppy iris syndrome
Ig: immunoglobulin
IGF: insulin-like growth factor
IHSS: idiopathic hypertropic subaortic stenosis
IL: interleukin
IM: intramuscular
impair: impairment
Inf: infusion
Infxn: infection
Inh: inhalation
INH: isoniazid
Inj: injection
INR: international normalized ratio
Insuff: insufficiency
Intravag: intravaginal
IO: intraosseous
IOP: intraocular pressure
IR: immediate release
ISA: intrinsic sympathomimetic activity
IT: intrathecal
ITP: idiopathic thrombocytopenic purpura
Int units: international units
IUD: intrauterine device
IV: intravenous
JRA: juvenile rheumatoid arthritis
K/K+: potassium
LA: long-acting
LDL: low-density lipoprotein
LFT: liver function test
LH: luteinizing hormone
LHRH: luteinizing hormone-releasing hormone
liq: liquid(s)
LMW: low molecular weight
LP: lumbar puncture
LVD: left ventricular dysfunction
LVEF: left ventricular ejection fraction
LVSD: left ventricular systolic dysfunction
lytes: electrolytes
MAC: Mycobacterium avium complex
maint: maintenance dose/drug
MAO/MAOI: monoamine oxidase/inhibitor
max: maximum
mcg: microgram(s)
mcL: microliter(s)
MDD: major depressive disorder
MDI: multidose inhaler
MDS: myelodysplasia syndrome
meds: medicines
mEq: milliequivalent
met: metastatic
mg: milligram(s)
Mg/Mg²⁺: magnesium
MI: myocardial infarction, mitral insufficiency
min: minute(s)
mL: milliliter(s)
mo: month(s)
MoAb: monoclonal antibody
mod: moderate
MRSA: methicillin-resistant Staphylococcus aureus
MSSA: methicillin-sensitive Staphylococcus aureus
MTT: monotetrazolium
MTX: methotrexate
MyG: myasthenia gravis
N: nausea
NA: narrow angle
NAG: narrow angle glaucoma
neplotox: nephrotoxicity
neurotox: neurotoxicity
ng: nanogram(s)
NG: nasogastric
NHL: non-Hodgkin lymphoma
NIAON: nonischemic arterial optic neuritis
nl: normal
NO: nitric oxide
NPO: nothing by mouth (nil per os)
NRTI: nucleoside reverse transcriptase inhibitor
NS: normal saline
NSAID: nonsteroidal anti-inflammatory drug
NSCLC: non-small cell lung cancer
N/V: nausea and vomiting
N/V/D: nausea, vomiting, diarrhea
NYHA: New York Heart Association
OA: osteoarthritis
OAB: overactive bladder
obst: obstruction
OCP: oral contraceptive pill
OD: overdose
ODT: orally disintegrating tablets
OK: recommended
oint: ointment
ophthal: ophthalmic
OTC: over the counter
ototox: ototoxicity
PAT: paroxysmal atrial tachycardia
pc: after eating (post cibum)
PCa: cancer of the prostate
PCI: percutaneous coronary intervention
PCN: penicillin
PCP: *Pneumocystis jiroveci* (formerly *carinii*) pneumonia

PCWP: pulmonary capillary wedge pressure

PDE5: phosphodiesterase type 5

PDGF: platelet-derived growth factor

PE: pulmonary embolus, physical examination, pleural effusion

PEA: pulseless electrical activity

PFT: pulmonary function test

pg: picogram(s)

Ph: Philadelphia chromosome

PID: pelvic inflammatory disease

plt: platelet

PMDD: premenstrual dysgraphic disorder

PML: progressive multifocal leukoencephalopathy

PMS: premenstrual syndrome

PO: by mouth (*per os*)

PPD: purified protein derivative

PR: by rectum

PRG: pregnancy

PRN: as often as needed (*pro re nata*)

PSA: prostate-specific antigen

PSVT: paroxysmal supraventricular tachycardia

pt: patient

PT: prothrombin time

PTCA: percutaneous transluminal coronary angioplasty

PTH: parathyroid hormone

PTT: partial thromboplastin time

PUD: peptic ulcer disease

PVD: peripheral vascular disease

pulm: pulmonary

PVC: premature ventricular contraction

PWP: pulmonary wedge pressure

Px: prevention

q: every (*quaque*)

q_h: every _ hours

q day: every day

qh: every hour

qhs: every hour of sleep (before bedtime)

QID: four times a day (*quater in die*)

q other day: every other day

RA: rheumatoid arthritis

RAS: renin-angiotensin system

RBC: red blood cell(s) (count)

RCC: renal cell carcinoma

RDA: recommended dietary allowance

RDS: respiratory distress syndrome

resp: respiratory

RHuAb: recombinant human antibody

RIA: radioimmune assay

RR: respiratory rate

RSV: respiratory syncytial virus

RT: reverse transcriptase

RTA: renal tubular acidosis

Rx: prescription or therapy

Rxn: reaction

s: second(s)

SAE: serious adverse event

SBE: subacute bacterial endocarditis

SBP: systolic blood pressure

SCr: serum creatinine

SCLC: small cell lung cancer

SDV: single-dose vial

SE: side effect(s)

SIADH: syndrome of inappropriate antidiuretic hormone

sig: significant

SL: sublingual

SLE: systemic lupus erythematosus

SNRIs: serotonin-norepinephrine reuptake inhibitors

Sol/soln: solution

sp: species

SPAG: small particle aerosol generator

SQ: subcutaneous

SR: sustained release
<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Full Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>SSRI</td>
<td>selective serotonin reuptake inhibitor</td>
</tr>
<tr>
<td>SSS</td>
<td>sick sinus syndrome</td>
</tr>
<tr>
<td>S/Sys</td>
<td>signs &amp; symptoms</td>
</tr>
<tr>
<td>stat</td>
<td>immediately <em>(statim)</em></td>
</tr>
<tr>
<td>STD</td>
<td>sexually transmitted disease</td>
</tr>
<tr>
<td>supl</td>
<td>supplement</td>
</tr>
<tr>
<td>supp</td>
<td>suppository</td>
</tr>
<tr>
<td>susp</td>
<td>suspension</td>
</tr>
<tr>
<td>SVT</td>
<td>supraventricular tachycardia</td>
</tr>
<tr>
<td>synth</td>
<td>synthesis</td>
</tr>
<tr>
<td>Sx</td>
<td>symptom</td>
</tr>
<tr>
<td>Sz</td>
<td>seizure</td>
</tr>
<tr>
<td>tab/tabs</td>
<td>tablet/tablets</td>
</tr>
<tr>
<td>TB</td>
<td>tuberculosis</td>
</tr>
<tr>
<td>TCA</td>
<td>tricyclic antidepressant</td>
</tr>
<tr>
<td>TFT</td>
<td>thyroid function test</td>
</tr>
<tr>
<td>TIA</td>
<td>transient ischemic attack</td>
</tr>
<tr>
<td>TID</td>
<td>three times a day <em>(ter in die)</em></td>
</tr>
<tr>
<td>TKI</td>
<td>tyrosine kinase inhibitors</td>
</tr>
<tr>
<td>TMP</td>
<td>trimethoprim</td>
</tr>
<tr>
<td>TMP—SMX</td>
<td>trimethoprim—sulfamethoxazole</td>
</tr>
<tr>
<td>TNF</td>
<td>tumor necrosis factor</td>
</tr>
<tr>
<td>tox</td>
<td>toxicity</td>
</tr>
<tr>
<td>TPA</td>
<td>tissue plasminogen activator</td>
</tr>
<tr>
<td>tri</td>
<td>trimester</td>
</tr>
<tr>
<td>TTP</td>
<td>thrombotic thrombocytopenic purpura</td>
</tr>
<tr>
<td>TTS</td>
<td>transdermal therapeutic system</td>
</tr>
<tr>
<td>Tx</td>
<td>treatment</td>
</tr>
<tr>
<td>UGT</td>
<td>uridine 5’ diphosphoglucuronosyl transferase</td>
</tr>
<tr>
<td>UC</td>
<td>ulcerative colitis</td>
</tr>
<tr>
<td>ULN</td>
<td>upper limits of normal</td>
</tr>
<tr>
<td>uncomp</td>
<td>uncomplicated</td>
</tr>
<tr>
<td>URI</td>
<td>upper respiratory infection</td>
</tr>
<tr>
<td>UTI</td>
<td>urinary tract infection</td>
</tr>
<tr>
<td>V</td>
<td>vomiting</td>
</tr>
<tr>
<td>Vag</td>
<td>vaginal</td>
</tr>
<tr>
<td>VEGF</td>
<td>vascular endothelial growth factor</td>
</tr>
<tr>
<td>VF</td>
<td>ventricular fibrillation</td>
</tr>
<tr>
<td>vit</td>
<td>vitamin</td>
</tr>
<tr>
<td>vol</td>
<td>volume</td>
</tr>
<tr>
<td>VPA</td>
<td>valproic acid</td>
</tr>
<tr>
<td>VRE</td>
<td>vancomycin-resistant</td>
</tr>
<tr>
<td>Enterococcus</td>
<td></td>
</tr>
<tr>
<td>VT</td>
<td>ventricular tachycardia</td>
</tr>
<tr>
<td>WBC</td>
<td>white blood cell(s) (count)</td>
</tr>
<tr>
<td>Wgt</td>
<td>weight</td>
</tr>
<tr>
<td>WHI</td>
<td>Women’s Health Initiative</td>
</tr>
<tr>
<td>wk</td>
<td>week(s)</td>
</tr>
<tr>
<td>WNL</td>
<td>within normal limits</td>
</tr>
<tr>
<td>WPW</td>
<td>Wolff–Parkinson–White syndrome</td>
</tr>
<tr>
<td>XR</td>
<td>extended release</td>
</tr>
<tr>
<td>ZE</td>
<td>Zollinger–Ellison (syndrome)</td>
</tr>
</tbody>
</table>
**CLASSIFICATION**  (Generic and common brand names)

### ALLERGY

**Antihistamines**

- Azelastine (Astelin, Optivar)
- Cetirizine (Zyrtec, Zyrtec D)
- Chlorpheniramine (Chlor-Trimeton)
- Clemastine Fumarate (Tavist)
- Cyproheptadine (Periactin)
- Desloratadine (Clarinex)
- Diphenhydramine (Benadryl)
- Fexofenadine (Allegra)
- Hydroxyzine (Atarax, Vistaril)
- Levocetirizine (Xyzal)
- Loratadine (Claritin, Alavert)

**Miscellaneous Antiallergy Agents**

- Budesonide (Rhinocort, Pulmicort)
- Cromolyn Sodium (Intal, NasalCrom, Opticrom)
- Montelukast (Singulair)

### ANTIDOTES

- Acetylcysteine (Acetadote, Mucomyst)
- Amifostine (Ethylol)
- Atropine (AtroPen)
- Charcoal (SuperChar, Actidose, Liqui-Char Activated)
- Deferasirox (Exjade)
- Dexrazoxane (Totect, Zinecard)
- Digoxin Immune Fab (Digibind, DigiFab)
- Flumazenil (Romazicon)
- Hydroxocobalamin (Cyanokit)
- Ipecac Syrup (OTC Syrup)
- Mesna (Mesnex)
- Naloxone
- Physostigmine (Antilirium)
- Succimer (Chemet)

### ANTIMICROBIAL AGENTS

**Antibiotics**

**AMINOGLYCOSIDES**

- Amikacin (Amikin)
- Gentamicin (Garamycin, G-Myticin)
- Neomycin
- Streptomycin
- Tobramycin (Nebcin)
**CARBAPENEMS**

<table>
<thead>
<tr>
<th>Drug</th>
<th>Trade Name(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Doripenem</td>
<td>Doribax</td>
</tr>
<tr>
<td>Ertapenem</td>
<td>Invanz</td>
</tr>
<tr>
<td>Imipenem-Cilastatin</td>
<td>Primaxin</td>
</tr>
<tr>
<td>Meropenem (Merrem)</td>
<td></td>
</tr>
</tbody>
</table>

**CEPHALOSPORINS, FIRST GENERATION**

<table>
<thead>
<tr>
<th>Drug</th>
<th>Trade Name(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cefadroxil</td>
<td>Duricef, Ultracef</td>
</tr>
<tr>
<td>Cefazolin</td>
<td>Ancef, Kefzol</td>
</tr>
<tr>
<td>Cephalexin</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Keflex, Panixine DisperDose</td>
</tr>
</tbody>
</table>

**CEPHALOSPORINS, SECOND GENERATION**

<table>
<thead>
<tr>
<th>Drug</th>
<th>Trade Name(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cefaclor (Ceclor)</td>
<td></td>
</tr>
<tr>
<td>Cefoxitin (Mefoxin)</td>
<td></td>
</tr>
<tr>
<td>Cefuroxime (Ceftin [oral], Zinacef [parenteral])</td>
<td></td>
</tr>
<tr>
<td>Cefotetan (Cefotan)</td>
<td></td>
</tr>
<tr>
<td>Cefprozil (Cefzil)</td>
<td></td>
</tr>
</tbody>
</table>

**CEPHALOSPORINS, THIRD GENERATION**

<table>
<thead>
<tr>
<th>Drug</th>
<th>Trade Name(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cefdinir (Omnicef)</td>
<td></td>
</tr>
<tr>
<td>Cefditoren (Spectracef)</td>
<td></td>
</tr>
<tr>
<td>Cefpodoxime (Vantin)</td>
<td></td>
</tr>
<tr>
<td>Ceftazidime (Fortaz, Tazidime, Tazicef)</td>
<td></td>
</tr>
<tr>
<td>Ceftibuten (Cedax)</td>
<td></td>
</tr>
<tr>
<td>Ceftizoxime (Cefizox)</td>
<td></td>
</tr>
<tr>
<td>Cefoperazone (Cefobid)</td>
<td></td>
</tr>
<tr>
<td>Ceftaz</td>
<td></td>
</tr>
<tr>
<td>Ceftriazone (Rocephin)</td>
<td></td>
</tr>
<tr>
<td>Cefotaxime (Claforan)</td>
<td></td>
</tr>
</tbody>
</table>

**CEPHALOSPORINS, FOURTH GENERATION**

<table>
<thead>
<tr>
<th>Drug</th>
<th>Trade Name(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cefepime (Maxipime)</td>
<td></td>
</tr>
</tbody>
</table>

**FLUOROQUINOLONES**

<table>
<thead>
<tr>
<th>Drug</th>
<th>Trade Name(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ciprofloxacin (Cipro, Proquin XR)</td>
<td></td>
</tr>
<tr>
<td>Levofloxacin (Levaquin)</td>
<td></td>
</tr>
<tr>
<td>Lomefloxacin (Maxaquin)</td>
<td></td>
</tr>
<tr>
<td>Moxifloxacin (Avelox)</td>
<td></td>
</tr>
</tbody>
</table>

**MACROLIDES**

<table>
<thead>
<tr>
<th>Drug</th>
<th>Trade Name(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Azithromycin (Zithromax)</td>
<td></td>
</tr>
<tr>
<td>Clarithromycin (Biaxin)</td>
<td></td>
</tr>
<tr>
<td>Erythromycin (E-Mycin, E.E.S., Ery-Tab)</td>
<td></td>
</tr>
<tr>
<td>Erythromycin &amp; Sulfisoxazole (Eryzole, Pediazole)</td>
<td></td>
</tr>
</tbody>
</table>

**KETOLIDE**

<table>
<thead>
<tr>
<th>Drug</th>
<th>Trade Name(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Telithromycin (Ketek)</td>
<td></td>
</tr>
</tbody>
</table>
## PENICILLINS
- Amoxicillin (Amoxil, Polymox)
- Amoxicillin & Clavulanic Acid (Augmentin)
- Ampicillin (Amcill, Omnipen)
- Ampicillin-Sulbactam (Unasyn)
- Dicloxacillin (Dynapen, Dycill)
- Nafcillin (Nallpen, Unipen)
- Oxacillin (Bactocill, Prostaphlin)
- Penicillin G, Aqueous (Potassium or Sodium) (Pfizerpen, Pentids)
- Penicillin G Benzathine (Bicillin)
- Penicillin G Procaine (Wycillin)
- Penicillin V (Pen-Vee K, Veetids)
- Piperacillin (Pipracil)
- Piperacillin-Tazobactam (Zosyn)
- Ticarcillin/Potassium Clavulanate (Timentin)

## TETRACYCLINES
- Doxycycline (Adoxa, Periostat, Oracea, Vibramycin, Vibra-Tabs)
- Minocycline (Dynacin, Minocin, Solody)
- Tetracycline (Achromycin V, Sumycin)
- Tigecycline (Tygacil)

## Miscellaneous Antibiotic Agents
- Aztreonam (Azactam)
- Clindamycin (Cleocin, Cleocin-T)
- Fosfomycin (Monurol)
- Linezolid (Zyvox)
- Metronidazole (Flagyl, MetroGel)
- Mupirocin (Bactroban, Bactroban Nasal)
- Nitrofurantoin (Furadantin, Macrobid)
- Quinupristin-Dalfopristin (Synercid)
- Rifaximin (Xifaxan)
- Retapamulin (Altabax)
- Trimethoprim (Primsol, Proloprim)
- Trimethoprim-Sulfamethoxazole (Co-Trimoxazole)
- Vancomycin (Vancocin, Vancoled)

## Antifungals
- Amphotericin B (Fungizone)
- Amphotericin B Lipid Complex (Abelcet)
- Amphotericin B Liposomal (AmBisome)
- Anidulafungin (Eraxis)
- Caspofungin (Cancidas)
- Clotrimazole (Lotrimin, Mycelex)
- Clotrimazole & Betamethasone (Lotrisone)
- Econazole (Spectazole)
- Fluconazole (Diflucan)
- Itraconazole (Sporanox)
<table>
<thead>
<tr>
<th>Dapsone, oral (Nizoral)</th>
<th>Miconazole (Monistat combo, Monistat 3, Monistat 7) [OTC]</th>
<th>Sertaconazole (Ertaczo)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethambutol (Myambutol)</td>
<td>Isoniazid (INH)</td>
<td>Rifampin (Rifadin)</td>
</tr>
<tr>
<td></td>
<td>Pyrazinamide</td>
<td>Rifapentine (Priftin)</td>
</tr>
<tr>
<td></td>
<td>Rifabutin (Mycobutin)</td>
<td>Streptomycin</td>
</tr>
<tr>
<td>KETOCONAZOLE, ORAL (Nizoral)</td>
<td>Miconazole (Monistat combo, Monistat 3, Monistat 7) [OTC]</td>
<td>Sertaconazole (Ertaczo)</td>
</tr>
<tr>
<td>KETOCONAZOLE, TOPICAL (Extina, Kuric, Xolegel, Nizoral A-D Shampoo)</td>
<td>Isoniazid (INH)</td>
<td>Rifampin (Rifadin)</td>
</tr>
<tr>
<td></td>
<td>Pyrazinamide</td>
<td>Rifapentine (Priftin)</td>
</tr>
<tr>
<td></td>
<td>Rifabutin (Mycobutin)</td>
<td>Streptomycin</td>
</tr>
<tr>
<td>Antiprotozoals</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nitazoxanide (Alinia)</td>
<td>Tinidazole (Tindamax)</td>
<td></td>
</tr>
<tr>
<td>Antiretrovirals</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Abacavir (Ziagen)</td>
<td>Lamivudine (Epivir, Epivir-HBV, 3 TC [many combo regimens])</td>
<td>Ritonavir (Norvir)</td>
</tr>
<tr>
<td>Daptomycin (Cubicin)</td>
<td>Delavirdine (Rescriptor)</td>
<td>Saquinavir (Fortovase)</td>
</tr>
<tr>
<td>Didanosine [ddI] (Videx)</td>
<td>Didanosine (ddI) [Videx]</td>
<td>Stavudine (Zerit)</td>
</tr>
<tr>
<td>Efavirenz (Sustiva)</td>
<td>Lopinavir/Ritonavir (Kaletra)</td>
<td>Tenofovir (Viread)</td>
</tr>
<tr>
<td>Efavirenz/emtricitabine/tenofovir (Atripla)</td>
<td>Maraviroc (Selzentry)</td>
<td>Tenofovir/Emtricitabine (Truvada)</td>
</tr>
<tr>
<td>Etravirine (Intellence)</td>
<td>Nevirapine (Viramune)</td>
<td>Zidovudine (Retrovir)</td>
</tr>
<tr>
<td>Indinavir (Crixivan)</td>
<td>Nevirapine (Viramune)</td>
<td>Lamivudine &amp;</td>
</tr>
<tr>
<td></td>
<td>Raltegravir (Isentress)</td>
<td>Zidovudine (Retrovir)</td>
</tr>
<tr>
<td>Antivirals</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acyclovir (Zovirax)</td>
<td>Emtricitabine (Emtriva)</td>
<td>Interferon Alfa-2b &amp;</td>
</tr>
<tr>
<td>Adefovir (Hepsera)</td>
<td>Enfuvirtide (Fuzeon)</td>
<td>Ribavirin Combo</td>
</tr>
<tr>
<td>Amantadine (Symmetrel)</td>
<td>Famiclovir (Famvir)</td>
<td>(Rebetron)</td>
</tr>
<tr>
<td>Atazanavir (Reyataz)</td>
<td>Foscarnet (Foscavir)</td>
<td>Oseltamivir (Tamiflu)</td>
</tr>
<tr>
<td>Cidofovir (Vistide)</td>
<td>Ganciclovir (Cytovene, Vitarasert)</td>
<td>Palivizumab (Synagis)</td>
</tr>
</tbody>
</table>
Classification

Peg Interferon Alfa 2a (Peg Intron)
Penciclovir (Denavir)
Ribavirin (Virazole)

Miscellaneous Antiviral Agents

Atovaquone (Mepron)
Atovaquone/Proguanil (Malarone)

ANTINEOPLASTIC AGENTS

Alkylating Agents

Altretamine (Hexalen)
Bendamustine (Treanda)
Busulfan (Myleran, Busulfex)

NITROGEN MUSTARDS

Chlorambucil (Leukeran)
Cyclophosphamide (Cytoxan, Neosar)

NITROSOUREAS

Carmustine [BCNU] (BiCNU, Gliadel)

Antibiotics

Bleomycin Sulfate (Blenoxane)
Dactinomycin (Cosmegen)
Daunorubicin (Daunomycin, Cerubidine)

Valganciclovir (Valcyte)
Zanamivir (Relenza)

Daptomycin (Cubicin)
Pentamidine (Pentam 300, NebuPent)

Trimetrexate (NeuTrexin)

Procarbazine (Matulane)
Triethylenethiophosphoramide (Thio-Tepa)

Ifosfamide (Ifex, Holoxan)
Mechloretamine (Mustargen)

Melphalan [L-PAM] (Alkeran)

Streptozocin (Zanosar)

Doxorubicin (Adriamycin, Rubex)
Epirubicin (Ellence)

Idarubicin (Idamycin)
Mitomycin (Mutamycin)
**Antimetabolites**

Clofarabine (Clolar)  
Cytarabine [ARA-C]  
(Cytosar-U)  
Cytarabine Liposome  
(DepoCyt)  
Flouxuridine (FUDR)  
Fludarabine Phosphate  
(Flamp, Fludara)  

Fluorouracil [5-FU]  
(Adrucil)  
Gemcitabine (Gemzar)  
Mercaptopurine [6-MP]  
(Purinethol)  

Methotrexate (Folex, Rheumatrex)  
Nelarabine (Arranon)  
Pemetrexed (Alimta)  
6-Thioguanine [6-TG]  

**Hormones**

Anastrozole (Arimidex)  
Bicalutamide (Casodex)  
Estramustine Phosphate  
(Emcyt)  
Exemestane (Aromasin)  
Flutamide (Eulexin)  

Fulvestrant (Faslodex)  
Goserelin (Zoladex)  
Leuprolide (Lupron, Viadur, Eligard)  
Levamisole  
(Ergamisol)  

Megestrol Acetate  
(Megace)  
Nilutamide (Nilandron)  
Tamoxifen  
Triptorelin (Trelstar Depot, Trelstar LA)  

**Mitotic Inhibitors**

Etoposide [VP-16]  
(VePesid)  
Vinblastine (Velban, Velbe)  

Vincristine (Oncovin, Vincasar PFS)  

Vinorelbine (Navelbine)  

**Monoclonal Antibodies**

Bevacizumab (Avastin)  
Cetuximab (Erbitux)  
Erlotinib (Tarceva)  
Gemtuzumab  
Ozogamicin  
(Mylotarg)  

Panitumumab  
(Vectibix)  

Trastuzumab  
(Herceptin)  

**Proteasome inhibitor**

Bortezomib (Velcade)
### Tyrosine Kinase Inhibitors (TKI)

- Dasatinib (Sprycel)
- Gefitinib (Iressa)
- Imatinib (Gleevec)
- Nilotinib (Tasigna)
- Sorafenib (Nexavar)
- Sunitinib (Sutent)
- Temsirolimus (Torisel)

### Miscellaneous Antineoplastic Agents

- Aldesleukin [Interleukin-2, IL-2] (Proleukin)
- Aminogluthimide (Cytadren)
- L-Asparaginase (Elspar, Oncaspar)
- BCG [Bacillus Calmette-Guérin] (TheraCys, Tice BCG)
- Cladribine (Leustatin)
- Docetaxel (Taxotere)
- Hydroxyurea (Hydrea, Droxia)
- Irinotecan (Camptosar)
- Letrozole (Femara)
- Leucovorin (Wellcoverin)
- Mitoxantrone (Novantrone)
- Paclitaxel (Taxol, Abraxane)
- Panitumumab (Vectibix)
- Pemetrexed (Alimta)
- Rasburicase (Elitek)
- Thalidomide (Thalomid)
- Topotecan (Hycamtin)
- Tretinoin, Topical [Retinoic Acid]
- (Retin-A, Avita, Renova, Retin-A Micro)

### CARdiovascular (CV) AGENTS

#### Aldosterone Antagonist

- Eplerenone (Inspra)
- Spironolactone (Aldactone)

#### Alpha1-Adrenergic Blockers

- Doxazosin (Cardura)
- Prazosin (Minipress)
- Terazosin (Hytrin)

#### Angiotensin-Converting Enzyme (ACE) Inhibitors

- Benazepril (Lotensin)
- Captopril (Capoten)
- Enalapril (Vasotec)
- Fosinopril (Monopril)
- Lisinopril (Prinivil, Zestril)
- Moexipril (Univasc)
- Perindopril Erbumine (Aceon)
- Quinapril (Accupril)
- Ramipril (Altace)
- Trandolapril (Mavik)
Angiotensin II Receptor Antagonists/Blockers

Amlodipine/Olmesartan (Azor)  Candesartan (Atacand)  Telmisartan (Mexitil)
Amlodipine/Valsartan (Exforge)  Eprosartan (Teveten)  Mexiletine (Mexilit)

Antiarrhythmic Agents

Adenosine (Adenocard)  Disopyramide (NAPAmide, Norpace, Norpace CR, Rythmodan)  Mexiletine (Mexilit)
Amiodarone (Cordarone, Pacerone)  Dofetilide (Tikosyn)  Procainamide (Pronestyl, Pronestyl SR, Procanbid)
Atropine  Esmolol (Brevibloc)  Propafenone (Rythmol)
Digoxin (Digitel, Lanoxin, Lanoxicaps)  Flecainide (Tambocor)  Quinidine (Quinidex, Quinaglute)

Beta-Adrenergic Blockers

Acebutolol (Sectral)  Carteolol (Cartrol, Ocupress Ophthalmic)  Nadolol (Corgard)
Atenolol (Tenormin)  Carvedilol (Coreg, Coreg CR)  Nebivolol (Bystolic)
Atenolol & Chlorthalidone (Tenoretic)  Labetalol (Trandate, Normodyne)  Penbutolol (Levatol)
Betaxolol (Kerlone)  Metoprolol (Lopressor, Toprol XL)  Pindolol (Visken)
Bisoprolol (Zebeta)  Propranolol (Inderal)  Propranolol (Inderal)

Calcium Channel Antagonists/Blockers (CCB)

Amlodipine (Norvasc)  Cardizem SR, Cartia XT, Dilacor XR, Diltia XT, Taztia XT, Tiamate, Tiazac)  Nifedipine (Procardia, Procardia XL, Adalat CC)
Amlodipine/Olmesartan (Azor)  Felodipine (Plendil)  Nimodipine (Nimotop)
Amlodipine/Valsartan (Exforge)  Isradipine (DynaCirc)  Nisoldipine (Sular)
Diltiazem (Cardizem, Cardizem CD, Cardizem LA)  Nicardipine (Cardene)  Verapamil (Calan, Isoptin, Verelan)
Centrally Acting Antihypertensive Agents

Clonidine (Catapres)  Methyldopa (Aldomet)

Diuretics

Acetazolamide (Diamox)  Hydrochlorothiazide & Amiloride  Mannitol
Amiloride (Midamor)  Amiloride  Metolazone (Zaroxolyn)
Bumetanide (Bumex)  (Moduretic)  Spironolactone
Chlorothiazide (Diuril)  Hydrochlorothiazide & Spironolactone
(Alactazide)
Chlorothalidone  Hydrochlorothiazide & Torsemide (Demadex)
(Alactazide)
Furosemide (Lasix)  Hydrochlorothiazide & Triamterene (Dyrenium)
Hydrochlorothiazide  Triamterene (Dyazide,
(Indapamide (Lozol)
Esidrix)

Inotropic/Pressor Agents

Digoxin (Digitek, Lopidine, Lanoxin, Lanoxicaps)  Epinephrine (Adrenalin,
Sus-Phrine, EpiPen)  Nesiritide (Natrecor)
Dobutamine  Inamrinone (Inocor)  Norepinephrine
(Dobutrex)  Isoproterenol (Isuprel)  (Levophed)
Dopamine (Intropin)  Milrinone (Primacor)  Phenylephrine
(Levophed)

Lipid-Lowering Agents

Atorvastatin (Lipitor)  Fluvastatin (Lescol)  Omega-3 fatty acid [fish
Colestevelam (WelChol)  Gemfibrozil (Lopid)  oil] (Lovaza)
Colestipol (Colestid)  Lovastatin (Mevacor,
Cholestyramine  Altoprev)
(Questran, Questran
Light, Prevalite)
Niacin (Niaspan,
Slo-Niacin)
Ezetimibe (Zetia)  Niacin and Lovastatin
Fenofibrate (TriCor,
Antara, Lipofen,
Triglide)  Niacin and Simvastatin

Lipid-Lowering/Antihypertensive Combos

Amlodipine/Atorvastatin  (Caduet)
Vasodilators

Alprostadil [Prostaglandin E₁] (Prostin VR)
Epoprostenol (Flolan)
Fenoldopam (Corlopam)
Hydralazine (Apresoline)
Iloprost (Ventavis)
Isosorbide Dinitrate (Isordil, Sorbitrate, Dilatrate-SR)
Isosorbide Mononitrate (Ismo, Imdur)
Minoxidil, oral
Nitroglycerin (Nitrostat, Nitrolingual, Nitro-Bid Ointment, Nitro-Bid IV, Nitrodisc, Transderm-Nitro, NitroMist, others)
Nitroprusside (Nipride, Nitropress)
Tolazoline (Priscoline)
Treprostinil Sodium (Remodulin)

Miscellaneous Cardiovascular Agents

Aliskiren (Tekturna)
Aliskiren/Hydrochlorothiazide (Tekturna HCT)
Ambrisentan (Letairis)
Conivaptan (Vaprisol)
Ranolazine (Ranexa)
Sildenafil (Revatio)

CENTRAL NERVOUS SYSTEM AGENTS

Antianxiety Agents

Alprazolam (Xanax)
Buspirone (BuSpar)
Chlordiazepoxide (Librium, Mitran, Libritabs)
Clorazepate (Tranxene)
Diazepam (Valium, Diastat)
Doxepin (Sinequan, Adapin)
Hydroxyzine (Atarax, Vistaril)
Lorazepam (Ativan)
Meprobamate (various)
Oxazepam

Anticonvulsants

Carbamazepine (Tegretol XR, Carbatrol, Epitol, Equetro)
Clonazepam (Klonopin)
Diazepam (Valium)
Ethosuximide (Zarontin)
Fosphenytoin (Cerebyx)
Gabapentin (Neurontin)
Lamotrigine (Lamictal)
Levetiracetam (Keppra)
Lorazepam (Ativan)
Oxcarbazepine (Trileptal)
Pentobarbital (Nembutal)
Phenobarbital
Phenytoin (Dilantin)
Tiagabine (Gabitril)
Topiramate (Topamax)
Valproic Acid (Depakene, Depakote)
Zonisamide (Zonegran)
### Antidepressants

<table>
<thead>
<tr>
<th>Antidepressants</th>
<th>Antidepressants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amitriptyline (Elavil)</td>
<td>Desvenlafaxine (Pristiq)</td>
</tr>
<tr>
<td>Bupropion hydrobromide (Aplenzin)</td>
<td>Doxepin (Adapin)</td>
</tr>
<tr>
<td>Bupropion hydrochloride (Wellbutrin, Wellbutrin SR, Wellbutrin XL, Zyban)</td>
<td>Duloxetine (Cymbalta)</td>
</tr>
<tr>
<td>Citalopram (Celexa)</td>
<td>Escitalopram (Lexapro)</td>
</tr>
<tr>
<td>Desipramine (Norpramin)</td>
<td>Fluoxetine (Prozac, Sarafem)</td>
</tr>
<tr>
<td>Mirtazapine (Remeron)</td>
<td>Fluoxetine (Luvox)</td>
</tr>
<tr>
<td>Nefazodone (Serzone)</td>
<td>Imipramine (Tofranil)</td>
</tr>
<tr>
<td>Venlafaxine (Effexor, Effexor XR)</td>
<td>Paroxetine (Paxil, Paxil CR, Pexeva)</td>
</tr>
<tr>
<td>Phenelzine (Nardil)</td>
<td>Selegiline transdermal (Emsam)</td>
</tr>
<tr>
<td>Sertraline (Zoloft)</td>
<td>Trazodone (Desyrel)</td>
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</table>

### Antiparkinson Agents

<table>
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<tr>
<th>Antiparkinson Agents</th>
<th>Antiparkinson Agents</th>
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<tbody>
<tr>
<td>Amantadine (Symmetrel)</td>
<td>Entacapone (Comtan)</td>
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<tr>
<td>Apomorphine (Apokyn)</td>
<td>Pramipexole (Mirapex)</td>
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<tr>
<td>Benztropine (Cogentin)</td>
<td>Rasagiline mesylate (Azilect)</td>
</tr>
<tr>
<td>Bromocriptine (Parlodel)</td>
<td>Rivastigmine transdermal (Exelon Patch)</td>
</tr>
<tr>
<td>Carbidopa/Levodopa (Sinemet)</td>
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</tr>
<tr>
<td>Amantadine (Symmetrel)</td>
<td>Entacapone (Comtan)</td>
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<tr>
<td>Apomorphine (Apokyn)</td>
<td>Pramipexole (Mirapex)</td>
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<tr>
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<td>Rasagiline mesylate (Azilect)</td>
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<tr>
<td>Bromocriptine (Parlodel)</td>
<td>Rivastigmine transdermal (Exelon Patch)</td>
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<td>Carbidopa/Levodopa (Sinemet)</td>
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### Antipsychotics

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<thead>
<tr>
<th>Antipsychotics</th>
<th>Antipsychotics</th>
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<tbody>
<tr>
<td>Aripiprazole (Abilify, Abilify DISCMELT)</td>
<td>Molindone (Moban)</td>
</tr>
<tr>
<td>Chlorpromazine (Thorazine)</td>
<td>Olanzapine (Zyprexa, Zyprexa Zydis)</td>
</tr>
<tr>
<td>Clozapine (Clozaril, FazaClo)</td>
<td>Paliperidone (Invega)</td>
</tr>
<tr>
<td>Haloperidol (Haldol)</td>
<td>Perphenazine (Trilafon)</td>
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<tr>
<td>Lithium Carbonate (Eskalith, Lithobid)</td>
<td>Prochlorperazine (Compazine)</td>
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<tr>
<td>Lithium Carbonate (Eskalith, Lithobid)</td>
<td>Quetiapine (Seroquel, Seroquel XR)</td>
</tr>
<tr>
<td>Risperidone (Risperdal, Risperdal Consta, Risperdal M-Tab)</td>
<td>Thioridazine (Mellaril)</td>
</tr>
<tr>
<td>Thiothixene (Navane)</td>
<td>Trifluoperazine (Stelazine)</td>
</tr>
<tr>
<td>Ziprasidone (Geodon)</td>
<td></td>
</tr>
</tbody>
</table>

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### Sedative Hypnotics

- Chloral Hydrate (Aquachloral, Supprettes)
- Diphenhydramine (Benadryl)
- Estazolam (ProSom)
- Eszopiclone (Lunesta)
- Flurazepam (Dalmane)
- Hydroxyzine (Atarax, Vistaril)
- Midazolam (various) [C-IV]
- Pentobarbital (Nembutal)
- Phenobarbital
- Propofol (Diprivan)
- Secobarbital (Seconal)
- Temazepam (Restoril)
- Triazolam (Halcion)
- Zaleplon (Sonata)
- Zolpidem (Ambien)

### Stimulants

- Armodafinil (Nuvigil)
- Atomoxetine (Strattera)
- Lisdexamfetamine (Vyvanse)
- Methylphenidate, Oral (Concerta, Metadate CD, Ritalin, Ritalin LA, Ritalin SR, others) [CII]
- Methylphenidate, Transdermal (Daytrana)
- Sibutramine (Meridia)

### Miscellaneous CNS Agents

- Donepezil (Aricept)
- Galantamine (Razadyne)
- Interferon beta 1a (Rebif)
- Meclizine (Antivert) (Bonine, Dramamine OTC)
- Memantine (Namenda)
- Sodium Oxybate (Xyrem)
- Tacrine (Cognex)
- Natalizumab (Tysabri)
- Nimodipine (Nimotop)

### DERMATOLOGIC AGENTS

- Acitretin (Soriatane)
- Acyclovir (Zovirax)
- Alefacept (Amevive)
- Anthralin (Anthra-Derm)
- Amphotericin B (Fungizone)
- Bacitracin, Neomycin, & Polymyxin B, Topical (Neosporin Ointment)
- Bacitracin, Neomycin, Polymyxin B, & Hydrocortisone, Topical (Cortisporin)
- Bacitracin, Neomycin, Polymyxin B, & Lidocaine, Topical (Clomycin)
- Botulinum toxin type A (Botox Cosmetic)
- Calcipotriene (Dovonex)
- Capsaicin (Capsin, Zostrix)
- Ciclopirox (Loprox)
- Ciprofloxacin (Cipro)
- Clindamycin (Cleocin)
- Clotrimazole & Betamethasone (Lotrisone)
<table>
<thead>
<tr>
<th>Classification</th>
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<tbody>
<tr>
<td>Dapsone Topical (Aczone)</td>
<td>Lactic Acid &amp; Ammonium Hydroxide [Ammonium Lactate] (Lac-Hydrin)</td>
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<tr>
<td>Dibucaine (Nupercainal)</td>
<td>Lindane (Kwell, others)</td>
</tr>
<tr>
<td>Doxepin, Topical (Zonalon, Prudoxin)</td>
<td>Metronidazole (Flagyl, MetroGel)</td>
</tr>
<tr>
<td>Econazole (Spectazole)</td>
<td>Miconazole (Monistat)</td>
</tr>
<tr>
<td>Efalizumab (Raptiva)</td>
<td>Miconazole/zinc oxide/petrolatum (Vusion)</td>
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<tr>
<td>Erythromycin, Topical (A/T/S, Eryderrm, Erycette, T-Stat)</td>
<td>Minocycline (Solodyn)</td>
</tr>
<tr>
<td>Finasteride (Propecia)</td>
<td>Minoxidil, topical (Theroxidil, Rogaine) [OTC]</td>
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<tr>
<td>Gentamicin, Topical (Garamycin, G-Mycin)</td>
<td>Mupirocin (Bactroban)</td>
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<tr>
<td>Imiquimod Cream, 5% (Aldara)</td>
<td>Naftifine (Naftin)</td>
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<tr>
<td>Isotretinoin [13-cis Retinoic acid] (Accutane, Amnesteem, Claravis, Sotret)</td>
<td>Nystatin (Mycostatin)</td>
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<tr>
<td>Ketoconazole (Nizoral)</td>
<td>Oxiconazole (Oxistat)</td>
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<tr>
<td>Kunecatechins [sinecatechins] (Veregen)</td>
<td>Penciclovir (Denavir)</td>
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<td>Permethrin (Nix, Elimite)</td>
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<td>Pimecrolimus (Elidel)</td>
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<td>Podophyllin (Podocon-25, Condylox Gel 0.5%, Condylox)</td>
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<td>Pramoxine (Anusol Ointment, ProctoFoam-NS)</td>
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<td>Pramoxine &amp; Hydrocortisone (Enzone, ProctoFoam-HC)</td>
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<td>Selenium Sulfide (Exsel Shampoo, Selsun Blue Shampoo, Selsun Shampoo)</td>
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<td>Silver Sulfadiazine (Silvadene)</td>
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<td>Steroids, Topical (Table 4, page 252)</td>
</tr>
<tr>
<td></td>
<td>Tacrolimus (Prograf, Protopic)</td>
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<tr>
<td></td>
<td>Tazarotene (Tazorac, Avage)</td>
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<td>Terbinafine (Lamisil)</td>
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<td>Tolnaftate (Tinactin)</td>
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<td></td>
<td>Retinoin, Topical [Retinoic Acid] (Retin-A, Avita, Renova)</td>
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<td>Vorinostat (Zolinza)</td>
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**DIETARY SUPPLEMENTS**

<table>
<thead>
<tr>
<th>Supplement</th>
<th>Ingredient</th>
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<tbody>
<tr>
<td>Calcium Acetate (Calphron, Phos-Ex, PhosLo)</td>
<td>Calcium Glubionate (Neo-Calglucon)</td>
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<tr>
<td>Calcium Salts [Chloride, Gluconate, Gluectate]</td>
<td>Cholecalciferol [Vitamin D3] (Delta D)</td>
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<tr>
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<td>Cyanocobalamin [Vitamin B12] (Nascobal)</td>
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<td>Ferric Gluconate Complex (Ferrlecit)</td>
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<tr>
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<td>Ferrous Gluconate (Fergon [OTC], others)</td>
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<tr>
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<td>Ferrous Sulfate</td>
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<td>Fish Oil (Lovaza, OTC)</td>
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<td>Folic Acid</td>
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<tr>
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<td>Iron Dextran (Dexterrum, INFeD)</td>
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<td>Iron Sucrose (Venofer)</td>
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<td></td>
<td>Magnesium Oxide (Mag-Ox 400)</td>
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<td>Magnesium Sulfate</td>
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<tr>
<td></td>
<td>Multivitamins (Table 13, page 268)</td>
</tr>
</tbody>
</table>
Phytonadione [Vitamin K] (Aqua-MEPHYTON)
Potassium Supplements (Kaon, Kaochlor, K-Lor, Slow-K, Micro-K, Klorvess)

Pyridoxine [Vitamin B6]
Sodium Bicarbonate [NaHCO₃]
Thiamine [Vitamin B₁]

**EAR (OTIC) AGENTS**

Acetic Acid & Aluminum Acetate (Otic Domeboro)
Benzocaine & Antipyrine (Auralgan)
Ciprofloxacin, Otic (Cipro HC Otic)
Ciprofloxacin and dexamethasone, Otic (Ciprodex Otic)

Ciprofloxacin and hydrocortisone, Otic (Cipro HC Otic)
Neomycin, Colistin, & Hydrocortisone (Cortisporin-TC Otic Drops)
Neomycin, Colistin, Hydrocortisone, & Thonzonium (Cortisporin-TC Otic Suspension)

Ofloxacin otic (generic)
Polymyxin B & Hydrocortisone (Otobiotic Otic)
Sulfacetamide & Prednisolone (Blephamid)
Triethanolamine (Cerumenex)

**ENDOCRINE SYSTEM AGENTS**

**Antidiabetic Agents**

Acarbose (Precose)
Chlorpropamide (Diabinese)
Glimepiride (Amaryl)
Glimepiride/pioglitazone (Duetact)
Glipizide (Glucotrol)
Glyburide (DiaBeta, Micronase, Glynase)

Glyburide/Metformin (Glucovance)
Insulins, Systemic (Table 5, page 255)
Metformin (Glucophage)
Miglitol (Glyset)
Nateglinide (Starlix)
Pioglitazone (Actos)

Pioglitazone/Metformin (ACTOplus Met)
Repaglinide (Prandin)
Rosiglitazone (Avandia)
Sitagliptin (Januvia)
Sitagliptin/Metformin (Janumet)
Tolazamide (Tolinase)
Tolbutamide (Orinase)
Hormone & Synthetic Substitutes

- Calcitonin (Cibacalcin, Miacalcin)
- Calcitriol (Rocaltril, Calcijex)
- Fluoxymesterone (Halotestin, Androxy)
- Glucagon
- Hydrocortisone Topical & Systemic (Cortef, Solu-Cortef)
- Methylprednisolone (Solu-Medrol)
- Prednisolone
- Prednisone
- Testosterone (AndroGel, Androderm, Striant, Testim)
- Vasopressin [Antidiuretic Hormone, ADH] (Pitressin)
- Dexamethasone (Decadron)
- Fludrocortisone Acetate (Florinef)

Hypercalcemia/Osteoporosis Agents

- Alendronate (Fosamax)
- Etidronate Disodium (Didronel)
- Gallium Nitrate (Ganite)
- Ibandronate (Boniva)
- Pamidronate (Aredia)
- Raloxifene (Evista)
- Risedronate (Actonel, Actonel w/calcium)
- Teriparatide (Forteo)
- Zoledronic acid (Zometa, Reclast)

Obesity

- Orlistat (Xenical, Alli [OTC])
- Sibutramine (Meridia)

Thyroid/Antithyroid

- Levothyroxine (Synthroid, Levoxyl)
- Liothyronine (Cytomel)
- Methimazole (Tapazole)
- Potassium Iodide [Lugol Soln] (SSKI, Thyro-Block, ThyroSafe, ThyroShield)
- Propylthiouracil [PTU]

Miscellaneous Endocrine Agents

- Cinacalcet (Sensipar)
- Demeclocycline (Declomycin)
- Diazoxide (Proglycem)
### Glaucoma Agents

- Acetazolamide (Diamox)
- Apraclonidine (Iopidine)
- Betaxolol, Ophthalmic (Betoptic)
- Brimonidine (Alphagan P)
- Brimonidine/Timolol (Combigan)
- Brinzolamide (Azopt)
- Carteolol (Ocupress, Carteolol Ophthalmic)
- Dipivefrin (Propine)
- Dorzolamide (Trusopt)
- Dorzolamide & Timolol (Cosopt)
- Echotriophate Iodine (Phospholine Ophthalmic)
- Latanoprost (Xalatan)
- Levobunolol (A-K Beta, Betagan)
- Timolol, Ophthalmic (Timoptic)

### Ophthalmic Antibiotics

- Azithromycin, Ophthalmic (AzaSite)
- Bacitracin, Ophthalmic (AK-Tracin Ophthalmic)
- Bacitracin & Polymyxin B, Ophthalmic (AK-Poly-Bac Ophthalmic, Polysporin Ophthalmic)
- Bacitracin, Neomycin, & Polymyxin B (AK Spore Ophthalmic, Neosporin Ophthalmic)
- Bacitracin, Neomycin, Polymyxin B, & Hydrocortisone, Ophthalmic (AK Spore HC Ophthalmic, Cortisporin Ophthalmic)
- Ciprofloxacin, Ophthalmic (Ciloxan)
- Erythromycin, Ophthalmic (Ilotycin Ophthalmic)
- Gentamicin, Ophthalmic (Garamycin, Genoptic, Gentacidin, Gentak)
- Levofoxacin ophthalmic (Quixin, Iquix)
- Moxifloxacin ophthalmic (Vigamox Ophthalmic)
- Neomycin, Polymyxin B, & Hydrocortisone (AK-Neo-Dex Ophthalmic, NeoDecadron Ophthalmic)
- Neomycin, Polymyxin B, & Dexamethasone (AK-Neo-Dex Ophthalmic, NeoDecadron Ophthalmic)
- Neomycin, Polymyxin & Dexamethasone (AK-Neo-Dex Ophthalmic, NeoDecadron Ophthalmic)
- Neomycin, Polymyxin B, & Dexamethasone (Maxitrol)
- Neomycin, Polymyxin B, & Prednisolone (Poly-Pred Ophthalmic)
- Norfloxacin ophthalmic (Chibroxin)
- Ofloxacin ophthalmic (Ocuflox Ophthalmic)
- Silver Nitrate (Dey-Drop)
- Sulfacetamide (Bleph-10, Cetamide, Sodium Sulamyd)
- Sulfacetamide & Prednisolone (Blephamide)
- Tobramycin ophthalmic (AKTob, Tobrex)
- Tobramycin & Dexamethasone (Tobradex)
- Trifluridine (Viroptic)
### Miscellaneous Ophthalmic Agents

<table>
<thead>
<tr>
<th>Drug Name</th>
<th>Description</th>
<th>Brand Names</th>
</tr>
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<tbody>
<tr>
<td>Artificial Tears (Tears Naturale)</td>
<td>Dexamethasone, Ophthalmic (AK-Dex)</td>
<td>Levocabastine (Livostin)</td>
</tr>
<tr>
<td>Atropine</td>
<td>Ophthalmic, Decadron Ophthalmic</td>
<td>Lodoxamide (Alomide)</td>
</tr>
<tr>
<td>Cromolyn Sodium (Opticrom)</td>
<td>Diclofenac ophthalmic (Voltaren ophthalmic)</td>
<td>Naphazoline (Albalon, Naphcon, others), Naphazoline &amp; Pheniramine Acetate (Napcon A, Visine A)</td>
</tr>
<tr>
<td>Cyclopentolate (Cyclogyl, Cyclate)</td>
<td>Emedastine (Emadine)</td>
<td>Nepafenac (Nevanac)</td>
</tr>
<tr>
<td>Cyclopentolate with phenylephrine (Cyclomydrid)</td>
<td>Ketotifen Ophthalmic (Alaway, Zaditor)</td>
<td>Olopatadine ophthalmic (Patanol, Pataday)</td>
</tr>
<tr>
<td>Cyclosporine Ophthalmic (Restasis)</td>
<td>Ketorolac Ophthalmic (Acular, Acular LS, Acular PF)</td>
<td>Pemirolast (Alamast)</td>
</tr>
</tbody>
</table>

### GASTROINTESTINAL AGENTS

#### Antacids

<table>
<thead>
<tr>
<th>Alginic Acid (Gaviscon)</th>
<th>Aluminum Hydroxide with Magnesium (Maalox)</th>
<th>Aluminum Hydroxide with Magnesium (Gaviscon-2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aluminum Hydroxide (Amphojel, AlternaGEL)</td>
<td>Hydroxide (Maalox)</td>
<td>Calcium Carbonate (Tums, Alka-Mints)</td>
</tr>
<tr>
<td>Aluminum Hydroxide with Magnesium Carbonate (Gaviscon)</td>
<td>Hydroxide &amp; Simethicone (Mylanta, Mylanta II, Maalox Plus)</td>
<td>Magaldrate (Riophan-Plus) [OTC]</td>
</tr>
<tr>
<td>Aluminum Hydroxide with Magnesium (Gaviscon)</td>
<td></td>
<td>Simethicone (Mylicon)</td>
</tr>
</tbody>
</table>

#### Antidiarrheals

<table>
<thead>
<tr>
<th>Bismuth Subsalicylate (Pepto-Bismol)</th>
<th>Lactobacillus (Lactinex Granules)</th>
<th>Octreotide (Sandostatin, Sandostatin LAR)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diphenoxylate with Atropine (Lomotil, Lonox)</td>
<td>Loperamide (Diamode, Imodium) [OTC]</td>
<td>Paregoric [Camphorated Tincture of Opium]</td>
</tr>
</tbody>
</table>

#### Antiemetics

<table>
<thead>
<tr>
<th>Aprepitant (Emend)</th>
<th>Dimenhydrinate (Dramamine)</th>
<th>Droperidol (Inapsine)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chlorpromazine (Thorazine)</td>
<td>Dolasetron (Anzemet)</td>
<td>Fosaprepitant (Emend, Injection)</td>
</tr>
<tr>
<td></td>
<td>Dronabinol (Marinol)</td>
<td>Granisetron (Kytril)</td>
</tr>
<tr>
<td>Cathartics/Laxatives</td>
<td>Antiulcer Agents</td>
<td>Enzymes</td>
</tr>
<tr>
<td>----------------------</td>
<td>------------------</td>
<td>---------</td>
</tr>
<tr>
<td>Bisacodyl (Dulcolax)</td>
<td>Cimetidine (Tagamet)</td>
<td>Pancreatin (Pancrease, Cotazym, Creon, Ultrase)</td>
</tr>
<tr>
<td>Docusate Calcium (Surfak)</td>
<td>Esomeprazole (Nexium)</td>
<td></td>
</tr>
<tr>
<td>Docusate Potassium (Dialose)</td>
<td>Famotidine (Pepcid, Pepcid AC)</td>
<td></td>
</tr>
<tr>
<td>Docusate Sodium (Doss, Colace)</td>
<td>Lansoprazole (Prevacid)</td>
<td></td>
</tr>
<tr>
<td>Glycerin Suppository</td>
<td>Nizatidine (Axicid)</td>
<td></td>
</tr>
<tr>
<td>Lactulose (Constulose, Generlac, Chronulac, Cephulac, Enulose)</td>
<td>Omeprazole (Prilosec, Prilosec OTC, Zegerid)</td>
<td></td>
</tr>
<tr>
<td>Magnesium Citrate (Citroma, others)</td>
<td>Pantoprazole (Protonix)</td>
<td></td>
</tr>
<tr>
<td>Magnesium Hydroxide (Milk of Magnesia)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mineral Oil Enema (Fleet Mineral Oil)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Polyethylene Glycol-Electrolyte Solution (GoLYTELY, CoLyte)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Psyllium (Metamucil, Serutan, Effer-Syllium)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sodium Phosphate (Visicol)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sorbitol</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Clinician’s Pocket Drug Reference, 2009**

Meclizine (Antivert) | Palonosetron (Aloxi) | Thiethylperazine (Torecan) |
| Metoclopramide (Reglan, Clopra, Octamide) | Prochlorperazine (Compazine) | Trimethobenzamide (Tigan) |
| Nabilone (Cesamet) | Promethazine (Phenergan) |  |
| Ondansetron (Zofran) | Scopolamine (Scopace) |  |

**Antiulcer Agents**

Cimetidine (Tagamet) | Nizatidine (Axicid) | Rabeprazole (AcipHex) |
| Esomeprazole (Nexium) | Omeprazole (Prilosec, Prilosec OTC, Zegerid) | Ranitidine (Zantac) |
| Famotidine (Pepcid, Pepcid AC) | Pantoprazole (Protonix) | Hydrochloride (Zantac) |
| Lansoprazole (Prevacid) |  | Sucralfate (Carafate) |

**Enzymes**

Pancreatin (Pancrease, Cotazym, Creon, Ultrase) |

**Miscellaneous GI Agents**

Alosetron (Lotronex) | Dexpanthenol (Ilopan-Choline Oral, Ilopan) | Mineral Oil-Pramoxine (HCl-Zinc Oxide)
| Budesonide (Entocort EC) | Dibucaine (Nupercainal) | HCl-Zinc Oxide (Tucks Ointment)
| Balsalazide (Colazal) | Dicyclomine (Bentyl) | [OTC]
| Certolizumab (Cimzia) |  |  |
Classification

Hydrocortisone, Rectal
(Anusol-HC Suppository,
Cortifoam Rectal,
Proctocort)
Hyoscyamine
(Anaspaz, Cystospaz,
Levsin)
Hyoscyamine,
Atropine,
Scopolamine, &
Phenobarbital
(Donnatal)
Infliximab (Remicade)
Lubiprostone (Amitiza)
Mesalamine (Asacol,
Canasa, Lialda,
Pentasa, Rowasa)
Methylnaltrexone
bromide (Relistor)
Metoclopramide
(Reglan, Clopra,
Octamide)
Misoprostol (Cytotec)
Neomycin Sulfate
(Neo-Fradin, generic)
Olsalazine (Dipentum)
Pramoxine (Anusol
Ointment,
ProctoFoam-NS)

HEMATOLOGIC AGENTS

Anticoagulants
Argatroban (Acova)
Bivalirudin (Angiomax)
Dalteparin (Fragmin)
Enoxaparin (Lovenox)
Fondaparinux (Arixtra)
Heparin
Lepirudin (Refludan)
Protamine
Tinzaparin (Innohep)
Warfarin (Coumadin)

Antiplatelet Agents
Abciximab (ReoPro)
Aspirin (Bayer, Ecotrin,
St. Joseph’s)
Clopidogrel (Plavix)
Dipyridamole
(Persantine)
Dipyridamole & Aspirin
(Aggrenox)
Eptifibatide (Integrilin)
Ticlopidine (Ticlid)
Tirofiban (Aggrastat)

Antithrombotic Agents
Alteplase, Recombinant
[tPA] (Activase)
Aminocaproic Acid
(Amicar)
Anistreplase (Eminase)
Danaparoid (Orgaran)
Dextran 40 (Gentran 40,
Rheomacrodex)
Reteplase (Retavase)
Streptokinase (Streptase,
Kabikinase)
Tenecteplase (TNKase)
Urokinase (Abbokinase)
Hematopoietic Stimulants

- Darbepoetin Alfa (Aranesp)
- Epoetin Alfa [Erythropoietin, EPO] (Epogen, Procrit)
- Filgrastim [G-CSF] (Neupogen)
- Pegfilgrastim (Neulasta)
- Sargramostim [GM-CSF]
- Oprelvekin (Neumega)
- [GM-CSF]
- Interferon Alfa-1b (Betaseron)
- Interferon Beta-1b (Intron A)
- Natalizumab (Tysabri)
- Peg Interferon Alfa-2b (PEG-Intron)
- Peg Interferon Alfa-1b (Plasmanate)
- Pentoxifylline (Trelegy)
- [GM-CSF]
- Lenalidomide (Revlimid)
- [GM-CSF]
- Lenalidomide (Revlimid)

Volume Expanders

- Albumin (Albuminar, Buminate, Albutein)
- Dextran 40 (Rheomacrodex)
- Hetastarch (Hespan)
- Plasma Protein Fraction (Plasmanate)

Miscellaneous Hematologic Agents

- Antithemophilic Factor VIII (Monoclate)
- Antithemophilic Factor (Recombinant) (Xyntha)
- Decitabine (Dacogen)
- Desmopressin (DDAVP, Stimate)
- Lenalidomide (Revlimid)
- Pentoxifylline (Trelegy)
- Lenalidomide (Revlimid)
- Pentoxifylline (Trelegy)
- Lenalidomide (Revlimid)
- Pentoxifylline (Trelegy)

IMMUNE SYSTEM AGENTS

Immunomodulators

- Abatacept (Orencia)
- Adalimumab (Humira)
- Anakinra (Kineret)
- Etanercept (Enbrel)
- Interferon Alfa (Roferon-A, Intron A)
- Interferon Alfa (Roferon-A, Intron A)
- Interferon Alfa (Roferon-A, Intron A)
- Natalizumab (Tysabri)
- Peg Interferon Alfa-2b (PEG-Intron)

Immunosuppressive Agents

- Azathioprine (Imuran)
- Basiliximab (Simulect)
- Cyclosporine (Sandimmune, Gengraf, Neoral)
- Daclizumab (Zenapax)
- Lymphocyte Immune Globulin [Antithymocyte Globulin, ATG] (Atgam)
- Muromonab-CD3 (Orthoclone OKT3)
- Mycophenolate Mofetil (CellCept)
- Mycophenolic Acid (Myfortic)
- Sirolimus (Rapamune)
- Steroids, Systemic (Table 3, page 251)
- Tacrolimus (Prograf, Protopic)
**Classification**

**Vaccines/Serums/Toxoids**

Cytomegalovirus Immune Globulin [CMV-IG IV] (CytoGam)

Diphtheria, Tetanus Toxoids, & Acellular Pertussis Adsorbed, Hepatitis B (recombinant), & Inactivated Poliovirus Vaccine (IPV) Combined (Pediarix)

Haemophilus B Conjugate Vaccine (ActHIB, HibTITER, PedvaxHIB, Prohibit)

Hepatitis A (Inactivated) & Hepatitis B Recombinant Vaccine (Twinrix)

Hepatitis A Vaccine (Havrix, Vaqta)

Hepatitis B Immune Globulin (HyperHep, HepaGam B, H-BIG)

Hepatitis B Vaccine (Engerix-B, Recombivax HB)

Human Papillomavirus Recombinant Vaccine (Gardasil)

Immune Globulin, IV (Gamimune N, Sandoglobulin, Gammar IV)

Immune Globulin, Subcutaneous (Vivaglobin)

Influenza Vaccine (Fluarix, FluLaval, Fluzone, Fluvirin)

Influenza Virus Vaccine Live, Intranasal (FluMist)

Measles, Mumps, Rubella, and Varicella Virus Vaccine Live (MMRV) (ProQuad)

Meningococcal conjugate vaccine (Menactra, MCV4)

Meningococcal Polysaccharide Vaccine [MPSV4] (Menomune A/C/Y/ W-135)

Pneumococcal 7-Valent Conjugate Vaccine (Prevnar)

Pneumococcal Vaccine, Polyvalent (Pneumovax-23)

Rotavirus vaccine, live, oral, monovalent (RotaRix)

Rotavirus vaccine, live, oral, pentavalent (RotaTeq)

Tetanus Immune Globulin (Tetanus Toxoid)

Varicella Virus Vaccine (Varivax)

Zoster vaccine, live (Zostavax)

**MUSCULOSKELETAL AGENTS**

**Antigout Agents**

Allopurinol (Zyloprim, Lopurin, Aloprim) Colchicine Probenecid (Benemid)

**Muscle Relaxants**

Baclofen (Lioresal Intrathecal) Cyclobenzaprine, extended release (Amrix)

Carisoprodol (Soma) Dantrolene (Dantrium)

Chlorzoxazone (Paraflex, Parafon Forte DSC) Methocarbamol (Robaxin)

Cyclobenzaprine (Flexeril) Orphenadrine (Norflex)
**Neuromuscular Blockers**

Atracurium (Tracrium)  
Pancuronium (Pavulon)  
Rocuronium (Zemuron)  
Succinylcholine  
(Anectine, Quelicin, Sucostrin)  
Vecuronium (Norcuron)

**Miscellaneous Musculoskeletal Agents**

Edrophonium (Tensilon, Reversol)  
Leflunomide (Arava)  
Methotrexate (Folex, Rheumatrex)

**OB/GYN AGENTS**

**Contraceptives**

Copper IUD Contraceptive (ParaGard T 380A)  
Estradiol Cypionate & Medroxyprogesterone Acetate (Lunelle)  
Etonogestrel Implant (Implanon)  
Levonorgestrel intrauterine device (IUD) (Mirena)  
Etonogestrel/Ethinyl estradiol vaginal insert (NuvaRing)  
Medroxyprogesterone (Provera, Depo Provera, Depo-Sub Q Provera)  
Oral Contraceptives, Multiphasic (Table 6, page 258)  
Oral Contraceptives, Progestin Only (Table 6, page 259)  
Oral Contraceptives, Extended Cycle Combination (Table 6, page 260)

**Emergency Contraceptives**

Levonorgestrel (Plan B)

**Estrogen Supplementation**

**ESTROGEN ONLY**

Estradiol (Estrace, Femtrace, Delestrogen, others)  
Estradiol, spray (Evamist)  
Estradiol, transdermal (Estraderm, Climara, Vivelle)  
Estradiol vaginal (Estring, Femring, Vagifem)  
Estrogen, Conjugated (Premarin)  
Estrogen, Conjugated-Synthetic (Cenestin, Enjuvia)  
Esterified Estrogens (Estratab, Menest)
### COMBINATION ESTROGEN/PROGESTIN

| Esterified | Estrogen, Conjugated with Methyl progesterone | Estradiol/levonorgestrel, transdermal (Climara Pro) |
| Estrogens with Methyltestosterone (Estratest, Estratest HS, Syntest DS, HS) | Estradiol/Norethindrone acetate (Femhrt, Activella) |
| Estrogen, Conjugated with Medroxyprogesterone (Prempro, Premphase) | Norethindrone acetate/ethinyl Estradiol (Femhrt, Activella) |

### Vaginal Preparations

| Amino-Cerv pH 5.5 Cream | Miconazole (Monistat) | Terconazole (Terazol 7) |
| | Nystatin (Mycostatin) | Tioconazole (Vagistat) |

### Miscellaneous Ob/Gyn Agents

| Dinoprostone (Cervidil Vaginal Insert, Prepidil Vaginal Gel, Prostin E2) | Magnesium Sulfate Medroxyprogesterone (Provera, Depo-Provera) | Mifepristone [RU 486] (Mifeprex) |
| Gonadorelin (Factrel) | Methylergonovine (Methergine) | Oxytocin (Pitocin) |
| Leuprolide (Lupron) | | Terbutaline (Brethine, Bricanyl) |
| Lutropin Alfa (Luveris) | | |

### PAIN MEDICATIONS

#### Local Anesthetics (Table 2, page 250)

| Benzocaine & Antipyrine (Auralgan) | Dibucaine (Nupercainal) | Lidocaine, powder intradermal injection system (Zingo) |
| Bupivacaine (Marcaine) | Lidocaine, Lidocaine with epinephrine (Anestacon Topical, Xylocaine, Xylocaine Viscous, Xylocaine MPF, others) | Lidocaine & Prilocaine (EMLA, LMX) |
| Capsaicin (Capsin, Zostrix) | | Pramoxine (Anusol Ointment, ProctoFoam-NS) |
| Cocaine | | |

| Dibucaine | Lidocaine, powder intradermal injection system (Zingo) |
| | | |
Migraine Headache Medications

- Acetaminophen with Butalbital w/ & w/o Caffeine (Fioricet, Medigesic, Repan, Sedapap-10, Two-Dyne, Triapine, Axocet, Phrenilin Forte)
- Almotriptan (Axert)
- Aspirin & Butalbital Compound (Fiorinal)
- Aspirin with Butalbital, Caffeine, & Codeine (Fiorinal with Codeine)
- Eletriptan (Relpax)
- Frovatriptan (Frova)
- Naratriptan (Amerge)
- Sumatriptan (Imitrex)
- Sumatriptan and Naproxen Sodium (TrexiMet)
- Zolmitriptan (Zomig)

Narcotic Analgesics

- Acetaminophen with Codeine (Tylenol No. 2 3, 4)
- Almotriptan (Axert)
- Aspirin with Codeine (Empirin No. 2, 3, 4)
- Buprenorphine (Buprenex)
- Hydrocodone & Aspirin (Lortab ASA)
- Hydrocodone & Ibuprofen (Vicoprofen)
- Hydromorphone (Dilaudid)
- Oxycodone (OxyContin, OxyIR, Roxicodone)
- Oxycodone & Acetaminophen (Percocet, Tylox)
- Oxycodone & Aspirin (Percodan)
- Fentanyl, Transdermal (Duragesic)
- Fentanyl, Transmucosal (Actiq, Fentora)
- Hydrocodone & Acetaminophen (Lorcet, Vicodin, HyCet)
- Levorphanol (Levo-Dromoran)
- Meperidine (Demerol, Meperitab) [C–II]
- Methadone (Dolophine, Methadose) [C-II]
- Morphine (Avinza XR, Astramorph/PF, Duramorph, Infumorph, MS Contin, Kadian SR, Oramorph SR, Roxanol) [C-II]
- Morphine, Liposomal (DepoDur)
- Propoxyphene & Aspirin (Darvon Compound-65, Darvon-N with Aspirin)

Nonnarcotic Analgesics

- Acetaminophen [APAP] (Tylenol)
- Aspirin (Bayer, Ecotrin, St. Joseph’s)
- Tramadol (Ultram, Ultram ER)
- Tramadol/Acetaminophen (Ultracet)
**Classification**

## Nonsteroidal Antiinflammatory Agents

- Celecoxib (Celebrex)
- Diclofenac (Arthrotec, Cataflam, Flector, Flector patch, Voltaren, Voltaren XR, Voltaren gel)
- Diflunisal (Dolobid)
- Etodolac
- Fenoprofen (Nalfon)
- Flurbiprofen (Ansaid, Oufen)
- Ibuprofen (Motrin, Rufen, Advil)
- Indomethacin (Indocin)
- Ketoprofen (Orudis, Oruvail)
- Ketorolac (Toradol)
- Meloxicam (Mobic)
- Nabumetone (Relafen)
- Naproxen (Aleve, Naprosyn, Anaprox)
- Oxaprozin (Daypro)
- Piroxicam (Feldene)
- Sulindac (Clinoril)
- Tolmetin (Tolectin)

## Miscellaneous Pain Medications

- Amitriptyline (Elavil)
- Imipramine (Tofranil)
- Pregabalin (Lyrica)
- Tramadol (Ultram)
- Ziconotide (Prialt)

## RESPIRATORY AGENTS

### Antitussives, Decongestants, & Expectorants

- Acetylcysteine (Acetadote, Mucomyst)
- Benzonatate (Tessalon Perles)
- Codeine
- Dextromethorphan (Mediquell, Benylin DM, PediaCare 1)
- Guaifenesin (Robitussin)
- Guaifenesin & Codeine (Robitussin AC, Brontex)
- Guaifenesin & Hydrocodone & Phenylephrine, Acetaminophen, & Caffeine (Hycomine)
- Guaifenesin & Homatropine (Hycodan, Hydromet)
- Hydrocodone, Chlorpheniramine, Phenylephrine, Acetaminophen, & Caffeine (Hycomine)
- Hydrocodone & Potassium Iodide (SSKI, Thyr-Block)
- Hydrocodone & Pseudoephedrine (Sudafed, Novafed, Afrinol)
- Hydrocodone & Pseudoephedrine (Sudafed, Novafed, Afrinol)
## Bronchodilators

<table>
<thead>
<tr>
<th>Bronchodilators</th>
<th>Bronchodilators</th>
<th>Bronchodilators</th>
</tr>
</thead>
<tbody>
<tr>
<td>Albuterol (Proventil, Ventolin, Volmax)</td>
<td>Formoterol (Foradil Aerolizer)</td>
<td>Salmeterol (Serevent, Serevent Diskus)</td>
</tr>
<tr>
<td>Albuterol &amp; Ipratropium (Combivent)</td>
<td>Isoproterenol (Isuprel)</td>
<td>Terbutaline (Brethine, Bricanyl)</td>
</tr>
<tr>
<td>Aminophylline</td>
<td>Levalbuterol (Xopenex, Xopenex HFA)</td>
<td>Theophylline (Theo24, Theochron)</td>
</tr>
<tr>
<td>Arformoterol (Brovana)</td>
<td>Metaproterenol (Alupent, Metaprel)</td>
<td></td>
</tr>
<tr>
<td>Ephedrine</td>
<td>Pirbuterol (Maxair)</td>
<td></td>
</tr>
<tr>
<td>Epinephrine (Adrenalin, Sus-Phrine, EpiPen)</td>
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</tr>
</tbody>
</table>

## Respiratory Inhalants

<table>
<thead>
<tr>
<th>Respiratory Inhalants</th>
<th>Respiratory Inhalants</th>
<th>Respiratory Inhalants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetylcysteine (Acetadote, Mucomyst)</td>
<td>Ciclesonide, Nasal (Omnaris)</td>
<td>Fluticasone Propionate &amp; Salmeterol Xinafoate (Advair Diskus, Advair HFA)</td>
</tr>
<tr>
<td>Beclomethasone (Beconase, Vancenase Nasal Inhaler)</td>
<td>Cromolyn Sodium (Intal, NasalCrom, Opticrom)</td>
<td>Formoterol Fumarate (Foradil, Perforomist)</td>
</tr>
<tr>
<td>Beclomethasone (QVAR)</td>
<td>Dexamethasone, Nasal (Dexacort Phosphate Turbinaire)</td>
<td>Ipratropium (Atrovent HFA, Atrovent Nasal)</td>
</tr>
<tr>
<td>Beractant (Survanta)</td>
<td>Flunisolide (AeroBid, Aerospan, Nasarel)</td>
<td>Olopatadine Nasal (Patanase)</td>
</tr>
<tr>
<td>Budesonide (Rhinocort, Pulmicort)</td>
<td>Fluticasone Furoate Nasal (Veramyst)</td>
<td>Tiotropium (Spiriva)</td>
</tr>
<tr>
<td>Budesonide/formoterol (Symbicort)</td>
<td>Fluticasone Propionate, Nasal (Flonase)</td>
<td>Triamcinolone (Azmacort)</td>
</tr>
<tr>
<td>Calfactant (Infasurf)</td>
<td>Fluticasone Propionate, Inhalation (Flovent HFA, Flovent Diskus)</td>
<td></td>
</tr>
<tr>
<td>Ciclesonide, Inhalation (Alvesco)</td>
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</tr>
</tbody>
</table>

## Miscellaneous Respiratory Agents

<table>
<thead>
<tr>
<th>Miscellaneous Respiratory Agents</th>
<th>Miscellaneous Respiratory Agents</th>
<th>Miscellaneous Respiratory Agents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alpha1-Protease Inhibitor (Prolastin)</td>
<td>Montelukast (Singulair)</td>
<td>Zileuton (Zyflo, Zyflo CR)</td>
</tr>
<tr>
<td>Dornase Alfa (Pulmozyme, DNase)</td>
<td>Omalizumab (Xolair)</td>
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</tr>
<tr>
<td></td>
<td>Zafirlukast (Accolate)</td>
<td></td>
</tr>
</tbody>
</table>
Classification

**URINARY/GENITOURINARY AGENTS**

**Benign Prostatic Hyperplasia**

- Alfuzosin (Uroxatral)
- Doxazosin (Cardura, Cardura XL)
- Dutasteride (Avodart)
- Finasteride (Proscar)
- Terazosin (Hytrin)
- Silodosin (Rapaflo)
- Tamsulosin (Flomax)

**Bladder Agents (Overactive Bladder, Other Anticholinergics)**

- Belladonna & Opium Suppositories (B & O Supprettes)
- Bethanechol (Urecholine, Duvoid)
- Butabarbital-Hyoscyamine-Hydrobromide-Phenazopyridine (Pyridium Plus)
- Darifenacin (Enablex)
- Hyoscyamine (Anaspaz, Cystospaz, Levsin)
- Methenamine Hippurate (Hiprex)
- Methenamine (UROQUID-Acid No. 2)
- Oxybutynin (Ditropan, Ditropan XL)
- Oxybutynin Transdermal System (Oxytrol)
- Phenazopyridine (Pyridium, Azo-Standard, Urogesic, many others)
- Solifenacin (Vesicare)
- Tolterodine (Detrol, Detrol LA)
- Trospium Chloride (Sanctura, Sanctura XR)
- Flavoxate (Urispas)

**Erectile Dysfunction**

- Alprostadil, Intracavernosal (Caverject, Edex)
- Flavoxate (Urispas)
- Alprostadil, Urethral Suppository (Muse)
- Vardenafil (Levitra)
- Yohimbine (Yocon, Yohimex)
- Sildenafil (Viagra)
- Tadalafil (Cialis)

**Urolithiasis**

- Potassium Citrate (Urocit-K)
- Sodium Citrate/Citric Acid (Bicitra, Oracit)
- Trimethoprim (Trimpex, Proloprim)
- Potassium Citrate & Citric Acid (Polycitra-K)
**Miscellaneous Urology Agents**

- Ammonium Aluminum Sulfate (Alum)
- Dimethyl Sulfoxide [DMSO] (Rimso-50)
- Neomycin-Polymyxin Bladder Irritant [Neosporin GU Irritant]
- Nitrofurantoin (Macroduct, Furadantin, Macrobid)
- Pentosan Polysulfate (Elmiron)

**WOUND CARE**

- Becaplermin (Regranex Gel)
- Silver Nitrate (Dey-Drop)

**Miscellaneous Therapeutic Agents**

- Acamprosate (Campral)
- Alglucosidase Alfa (Myozyme)
- Cilostazol (Pletal)
- Drotrecogin Alfa (Xigris)
- Eculizumab (Soliris)
- Megestrol Acetate (Megace, Megace-ES)
- Mecasermin (Increlex, Iplex)
- Lanthanum Carbonate (Fosrenol)
- Naltrexone (Depade, ReVia, Vivitrol)
- Nicotine Gum (Nicorette, others)
- Nicotine Nasal Spray (Nicotrol NS)
- Nicotine Transdermal (Habitrol, Nicoderm CQ [OTC], others)
- Palifermin (Kepivance)
- Potassium Iodide [Lugol Solution] (SSKI, Thyro-Block)
- Sevelamer HCl (Renagel)
- Sevelamer carbonate (Renvela)
- Sodium Polystyrene Sulfonate (Kayexalate)
- Talc (Sterile Talc Powder)
- Varenicline (Chantix)

**Natural and Herbal Agents**

- Black Cohosh
- Chamomile
- Cranberry (Vaccinium macrocarpon)
- Dong Quai (Angelica polymorpha, sinensis)
- Echinacea (Echinacea purpurea)
- Ephedra/Ma-Huang
- Evening Primrose Oil
- Fish Oil
- Garlic (Allium sativum)
- Ginger (Zingiber officinale)
- Ginkgo Biloba
- Ginseng
- Glucosamine Sulfate (Chitosamine) & Chondroitin Sulfate
- Kava Kava (Kava Kava Root Extract, Piper methysticum)
- Milk Thistle (Silybum marianum)
- Saw Palmetto (Serenoa repens)
- St. John’s Wort (Hypericum perforatum)
- Valerian (Valeriana officinalis)
- Yohimbine (Pausinystalia yohimbe)
Abacavir (Ziagen)  **WARNING:** Allergy (fever, rash, fatigue, GI, resp) reported; stop drug immediately & do not rechallenge; lactic acidosis & hepatomegaly/steatosis reported  **Uses:** *HIV Infxn*  **Action:** NRTI  **Dose:** 300 mg PO bid or 600 mg PO daily  **Peds:** 8 mg/kg bid/300 mg bid max  **Caution:** [C, –] CDC recommends HIV-infected mothers not breast-feed (transmission risk)  **Disp:** Tabs 300 mg; soln 20 mg/mL  **SE:** See Warning, ↑ LFTs, fat redistribution  **Notes:** Many drug interactions; HLA-B*5701 at ↑ risk for fatal hypersensitivity Rxn, genetic screen before use

Abatacept (Orencia)  **Uses:** *Mod/severe RA w/ inadequate response to one or more DMARDs, juvenile idiopathic arthritis*  **Action:** Selective costimulation modulator, ↓ T-cell activation  **Dose:**  **Adults.** Initial 500 mg (<60 kg), 750 mg (60–100 kg); 1 g (>100 kg) IV over 30 min; repeat at 2 and 4 wk, then Q 4 wk  **Peds 6–17 y:** 10 mg/kg (<75 kg), 750 mg (75–100 kg), IV × 1 wk 0, 2, 4, then q4wk (>100 kg, adult dose)  **Caution:** [C; ?/–] w/ TNF blockers; COPD; Hx recurrent/ localized/chronic/predisposition to Infxn; w/ immunosuppressants  **CI:** w/ live vaccines w/in 3 mo of D/C abatacept  **Disp:** IV powder: 250 mg/10 mL  **SE:** HA, URI, N, nasopharyngitis, Infxn, malignancy, Inf Rxns/hypersensitivity (dizziness, HA, HTN), COPD exacerabations, cough, dyspnea  **Notes:** Screen for TB prior to use

Abciximab (ReoPro)  **Uses:** *Prevent acute ischemic comps in PTCA,* MI  **Action:** ↓ plt aggregation (glycoprotein IIb/IIIa inhibitor)  **Dose:**  **Unstable angina w/ planned PCI w/in 24 h of dose (ECC 2005):** 0.25 mg/kg bolus, then 10 mcg/min cont Inf × 18–24 h, stop 1 h after PCI;  **PCI:** 0.25 mg/kg bolus 10–60 min pre-PTCA, then 0.125 mcg/kg/min (max = 10 mcg/min) cont inf for 12 h;  **Caution:** [C, ?/–] CI: Active/recent (w/in 6 wk) internal hemorrhage, CVA w/in 2 y or CVA w/ sig neuro deficit, bleeding diathesis or PO anticoagulants w/in 7 d (unless PT <1.2 × control), ↓ plt (<100,000 cells/mcL), recent trauma or major surgery (w/in 6 wk), CNS tumor, AVM, aneurysm, severe uncontrolled HTN, vasculitis, use of dextran prior to or during PTCA, allergy to murine proteins, w/ other glycoprotein IIb/IIIa inhibitors  **Disp:** Inj 2 mg/mL  **SE:** ↓ BP, CP, allergic Rxns, bleeding, ↓ plt  **Notes:** Use w/ heparin/ASA

Acamprosate (Campral)  **Uses:** *Maintain abstinence from EtOH*  **Action:** ↓ Glutamatergic transmission; modulates neuronal hyperexcitability; related to GABA  **Dose:** 666 mg PO tid; CrCl 30–50 mL/min: 333 mg PO tid  **Caution:** [C; ?/–]  **CI:** CrCl <30 mL/min  **Disp:** Tabs 333 mg EC  **SE:** N/D, depression, anxiety, insomnia  **Notes:** Does not eliminate EtOH withdrawal Sx; continue even if relapse occurs
Acarbose (Precose) Uses: *Type 2 DM* Action: α-Glucosidase inhibitor; delays carbohydrates digestion to ↓ glucose Dose: 25–100 mg PO tid w/ 1st bite each meal; 50 mg tid (<60 kg); 100 mg tid (>60 kg); usual maint 50–100 mg PO tid Caution: [B, ?] w/ CrCl <25 mL/min; can affect digoxin levels CI: IBD, colonic ulceration, partial intestinal obst; cirrhosis Disp: Tabs 25, 50, 100 mg SE: Abd pain, D, flatulence, ↑ LFTs, hypersensitivity Rxn Notes: OK w/ sulfonylureas; ✓ LFTs q3mo for 1st y

Acebutolol (Sectral) Uses: *HTN, arrhythmias* chronic stable angina Action: Blocks β-adrenergic receptors, β1, & ISA Dose: HTN: 400–800 mg/d 2 ÷ doses; arrhythmia: 400–1200 mg/d 2 ÷ doses; ↓ if CrCl <50 mL/min or elderly; elderly initial 200–400 mg/d; max 800 mg/d Caution: [B, D in 2nd & 3rd tri, +] Can exacerbate ischemic heart Dz, do not D/C abruptly CI: 2nd-, 3rd-degree heart block Disp: Caps 200, 400 mg SE: Fatigue, HA, dizziness, bradycardia

Acetaminophen [APAP, N-acetyl-p-aminophenol] (Tylenol, other generic) [OTC] Uses: *Mild-mod pain, HA, fever* Action: Nonnarcotic analgesic; CNS synth of prostaglandins & hypothalamic heat-regulating center Dose: Adults. 650 mg PO or PR q4–6h or 1000 mg PO q6h; max 4 g/24 h. Peds <12 y: 10–15 mg/kg/dose PO or PR q4–6h; max 2.6 g/24 h. Quick dosing Table 1 Page 248. Administer q6h if CrCl 10–50 mL/min & q8h if CrCl <10 mL/min Caution: [B, +] Hepatotoxic in elderly & w/ EtOH use w/ >4 g/d; EtOH liver Dz, G6PD deficiency CI: Hypersensitivity Disp: Tabs melt away/dissolving 160 mg; Tabs: 325, 500, 650 mg; chew tabs 80, 160 mg; liq 100 mg/mL, 120 mg/2.5 mL, 120 mg/5 mL, 160 mg/5 mL, 167 mg/5 mL, 325 mg/5 mL, 500 mg/15 mL, 80 mg/0.8 mL; supp 80, 120, 125, 325, 650 mg SE: OD hepatotoxic at 10 g; 15 g can be lethal; Rx w/ N-acetylcysteine Notes: No anti-inflammatory or plt-inhibiting action; avoid EtOH

Acetaminophen + Butalbital ± Caffeine (Fioricet, Medigesic, Repan, Sedapap-10, Two-Dyne, Triapine, Axocet, Phrenilin Forte) [C-III] Uses: *Tension HA,* mild pain Action: Nonnarcotic analgesic w/ barbiturate Dose: 1–2 tabs or caps PO q4–6h PRN; ↓ in renal/hepatic impair; 4 g/24 h APAP max Caution: [C, D, +] Alcoholic liver Dz, G6PD deficiency CI: Hypersensitivity Disp: Caps Dolgic Plus: butalbital 50 mg, caffeine 40 mg, APAP 750 mg; Caps Medigesic, Repan, Two-Dyne: butalbital 50 mg, caffeine 40 mg, + APAP 325 mg; Caps Axocet, Phrenilin Forte: butalbital 50 mg + APAP 650 mg; Caps: Esgic-Plus, Zebutal: butalbital 50 mg, caffeine 40 mg, APAP 500 mg; Liq. Dolgic LQ: butalbital 50 mg, caffeine 40 mg, APAP 325 mg/15 mL. Tabs Medigesic, Fioricet, Repan: butalbital 50 mg, caffeine 40 mg, APAP 325 mg; Phrenilin: butalbital 50 mg + APAP 325 mg; Sedapap-10: butalbital 50 mg + APAP 650 mg SE: Drowsiness, dizziness, “hangover” effect, N/V Notes: Butalbital habit forming; avoid EtOH

Acetaminophen + Codeine (Tylenol No. 2, 3, No. 4) [C-III, C-V] Uses: *Mild-mod pain (No.2–3); mod–severe pain (No. 4)* Action: Combined
APAP & narcotic analgesic **Dose:** **Adults.** 1–2 tabs q3–4h PRN or 30–60 mg/codeine q4–6h based on codeine content (max dose APAP = 4 g/d). **Peds.** APAP 10–15 mg/kg/dose; codeine 0.5–1 mg/kg dose q4–6h (guide: 3–6 y, 5 mL/dose; 7–12 y, 10 mL/dose) max 2.6 g/d if <12 y; ↓ in renal/hepatic impair **Caution:** [C, +] Alcoholic liver Dz; G6PD deficiency **CI:** Hypersensitivity **Disp:** Tabs 300 mg APAP + codeine (No. 2 = 15 mg, No. 3 = 30 mg, No. 4 = 60 mg); caps 325 mg APAP + codeine; susp (C-V) APAP 120 mg + codeine 12 mg/5 mL **SE:** Drowsiness, dizziness, N/V

**Acetazolamide (Diamox)** **Uses:** *Diuresis, drug and CHF edema, glaucoma, prevent high-altitude sickness, refractory epilepsy* *metabolic alkalosis** **Action:** Carbonic anhydrase inhibitor; ↓ renal excretion of hydrogen & ↑ renal excretion of Na⁺, K⁺, HCO₃⁻, & H₂O **Dose:** **Adults.** Diuretic: 250–375 mg IV or PO q24h. **Glaucoma:** 250–1000 mg PO q24h in ÷ doses. **Epilepsy:** 8–30 mg/kg/d PO in ÷ doses. **Altitude sickness:** 250 mg PO q8–12h or SR 500 mg PO q12–24h start 24–48 h before & 48 h after highest ascent. Metabolic alkalosis 250 mg IV q6h × 4 or 500 mg IV × 1 **Peds.** **Epilepsy:** 8–30 mg/kg/24 h PO in ÷ doses; max 1 g/d. **Diuretic:** 5 mg/kg/24 h PO or IV. **Alkalization of urine:** 5 mg/kg/dose PO bid-tid. **Glaucoma:** 8–30 mg/kg/24 h PO in 3 ÷ doses; max 1 g/d; ↓ dose w/ CrCl 10–50 mL/min; avoid if CrCl <10 mL/min **Caution:** [C, +] **CI:** Renal/hepatic/adrenal failure, sulfa allergy, hyperchloremic acidosis **Disp:** Tabs 125, 250 mg; ER caps 500 mg; Inj 500 mg/vial, powder for recons **SE:** Malaise, metallic taste, drowsiness, photosensitivity, hyperglycemia **Notes:** Follow Na⁺ & K⁺; watch for metabolic acidosis; ✓ CBC & plts; SR forms not for epilepsy

**Acetic Acid & Aluminum Acetate (Otic Domeboro)** **Uses:** *Otitis externa* **Action:** Anti-infective **Dose:** 4–6 gtt in ear(s) q2–3h **Caution:** [C, ?] **CI:** Perforated tympanic membranes **Disp:** 2% otic soln **SE:** Local irritation

**Acetylcysteine (Acetadote, Mucomyst)** **Uses:** *Mucolytic, antidote to APAP hepatotox/OD* *adjuvant Rx chronic bronchopulmonary Dzs & CF* *prevent contrast-induced renal dysfunction** **Action:** Splits mucoprotein disulfide linkages; restores glutathione in APAP OD to protect liver **Dose:** **Adults & Peds.** Nebulizer: 3–5 mL of 20% soln diluted w/ equal vol of H₂O or NS tid-qid. **Antidote:** PO or NG: 140 mg/kg load, then 70 mg/kg q4h × 17 doses (dilute 1:3 in carbonated beverage or OJ), repeat if emesis w/in 1 h of dosing **Acetadote:** 150 mg/kg IV over 60 min, then 50 mg/kg over 4 h, then 100 mg/kg over 16 h; Prevent renal dysfunction: 600–1200 mg PO bid × 2 d **Caution:** [B, ?] **Disp:** Soln, inhaled and oral 10%, 20%; Acetadote IV soln 20% **SE:** Bronchospasm (inhaled), N/V, drowsiness, anaphylactoid Rxns w/ IV **Notes:** Activated charcoal adsorbs PO acetylcysteine for APAP ingestion; start Rx for APAP OD w/in 6–8 h

**Acitretin (Soriatane)** **WARNING:** Must not be used by females who are pregnant or who intend to become pregnant during or for 3 y following D/C of therapy; EtOH must not be ingested during or for 2 mo following cessation; do not donate blood for 3 y following cessation; Hepatotoxic **Uses:** *Severe psoriasis*;
other keratinization disorders (lichen planus, etc) **Action:** Retinoid-like activity  
**Dose:** 25–50 mg/d PO, w/ main meal; ↑ if no response by 4 wk to 75 mg/d  
**Caution:** [X, –] Renal/hepatic impair; in women of reproductive potential  
**CI:** See Warning; ↑ serum lipids; w/ MTX or tetracyclines  
**Disp:** Caps 10, 25 mg  
**SE:** Hyperesthesia, cheilitis, skin peeling, alopecia, pruritus, rash, arthralgia, GI upset, photosensitivity, thrombocytosis, hypertriglyceridemia, ↑ Na, K, PO₄  
**Notes:** Follow LFTs, lytes, lipids; response takes up to 2–3 mo; informed consent prior to use; FDA guide w/ each Rx

**Acyclovir (Zovirax)**  
**Uses:** *Herpes simplex (HSV) (genital/mucocutaneous, encephalitis, keratitis), Varicella zoster, Herpes zoster (shingles) Infxns*  
**Action:** Interferes w/ viral DNA synth  
**Dose:** Adults. Dose on IBW if obese >125% IBW PO: Initial genital HSV: 200 mg PO q4h while awake (5 caps/d) × 10 d or 400 mg PO tid × 7–10 d. Chronic HSV suppression: 400 mg PO bid. Intermittent HSV Rx: As initial Rx, except Rx for 5 d, or 800 mg PO bid, at prodrome. Topical: Initial herpes genitalis: Apply q3h (6x/d) for 7 d. HSV encephalitis: 10 mg/kg IV q8h × 10 d. Herpes zoster: 800 mg PO 5x/d for 7–10 d. IV: 5–10 mg/kg/dose IV q8h. Peds. Genital HSV: 3 mo–2 y: 15 mg/kg/d IV ÷ q8h × 5–7 d, 60 mg/kg/d max. 2–12 y: 1200 mg/d PO ÷ q8h × 7–10 d. >12 y: 1000–1200 mg PO ÷ q8h × 7–10 d. HSV encephalitis: 3 mo–2 12 y: 60 mg/kg/d IV ÷ q8h × 10 d. >12 y: 30 mg/kg/d IV ÷ q8h × 10 d. Chickenpox: ≥2 y: 20 mg/kg/dose PO qid × 5 d. Shingles: <12 y: 30 mg/kg/d PO or 1500 mg/ m²/d IV ÷ q8h × 7–10 d; ↓ w/ CrCl <50 mL/min  
**Caution:** [B, +]  
**CI:** Hypersensitivity to compound  
**Disp:** Caps 200 mg; tabs 400, 800 mg; susp 200 mg/5 mL; Inj 500 & 1000 mg/vial; Inj soln 25 mg/mL, 50 mg/mL oint 5% and cream 5%  
**SE:** Dizziness, lethargy, malaise, confusion, rash, IV site inflammation; transient ↑ Cr/BUN  
**Notes:** PO better than topical for herpes genitalis  

**Adalimumab (Humira)**  
**WARNING:** Cases of TB have been observed; ✓ TB skin test prior to use; Hep B reactivation possible, invasive fungal and other opportunistic Infxns reported; malignancies in children and young adults reported  
**Uses:** *Mod–severe RA w/ an inadequate response to one or more DMARDs, psoriatic arthritis (PA), juvenile idiopathic arthritis (JIA), plaque psoriasis, ankylosing spondylitis (AS), Crohn Dz*  
**Action:** TNF-α inhibitor  
**Dose:** RA, PA, AS: 40 mg SQ qOwk; may ↑ 40 mg qwk if not on MTX. JIA 15–30 kg 20 mg QOW. Crohn Dz: 160 mg d 1, 80 mg 2 wk later, then 2 wk later start maint 40 mg q other wk  
**Caution:** [B, ?/] See Warnings do not use w/ live vaccines  
**CI:** none  
**Disp:** Prefilled 0.4 mL (20 mg) & 0.8 mL (40 mg) syringe  
**SE:** Inj site Rxns, anaphylaxis, cytopenias demyelinating Dz  
**Notes:** Refrigerate prefilled syringe, rotate Inj sites, OK w/ other DMARDs  

**Adefovir (Hepsera)**  
**WARNING:** Acute exacerbations of hep seen after d/c therapy (monitor LFTs); nephrotoxic w/ underlying renal impair w/ chronic use (monitor renal Fxn); HIV resistance/untreated may emerge; lactic acidosis & severe hepatomegaly w/ steatosis reported  
**Uses:** *Chronic active hep B*  
**Action:** Nucleotide analog  
**Dose:** CrCl >50 mL/min: 10 mg PO daily; CrCl 20–49 mL/min:
10 mg PO q48h; CrCl 10–19 mL/min: 10 mg PO q72h; HD: 10 mg PO q7d post-dialysis; adjust w/ CrCl <50 mL/min Caution: [C, –] Disp: Tabs 10 mg SE: Asthenia, HA, Abd pain; see Warning Notes: ✓ HIV status before using

**Adenosine (Adenocard)**

*Uses*: *PSVT*; including w/ WPW  
*Action*: Class IV antiarrhythmic; slows AV node conduction  
*Dose*: *Adults*. 6 mg over 1–3 s, then 20 mL NS bolus, elevate extremity; repeat 12 mg in 1–2 min PRN, max single dose 12 mg  
*ECC 2005*  
*Peds* <50 kg: 0.05–0.1 mg/kg IV bolus; may repeat q1–2min to 0.3 mg/kg max Caution: [C, ?] Hx bronchospasm  
*CI*: 2nd-3rd-degree AV block or SSS (w/o pacemaker); A flutter, A fibrillation, V tachycardia, recent MI or CNS bleed  
*Disp*: Inj 3 mg/mL  
*SE*: Facial flushing, HA, dyspnea, chest pressure, ↓ BP  
*Notes*: Doses >12 mg not OK; can cause momentary asystole with use; caffeine, theophylline antagonize effects

**Albumin (Albuminar, Buminate, Albutein)**

*Uses*: *Plasma vol expansion for shock* (eg, burns, hemorrhage)  
*Action*: Maintain plasma colloid oncotic pressure  
*Dose*: *Adults*. Initial 25 g IV; then based on response; 250 g/48 h max.  
*Peds*. 0.5–1 g/kg/dose; Inf at 0.05–0.1 g/min; max 6 g/kg/d Caution: [C, ?] Severe anemia; cardiac, renal, or hepatic Insuff due to protein load & hypervolemia  
*CI*: CHF, severe anemia  
*Disp*: Soln 5%, 25%  
*SE*: Chills, fever, CHF, tachycardia, ↓ BP, hypervolemia  
*Notes*: Contains 130–160 mEq Na⁺/L; may cause pulm edema

**Albuterol (Proventil, Ventolin, Volmax)**

*Uses*: *Asthma, COPD, prevent exercise-induced bronchospasm*  
*Action*: β-Adrenergic sympathomimetic bronchodilator; relaxes bronchial smooth muscle  
*Dose*: *Adults*. Inhaler: 2 Inh q4–6h PRN; 1 Rotacaps inhaled q4–6h. PO: 2–4 mg PO tid-qid. Nebulizer: 1.25–5 mg (0.25–1 mL of 0.5% soln in 2–3 mL of NS) tid-qid. Prevent exercise-induced asthma: 2 puffs 5–30 min prior to activity  
*Peds*. Inhaler: 2 Inh q4–6h. PO: 0.1–0.2 mg/kg/dose PO; max 2–4 mg PO tid; Nebulizer: 0.05 mg/kg (max 2.5 mg) in 2–3 mL of NS tid-qid. 2–6 y 12 mg/d max, 6–12 y 24 mg/d max Caution: [C, +]  
*Disp*: Tabs 2, 4 mg; XR tabs 4, 8 mg; syrup 2 mg/5 mL; 90 mcg/dose metered-dose inhaler; soln for nebulizer 0.083, 0.5%  
*SE*: Palpitations, tachycardia, nervousness, GI upset

**Albuterol & Ipratropium (Combivent, DuoNeb)**

*Uses*: *COPD*  
*Action*: Combo of β-adrenergic bronchodilator & quaternary anticholinergic  
*Dose*: 2 Inh qid; nebulizer 3 mL q 6 h; max 12 Inh/24h or 3 mL q4h Caution: [C, +]  
*CI*: Peanut/soybean allergy  
*Disp*: Metered-dose inhaler, 18 mcg ipratropium & 103 mcg albuterol/puff; nebulization soln (DuoNeb) ipratropium 0.5 mg & albuterol 2.5 mg/3 mL 0.042%, 0.21%  
*SE*: Palpitations, tachycardia, nervousness, GI upset, dizziness, blurred vision

**Aldesleukin [IL-2] (Proleukin)**  
*WARNING*: High dose associated w/ capillary leak syndrome w/ hypotension and ↓ organ perfusion; ↑ Ifxn due to poor neutrophil activity; D/C w/ mod–severe lethargy, may progress to coma  
*Uses*: *Met RCC & melanoma*  
*Action*: Acts via IL-2 receptor; many immunomodulatory effects  
*Dose*: 600,000 Int Units/kg q8h × 14 doses days 1–5 and days 15–19 of 28-d
cycle (FDA-approved dose/schedule for RCC); other schedules (eg, “high dose” 24 × 10⁶ Int Units/m² IV q8h on days 1–5 & 12–16) Caution: [C, ?/–] CI: Organ allografts Disp: Powder for recons 22 × 10⁶ Int Units, when reconstituted 18 million Int Units/mL = 1.1 mg/mL SE: Flu-like syndromes (malaise, fever, chills), N/V/D, ↑ bilirubin; capillary leak syndrome; ↓ BP, tachycardia, pulm & peripheral edema, fluid retention, & wgt gain; renal & mild hematologic tox (↓ HgB, plt, WBC), eosinophilia; cardiac tox (ischemia, atrial arrhythmias); neuro tox (CNS depression, somnolence, delirium, rare coma); pruritic rashes, urticaria, & erythroderma common.

**Alefacept (Amevive)** WARNING: Monitor CD4 before each dose; w/hold if <250; D/C if <250 × 1 mo Uses: *Mod/severe chronic plaque psoriasis* Action: Fusion protein inhibitor Dose: 7.5 mg IV or 15 mg IM once/wk × 12 wk Caution: [B, ?/–] PRG registry; associated w/ serious Infxn CI: Lymphopenia, HIV Disp: 15-mg powder for recons SE: Pharyngitis, myalgia, Inj site Rxn, malignancy, Infxn Notes: IV or IM different formulations; may repeat course 12 wk later if CD4 OK

**Alendronate (Fosamax, Fosamax Plus D)** Uses: *Rx & prevent osteoporosis male & postmenopausal female, Rx steroid-induced osteoporosis, Paget Dz* Action: ↓ nl & abnormal bone resorption, ↓ osteoclast action Dose: Osteoporosis: Rx: 10 mg/d PO or 70 mg qwk; Fosamax plus D 1 tab qwk. Steroid-induced osteoporosis: Rx: 5 mg/d PO, 10 mg/d postmenopausal not on estrogen. Prevention: 5 mg/d PO or 35 mg qwk. Paget Dz: 40 mg/d PO Caution: [C, ?] Not OK if CrCl <35 mL/min, w/ NSAID use CI: Esophageal anomalies, inability to sit/stand upright for 30 min, ↓ Ca²⁺ Disp: Tabs 5, 10, 35, 40, 70 mg, soln 70 mg/ 75 mL, Fosamax plus D: Alendronate 70 mg w/ cholecalciferol (vit D₃) 2800 or 5600 Int Units SE: Abd pain, acid regurgitation, constipation, D/N, dyspepsia, musculoskeletal pain, jaw osteonecrosis (w/ dental procedures, chemo) Notes: Take 1st thing in A.M. w/ H₂O (8 oz) >30 min before 1st food/beverage of the day; do not lie down for 30 min after. Ca²⁺ & vit D suppl necessary for regular tab

**Alfentanil (Alfenta) [C-II]** Uses: *Adjunct in maint of anesthesia; analgesia* Action: Short-acting narcotic analgesic Dose: Adults & Peds >12 y: 3–75 mcg/kg (IBW) IV Inf; total depends on duration of procedure Caution: [C, +/–] ↑ ICP, resp depression Disp: Inj 500 mcg/mL SE: Bradycardia, ↓ BP arrhythmias, peripheral vasodilation, ↑ ICP, drowsiness, resp depression, N/V/constipation

**Alfuzosin (Uroxatral)** WARNING: May prolong QTc interval Uses: *symptomatic BPH* Action: α-Blocker Dose: 10 mg PO daily immediately after the same meal Caution: [B, –] CI: w/ CYP3A4 inhibitors; mod–severe hepatic impair Disp: Tabs 10 mg ER SE: Postural ↓ BP, dizziness, HA, fatigue Notes: Do not cut or crush; ↓ ejaculatory disorders compared w/ similar drugs

**Alginic Acid + Aluminum Hydroxide & Magnesium Trisilicate (Gaviscon) [OTC]** Uses: *Heartburn*; hiatal hernia pain Action: Protective layer blocks gastric acid Dose: Chew 2–4 tabs or 15–30 mL PO qid followed
by H₂O; Caution: [B, –] Avoid in renal impair or Na⁺-restricted diet Disp: Chew tabs, susp SE: D, constipation

**Alglucosidase alfa (Myozyme)** WARNING: Life-threatening anaphylactic Rxns seen w/ Inf; medical support measures should be immediately available
Uses: *Rx Pompe DZ* Action: Recombinant acid α-glucosidase; degrades glycogen in lysosomes Dose: Peds 1 mo–3.5 y 20 mg/kg IV q 2 wk over 4 h (see insert) Caution: [B, ?/–] Illness at time of Inf may ↑ Inf Rxns CI: None Disp: Powder 50 mg/vial SE: Hypersensitivity, fever, rash, D,V, gastroenteritis, pneumonia, URI, cough, resp distress/failure, Infxns, cardiac arrhythmia w/ general anesthesia, tachy/bradycardia, flushing, anemia

**Aliskiren (Tekturna)** WARNING: May cause injury and death to a developing fetus; D/C immediately when PRG detected Uses: *HTN* Action: 1st direct renin inhibitor Dose: 150–300 mg/d PO Caution: [C (1st tri), D (2nd & 3rd tri); ?]; Avoid w/ CrCl <30 mL/min; ketoconazole and other CYP3A4 inhibitors may ↑ aliskiren levels CI: Anuria, sulfur sensitivity Disp: Tabs 150, 300 mg SE: D, Abd pain, dyspepsia, GERD, cough, ↑ K⁺, angioedema, ↓ BP, dizziness

**Aliskiren/Hydrochlorothiazide (Tekturna HCT)** WARNING: May cause injury and death to a developing fetus; D/C immediately when PRG detected Uses: *HTN, not primary Rx* Action: Renin inhibitor w/ diuretic Dose: Monotherapy failure: 150 mg/12.5 mg PO q d; may ↑ to 150 mg/25 mg, 300 mg/12.5 mg q d after 2–4 wk; max: 300 mg/25 mg Caution: [D, ?] Avoid w/ CrCl ≤30 mL/min; avoid w/ lithium, ketoconazole, and other CYP3A4 inhibitors may ↑ aliskiren levels CI: Anuria, sulfur sensitivity Disp: Tabs: aliskiren mg/HCTZ mg: 150/12.5, 150/25, 300/12.5, 300/25 SE: Dizziness, influenza, D, cough, vertigo, asthenia, arthralgia, angioedema

**Allopurinol (Zyloprim, Lopurin, Aloprim)** Uses: *Gout, hyperuricemia of malignancy, uric acid urolithiasis* Action: Xanthine oxidase inhibitor; ↓ uric acid production Dose: Adults. PO: Initial 100 mg/d; usual 300 mg/d; max 800 mg/d; ↓ dose if >300 mg/d IV: 200–400 mg/m²/d (max 600 mg/24 h); (after meal w/ plenty of fluid). Peds. Only for hyperuricemia of malignancy if <10 y: 10 mg/kg/24 h PO or 200 mg/m²/d IV; max 600 mg/24 h; ↓ in renal impair Caution: [C, M] Disp: Tabs 100, 300 mg; Inj 500 mg/30 mL (Aloprim) SE: Rash, N/V, renal impair, angioedema Notes: Aggravates acute gout; begin after acute attack resolves; IV dose of 6 mg/mL final conc as single daily Inf or ↓ 6-, 8-, 12-h intervals

**Almotriptan (Axert)** Uses: *Rx acute migraine* Action: Vascular serotonin receptor agonist Dose: Adults. PO: 6.25–12 mg PO, repeat in 2 h PRN; 2 dose/24 h max PO dose; max 12 or 24 mg/d; w/ hepatic/renal impair 6.25 mg single dose (max 12.5 mg/d) Caution: [C, ?/–] CI: Angina, ischemic heart Dz, coronary artery vasospasm, hemiplegic or basilar migraine, uncontrolled HTN, ergot use, MAOI use w/in 14 d Disp: Tablets 6.25, 12.5 mg SE: N, somnolence, paresthesias, HA, dry mouth, weakness, numbness, coronary vasospasm, HTN
**Alosetron (Lotronex)**  WARNING: Serious GI side effects, some fatal, including ischemic colitis reported. Prescribed only through participation in the prescribing program Uses: *Severe D—predominant IBS in women who fail conventional therapy* Action: Selective 5-HT<sub>3</sub> receptor antagonist Dose: Adults. 0.5 mg PO bid; ↑ to 1 mg bid max after 4 wk; D/C after 8 wk not controlled Caution: [B, ?/–] CI: Hx chronic/severe constipation, GI obst, strictures, toxic megacolon, GI perforation, adhesions, ischemic/ulcerative colitis, Crohn Dz, diverticulitis, thrombophlebitis, hypercoagulability Disp: Tabs 0.5, 1 mg SE: Constipation, Abd pain, N Notes: D/C immediately if constipation or Sxs of ischemic colitis develop; pt must sign informed consent prior to use “patient-physician agreement”

**Alpha<sub>1</sub>-Protease Inhibitor (Prolastin)**  Uses: *α<sub>1</sub>-Antitrypsin deficiency*; panacinar emphysema Action: Replace human α<sub>1</sub>-protease inhibitor Dose: 60 mg/kg IV once/wk Caution: [C, ?] CI: Selective IgA deficiencies w/ known IgA antibodies Disp: Inj 500 mg/20 mL, 1000 mg/40 mL powder for Inj SE: HA, MS discomfort, fever, dizziness, flu-like Sxs, allergic Rxns, ↑ AST/ALT

**Alprazolam (Xanax, Niravam) [C-IV]** Uses: *Anxiety & panic disorders,* anxiety w/ depression Action: Benzodiazepine; antianxiety agent Dose: Anxiety: Initial, 0.25–0.5 mg tid; ↑ to 4 mg/d max ÷ doses. Panic: Initial, 0.5 mg tid; may gradually ↑ to response; ↓ in elderly, debilitated, & hepatic impair Caution: [D, –] CI: NAG, concomitant itra-/ketoconazole Disp: Tabs 0.25, 0.5, 1, 2 mg; Xanax XR 0.5, 1, 2, 3 mg; Niravam (orally disintegrating tabs) 0.25, 0.5, 1, 2 mg; soln 1 mg/mL SE: Drowsiness, fatigue, irritability, memory impair, sexual dysfunction, paradoxical Rxns Notes: Avoid abrupt D/C after prolonged use

**Alprostadil [Prostaglandin E<sub>1</sub>] (Prostin VR)**  WARNING: Apnea in up to 12% of neonates especially <2 kg at birth Uses: *Conditions ductus arteriosus blood flow must be maintained* sustain pulm/systemic circulation until OR (eg, pulm atresia/stenosis, transposition) Action: Vasodilator (ductus arteriosus very sensitive), plt inhibitor Dose: 0.05 mcg/kg/min IV; ↓ to lowest that maintains response Caution: [X, –] CI: Neonatal resp distress syndrome Disp: Inj 500 mcg/mL SE: Cutaneous vasodilation, Sz-like activity, jitteriness, ↑ temp, ↓ Ca<sup>2+</sup>, thrombocytopenia, ↓ BP; may cause apnea Notes: Keep intubation kit at bedside

**Alprostadil, Intracavernosal (Caverject, Edex)**  Uses: *Erectile dysfunction* Action: Relaxes smooth muscles, dilates cavernosal arteries, ↑ lacunar spaces w/ blood entrapment Dose: 2.5–60 mcg intracavernosal; titrate in office Caution: [X, –] CI: ↑ risk of priapism (eg, sickle cell); penile deformities/implants; men in whom sexual activity inadvisable Disp: Caverject: 5-, 10-, 20-, 40-mcg powder for Inj vials ± diluent syringes 10-, 20-, 40-mcg amp. Caverject Impulse: Self-contained syringe (29 gauge) 10 & 20 mcg. Edex: 10-, 20-, 40-mcg cartridges SE: Local pain w/ Inj Notes: Counsel about priapism, penile fibrosis, & hematoma risks, titrate dose in office

**Alprostadil, Urethral Suppository (Muse)**  Uses: *Erectile dysfunction* Action: Urethral absorption; vasodilator, relaxes smooth muscle of corpus
cavernosa **Dose:** 125–1000-mcg system 5–10 min prior to sex; repeat × 1/24 h; titrate in office **Caution:** [X, –] **CI:** ↑ priapism risk (especially sickle cell, myeloma, leukemia) penile deformities/implants; men in whom sex inadvisable **Disp:** 125, 250, 500, 1000 mcg w/ transurethral system **SE:** ↓ BP, dizziness, syncope, penile/testicular pain, urethral burning/bleeding, priapism **Notes:** Titrate dose in office; duration 30–60 min

**Alteplase, Recombinant [tPA] (Activase)**

**Uses:** *AMI, PE, acute ischemic stroke, & CV cath occlusion*  
**Action:** Thrombolytic; binds fibrin in thrombus, initiates fibrinolysis **Dose:** *AMI:* 15 mg IV over 1–2 min, then 0.75 mg/kg (max 50 mg) over 30 min, then 0.5 mg/kg over next 60 min (max 35 mg) *(ECC 2005)*  
**Stroke:** w/in 3 h of onset S × s: 0.09 mg/kg IV over 1 min, then 0.81 mg/kg; max 90 mg/h Inf over 60 min *(ECC 2005)*  
**Cath occlusion:** 10–29 kg 1 mg/mL; ≥30 kg 2 mg/mL **Caution:** [C, ?] **CI:** Active internal bleeding; uncontrolled HTN (SBP = >185 mm Hg/DBP = >110 mm Hg); recent (w/in 3 mo) CVA, GI bleed, trauma; intracranial or intraspinal surgery or Dzs (AVM/aneurysm/subarachnoid hemorrhage), prolonged cardiac massage; intracranial neoplasm, suspected aortic dissection, w/ anticoagulants or INR >1.7, heparin w/in 48 h, plts <100K, Sx at the time of stroke **Disp:** Powder for Inj 2, 50, 100 mg  
**SE:** Bleeding, bruising (eg, venipuncture sites), ↓ BP **Notes:** Give heparin to prevent reocclusion; in AMI, doses of >150 mg associated w/ intracranial bleeding

**Altretamine (Hexalen)**

**WARNING:** Bone marrow suppression, neurotox common  
**Uses:** *Epithelial ovarian CA*  
**Action:** Unknown; cytotoxic agent, unknown alkylating agent; ↓ nucleotide incorporation into DNA/RNA **Dose:** 260 mg/m²/d in 4 ÷ doses for 14–21 d of a 28-d Rx cycle; dose ↑ to 150 mg/m²/d for 14 d in multiagent regimens (per protocols); after meals and hs **Caution:** [D, ?/–] **CI:** Pre-existing BM depression or neurologic tox **Disp:** Gel caps 50 mg SE: N/V/D, cramps; neurotox (neuropathy, CNS depression); minimal myelosuppression **Notes:** ✓ CBC, routine neurologic exams

**Aluminum Hydroxide (Amphojel, AlternaGEL, Dermagran) [OTC]**

**Uses:** *Relief of heartburn, upset or sour stomach, or acid indigestion*; supl to Rx of hyperphosphatemia; *minor cuts, burns (Dermagran)*  
**Action:** Neutralizes gastric acid; binds PO₄⁻² **Dose:** *Adults:* 10–30 mL or 300–1200 mg PO q4–6h. **Peds.* 5–15 mL PO q4–6h or 50–150 mg/kg/24 h PO ÷ q4–6h (hyperphosphatemia) **Caution:** [C, ?] **Disp:** Tabs 300, 600 mg; susp 320, 600 mg/5 mL; oint 0.275% *(Dermagran)* **SE:** Constipation **Notes:** OK in renal failure

**Aluminum Hydroxide + Magnesium Carbonate (Gaviscon Extra Strength, Liquid) [OTC]**

**Uses:** *Relief of heartburn, acid indigestion*  
**Action:** Neutralizes gastric acid **Dose:** *Adults:* 15–30 mL PO pc & hs; 2–4 chew tabs up to qid. **Peds.* 5–15 mL PO qid or PRN; avoid in renal impair **Caution:** [C, ?]  
**Disp:** Liq w/ ALOH 95 mg/mg carbonate 358 mg/15 mL; Extra Strength liq ALOH 254 mg/Mg carbonate 237 mg/15 mL; chew tabs ALOH 160 mg/Mg carbonate 105 mg SE: Constipation, D **Notes:** qid doses best pc & hs; may ↓ absorption of some drugs, take 2–3 h apart to ↓ effect
Aluminum Hydroxide + Magnesium Hydroxide (Maalox) 
[OTC] Uses: *Hyperacidity* (peptic ulcer, hiatal hernia, etc) Action: Neutralizes gastric acid Dose: Adults. 10–20 mL or 2–4 tabs PO qid or PRN. Peds. 5–15 mL PO qid or PRN Caution: [C, ?] Disp: Chew tabs, susp SE: May ↑ Mg2+ w/ renal Insuff, constipation, D Notes: Doses qid best pc & hs

Aluminum Hydroxide + Magnesium Hydroxide & Simethicone (Mylanta, Mylanta II, Maalox Plus) [OTC] Uses: *Hyperacidity w/ bloating* Action: Neutralizes gastric acid & defoaming Dose: Adults. 10–20 mL or 2–4 tabs PO qid or PRN. Peds. 5–15 mL PO qid or PRN; avoid in renal impair Caution: [C, ?] Disp: Tabs, susp, liq SE: ↑ Mg2+ in renal Insuff, D, constipation Notes: Mylanta II contains twice Al & Mg hydroxide of Mylanta; may affect absorption of some drugs

Aluminum Hydroxide + Magnesium Trisilicate (Gaviscon, Regular Strength) [OTC] Uses: *Relief of heartburn, upset or sour stomach, or acid indigestion* Action: Neutralizes gastric acid Dose: Chew 2–4 tabs qid; avoid in renal impair Caution: [C, ?] CI: Mg2+, sensitivity Disp: ALOH 80 mg/Mg trisilicate 20 mg/tab SE: ↑ Mg2+ in renal Insuff, constipation, D Notes: May affect absorption of some drugs

Amantadine (Symmetrel) Uses: *Rx/prophylaxis influenza A, Parkinsonism, & drug-induced EPS* (Note: Not for influenza, not for use in US due to resistance) Action: Prevents infectious viral nucleic acid release into host cell; releases dopamine and blocks reuptake of dopamine in presynaptic nerves Dose: Adults. Influenza A: 200 mg/d PO or 100 mg PO bid w/in 48 h of Sx. Parkinsonism: 100 mg PO daily-bid. Peds 1–9 y: 4.4–8.8 mg/kg/24 h to 150 mg/24 h max ÷ doses daily-bid. 10–12 y: 100–200 mg/d in 1–2 ÷ doses; ↓ in renal impair Caution: [C, M] Disp: Caps 100 mg; tabs 100 mg; soln 50 mg/5 mL SE: Orthostatic ↓ BP, edema, insomnia, depression, irritability, hallucinations, dream abnormalities, N/D, dry mouth

Ambrisentan (Letairis) WARNING: May cause ↑ AST/ALT to >3× ULN, LFTs monthly. CI in PRG; ✓ monthly PRG tests Uses: *Pulmonary arterial HTN* Action: Endothelin receptor antagonist Dose: Adults. 5 mg PO/d, max 10 mg/d; not ok w/ hepatic impair Caution: [X, –] w/ Cyclosporine, strong CYP3A or 2C19 inhibitor, inducers of P-glycoprotein, CYPs and UGTs CI: PRG Disp: Tabs 5, 10 mg SE: Edema, nasal congestion, sinusitis, dyspnea, flushing, constipation, HA, palpitations, hepatotoxic Notes: Available only through the Letairis Education and Access Program (LEAP); D/C AST/ALT >5× ULN or bilirubin >2× ULN or S/Sx of liver dysfunction; childbearing females must use 2 methods of contraception

Amifostine (Ethyol) Uses: *Xerostomia prophylaxis during RT (head, neck, etc) where parotid is in radiation field; ↓ renal tox w/ repeated cisplatin* Action: Prodrug, dephosphorylated by alkaline phosphatase to active thiol metabolite; binds cisplatin metabolites Dose: 910 mg/m2/d 15-min IV Inf 30 min
Amikacin (Amikin)  Uses: *Serious gram(−) bacterial Infxns* & mycobacteria  Action: Aminoglycoside; ↓ protein synth  Spectrum: Good gram(−) bacterial coverage: *Pseudomonas & Mycobacterium* sp  Dose: Adults & Peds. Conventional: 5–7.5 mg/kg/dose q8h; once daily; 15–20 mg/kg q24h; ↑ interval w/ renal impair.  Neonates <1200 g, 0–4 wk: 7.5 mg/kg/dose q18h–24h. Age <7 d, 1200–2000 g: 7.5 mg/kg/dose q12h; >2000 g: 10 mg/kg/dose q12h. Age >7 d, 1200–2000 g: 7 mg/kg/dose q8h; >2000 g: 7.5–10 mg/kg/dose q8h  Caution: [C, +/−] avoid w/ diuretics  Disp: 50 & 250 mg/mL Inj  SE: Nephro-/oto-/neurotox, neuromuscular blockage, resp paralysis  Notes: May be effective in gram(−) resistance to gentamicin & tobramycin; follow Cr; Levels: Peak: 30 min after Inf; Trough <0.5 h before next dose; Therapeutic: Peak 20–30 mcg/mL; Trough: <8 mcg/mL; Toxic Peak >35 mcg/mL; Half-life: 2 h  Amiloride (Midamor)  Uses: *HTN, CHF, & thiazide-induced ↓ K+*  Action: K+-sparing diuretic; interferes w/ K+/Na+ exchange in distal tubule  Dose: Adults. 5–10 mg PO daily. Peds. 0.625 mg/kg/d; ↓ w/ renal impair  Caution: [B, ?] CI: ↑ K+, Scr >1.5, BUN >30, diabetic neuropathy, w/ other K+-sparing diuretics  Disp: Tabs 50 & 250 mg/mL Inj  SE: ↑ K+; HA, dizziness, dehydration, impotence  Notes: monitor K+  Aminocaproic Acid (Amicar)  Uses: *Excessive bleeding from systemic hyperfibrinolysis & urinary fibrinolysis*  Action: ↓ fibrinolysis; inhibits TPA, inhibits conversion of plasminogen to plasmin  Dose: Adults. 5 g IV or PO (1st h) followed by 1–1.25 g/h IV or PO × 8h or until bleeding controlled; 30 g/d max. Peds. 100 mg/kg IV (1st h) then 1 g/m2/h; max 18 g/m2/d; ↓ w/ renal Insuff  Caution: [C, ?] Upper urinary tract bleeding CI: DIC  Disp: Tabs 500, syrup 250 mg/mL; Inj 250 mg/mL  SE: ↓ BP, bradycardia, dizziness, HA, fatigue, rash, GI disturbance, ↓ plt Fxn  Notes: Administer × 8 h or until bleeding controlled; not for upper urinary tract bleeding  Amino-Cerv pH 5.5 Cream  Uses: *Mild cervicitis,* postpartum cervicitis/cervical tears, postcauterization, postcryosurgery, & postconization  Action: Hydrating agent; removes excess keratin in hyperkeratotic conditions  Dose: 1 Applicator-full intravag hs × 2–4 wk  Caution: [C, ?] w/ Viral skin Infxn  Disp: Vaginal cream  SE: Stinging, local irritation  Notes: A.K.A. carbamide or urea; contains 8.34% urea, 0.5% sodium propionate, 0.83% methionine, 0.35% cystine, 0.83% inositol, & benzalkonium chloride  Aminoglutethimide (Cytadren)  Uses: *Cushing syndrome* Adrenocortical carcinoma, breast CA & PCa  Action: ↓ adrenal steroidogenesis & conversion of androgens to estrogens; 1st gen aromatase inhibitor  Dose: Initial 250 mg PO 4 × D, titrate q 1–2 wk max 2 g/d; w/ hydrocortisone 20–40 mg/d; ↓ w/ renal
Aminophylline

Uses: *Asthma, COPD* & bronchospasm

Action: Relaxes smooth muscle (bronchi, pulm vessels); stimulates diaphragm

Dose: Adults. Acute asthma: Load 6 mg/kg IV, then 0.4–0.9 mg/kg/h IV cont Inf, not > 25 mg/min. Chronic asthma: 24 mg/kg/24 h PO q6h. Peds. Load 6 mg/kg IV, then 6 wk–6 mo 0.5 mg/kg/h, 6 mo–1 y 0.6–0.7 mg/kg/h, 1–9 y 1 mg/kg/h IV Inf; ↓ w/ hepatic Insuff & w/ some drugs (macrolide & quinolone antibiotics, cimetidine, propranolol) Caution: [C, +] Uncontrolled arrhythmias, HTN, Sz disorder, hyperthyroidism, peptic ulcers

Disp: Tabs 100, 200 mg; PR tabs 100, 200 mg, soln 105 mg/5 mL, Inj 25 mg/mL

SE: N/V, irritability, tachycardia, ventricular arrhythmias, Szs Notes: Individualize dosage; level 10 to 20 mcg/mL, toxic >20 mcg/mL; aminophylline 85% theophylline; erratic rectal absorption

Amiodarone (Cordarone, Pacerone) WARNING: Liver tox, exacerbation of arrhythmias and lung damage reported

Uses: *Recurrent VF or hemodynamically unstable VT,* supraventricular arrhythmias, AF

Action: Class III antiarrhythmic (Table 10)

Dose: Adults. Ventricular arrhythmias: IV: 15 mg/min for 10 min, then 1 mg/min × 6 h, maint 0.5-mg/min cont Inf or PO: Load: 800–1600 mg/d PO × 1–3 wk. Maint: 600–800 mg/d PO for 1 mo, then 200–400 mg/d. Supraventricular arrhythmias: IV: 300 mg IV over 1 h, then 20 mg/kg for 24 h, then 600 mg PO daily for 1 wk, maint 100–400 mg daily or PO: Load 600–800 mg/d PO for 1–4 wk. Maint: Slow ↓ to 100–400 mg daily (ECC 2005) Cardiac arrest: 300 mg IV push; 150 mg IV push 3–5 min PRN. Refractory pulseless VT, VF: 5 mg/kg rapid IV bolus. Perfusing arrhythmias: Load: 5 mg/kg IV/IO over 20–60 min; repeat PRN, max 15 mg/kg/d. Peds. 10–15 mg/kg/24 h q12h PO for 7–10 d, then 5 mg/kg/24 h q12h or daily (infants require ↑ loading); ↓ w/ liver Insuff Caution: [D, –] May require ↓ digoxin/warfarin dose, many drug interactions CI: Sinus node dysfunction, 2nd-/3rd-degree AV block, sinus brady (w/o pacemaker), iodine sensitivity

Disp: Tabs 100, 200, 400 mg; Inj 50 mg/mL

SE: Pulm fibrosis, exacerbation of arrhythmias, ↑ QT interval; CHF, hypo-/hyperthyroidism, ↑ LFTs, liver failure, corneal microdeposits, optic neuropathy/neuritis, peripheral neuropathy, photosensitivity Notes: IV conc >0.2 mg/mL only via central catheter; Levels: Trough: just before next dose; Therapeutic: 1–2.5 mcg/mL; Toxic: >2.5 mcg/mL; Half-life: 30–100 h

Amitriptyline (Elavil)

WARNING: Antidepressants may ↑ suicide risk; consider risks/benefits of use. Monitor pts closely

Uses: *Depression (not bipolar depression)* peripheral neuropathy, chronic pain, tension HAs

Action: TCA; ↓ reuptake of serotonin & norepinephrine by presynaptic neurons

Dose: Adults. Initial: 30–50 mg PO hs; may ↑ to 300 mg hs. Peds. Not OK <12 y unless for chronic pain. Initial: 0.1 mg/kg PO hs, ↑ over 2–3 wk to 0.5–2 mg/kg PO hs; taper to D/C

Caution: CV Dz, Szs [D,+/–] NAG, hepatic impair CI: w/ MAOIs or w/in 14 d
of use, during acute MI recovery Disp: Tabs 10, 25, 50, 75, 100, 150 mg; Inj 10 mg/mL SE: Strong anticholinergic SEs; OD may be fatal; urine retention, sedation, ECG changes, photosensitivity Notes: Levels: Therapeutic: 120 to 150 ng/mL; Toxic: >500 mg/mL; levels may not correlate w/ effectiveness

**Amlodipine (Norvasc)**

Uses: *HTN, stable or unstable angina* Action: CCB; relaxes coronary vascular smooth muscle Dose: 2.5–10 mg/d PO; ↓ w/ hepatic impair Caution: [C, ?] Disp: Tabs 2.5, 5, 10 mg SE: Peripheral edema, HA, palpitations, flushing, dizziness Notes: Take w/o regard to meals

**Amlodipine/Atorvastatin (Caduet)**

Uses: *HTN, chronic stable/vasospastic angina, control cholesterol & triglycerides* Action: CCB & HMG-CoA reductase inhibitor Dose: Amlodipine 2.5–10 mg w/ atorvastatin 10–80 mg PO daily Caution: [X, –] CI: Active liver Dz, ↑ LFTs Disp: Tabs amlodipine/atorvastatin: 2.5/10, 2.5/20, 2.5/40, 5/10, 5/20, 5/40, 5/80, 10/10, 10/20, 10/40, 10/80 mg SE: Peripheral edema, HA, palpitations, flushing, myopathy, arthralgia, myalgia, GI upset Notes: ✓ LFTs; instruct patient to report muscle pain/weakness

**Amlodipine/Olmesartan (Azor)** WARNING: Use of renin-angiotensin agents in PRG can cause injury and death to fetus, D/C immediately when PRG detected Uses: *Hypertension* Action: CCB w/ angiotensin II receptor blocker Dose: Adults. Initial 2 mg/20 mg, max 10 mg/40 mg q d Caution: [C 1st Tri, D 2nd, 3rd Tri, –] 5 w/ K+ supl or K+-sparing diuretics, renal impair, RAS, severe CAD CI: PRG Disp: Tab amlodipine/olmesartan 5/20, 10/20, 5/40, 10/40 mg SE: Edema, vertigo, dizziness, ↓ BP

**Amlodipine/Valsartan (Exforge)** WARNING: Use of renin-angiotensin agents in PRG can cause injury and death to fetus, D/C immediately when PRG detected Uses: *Hypertension* Action: CCB w/ angiotensin II receptor blocker Dose: Adults. Initial 5 mg/160 mg, may ↑ after 1–2 wk, max 10 mg/320 mg q day, start elderly at 1/2 initial dose Caution: [C 1st Tri, D 2nd, 3rd Tri, –] 5 w/ K+ supl or K+-sparing diuretics, renal impair, RAS, severe CAD CI: PRG Disp: Tab amlodipine mg/valsartan mg 5/160, 10/160, 5/320, 10/320 mg SE: Edema, vertigo, nasopharyngitis, URI, dizziness, ↓ BP

**Ammonium Aluminum Sulfate [Alum] [OTC]**

Uses: *Hemorrhagic cystitis when saline bladder irrigation fails* Action: Astringent Dose: 1–2% soln w/ constant NS bladder irrigation Caution: [+–] Disp: Powder for recons SE: Encephalopathy possible; ✓ aluminum levels, especially w/ renal Insuff; can precipitate & occlude catheters Notes: Safe w/o anesthesia & w/ vesicoureteral reflux

**Amoxicillin (Amoxil, Polymox)**

Uses: *Ear, nose, & throat, lower resp, skin, urinary tract Infxns from susceptible gram(+) bacteria* endocarditis prophylaxis, *H. pylori* eradication w/ other agents (gastric ulcers) Action: β-Lactam antibiotic; ↓ cell wall synth Spectrum: Gram(+) (Streptococcus sp, Enterococcus sp); some gram(−) (*H. influenzae, E. coli, N. gonorrhoeae, H. pylori, & P. mirabilis*) Dose: Adults. 250–500 mg PO tid or 500–875 mg bid. Peds. 25–100 mg/kg/24 h
PO ÷ q8h, 200–400 mg PO bid (equivalent to 125–250 mg tid); ↓ in renal impair

**Caution:** [B, +] **Disp:** Caps 250, 500 mg; chew tabs 125, 200, 250, 400 mg; susp 50 mg/mL, 125, 200, 250, & 400 mg/5 mL; tabs 500, 875 mg **SE:** D; skin rash

**Notes:** Cross hypersensitivity w/ PCN; many E. coli strains resistant; chew tabs contain phenylalanine

**Amoxicillin & Clavulanic Acid (Augmentin, Augmentin 600 ES, Augmentin XR)**

**Uses:** Ear, lower resp, sinus, urinary tract, skin Infxns caused by β-lactamase–producing H. influenzae, S. aureus, & E. coli*

**Action:** β-lactam antibiotic w/ β-lactamase inhibitor. **Spectrum:** Gram(+) same as amoxicillin alone, MSSA; gram(−) as w/ amoxicillin alone, β-lactamase–producing H. influenzae, Klebsiella sp, M. catarrhalis

**Dose:** Adults. 250–500 mg PO q8h or 875 mg q12h; XR 2000 mg PO q12h. **Peds.** 20–40 mg/kg/d as amoxicillin PO ÷ q8h or 45 mg/kg/d ÷ q12h; ↓ in renal impair; take w/ food

**Caution:** [B, enters breast milk] **Disp:** Supplied (as amoxicillin/clavulanic): Tabs 250/125, 500/125, 875/125 mg; chew tabs 125/31.25, 200/28.5, 250/62.5, 400/57 mg; susp 125/31.25, 250/62.5, 200/28.5, 400/57 mg/5 mL; susp ES 600/42.9 mg/5 mL; XR tab 1000/62.5 mg **SE:** Abdom discomfort, N/V/D, allergic Rxn, vaginitis **Notes:** Do not substitute two 250-mg tabs for one 500-mg tab (OD of clavulanic acid); max clavulanic acid 125 mg/dose

**Amphotericin B (Amphocin)**

**Uses:** *Severe, systemic fungal Infxns; oral & cutaneous candidiasis*

**Action:** Binds ergosterol in the fungal membrane to alter permeability

**Dose:** Adults & Peds. **Test dose:** 1 mg IV adults or 0.1 mg/kg to 1 mg IV in children; then 0.25–1.5 mg/kg/24 h IV over 2–6 h (25–50 mg/d or q other day). Total varies w/ indication. **PO:** 1 mL qid

**Caution:** [B, ?] **Disp:** Powder (Inj) 50 mg/vial **SE:** ↓ K+/Mg2+ from renal wasting; anaphylaxis, HA, fever, chills, nephrotox, ↓ BP, anemia, rigors **Notes:** Monitor Cr/LFTs/K/Mg; ↓ ↓ in renal impair; pretreatment w/ APAP & antihistamines (Benadryl) ↓ SE

**Amphotericin B Cholesteryl (Amphotec)**

**Uses:** *Aspergillosis if intolerant/refractory to conventional amphotericin B,* systemic candidiasis

**Action:** Binds ergosterol in fungal membrane, alters permeability

**Dose:** Adults & Peds. **Test dose:** 1.6–8.3 mg, over 15–20 min, then 3–4 mg/kg/d; 1 mg/kg/h Inf, 7.5 mg/kg/d max; ↓ w/ renal Insuff **Caution:** [B, ?] **Disp:** Powder for Inf 50 mg, 100 mg/vial **SE:** Anaphylaxis; fever, chills, HA, ↓ K+, ↓ Mg2+, nephrotox, ↓ BP, anemia **Notes:** Do not use in-line filter; ✓ LFTs/lytes

**Amphotericin B Lipid Complex (Abelcet)**

**Uses:** *Refractory invasive fungal Infxn in pts intolerant to conventional amphotericin B*

**Action:** Binds ergosterol in fungal membrane, alters permeability

**Dose:** Adults & Peds. **5 mg/kg/d IV single daily dose Caution:** [B, ?] **Disp:** Inf 5 mg/mL **SE:** Anaphylaxis; fever, chills, HA, ↓ K+, ↓ Mg2+, nephrotox, ↓ BP, anemia **Notes:** Filter w/ 5-micron needle; do not mix in electrolyte-containing solns; if Inf >2 h, manually mix bag

**Amphotericin B Liposomal (AmBisome)**

**Uses:** *Refractory invasive fungal Infxn w/ intolerance to conventional amphotericin B; cryptococcal*...

Uses: *Resp, GU, or GI tract Infxns, meningitis due to gram(–) & (+) bacteria; SBE prophylaxis* Action: β-Lactam antibiotic; ↓ cell wall synth. Spectrum: Gram(+) (Streptococcus sp, Staphylococcus sp, Listeria); gram(–) (Klebsiella sp, E. coli, H. influenzae, P. mirabilis, Shigella sp, Salmonella sp) Dose: Adults. 500 mg–2 g IM or IV q6h or 250–500 mg PO q6h; varies by indication. Peds Neonates <7 d: 50–100 mg/kg/24 h IV ÷ q8h. Term infants: 75–150 mg/kg/24 h ÷ q6–8h IV or PO. Children >1 mo: 100–200 mg/kg/24 h ÷ q4–6h IM or IV; 50–100 mg/kg/24 h ÷ q6h PO up to 250 mg/dose. Meningitis: 200–400 mg/kg/24 h ÷ q4–6h IV; ↓ w/ renal impair; take on empty stomach. Caution: [B, M] Cross-hypersensitivity w/ PCN. Disp: Caps 250, 500 mg; susp 100 mg/mL (reconstituted drops), 125 mg/5 mL, 250 mg/5 mL; powder (Inj) 125, 250, 500, 1, 2, 10 g/vial. SE: D, rash, allergic Rxn Notes: Many E. coli resistant.

Uses: *Gynecologic, intra-Abd, skin Infxns due to β-lactamase–producing S. aureus, Enterococcus, H. influenzae, P. mirabilis, & Bacteroides sp* Action: β-lactam antibiotic & β-lactamase inhibitor. Spectrum: Gram(+) & (–) as for amp alone; also Enterobacter, Acinetobacter, Bacteroides Dose: Adults. 1.5–3 g IM or IV q6h. Peds. 100–400 mg ampicillin/kg/d (150–300 mg Unasyn) q6h; ↓ w/ renal Insuff. Caution: [B, M] Disp: Powder for Inj 1.5, 3 g/vial, 15 g bulk package. SE: Allergic Rxsns, rash, D, Inj site pain Notes: A 2:1 ratio ampicillin:sulbactam.

DISCONTINUED replaced by fosamprenavir tid.

WARNING: Associated w/ ↑ incidence of serious Infxn; D/C w/ serious Infxn. Uses: *Reduce S/Sxs of mod/severe active RA, failed 1 or more DMARD* Action: Human IL-1 receptor antagonist. Dose: 100 mg SQ daily; w/ CrCl <30 mL/min, q other day. Caution: [B, ?] CI: E. coli-derived proteins allergy, active Infxn, <18 y. Disp: 100-mg prefilled syringes; 100 mg (0.67 mL/vial) SE: ↓ WBC especially w/ TNF-blockers, Inj site Rxsn (may last up to 28 d), Infxn, N/D, Abd pain, flu-like sx, HA. Notes: No effect on adrenal steroids or aldosterone.

Uses: *Breast CA: postmenopausal w/ metastatic breast CA, adjuvant Rx postmenopausal early hormone-receptor (+) breast CA* Action: Selective nonsteroidal aromatase inhibitor, ↓ circulatory estradiol. Dose: 1 mg/d Caution: [D, ?] CI: PRG. Disp: Tabs 1 mg SE: May ↑ cholesterol; N/V/D, HTN, flushing, ↑ bone/tumor pain, HA, somnolence, mood disturbance, depression, rash. Notes: No effect on adrenal steroids or aldosterone.
Anidulafungin (Eraxis)  Uses: *Candidemia, esophageal candidiasis, other Candida Infxn (peritonitis, intra-Abd abscess)*  Action: Echinocandin; ↓ cell wall synth  Spectrum: C. albicans, C. glabrata, C. parapsilosis, C. tropicalis  Dose: Candidemia, others: 200 mg IV × 1, then 100 mg IV daily (Tx ≥14 d after last + culture); Esophageal candidiasis: 100 mg IV × 1, then 50 mg IV daily (Tx >14 d and 7 d after resolution of Sx); 1.1 mg/min max Inf rate  Caution: [C, ?/–] CI: Echinocandin hypersensitivity  Disp: Powder 50 mg/vial, 100 mg/vial  SE: Histamine-mediated Inf Rxns (urticaria, flushing, ↓ BP, dyspnea, etc), fever, N/V/D, ↓ K+, HA, ↑ LFTs, hep, worsening hepatic failure  Notes: ↓ Inf rate to <1.1 mg/min w/ Inf Rxns

Anistreplase (Eminase)  Uses: *AMI*  Action: Thrombolytic; activates conversion of plasminogen to plasmin, ↑ thrombolysis  Dose: 30 units IV over 2–5 min (ECC 2005)  Caution: [C, ?] CI: Active internal bleeding, Hx CVA, recent (<2 mo) intracranial or intraspinal surgery/neoplasm, AVM, aneurysm, bleeding diathesis, severe HTN  Disp: Bleeding, ↓ BP, hematoma  Notes: Ineffective if readministered >5 d after the previous dose of anistreplase or streptokinase, or streptococcal Infxn (production of antistreptokinase Ab)

Anthralin (Anthra-Derm)  Uses: *Psoriasis*  Action: Keratolytic  Disp: Cream, oint 0.1, 0.25, 0.4, 0.5, 1%  SE: Irritation; hair/fingernails/skin discoloration

Antihemophilic Factor [AHF, Factor VIII] (Monoclate)  Uses: *Classic hemophilia A, von Willebrand Dz*  Action: Provides factor VIII needed to convert prothrombin to thrombin  Dose: Adults & Peds. 1 AHF unit/kg ↑ factor VIII level by 2 Int Unit/dL; units required = (wgt in kg) (desired factor VIII ↑ as % nl) × (0.5); prevent spontaneous hemorrhage = 5% nl; hemostasis after trauma/surgery = 30% nl; head injuries, major surgery, or bleeding = 80–100% nl  Caution: [C, ?] Disp: ✓ each vial for units contained, powder for recons  SE: Rash, fever, HA, chills, N/V  Notes: Determine % nl factor VIII before dosing

Antihemophilic Factor (Recombinant) (Xyntha)  Uses: *Control/prevent bleeding & surgical prophylaxis in hemophilia A*  Action: ↑ levels of factor VIII  Dose: Adults. Required units = body wgt (kg) × desired factor VIII rise (Int Units/dL or % of normal) × 0.5 (Int Units/kg per Int Units/dL); frequency/duration determined by type of bleed (see insert)  Caution: [C, ?/–] severe hypersensitivity Rxn possible  CI: None  Disp: Inj powder: 250, 500, 1000, 2000 Int Units  SE: HA, fever, N/V/D, weakness, allergic Rxn  Notes: Monitor for the development of factor VIII neutralizing antibodies

Antithymocyte Globulin (See Lymphocyte Immune Globulin, page 151)

Apomorphine (Apokyn)  WARNING: Do not administer IV  Uses: *Acute, intermittent hypomobility (“off”) episodes of Parkinson Dz*  Action: Dopamine agonist  Dose: Adults. 0.2 mL SQ supervised test dose; if BP OK, initial 0.2 mL (2 mg) SQ during “off” periods; only 1 dose per “off” period; titrate dose;
0.6 mL (6 mg) max single doses; use w/ antiemetic; ↓ in renal impair **Caution:** [C, +/-] Avoid EtOH; antihypertensives, vasodilators, cardio- or cerebrovascular Dz, hepatic impair **CI:** 5-HT₃ antagonists, sulfite allergy **Disp:** Inj 10 mg/mL, 3-mL pen cartridges; 2-mL amp **SE:** Emesis, syncope, ↑ QT, orthostatic ↓ BP, somnolence, ischemia, Inj site Rxn, abuse potential, dyskinesia, fibrotic conditions, priapism, chest pain/angina, yawning, rhinorrhea **Notes:** Daytime somnolence may limit activities; trimethobenzamide 300 mg tid PO or other non–5-HT₃ antagonist antiemetic given 3 d prior to & up to 2 mo following initiation

**Apraclonidine (Iopidine)** **Uses:** *Glaucoma, intraocular HTN* **Action:** α₂-Adrenergic agonist **Dose:** 1–2 gtt of 0.5% tid; 1 gtt of 1% before and after surgical procedure **Caution:** [C, ?] **CI:** w/in 14 d of or w/ MAOI **Disp:** 0.5, 1% soln **SE:** Ocular irritation, lethargy, xerostomia

**Aprepitant (Emend)** **Uses:** *Prevents N/V associated w/ emetogenic CA chemotherapy (eg, cisplatin) (use in combo w/ other antiemetics)*, post OP N/V **Action:** Substance P/neurokinin 1(NK₁) receptor antagonist **Dose:** 125 mg PO day 1, 1 h before chemotherapy, then 80 mg PO q a.m. days 2 & 3; post-op N/V: 40 mg w/in 3 h of induction **Caution:** [B, ?;–]; substrate & mod CYP3A4 inhibitor; CYP2C9 inducer (Table 11) **CI:** Use w/ pimozide, **Disp:** Caps 40, 80, 125 mg **SE:** Fatigue, asthenia, hiccups **Notes:** ↓ effect OCP and warfarin

**Aprotinin (TrasyloL)** **Withdrawn from US market 2008**

**Arformoterol (Brovana)** **WARNING:** Long-acting β₂-adrenergic agonists may increase the risk of asthma-related death. Use only for pts not adequately controlled on other asthma-controller meds **Uses:** *Maint in COPD* **Action:** Selective LA β₂-adrenergic agonist **Dose:** **Adults.** 15 mcg bid nebulization **Caution:** [C, ?] **CI:** Hypersensitivity **Disp:** Soln: 15 mcg/2 mL **SE:** Pain, back pain, CP, D, sinusitis, nervousness, palpitations, allergic Rxn **Notes:** Not for acute bronchospasm. Refrigerate, use immediately after opening

**Argatroban (Acova)** **Uses:** *Prevent/Tx thrombosis in HIT, PCI in pts w/ HIT risk* **Action:** Anticoagulant, direct thrombin inhibitor **Dose:** 2 mcg/kg/min IV; adjust until aPTT 1.5–3 × baseline not to exceed 100 s; 10 mcg/kg/min max; ↓ w/ hepatic impair **Caution:** [B, ?] Avoid PO anticoagulants, ↑ bleeding risk; avoid use w/ thrombolitics **CI:** Overt major bleed **Disp:** Inj 100 mg/mL **SE:** AF, cardiac arrest, cerebrovascular disorder, ↓ BP, VT, N/V/D, sepsis, cough, renal tox, ↓ Hgb **Note:** Steady state in 1–3 h; ✓ aPTT w/ Inf start and after each dose change

**Aripiprazole (Abilify, Abilify Discmelt)** **WARNING:** Increased mortality in elderly with dementia-related psychosis; ↑ suicidal thinking in children, adolescents, and young adults w/ major depressive disorder (MDD) **Uses:** *Schizophrenia adults and peds 13–17 y, mania or mixed episodes associated w/ bipolar disorder, MDD in adults, agitation w/ schizophrenia* **Action:** Dopamine & serotonin antagonist **Dose:** **Adults.** Schizophrenia: 10–15 mg PO/d; Acute agitation: 9.75 mg/1.3 mL IM; Bipolar: 15 mg/d; MDD adjunct w/ other antidepressants initial 2 mg/d, 10 mg/d ok. **Peds.** Schizophrenia: 13–17 y: start 2 mg/d,
usual 10 mg/d; max 30 mg/d for all adult and peds uses; ↓ dose w/ CYP3A4/CYP2D6 inhibitors (Table 11); ↑ dose w/ CYP3A4 inducer Caution: [C, –] Disp: Tabs 2, 5, 10, 15, 20, 30 mg; Discmelt (disintegrating tabs 10, 15, 20, 30 mg), soln 1 mg/mL, Inj 7.5 mg/mL SE: Neuroleptic malignant syndrome, tardive dyskinesia, orthostatic ↓ BP, cognitive & motor impair, ↑ glucose Notes: Discmelt contains phenylalanine

**Artificial Tears (Tears Naturale) [OTC]** Uses: *Dry eyes* Action: Ocular lubricant Dose: 1–2 gtt tid-qid Disp: OTC soln SE: mild stinging, temp blurred vision

**Armodafinil (Nuvigil)** Uses: *Narcolepsy, shift work sleep disorder (SWSD), and obstructive sleep apnea/hypopnea syndrome (OSAHS)* Action: ?; binds dopamine receptor, ↓ dopamine reuptake Dose: Adults. OSAHS/Narcolepsy: 150 or 250 mg PO daily in a.m.; SWSD: 150 mg PO q day 1 h prior to start of shift; ↓ w/ hepatic impair; adjust w/ substrates for CYP3A4/5, CYP2C19 Caution: [C, ?] CI: Hypersensitivity to modafinil/armodafinil Disp: Tabs 50, 150, 200 mg SE: HA, nausea, dizziness, insomnia, xerostomia, rash including SJS, angioedema, anaphylactoid Rxns, multiorgan hypersensitivity Rxns

**L-Asparaginase (Elspar, Oncaspar)** Uses: *ALL* (in combo w/ other agents) Action: Protein synth inhibitor Dose: 500–20,000 Int Units/m2/d for 1–14 d (per protocols) Caution: [C, ?] CI: Active/Hx pancreatitis; history of allergic Rxn, thrombosis or hemorrhagic event w/ prior Rx w/ asparaginase Disp: Powder (Inj) 10,000 units/vial SE: Allergy 20–35% (urticaria to anaphylaxis); fever, chills, N/V, anorexia, Abd cramps, depression, agitation, Sz, pancreatitis, ↑ glucose or LFTs, coagulopathy Notes: Test dose ok, ✓ glucose, coagulation studies, LFTs

**Aspirin (Bayer, Ecotrin, St. Joseph’s) [OTC]** Uses: *Angina, CABG, PTCA, carotid endarterectomy, ischemic stroke, TIA, MI, arthritis, pain,* HA, *fever,* inflammation, Kawasaki Dz Action: Prostaglandin inhibitor Dose: Adults. Pain, fever: 325–650 mg q4–6h PO or PR (4g/d max). RA: 3–6 g/d PO in ÷ doses. Plt inhibitor: 81–325 mg PO daily. Prevent MI: 81 (preferred)–325 mg PO daily. Acute Coronary Syndrome: 160–325 mg PO ASAP, chewing preferred at onset (ECC 2005). Peds. Antipyretic: 10–15 mg/kg/dose PO or PR q4–6h up to 80 mg/kg/24 h. RA: 60–100 mg/kg/24 h PO ÷ q4–6h (keep levels 15–30 mg/dL); Kawasaki Dz: 80–100 mg/kg/d ÷ q6h, 3–5 mg/kg/d after fever resolves; for all uses 4 g/d max; avoid w/ CrCl <10 mL/min, severe liver Dz Caution: [C, M] Linked to Reye syndrome; avoid w/ viral illness in peds <16 y CI: Allergy to ASA, chickenpox/flu Sxs, syndrome of nasal polyps, angioedema, & bronchospasm to NSAIDs Disp: Tabs 325, 500 mg; chew tabs 81 mg; EC tabs 81, 162, 325, 500, 650, 975 mg; SR tabs 650, 800 mg; effervescent tabs 325, 500 mg; supp 125, 200, 300, 600 mg SE: GI upset, erosion, & bleeding Notes: D/C 1 wk prior to surgery; avoid/limit EtOH; Salicylate Levels: Therapeutic: 100 to 250 mcg/mL; Toxic: >300 mcg/mL
**Aspirin & Butalbital Compound (Fiorinal) [C-III]**

Uses: *Tension HA,* pain

**Action:** barbiturate w/ analgesic

**Dose:** 1–2 PO q4h PRN, max 6 tabs/d; avoid w/ CrCl <10 mL/min or severe liver Dz

**Caution:** [C (D w/ prolonged use or high doses at term), ?]

**CI:** ASA allergy, GI ulceration, bleeding disorder, porphyria, syndrome of nasal polyps, angioedema, & bronchospasm to NSAIDs

**Disp:** Caps (Fiorgen PF, Lanorinal), Tabs (Lanorinal) ASA 325 mg/butalbital 50 mg/caffeine 40 mg

**SE:** Drowsiness, dizziness, GI upset, ulceration, bleeding

**Notes:** Butalbital habit-forming; D/C 1 wk prior to surgery, avoid or limit EtOH

**Aspirin + Butalbital, Caffeine, & Codeine (Fiorinal + Codeine) [C-III]**

Uses: Mild *pain,* HA, especially tension HA w/ stress

**Action:** Sedative and narcotic analgesic

**Dose:** 1–2 tabs/caps PO q4–6h PRN max 6/d

**Caution:** [C, ?]

**CI:** Allergy to ASA and codeine, syndrome of nasal polyps, angioedema, & bronchospasm to NSAIDs, bleeding diathesis, peptic ulcer or significant GI lesions, porphyria

**Disp:** Caps/tab contains 325-mg ASA, 40-mg caffeine, 50 mg of butalbital, 30 mg of codeine

**SE:** Drowsiness, dizziness, GI upset, ulceration, bleeding

**Notes:** D/C 1 wk prior to surgery, avoid/limit EtOH

**Aspirin + Codeine [Empirin No. 3, 4] [C-III]**

Uses: Mild to *mod pain,* *symptomatic nonproductive cough Action:** Combined effects of ASA & codeine

**Dose:** Adults. 1–2 tabs/caps PO q4–6h PRN. *Peds.* ASA 10 mg/kg/dose; codeine 0.5–1 mg/kg/dose q4h

**Caution:** [D, M] CI: Allergy to ASA/codeine, PUD, bleeding, anticoagulant Rx, children w/ chickenpox or flu Sxs, syndrome of nasal polyps, angioedema, & bronchospasm to NSAIDs

**Disp:** Tabs 325 mg of ASA & codeine (Codeine in No. 3 = 30 mg, No. 4 = 60 mg)

**SE:** Drowsiness, dizziness, GI upset, ulceration, bleeding

**Notes:** D/C 1 wk prior to surgery; avoid/limit EtOH

**Atazanavir (Reyataz)**

**WARNING:** Hyperbilirubinemia may require drug D/C

Uses: *HIV-1 Infxn*

**Action:** Protease inhibitor

**Dose:** Antiretroviral naïve 400 mg PO daily w/ food; experienced pts 300 mg w/ ritonavir 100 mg; when given w/ efavirenz 600 mg, administer atazanavir 300 mg + ritonavir 100 mg once/d; separate doses from buffered didanosine administration; ↓ w/ hepatic impair

**Caution:** CDC recommends HIV-infected mothers not breast-feed [B, –]; ↑ levels of statins (avoid use) sildenafil, antiarrhythmics, warfarin, cyclosporine, TCAs; ↓ w/ St. John’s wort, H2-receptor antagonists CI: w/ midazolam, triazolam, ergots, pimozide

**Disp:** Caps 100, 150, 200, 300 mg

**SE:** HA, N/V/D, rash, Abd pain, DM, photosensitivity, ↑ PR interval

**Notes:** May have less-adverse effect on cholesterol; if given w/ H2 blocker, give together or at least 10 h after H2; if given w/ proton pump inhibitor, separate by 12 h; concurrent use not ok in experienced pts

**Atenolol (Tenormin)**

Uses: *HTN, angina, MI*

**Action:** selective β-adrenergic receptor blocker

**Dose:** 25–50 q day up to 100 mg/d; HTN & angina: 50–100 mg/d PO. AMI: 5 mg IV slowly over 5 min, may repeat in 10 min then 50 mg PO bid if tolerated; 5 mg IV over 5 min; in 10 min, 5 mg slow IV; if tolerated in 10 min, start 50 mg PO, then 50 mg PO bid (ECC 2005); ↓ in renal impair
Caution: [D, M] DM, bronchospasm; abrupt D/C can exacerbate angina & ↑ MI risk CI: Bradycardia, cardiogenic shock, cardiac failure, 2nd-/3rd-degree AV block, sinus node dysfunction, pulm edema Disp: Tabs 25, 50, 100 mg; Inj 5 mg/10 mL SE: Bradycardia, ↓ BP, 2nd-/3rd-degree AV block, dizziness, fatigue

Atenolol & Chlorthalidone (Tenoretic) Uses: *HTN* Action: β-Adrenergic blockade w/ diuretic Dose: 50–100 mg/d PO based on atenolol; ↓ dose w/ CrCL <35 mL/min Caution: [D, M] DM, bronchospasm CI: See atenolol; anuria, sulfonamide cross-sensitivity Disp: Tenoretic 50: Atenolol 50 mg/chlorthalidone 25 mg; Tenoretic 100: Atenolol 100 mg/chlorthalidone 25 mg SE: Bradycardia, ↓ BP, 2nd- or 3rd-degree AV block, dizziness, fatigue, ↓ K*, photosensitivity

Atomoxetine (Strattera) WARNING: Severe liver injury may rarely occur; DC w/ jaundice or ↑ LFTs, ↑ frequency of suicidal thinking; monitor closely Uses: *ADHD* Action: Selective norepinephrine reuptake inhibitor Dose: Adults & children >70 kg: 40 mg PO/d, after 3 d minimum, ↑ to 80–100 mg d daily-bid. Peds <70 kg: 0.5 mg/kg × 3 d, then ↑ 1.2 mg/kg daily or bid (max 1.4 mg/kg or 100 mg); ↓ dose w/ hepatic Insuff or in combo w/ CYP2D6 inhibitors (Table 11) [C, ?/–] Caution: w/ known structural cardiac anomalies, cardiac history CI: NAG, w/ or w/in 2 wk of D/C an MAOI; Disp: Caps 5, 10, 18, 25, 40, 60, 80, 100 mg SE: HA, insomnia, dry mouth, Abd pain, N/V, anorexia, ↑ BP, tachycardia, wt loss, sexual dysfunction, jaundice, ↑ LFTs Notes: AHA recommends all children receiving stimulants for ADHD receive CV assessment before therapy initiated; D/C immediately w/ jaundice

Atorvastatin (Lipitor) Uses: *↑ Cholesterol & triglycerides* Action: HMG-CoA reductase inhibitor Dose: Initial 10 mg/d, may ↑ to 80 mg/d Caution: [X, –] CI: Active liver Dz, unexplained ↑ LFTs Disp: Tabs 10, 20, 40, 80 mg SE: Myopathy, HA, arthralgia, myalgia, GI upset, chest pain, edema, insomnia dizziness Notes: Monitor LFTs, instruct patient to report unusual muscle pain or weakness

Atovaquone (Mepron) Uses: *Rx & prevention PCP and Toxoplasma gondii encephalitis* Action: ↓ nucleic acid & ATP synth Dose: Rx: 750 mg PO bid for 21 d. Prevention: 1500 mg PO once/d (w/ meals) Caution: [C, ?] Disp: Susp 750 mg/5 mL SE: Fever, HA, anxiety, insomnia, rash, N/V, cough

Atovaquone/Proguanil (Malarone) Uses: *Prevention or Rx Plasmodium falciparum malaria* Action: Antimalarial Dose: Adults. Prevention: 1 tab PO 2 d before, during, & 7 d after leaving endemic region; Rx: 4 tabs PO single dose daily × 3 d. Peds. See insert Caution: [C, ?] CI: prophylactic use when CrCl <30 mL/min Disp: Tab atovaquone 250 mg/proguanil 100 mg; peds 62.5/25 mg SE: HA, fever, myalgia, N/V, ↑ LFTs

Atracurium (Tracrium) Uses: *Anesthesia adjunct to facilitate ET intubation* Action: Nondepolarizing neuromuscular blocker Dose: Adults & Peds >2 y. 0.4–0.5 mg/kg IV bolus, then 0.08–0.1 mg/kg q20–45min PRN Caution: [C, ?] Disp: Inj 10 mg/mL SE: Flushing Notes: Pt must be intubated & on controlled ventilation; use adequate amounts of sedation & analgesia
Atropine, systemic (AtroPen Auto-injector)  
**WARNING:** Primary protection against exposure to chemical nerve agent and insecticide poisoning is the wearing of specially designed protective garments.  
**Uses:** Preanesthetic; symptomatic bradycardia & asystole, AV block, organophosphate (insecticide) and acetylcholinesterase (nerve gas) inhibitor antidote; cycloplegic.  
**Action:** Antimuscarinic; blocks acetylcholine at parasympathetic sites, cycloplegic.  
**Dose:**  
**Adults.** (2005 ECC): Asystole or PEA: 1 mg IV/IO push. Repeat PRN q3–5min to 0.03–0.04 mg/kg max. Bradycardia: 0.5–1.0 mg IV q3–5min as needed; max 0.03–0.04 mg/kg: ET 2–3 mg in 10 mL NS. Preanesthetic: 0.3–0.6 mg IM. Poisoning: 1–2 mg IV bolus, repeat q3–5min PRN to reverse effects. **Peds.** (ECC 2005): 0.01–0.03 mg/kg IV q2–5min, max 1 mg, min dose 0.1 mg. Preanesthetic: 0.01 mg/kg/dose SQ/IV (max 0.4 mg). Poisoning: 0.05 mg/kg IV, repeat q3–5min PRN to reverse effects.  
**Caution:** [C, +]  
**CI:** NAG, adhesions between iris and lens, tachycardia, GI obst, ileus, severe ulcerative colitis, obstructive uropathy, Mobitz II block.  
**Disp:** Inj 0.05, 0.1, 0.3, 0.4, 0.5, 0.8, 1 mg/mL; AtroPen Auto-injector: 0.25, 0.5, 1, 2 mg/dose; tabs 0.4 mg, MDI 0.36 mg/Inh.  
**SE:** Flushing, mydriasis, tachycardia, dry mouth & nose, blurred vision, urinary retention, psychotic episodes.  
**Notes:** SLUDGE (Salivation, Lacrimation, Urination, Diaphoresis, GI motility, Emesis) are Sx of organophosphate poisoning; Auto-injector limited distribution; see also ophthalmic forms below.  

Atropine, Benzoic Acid, Hyoscyamine Sulfate, Methenamine, Methylene Blue, Phenyl Salicylate (Urised)  
**Uses:** *lower urinary tract discomfort*  
**Action:** Methenamine in acid urine releases formaldehyde (antiseptic), methylene blue/benzoic acid mild antiseptic, phenyl salicylate mild analgesic, hyoscyamine and atropine parasympatholytic ↓ muscle spasm.  
**Dose:**  
**Adults.** 2 tabs PO qid. **Peds >6 y:** Individualize.  
**Caution:** [C, ?/–] avoid w/ sulfonamides.  
**CI:** NAG, pyloric/duodenal obst, BOO, coronary artery spasm.  
**Disp:** Tab: atropine 0.03 mg/benzoic acid 4.5 mg/hyoscyamine 0.03 mg/methenamine 40.8 mg/methylene blue 5.4 mg/phenyl salicylate 18.1 mg. **SE:** Rash, dry mouth, flushing, ↑ pulse, dizziness, blurred vision, urine/feces discoloration, voiding difficulty.  
**Notes:** Take w/ plenty of fluid, can cause crystalluria.  

Atropine, ophthalmic (Isopto Atropine, generic)  
**Uses:** *cycloplegic refraction, uveitis, amblyopia*  
**Action:** Antimuscarinic; cycloplegic, dilates pupils.  
**Dose:**  
**Adults.** Refraction: 1–2 gtt 1 h before; Uveitis: 1–2 gtt daily-qid.  
**Peds.** 1 gtt in nonamblyopic eye daily.  
**Caution:** [C, +]  
**CI:** NAG, adhesions between iris and lens.  
**Disp:** 2.5 & 15-mL bottle 1% ophthal soln, 1% oint.  
**SE:** Local irritation, burning, blurred vision, light sensitivity.  
**Notes:** Compress lacrimal sac 2–3 min after instillation; effects can last 1–2 wk.  

Atropine/pralidoxime (DuoDote)  
**WARNING:** For use by personnel with appropriate training; wear protective garments; do not rely solely on medication; evacuation and decontamination ASAP.  
**Uses:** *Nerve agent (tabun, sarin, others) and insecticide poisoning*  
**Action:** Atropine blocks effects of excess acetylcholine;
pralidoxime reactivates acetylcholinesterase inactivated by organophosphorus poisoning **Dose:** 1 Inj in midlateral thigh; wait 10–15 min for effect; if Sx are severe, give 2 additional Inj; if alert & oriented no additional doses **Caution:** [C, ?] **Disp:** Auto-injector 2.1 mg atropine/600 mg pralidoxime **SE:** Dry mouth, blurred vision, dry eyes, photophobia, confusion, HA, tachycardia, ↑ BP, flushing, urinary retention, constipation, Abd pain N, V, emesis **Notes:** Severe sx of poisoning: confusion, dyspnea w/ copious secretions, weakness, twitching, involuntary urination and defecation, convulsions, unconsciousness; limited distribution

**Azathioprine** (Imuran) **WARNING:** May ↑ neoplasia w/ chronic use; mutagenic and hematologic tox possible **Uses:** *Adjunct to prevent renal transplant rejection, RA,* Crohn Dz, ulcerative colitis **Action:** Immunosuppressive; antagonizes purine metabolism **Dose:** **Adults.** Crohn and ulcerative colitis, start 50 mg/d, ↑ 25 mg/d q1–2wk, target dose 2–3 mg/kg/d; **Adults & Peds.** Renal transplant: 3–5 mg/kg/d IV/PO single daily dose, taper by 0.5 mg/kg q4wk to lowest effective dose. RA 1 mg/kg/d once daily or ↑ bid × 6–8 wk, ↑ 0.5 mg/kg/d q4wk to 2.5 mg/kg/d; ↓ w/ renal Insuff **Caution:** [D, ?] **CI:** PRG **Disp:** Tabs, 50, 75, 100 mg; powder for Inj 100 mg **SE:** GI intolerance, fever, chills, leukopenia, thrombocytopenia **Notes:** Handle Inj w/ cytotoxic precautions; interaction w/ allopurinol; do not administer live vaccines on drug; ✓ CBC and LFTs; dose per local transplant protocol, usually start 1–3 d pretransplant

**Azelastine** (Astelin, Optivar) **Uses:** *Allergic rhinitis (rhinorrhea, sneezing, nasal pruritus); allergic conjunctivitis* **Action:** Histamine H₁-receptor antagonist **Dose:** **Nasal:** 2 sprays/nostril bid. **Ophth:** 1 gtt in each affected eye bid

**Azelithromycin** (Zithromax) **Uses:** *Community-acquired pneumonia, pharyngitis, otitis media, skin Infxns, nongonococcal (chlamydial) urethritis, chancroid & PID; Rx & prevention of MAC in HIV* **Action:** Macrolide antibiotic; bacteriostatic; ↓ protein synth. **Spectrum:** Chlamydia, H. ducreyi, H. influenzae, Legionella, M. catarrhalis, M. pneumoniae, M. hominis, N. gonorrhoeae, S. aureus, S. agalactiae, S. pneumoniae, S. pyogenes **Dose:** **Adults.** Resp tract Infxns: PO: Caps 500 mg day 1, then 250 mg/d PO × 4 d; sinusitis 500 mg/d PO × 3 d; IV: 500 mg × 2 d, then 500 mg PO × 7–10 d or 500 mg IV daily × 2 d, then 500 mg/d PO × 7–10 d. **Nongonococcal urethritis:** 1 g PO × 1. **Gonorrhea, uncomplicated:** 2 g PO × 1. **Prevent MAC:** 1200 mg PO once/wk. **Peds.** Otitis media: 10 mg/kg PO day 1, then 5 mg/kg/d days 2–5. **Pharyngitis:** 12 mg/kg/d PO × 5 d; take susp on empty stomach; tabs OK w/ or w/o food; ↓ w/ CrCl <10 mL/min **Caution:** [B, +] **Disp:** Tabs 250, 500, 600 mg; Z-Pack (5-d, 250 mg); Tri-Pak (500-mg tabs × 3); susp 1 g; single-dose packet (ZMAX) ER susp (2 g); susp 100, 200 mg/5 mL; Inj powder 500 mg; 2.5 mL ophthal soln 1% **SE:** GI upset, metallic taste

**Azithromycin Ophthalmic 1% (AzaSite)** **Uses:** *Bacterial conjunctivitis* **Action:** bacteriostatic **Dose:** **Adults.** 1 gtt bid, q8–12 h × 2 d, then 1 gtt q
day × 5 d. **Peds** ≥1 y: 1 gtt bid, q8–12h × 2d d, then 1 gtt q day × 5 d Caution: [B, +/–]
**CI:** None **Disp:** 1% in 2.5 mL bottle **SE:** Irritation, burning, stinging, contact dermatitis, corneal erosion, dry eye, dysgeusia, nasal congestion, sinusitis, ocular discharge, keratitis **Notes:** Avoid contact w/use

**Aztreonam (Azactam)**

*Uses:* *Aerobic gram(–) UTIs, lower resp, intra-Abd, skin, gynecologic Infxns & septicemia*

**Action:** **Monobactam:** ↓ cell wall synth. **Spectrum:** Gram(–) (*Pseudomonas, E. coli, Klebsiella, H. influenzae, Serratia, Proteus, Enterobacter, Citrobacter*)

**Dose:** **Adults.** 1–2 g IV/IM q6–12h. **UTI** 500–1 g IV q8–12h. **Meningitis** 2 g IV q6–8h **Peds.** **Premature:** 30 mg/kg/dose IV q12h. **Term & children:** 30 mg/kg/dose q6–8h; ↓ in renal impair Caution: [B, +] **Disp:** Inj (soln), 1 g, 2 g/50 mL Inj powder for recons 500 mg 1 g, 2 g **SE:** N/V/D, rash, pain at Inj site **Notes:** No gram(+) or anaerobic activity; OK in PCN-allergic pts

**Bacitracin, ophthalmic (AK-Tracin Ophthalmic); Bacitracin & Polymyxin B, ophthalmic (AK Poly Bac Ophthalmic, Polysporin Ophthalmic); Bacitracin, Neomycin, & Polymyxin B, ophthalmic (AK Spore Ophthalmic, Neosporin Ophthalmic); Bacitracin, Neomycin, Polymyxin B, & Hydrocortisone, Ophthalmic (AK Spore HC Ophthalmic, Cortisporin Ophthalmic)**

*Uses:* *Steroid-responsive inflammatory ocular conditions*

**Action:** Topical antibiotic w/ anti-inflammatory **Dose:** Apply q3–4h into conjunctival sac Caution: [C, ?] **CI:** Viral, mycobacterial, fungal eye Infxn **Disp:** See Bacitracin, topical equivalents, below

**Bacitracin, topical (Baciguent); Bacitracin & Polymyxin B, Topical (Polysporin); Bacitracin, Neomycin, & Polymyxin B, Topical (Neosporin); Bacitracin, Neomycin, Polymyxin B, & Hydrocortisone, topical (Cortisporin); Bacitracin, Neomycin, Polymyxin B, & Lidocaine, topical (Clomycin)**

*Uses:* Prevent/Rx of *minor skin Infxns*

**Action:** Topical antibiotic w/ added components (anti-inflammatory & analgesic) **Dose:** Apply sparingly bid-qid Caution: [C, ?] not for deep wounds, puncture, or animal bites **Disp:** Bacitracin 500 units/g oint; Bacitracin 500 units/polymyxin B sulfate 10,000 units/g oint & powder; Bacitracin 400 units/neomycin 3.5 mg/polymyxin B 5000 U/g oint; Bacitracin 400 units/neomycin 3.5 mg/polymyxin B 5000 units/hydrocortisone 10 mg/g oint; Bacitracin 500 units/neomycin 3.5 mg/polymyxin B 5000 units/lidocaine 40 mg/g oint **Notes:** Ophthal, systemic, & irrigation forms available, not generally used due to potential tox

**Baclofen (Lioresal Intrathecal, generic)**

**WARNING:** IT abrupt discontinuation can lead to organ failure, rhabdomyolysis, and death

*Uses:* *Spasticity due to severe chronic disorders (eg, MS, amyotrophic lateral sclerosis, or spinal cord lesions),* *trigeminal neuralgia, intractable hiccups*

**Action:** Centrally acting skeletal muscle relaxant; ↓ transmission of monosynaptic & polysynaptic
cord reflexes **Dose:** **Adults.** Initial, 5 mg PO tid; ↑ q3d to effect; max 80 mg/d. **Intrathecal:** via implantable pump (see insert) **Peds** 2–7 y: 10–15 mg/d ÷ q8h; titrate, max 40 mg/d. **IT:** via implantable pump (see insert); ↓ in renal impair; take w/ food or milk **Caution:** [C, +] Epilepsy, neuropsychological disturbances; **Disp:** Tabs 10, 20 mg; IT Inj 50 mcg/mL, 10 mg/20 mL, 10 mg/5 mL. **SE:** Dizziness, drowsiness, insomnia, ataxia, weakness, ↓ BP

**Balsalazide (Colazal)**  
**Uses:** *Ulcerative colitis*  
**Action:** 5-ASA derivative, anti-inflammatory, ↓ leukotriene synth  
**Dose:** 2.25 g (3 caps) tid × 8–12 wk  
**Caution:** [B, ?] Severe renal failure  
**CI:** Mesalamine or salicylate hypersensitivity  
**Disp:** Caps 750 mg  
**SE:** Dizziness, HA, N, Abd pain, agranulocytosis, renal impair, allergic Rxns  
**Notes:** Daily dose of 6.75 g = to 2.4 g mesalamine

**Basiliximab (Simulect)**  
**WARNING:** Administer only under the supervision of a physician experienced in immunosuppression therapy in an appropriate facility  
**Uses:** *Prevent acute transplant rejection*  
**Action:** IL-2 receptor antagonists  
**Dose:** **Adults & Peds >35 kg:** 20 mg IV 2 h before transplant, then 20 mg IV 4 d posttransplant. **Peds <35 kg:** 10 mg 2 h prior to transplant; same dose IV 4 d posttransplant  
**Caution:** [B, ?,–] CI: Hypersensitivity to murine proteins  
**Disp:** Inj powder 10, 20 mg  
**SE:** Edema, HTN, HA, dizziness, fever, pain, Infxn, GI effects, electrolyte disturbances  
**Notes:** A murine/human MoAb

**BCG [Bacillus Calmette-Guérin] (TheraCys, Tice BCG)**  
**WARNING:** Contains live, attenuated mycobacteria; risk for transmission; handle as a biohazard; nosocomial Infxns reported in immunosuppressed; fatal Rxns reported  
**Uses:** *Bladder CA (superficial),* TB prophylaxis  
**Action:** Attenuated live BCG culture, immunomodulator  
**Dose:** **Bladder CA,** 1 vial prepared & instilled in bladder for 2 h. Repeat once/wk × 6 wk; then 1 treatment at 3, 6, 12, 18, & 24 mo after **Caution:** [C, ?] Asthma  
**CI:** Immunocompromised, steroid use, febrile illness, UTI, gross hematuria, w/ traumatic catheterization or UTI  
**Disp:** Powder for recons 81 mg (10.5 ± 8.7 × 10^8 CFU vial) (TheraCys), 50 mg (1–8 × 10^8 CFU/vial) (Tice BCG)  
**SE:** Intravesical: Hematuria, urinary frequency, dysuria, bacterial UTI, rare BCG sepsis  
**Notes:** Routine US adult BCG immunization not ok; occasionally used in high-risk children who are PPD(–) & cannot take INH; intravesical use, dispose/void in toilet with chlorine bleach

**Becaplermin (Regranex Gel)**  
**WARNING:** Increased mortality due to malignancy reported; use w/ caution in known malignancy  
**Uses:** Local wound care adjunct w/ *diabetic foot ulcers*  
**Action:** Recombinant PDGF, enhances granulation tissue  
**Dose:** **Adults.** Based on lesion; 4/3-in ribbon 2-g tube, 2/3-in ribbon 15-g tube/in × in² of ulcer; cover w/moist gauze; rinse after 12 h; do not reapply; repeat in 12 h **Peds.** See insert **Caution:** [C, ?] CI: Neoplastic site  
**Disp:** 0.01% gel in 2-, 15-g tubes  
**SE:** Rash  
**Notes:** Use w/ good wound care; wound must be vascularized; reassess after 10 wk if ulcer not ↓ by 30% or not healed by 20 wk

**Beclomethasone (Beconase)**  
**Uses:** *Allergic rhinitis* refractory to antihistamines & decongestants; *nasal polyps*  
**Action:** Inhaled steroid  
**Dose:**
**Adults & Peds.** *Aqueous inhaler:* 1–2 sprays/nostril bid **Caution:** [C, ?] **Disp:** Nasal metered-dose inhaler. **SE:** Local irritation, burning, epistaxis. **Notes:** Nasal spray delivers 42 mcg/dose.

**Beclomethasone (QVAR)** *Uses:* Chronic *asthma* **Action:** Inhaled corticosteroid **Dose:** *Adults & Peds* 5–11 y: 40–160 mcg 1–4 Inhs bid; initial 40–80 mcg Inh bid if on bronchodilators alone; 40–160 mcg w/ other inhaled steroids; 320 mcg bid max; taper to lowest effective dose bid; rinse mouth/throat after **Caution:** [C, ?] **CI:** Acute asthma **Disp:** PO metered-dose inhaler; 40, 80 mcg/Inh **SE:** HA, cough, hoarseness, oral candidiasis. **Notes:** Not effective for acute asthma.

**Belladonna & Opium Suppositories (B&O Supprettes) [C-II]** *Uses:* *Bladder spasms; mod/severe pain* **Action:** Antispasmodic, analgesic. **Dose:** 1 supp PR q6h PRN. **Caution:** [C, ?] **CI:** Glaucoma, resp depression. **Disp:** 15A = 30 mg opium/16.2 mg belladonna extract; 16A = 60 mg opium/16.2 mg belladonna extract. **SE:** Anticholinergic (eg, sedation, urinary retention, constipation).

**Benazepril (Lotensin)** *Uses:* *HTN,* DN, CHF **Action:** ACE inhibitor. **Dose:** 10–80 mg/d PO. **Caution:** [C (1st tri), D (2nd & 3rd tri), +] **CI:** Angioedema, Hx edema, bilateral RAS. **Disp:** Tabs 5, 10, 20, 40 mg SE. **Symptomatic ↓** BP w/ diuretics; dizziness, HA, ↑ K⁺, nonproductive cough.

**Bendamustine (Treanda)** *Uses:* *CLL* **Action:** Mechlorethamine derivative; alkylating agent. **Dose:** *Adults.* 100 mg/m² IV over 30 min days 1 & 2 of 28-d cycle, up to 6 cycles (w/ tox see insert for dose changes; do not use w/ CrCl <40 mL/min, severe hepatic impair) **Caution:** [D, ?/–] **CI:** Hypersensitivity to bendamustine or mannitol **Disp:** Inj powder 100 mg SE. **SE:** Pyrexia, N/V, dry mouth, fatigue, cough, stomatitis, rash, myelosuppression. Infxn, Inf Rxns & anaphylaxis, tumor lysis syndrome, skin Rxns. **Notes:** Consider use of allopurinol to prevent tumor lysis syndrome.

**Benzocaine & Antipyrine (Auralgan)** *Uses:* *Analgesia in severe otitis media* **Action:** Anesthetic w/ local decongestant. **Dose:** Fill ear & insert a moist cotton plug; repeat 1–2 h PRN. **Caution:** [C, ?] **CI:** w/ perforated eardrum. **Disp:** Soln 5.4% antipyrine, 1.4% benzocaine SE. **Local irritation**.

**Benzonatate (Tessalon Perles)** *Uses:* Symptomatic relief of *cough* **Action:** Anesthetizes the stretch receptors in the resp passages. **Dose:** *Adults & Peds >10 y:* 100 mg PO tid (max 600 mg/d). **Caution:** [C, ?] **Disp:** Caps 100, 200 mg SE. **SE:** Sedation, dizziness, GI upset. **Notes:** Do not chew or puncture the caps.

**Benztropine (Cogentin)** *Uses:* *Parkinsonism & drug-induced extrapyramidal disorders* **Action:** Partially blocks striatal cholinergic receptors. **Dose:** *Adults.* Parkinsonism: initial 0.5–1 mg PO/IM/IV qhs, ↑ q 5–6 d PRN by 0.5 mg, usual dose 1–2 mg, 6 mg/d max. *Extrapyramidal:* 1–4 mg PO/IV/IM q day-bid. *Acute Dystonia:* 1–2 mg IM/IV, then 1–2 mg PO bid. *Peds >3 y:* 0.02–0.05 mg/kg/dose 1–2/d **Caution:** [C, ?] w/ Urinary Sxs, NAG, hot environments, CNS or mental disorders, other phenothiazines or TCA. **CI:** <3 y **Disp:** Tabs 0.5, 1,
Beractant (Survanta)  Uses: *Prevention & Rx of RDS in premature infants*  Action: Replaces pulm surfactant  Dose: 100 mg/kg via ET tube; repeat 3 × q6h PRN; max 4 doses/48 h  Disp: Susp 25 mg of phospholipid/mL  SE: Transient bradycardia, desaturation, apnea  Notes: Administer via 4-quadrant method

Betaxolol (Kerlone)  Uses: *HTN*  Action: Competitively blocks β-adrenergic receptors, β,  Caution: [C (1st tri), D (2nd or 3rd tri), +/−]  CI: Sinus bradycardia, AV conduction abnormalities, uncompensated cardiac failure  Dose: 5–20 mg/d  Disp: Tabs 10, 20 mg  SE: Dizziness, HA, bradycardia, edema, CHF  Notes: Administer via 4-quadrant method

Betaxolol, ophthalmic (Betoptic)  Action: Competitively blocks β-adrenergic receptors,  Dose: 1–2 gtt bid  Caution: [C (1st tri), D (2nd or 3rd tri), ?/–]  Disp: Soln 0.5%; susp 0.25%  SE: Local irritation, photophobia

Bethanechol (Urecholine, Duvoid, others)  Uses: *Acute post-op/postpartum nonobstructive urinary retention; neurogenic bladder with retention*  Action: Stimulates cholinergic smooth muscle in bladder & GI tract  Dose:  

**Adults.** Initial 5–10 mg then repeat qh until response or 50 mg, typical 10–50 mg tid-qid, 200 mg/d max tid-qid; 2.5–5 mg SQ tid-qid & PRN.  

**Peds.** 0.3–0.6 mg/kg/24 h PO ÷ tid-qid or 0.15–2 mg/kg/d SQ ÷ 3–4 doses; take on empty stomach  

Caution: [C, –]  CI: BOO, PUD, epilepsy, hyperthyroidism, bradycardia, COPD, AV conduction defects, Parkinsonism, ↓ BP, vasomotor instability  

Disp: Tabs 5, 10, 25, 50 mg; Inj 5 mg/mL  SE: Abd cramps, D, salivation, ↓ BP  Notes: Do not use IM/IV

Bevacizumab (Avastin)  WARNING: Associated w/ GI perforation, wound dehiscence, & fatal hemoptysis  Uses: *Met colorectal CA w/5-FU, NSCLC w/paclitaxel and carboplatin*  Action: Vascular endothelial GF inhibitor  

**Adults. Colon:** 5 mg/kg or 10 mg/kg IV q14d;  

**NSCLC:** 15 mg/kg q21d; 1st dose over 90 min; 2nd over 60 min, 3rd over 30 min if tolerated  

Caution: [C, –]  Do not use w/in 28 d of surgery if time for separation of drug & anticipated surgical procedures is unknown; D/C w/serious adverse effects  

Disp: 100 mg/4 mL, 400 mg/16 mL vials  

SE: Wound dehiscence, GI perforation, tracheoesophageal fistula, arterial thrombosis, hemoptysis, hemorrhage, HTN, proteinuria, CHF, Inf Rxns, D, leukopenia  

Notes: Monitor for ↑ BP & proteinuria

Bicalutamide (Casodex)  Uses: *Advanced PCa w/ GnRH agonists [eg, leuprolide, goserelin]*)  

Action: Nonsteroidal antiandrogen  

**Dose: 50 mg/d**  

Caution: [X, ?]  CI: Women  

Disp: Caps 50 mg  SE: Hot flashes, loss of libido, impotence, D/N/V, gynecomastia, & LFTs elevation

Bicarbonate (See Sodium Bicarbonate, page XXX)  Bisacodyl (Dulcolax)  [OTC]  Uses: *Constipation; pre-op bowel preparation*  Action: Stimulates peristalsis  

**Dose: Adults.** 5–15 mg PO or 10 mg PR PRN.
**Bismuth Subcitrate/Metronidazole/Tetracycline (Pylera)**

**WARNING:** Metronidazole possibly carcinogenic based on animal studies

**Uses:** *H. pylori infxn w/ omeprazole*  
**Action:** Eradicates *H. pylori*, see agents

**Dose:** 3 caps qid w/ omeprazole 20 mg bid for 10 d  
**Caution:** Pregnancy, childhood to 8 y (tetracycline during tooth development causes teeth discoloration), w/ renal/hepatic impair, component hypersensitivity  
**Disp:** Caps w/ 140-mg bismuth subcitrate potassium, 125-mg metronidazole, & 125-mg tetracycline hydrochloride  
**SE:** Stool abnormality, D, dyspepsia, Abd pain, HA, flu-like syndrome, taste perversion, vaginitis, dizziness; see SE for each component

**Bismuth Subsalicylate (Pepto-Bismol) [OTC]**

**Uses:** Indigestion, N, & *D*; combo for Rx of *H. pylori infxn*  
**Action:** Antisecretory & anti-inflammatory

**Dose:** Adults. 2 tabs or 30 mL PO PRN (max 8 doses/24 h).  
**Peds.** (For all max 8 doses/24 h). 3–6 y: 1/3 tab or 5 mL PO PRN. 6–9 y 2/3 tab or 10 mL PO PRN. 9–12 y: 1 tab or 15 mL PO PRN  
**Caution:** Avoid w/ renal failure; hx severe GI bleed  
**Disp:** Chew tabs; caplets 262 mg; liq 262, 525 mg/15 mL; susp 262 mg/15 mL  
**SE:** May turn tongue & stools black

**Bisoprolol (Zebeta)**

**Uses:** *HTN*  
**Action:** Competitively blocks β1-adrenergic receptors  
**Dose:** 2.5–10 mg/d (max dose 20 mg/d); ↓ w/ renal impair  
**Caution:** Sinus bradycardia, A V conduction abnormalities, uncompensated cardiac failure  
**Disp:** Tabs 5, 10 mg  
**SE:** Fatigue, lethargy, HA, bradycardia, edema, CHF  
**Notes:** Not dialyzed

**Bivalirudin (Angiomax)**

**Uses:** *Anticoagulant w/ ASA in unstable angina undergoing PTCA, PCI, or in pts undergoing PCI w/ or at risk of HIT/HITTS*  
**Action:** Anticoagulant, thrombin inhibitor  
**Dose:** 0.75 mg/kg IV bolus, then 1.75 mg/kg/h for duration of procedure and up to 4 h postprocedure; ✔ ACT 5 min after bolus, may repeat 0.3 mg/kg bolus if necessary (give w/ aspirin 300–325 mg/d; start pre-PTCA)  
**Caution:** Major bleeding  
**Disp:** Powder 250 mg for Inj  
**SE:** Bleeding, back pain, N, HA

**Bleomycin Sulfate (Blenoxane)**

**Uses:** *Testis CA; Hodgkin Dz & NHLs; cutaneous lymphomas; & squamous cell CA (head & neck, larynx, cervix, skin, penis); malignant pleural effusion sclerosing agent*  
**Action:** Induces DNA breakage (scission)  
**Dose:** (per protocols); ↓ w/ renal impair  
**Caution:** Severe pulm Dz (pulm fibrosis)  
**Disp:** Powder (Inj) 15, 30 units  
**SE:** Hyperpigmentation & allergy (rash to anaphylaxis); fever in 50%; lung tox (idiopathic & dose related); pneumonitis w/ fibrosis; Raynaud phenomenon, N/V  
**Notes:** Test dose 1 unit, especially in lymphoma pts; lung tox w/ total dose >400 units or single dose >30 units; avoid high FiO2 in general anesthesia to ↓ tox
**Bortezomib (Velcade)**  
**WARNING:** May worsen preexisting neuropathy  
**Uses:** *Rx multiple myeloma or mantle cell lymphoma w/ one failed previous Rx*  
**Action:** Proteasome inhibitor  
**Dose:** 1.3 mg/m² bolus IV 2 ×/wk for 2 wk (days 1, 2, 8, 11), w/ 10-d rest period (=1 cycle); ↓ dose w/ hematologic tox, neuropathy  
**Caution:** [D, ?/–] w/ Drugs CYP450 metabolized (Table 11)  
**Disp:** 3.5-mg vial  
**SE:** Asthenia, GI upset, anorexia, dyspnea, HA, orthostatic ↓ BP, edema, insomnia, dizziness, rash, pyrexia, arthralgia, neuropathy

**Botulinum Toxin Type A (Botox, Botox Cosmetic)**  
**Uses:** *Glabellar lines (cosmetic), blepharospasm, cervical dystonia, axillary hyperhidrosis, strabismus*  
**Action:** Neurotoxin, ↓ acetylcholine release from nerve endings, ↓ neuromuscular transmission; denervates sweat glands and muscles  
**Dose:**  
- **Adults. Glabellar lines (cosmetic):** 0.1 mL IM × 5 sites q3–4mo;  
- **Blepharospasm:** 1.25–2.5 units IM/site q3mo; max 200 units/30 d cum dose;  
- **Cervical dystonia** 198–300 units IM divided <100 units into sternocleidomastoid;  
- **Hyperhidrosis, axillary:** 50 units intradermal/axilla divided;  
- **Strabismus:** 1.25–2.5 units IM/site q3mo; inject extraocular muscles w/EMG guidance  
**Peds. Blepharospasm:** >12 y See Adults.  
**Cervical dystonia:** >16 y: 198–300 units IM ÷ among affected muscles; use <100 units in sternocleidomastoid;  
**Strabismus:** >12 y: 1.25–2.5 units IM/site q3mo; 25 units/site max; inject extraocular muscles w/ EMG guidance  
**Caution:** [C, ?] Do not exceed dosing ok; w/ neurologic Dz; caution sedentary patient to resume activity slowly after Inj; aminoglycosides and nondepolarizing muscle blockers may ↑ effects  
**CI:** hypersensitivity to components, infect at Inj site  
**Disp:** Inj powder  
**SE:** Anaphylaxis, erythema multiforme, dysphagia, dyspnea, syncope, HA, NAG, Inj site pain

**Brimonidine (Alphagan P)**  
**Uses:** *Open-angle glaucoma, ocular HTN*  
**Action:** α₂-Adrenergic agonist  
**Dose:** 1 gtt in eye(s) tid (wait 15 min to insert contacts)  
**Caution:** [B, ?] CI: MAOI therapy  
**Disp:** 0.15, 0.1% soln  
**SE:** Local irritation, HA, fatigue

**Brimonidine/Timolol (Combigan)**  
**Uses:** *↓ IOP in glaucoma or ocular HTN*  
**Action:** Selective α₂-adrenergic agonist and nonselective β-adrenergic antagonist  
**Dose:** Adults & Peds >2 y: 1 gtt bid ~ q12h  
**Caution:** [C, –] CI: Asthma, severe COPD, sinus brady, 2nd-/3rd-degree AV block, CHF cardiac failure, cardiogenic shock, component hypersensitivity  
**Disp:** Soln: (2 mg/mL brimonidine, 5 mg/mL timolol) 5, 10, 15 mL  
**SE:** Allergic conjunctivitis, conjunctival folliculosis, conjunctival hyperemia, eye pruritus, ocular burning & stinging  
**Notes:** Instill other ophthal products 5 min apart

**Brinzolamide (Azopt)**  
**Uses:** *Open-angle glaucoma, ocular HTN*  
**Action:** Carbonic anhydrase inhibitor  
**Dose:** 1 gtt in eye(s) tid  
**Caution:** [C, ?] CI: Sulfonamide allergy  
**Disp:** 1% susp  
**SE:** Blurred vision, dry eye, blepharitis, taste disturbance

**Bromocriptine (Parlodel)**  
**Uses:** *Parkinson Dz, hyperprolactinemia, acromegaly, pituitary tumors*  
**Action:** Agonist to striatal dopamine receptors; ↓
Prolactin secretion **Dose:** Initial, 1.25 mg PO bid; titrate to effect, w/ food **Caution:** [B, ?] **CI:** Severe ischemic heart Dz or PVD **Disp:** Tabs 2.5 mg; caps 5 mg **SE:** ↓ BP, Raynaud phenomenon, dizziness, N, GI upset, hallucinations

**Budesonide (Rhinocort Aqua, Pulmicort)** Uses: *Allergic & non-allergic rhinitis, asthma* **Action:** Steroid **Dose:** **Adults.** Rhinocort Aqua 1–4 sprays/nostril/d; Turbuhaler 1–4 Inh bid; Pulmicort Flexhaler 1–2 Inh bid **Peds.** Rhinocort Aqua intranasal: 1–2 sprays/nostril/d; Pulmicort Turbuhaler: 1–2 Inh bid; Respules: 0.25–0.5 mg daily or bid (rinse mouth after PO use) **Caution:** [B, ?/–] **CI:** w/ acute asthma **Disp:** Metered-dose Turbuhaler 200 mcg/Inh; Flexhaler 90, 180 mcg/Inh; Respules 0.25, 0.5, 1 mg/2 mL; Rhinocort Aqua 32 mcg/spray **SE:** HA, N, cough, hoarseness, Candida Infxn, epistaxis

**Budesonide, oral (Entocort EC)** Uses: *Mild-mod Crohn Dz* **Action:** Steroid, anti-inflammatory **Dose:** **Adults.** initial, 9 mg PO q A.M. to 8 wk max: maint 6 mg PO q A.M. taper by 3 mo; avoid grapefruit juice **Caution:** Active TB and fungal Infxn **CI:** [C, ?/–] DM, glaucoma, cataracts, HTN, CHF **Disp:** Caps 3 mg ER **SE:** HA, N, ↑ wgt, mood change, Candida Infxn, epistaxis **Notes:** Do not cut/crush/chew; taper on D/C

**Budesonide/Formoterol (Symbicort)** **WARNING:** Long-acting β₂-adrenergic agonists may ↑ risk of asthma-related death. Use only for pts not adequately controlled on other meds **Uses:** *Maint Rx of asthma* **Action:** Steroid w/ LA selective β₂-adrenergic agonist **Dose:** **Adults & Peds >12 y:** 2 Inh bid (use lowest effective dose), 640/18 mcg/d max **Caution:** Status asthmaticus/acute episodes **Disp:** Inh (budesonide/formoterol): 80/4.5 mcg, 160/4.5 mcg **SE:** HA, GI discomfort, nasopharyngitis, palpitations, tremor, nervousness, URI, paradoxical bronchospasm, hypokalemia, cataracts, glaucoma **Notes:** Not for acute bronchospasm; not for transferring pt from chronic systemic steroids; rinse & spit w/ water after each dose

**Bumetanide (Bumex)** Uses: *Edema from CHF, hepatic cirrhosis, & renal Dz* **Action:** Loop diuretic; reabsorption of Na⁺ & Cl⁻, in ascending loop of Henle & the distal tubule **Dose:** **Adults.** 0.5–2 mg/d PO; 0.5–1 mg IV/IM q8–24h (max 10 mg/d) **Peds.** 0.015–0.1 mg/kg PO q6h-24h (max 10 mg/d) **Caution:** Anuria, hepatic coma, severe electrolyte depletion **Disp:** Tabs 0.5, 1, 2 mg; Inj 0.25 mg/mL **SE:** ↓ K⁺, ↓ Na⁺, ↑ Cr, ↑ uric acid, dizziness, ototox **Notes:** Monitor fluid & lytes

**Bupivacaine (Marcaine)** **WARNING:** Administration only by clinicians experienced in local anesthesia due to potential tox; avoid 0.75% for OB anesthesia due to reports of cardiac arrest and death **Uses:** *Local, regional, & spinal anesthesia, local & regional analgesia* **Action:** Local anesthetic **Dose:** **Adults & Peds.** Dose dependent on procedure (tissue vascularity, depth of anesthesia, etc) (Table 2) **Caution:** Severe bleeding, ↓ BP, shock & arrhythmias, local Infxn at site, septicemia **Disp:** Inj 0.25, 0.5, 0.75% **SE:** ↓ BP, bradycardia, dizziness, anxiety
Buprenorphine (Buprenex) [C-III] Uses: *Mod/severe pain*
Action: Opiate agonist-antagonist
Dose: 0.3–0.6 mg IM or slow IV push q6h PRN
Caution: [C, ?/–] Disp: 0.3 mg/mL
SE: Sedation, ↓ BP, resp depression
Notes: Withdrawal if opioid-dependent

Bupropion hydrobromide (Aplenzin) WARNING: ↑ suicide risk in pts <24 y w/ major depressive/other psychiatric disorders; not for ped use
Uses: *Depression*
Action: Aminoketone, ? action
Dose: Adults. 174 mg PO, q day q A.M., ↑ PRN to 348 mg q day on day 4 if tolerated, max 522 mg/d; see insert if switching from Wellbutrin; mild–mod hepatic/renal impair ↓ frequency/dose; severe hepatic impair 174 mg max q other day
Caution: [C, –] w/ Drugs that ↓ Sz threshold, ↑ w/ stimulants, CYP2D6-metabolized meds (Table 11)
CI:
Disp: ER Tab 174, 348, 522 mg
SE:
Notes: Do not cut/chew, avoid EtOH

Bupropion hydrochloride (Wellbutrin, Wellbutrin SR, Wellbutrin XL, Zyban) WARNING: Closely monitor for worsening depression or emergence of suicidality, increased suicidal behavior in young adults
Uses: *Depression, smoking cessation adjunct,* ADHD
Action: Weak inhibitor of neuronal uptake of serotonin & norepinephrine; ↓ neuronal dopamine reuptake
Dose: Depression: 100–450 mg/d ÷ bid-tid; SR 150–200 mg bid; XL 150–450 mg daily. Smoking cessation (Zyban, Wellbutrin XR): 150 mg/d × 3 d, then 150 mg bid × 8–12 wk, last dose before 6 P.M.; ↓ dose w/ renal/hepatic impair
Caution: [C, ?/–] CI:
Disp: Tabs 75, 100 mg; SR tabs100, 150, 200 mg; XL tabs 150, 300 mg; Zyban 150 mg tabs
SE:
Notes: Avoid EtOH & other CNS depressants, SR & XR do not cut/chew/crush

Buspirone (BuSpar) WARNING: Closely monitor for worsening depression or emergence of suicidality
Uses: Short-term relief of *anxiety*
Action: Anti-anxiety; antagonizes CNS serotonin and dopamine receptors
Dose: Initial: 7.5 mg PO bid; ↑ by 5 mg q2–3d to effect; usual 20–30 mg/d; max 60 mg/d
CI: w/ MAOI
Caution: [B, ?/–] Avoid w/ severe hepatic/renal Insuff
Disp: Tabs ÷ dose 5, 10, 15, 30 mg
SE:
Notes: No abuse potential or physical/psychological dependence

Busulfan (Myleran, Busulfex) WARNING: Can cause severe bone marrow suppression
Uses: *CML,* preparative regimens for allogeneic & ABMT in high doses
Action: Alkylating agent
Dose: (per protocol)
Caution: [D, ?] Disp: Tabs 2 mg, Inj 60 mg/10 mL
SE:
Notes: Bone marrow suppression, ↑ BP, pulm fibrosis, N (w/ highdose), gynecomastia, adrenal Insuff, skin hyperpigmentation

Butabarbital, Hyoscyamine Hydrobromide, Phenazopyridine (Pyridium Plus) Uses: *Relieve urinary tract pain w/ UTI, procedures,
trauma* **Action:** Phenazopyridine (topical anesthetic), hyoscyamine (parasympatholytic, ↓ spasm) & butabarbital (sedative) **Dose:** 1 PO qid, pc & hs; w/ antibiotic for UTI, 2 d max **Caution:** [C, ?] **Disp:** Tab butabarbital/hyoscyamine/phenazopyridine 15 mg/0.3 mg/150 mg **SE:** HA, rash, itching, GI distress, methemoglobinemia, hemolytic anemia, anaphylactoid-like Rxns, dry mouth, dizziness, drowsiness, blurred vision **Notes:** Colors urine orange, may tint skin, sclera; stains clothing/contacts

**Butorphanol (Stadol) [C-IV]** **Uses:** *Anesthesia adjunct, pain* & migraine **HA Action:** Opiate agonist-antagonist w/ central analgesic actions **Dose:** 1–4 mg IM or IV q3–4h PRN. **Migraine:** 1 spray in 1 nostril, repeat × 1 60–90 min, then q3–4h. ↓ in renal impair **Caution:** [C (D if high dose or prolonged use at term), +] **Disp:** Inj 1, 2 mg/mL; nasal 1 mg/spray (10 mg/mL) **SE:** Drowsiness, dizziness, nasal congestion **Notes:** May induce withdrawal in opioid dependency

**Calcipotriene (Dovonex)** **Uses:** *Plaque psoriasis* **Action:** Keratolytic **Dose:** Apply bid **Caution:** [C, ?] CI: ↑ Ca²⁺; vit D tox; do not apply to face **Disp:** Cream; oint; soln 0.005% **SE:** Skin irritation, dermatitis

**Calcitonin (Fortical, Miacalcin)** **Uses:** *Miacalcin:* Paget Dz, emergent Rx hypercalcemia, postmenopausal osteoporosis*; Fortical: *postmenopausal osteoporosis*; osteogenesis imperfecta **Action:** Polypeptide hormone (salmon derived), inhibits osteoclasts **Dose:** Paget Dz: 100 units/d IM/SQ initial, 50 units/d or 50–100 units q1–3d maint. Hypercalcemia: 4 units/kg IM/SQ q12h; ↑ to 8 units/kg q12h, max q6h. Osteoporosis: 100 units/q other day IM/SQ; intranasal 200 units = 1 nasal spray/d **Caution:** [C,?] CI: ↑ Ca²⁺; vit D tox; do not apply to face **Disp:** Fortical, Miacalcin nasal spray 200 Int Units/activation; Inj, Miacalcin 200 units/mL (2 mL) **SE:** Facial flushing, N, Inj site edema, nasal irritation, polyuria, may ↑ granular casts in urine **Notes:** For nasal spray alternate nostrils daily; insure adequate calcium and vit D intake; Fortical is rDNA derived from salmon

**Calcitriol (Rocaltrol, Calcijex)** **Uses:** *Predialysis reduction of ↑ PTH levels to treat bone Dz; ↑ Ca²⁺ on dialysis* **Action:** 1,25-Dihydroxycholecalciferol (vit D analog); ↑ Ca²⁺ and phosphorus absorption; ↑ bone mineralization **Dose:** **Adults. Renal failure:** 0.25 mcg/d PO, ↑ 0.25 mcg/d q4–6wk PRN; 0.5 mcg 3 ×/wk IV, ↑ PRN. **Hypoparathyroidism:** 0.5–2 mcg/d. **Peds. Renal failure:** 15 ng/kg/d, ↑ PRN; maint 30–60 ng/kg/d. **Hypoparathyroidism:** <5 y: 0.25–0.75 mcg/d. >6 y: 0.5–2 mcg/d **Caution:** [C,?] ↑ Mg²⁺ possible w/antacids CI: ↑ Ca²⁺; vit D tox **Disp:** Inj 1 mcg/mL (in 1 mL); caps 0.25, 0.5 mcg; soln 1 mcg/mL **SE:** ↑ Ca²⁺ possible **Notes:** Monitor to keep Ca²⁺ WNL; Use nonaluminum phosphate binders and low-phosphate diet to control serum phosphate

**Calcium Acetate (PhosLo)** **Uses:** *ESRD-associated hyperphosphatemia* **Action:** Ca²⁺ supl w/o aluminum to ↓ PO₄⁻² absorption **Dose:** 2–4 tabs PO w/ meals **Caution:** [C,?] CI: ↑ Ca²⁺ **Disp:** Gelcap 667 mg **SE:** Can ↑ Ca²⁺, hypophosphatemia, constipation **Notes:** Monitor Ca²⁺
Calcium Carbonate (Tums, Alka-Mints) [OTC] Uses: *Hyper-acidity-associated w/ peptic ulcer Dz, hiatal hernia, etc* Action: Neutralizes gastric acid Dose: 500 mg–2 g PO PRN, 7 g/d max; ↓ w/ renal impair Caution: [C, ?] Disp: Chew tabs 350, 420, 500, 550, 750, 850 mg; susp SE: ↑ Ca²⁺, ↓ PO⁴⁻, constipation

Calcium Glubionate (Neo-Calglucon) [OTC] Uses: *Rx & prevent calcium deficiency* Action: Ca²⁺ supl Dose: Adults. 6–18 g/d ÷ doses. Peds. 600–2000 mg/kg/d ÷ qid (9 g/d max); ↓ in renal impair Caution: [C, ?] CI: ↑ Ca²⁺ Disp: OTC syrup 1.8 g/5 mL = elemental Ca 115 mg/5 mL SE: ↑ Ca²⁺, ↓ PO⁴⁻, constipation

Calcium Salts (Chloride, Gluconate, Gluceptate) Uses: *Ca²⁺ replacement,* VF, Ca²⁺ blocker tox, Mg²⁺ intoxication, tetany, *hyperphosphatemia in ESRD* Action: Ca²⁺ supl/replacement Dose: Adults. Replacement: 1–2 g/d PO. Tetany: 1 g CaCl over 10–30 min; repeat in 6 h PRN; Hyperkalemia/calcium channel blocker OD: 8–16 mg/kg (usually 5–10 mL) IV; 2–4 mg/kg (usually 2 mL) IV before IV calcium blockers (ECC 2005) Peds. Replacement: 200–500 mg/kg/24 h PO or IV ÷ qid. Cardiac emergency: 100 mg/kg/dose IV gluconate salt q10min. Tetany: 10 mg/kg CaCl over 5–10 min; repeat in 6 h or use Inf (200 mg/kg/d max). Adults & Peds. ↓ Ca²⁺ due to citrated blood Inf: 0.45 mEq Ca/100 mL citrated blood Inf (↓ in renal impair) Caution: [C, ?] CI: ↑ Ca²⁺ Disp: CaCl Inj 10% = 100 mg/mL = Ca 27.2 mg/mL = 10-mL amp; Ca gluconate Inj 10% = 100 mg/mL = Ca 9 mg/mL; tabs 500 mg = 45-mg Ca, 650 mg = 58.5-mg Ca, 975 mg = 87.75-mg Ca, 1 g = 90-mg Ca; Ca gluceptate Inj 220 mg/mL = 18-mg/mL Ca SE: Cardiac arrhythmias, ↑ Ca²⁺, constipation Notes: CaCl 270 mg (13.6 mEq) elemental Ca/g, & calcium gluconate 90 mg (4.5 mEq) Ca/g. RDA for Ca: Peds <6 mo: 210 mg/d; 6 mo–1 y: 270 mg/d; 1–3 y: 500 mg/d; 4–9 y: 800 mg/d; 10–18 y: 1200 mg/d. Adults. 1000 mg/d; >50 y: 1200 mg/d

Calfactant (Infasurf) Uses: *Prevention & Rx of RSD in infants* Action: Exogenous pulmonary surfactant Dose: 3 mL/kg instilled into lungs. Can repeat 3 total doses given 12 h apart Caution: [?, ?] Disp: Intratracheal susp 35 mg/mL SE: Monitor for cyanosis, airway obst, bradycardia during administration

Candesartan (Atacand) Uses: *HTN,* DN, CHF Action: Angiotensin II receptor antagonist Dose: 4–32 mg/d (usual 16 mg/d) Caution: [C (1st tri, D (2nd & 3rd tri), –] CI: Primary hyperaldosteronism; bilateral RAS Disp: Tabs 4, 8, 16, 32 mg SE: Dizziness, HA, flushing, angioedema

Capsaicin (Capsin, Zostrix, others) [OTC] Uses: Pain due to *postherpetic neuralgia,* chronic neuralgia, *arthritis, diabetic neuropathy,* post-op pain, psoriasis, intractable pruritus Action: Topical analgesic Dose: Apply tid-qid Caution: [C, ?] Disp: OTC creams; gel; lotions; roll-ons SE: Local irritation, neurotox, cough Note: Wk to onset of action

Captopril (Capoten, others) Uses: *HTN, CHF, MI,* LVD, DN Action: ACE inhibitor Dose: Adults. HTN: Initial, 25 mg PO bid-tid; ↑ to maint
Carbamazepine (Tegretol XR, Carbatrol, Epitol, Equetro)

**WARNING:** Aplastic anemia & agranulocytosis have been reported w/ carbamazepine; pts w/ Asian ancestry should be tested to determine potential for skin Rxns

**Use:** *Epilepsy, trigeminal neuralgia, acute mania w/ bipolar disorder (Equetro)*

**Action:** Anticonvulsant

**Dose:**

- **Adults:** Initial: 200 mg PO bid or 100 mg 4 times/d as susp; ↑ by 200 mg/d; usual 800–1200 mg/d ÷ doses. **Acute Mania (Equetro):** 400 mg/d, divided bid, adjust by 200 mg/d to response 1600 mg/d max. **Peds <6 y:** Initial: 100 mg PO bid or 10 mg/kg/24 h PO ÷ daily-bid; ↑ to maint 20–30 mg/kg/24 h ÷ qid; ↓ in renal impair; take w/ food

**Caution:** [D, +] CI: MAOI use, Hx BM suppression

**Disp:** Tabs 100, 200, 300, 400 mg; chew tabs 100 mg, 200 mg; XR tabs 100, 200, 400 mg; *Equetro* Caps ER 100, 200, 300 mg; susp 100 mg/5 mL

**SE:** Drowsiness, dizziness, blurred vision, N/V, rash, Stevens-Johnson syndrome (SJS)/toxic epidermal necrolysis (TEN), ↓ Na+, leukopenia, agranulocytosis

**Notes:** Monitor CBC & levels: Trough: Just before next dose; Therapeutic: Peak 8–12 mcg/mL (monotherapy), 4–8 (polytherapy); Toxic Trough: >15 mcg/mL; Half-life: 15–20 h; generic products not interchangeable, many drug interactions, administer susp in 3–4 ÷ doses daily; skin tox (SJS/TEN) ↑ w/ HLA-B*1502 allele

Carbidopa/Levodopa (Sinemet, Parcopa)

**Use:** *Parkinson Dz*

**Action:** ↑ CNS dopamine levels

**Dose:** 25/100 mg bid-qid; ↑ as needed (max 200/2000 mg/d)

**Caution:** [C, ?] CI: NAG, suspicious skin lesion (may activate melanoma), melanoma, MAOI use

**Disp:** Tabs (mg carbidopa/mg levodopa) 10/100, 25/100, 25/250; tabs SR (mg carbidopa/mg levodopa) 25/100, 50/200; ODT (oral disintegrating tab) 10/100, 25/100, 25/250

**SE:** Psych disturbances, orthostatic ↓ BP, dyskinesias, cardiac arrhythmias

Carboplatin (Paraplatin)

**WARNING:** Administration only by physician experienced in cancer chemotherapy; BM suppression possible; anaphylaxis may occur

**Use:** *Ovarian,* lung, head & neck, testicular, urothelial, & brain

**Action:** DNA cross-linker; forms DNA-platinum adducts

**Dose:** 360 mg/m² (ovarian carcinoma); AUC dosing 4–8 mg/mL (Culvert formula: mg = AUC × [25 + calculated GFR]); adjust based on plt count, CrCl, & BSA (Egorin formula); up to 1500 mg/m² used in ABMT setting (per protocols)

**Caution:** [D, ?] CI: Severe BM suppression, excessive bleeding

**Disp:** Inj 50, 150, 450 mg vial (10 mg/mL)

**SE:** Anaphylaxis, ↓ BM, N/V/D,
nephrotox, hematuria, neurotox, ↑ LFTs Notes: Physiologic dosing based on Culvert or Egorin formula allows ↑ doses w/ ↓ tox

**Carisoprodol (Soma)**  
Uses: *Adjunct to sleep & physical therapy to relieve painful musculoskeletal conditions*  
Action: Centrally acting muscle relaxant  
Dose: 250–350 mg PO tid-qid  
Caution: [C, M] Tolerance may result; w/ renal/hepatic impair CI: Allergy to meprobamate; acute intermittent porphyria  
Disp: Tabs 250, 350 mg SE: CNS depression, drowsiness, dizziness, HA, tachycardia  
Notes: Avoid EtOH & other CNS depressants; available in combo w/ ASA or codeine.

**Carmustine [BCNU] (BiCNU, Gliadel)**  
WARNING: BM suppression, dose-related pulm tox possible; administer under direct supervision of experienced physician  
Uses: *Primary or adjunct brain tumors, multiple myeloma, Hodgkin and non-Hodgkin lymphomas* *multiple myeloma, induction for allogeneic & ABMT (high dose)* surgery & RT adjunct high-grade glioma and recurrent glioblastoma (Gliadel implant)*  
Action: Alkylating agent; nitrosourea forms DNA cross-links to inhibit DNA  
Dose: 150–200 mg/m² q6–8wk single or ÷ dose daily Inj over 2 d; 20–65 mg/m² q4–6wk; 300–900 mg/m² in BMT (per protocols); up to 8 implants in CNS op site; ↓ w/ hepatic & renal impair  
Caution: [D, ?]  
WBC, RBC, plt counts, renal/hepatic impair CI: ↓ BM, PRG  
Disp: Inj 100 mg/vial; Gliadel wafer 7.7 mg SE: ↓ BP, N/V, ↓ WBC & plt, phlebitis, facial flushing, hepatic/renal dysfunction, pulm fibrosis (may occur years after), optic neuritis; heme tox may persist 4–6 wk after dose  
Notes: Do not give course more frequently than q6wk (cumulative tox); ✓ baseline PFTs, monitor pulm status

**Carteolol (Ocupress, Carteolol Ophthalmic)**  
Uses: *HTN, ↑ intraocular pressure, chronic open-angle glaucoma*  
Action: Blocks β-adrenergic receptors (β₁, β₂), mild ISA  
Dose: Ophthal 1 gtt in eye(s) bid  
Caution: [C, ?/–] Cardiac failure, asthma CI: Sinus bradycardia; heart block >1st degree; bronchospasm  
Disp: Ophthal soln 1% SE: conjunctival hyperemia, anisocoria, keratitis, eye pain  
Notes: Oral forms no longer available in US

**Carvedilol (Coreg, Coreg CR)**  
Uses: *HTN, Mild to severe CHF, LVD post-MI*  
Action: Blocks adrenergic receptors, β₁, β₂, α₁  
Dose: *HTN*: 6.25–12.5 mg bid or CR 20–80 mg PO daily. CHF: 3.125–25 mg bid; w/ food to minimize ↓ BP  
Caution: [C (1st tri); D (2nd & 3rd tri), ?/–] asthma, DM CI: Decompensated CHF, 2nd-/3rd-degree heart block, SSS, severe bradycardia w/o pacemaker, asthma, severe hepatic impair  
Disp: Tabs 3.125, 6.25, 12.5, 25 mg; CR Tabs 10, 20, 40, 80 mg SE: Dizziness, fatigue, hyperglycemia, may mask/potentiate hypoglycemia, bradycardia, edema, hypercholesterolemia  
Notes: Do not D/C abruptly; ↑ digoxin levels

**Caspofungin (Cancidas)**  
Uses: *Invasive aspergillosis refractory/intolerant to standard therapy, esophageal candidiasis*  
Action: Echinocandin; ↓ fungal cell wall synth; highest activity in regions of active cell growth  
Dose: 70 mg IV load day 1, 50 mg/d IV; slow Inf; ↓ in hepatic impair  
Caution: [C, ?/–] Do not use w/ cyclosporine; not studied as initial therapy CI: Allergy to any component  
Disp:
Inj 50, 70 mg powder for recons SE: Fever, HA, N/V, thrombophlebitis at site, ↑ LFTs Notes: Monitor during Inf; limited experience beyond 2 wk of therapy

**Cefaclor (Raniclor)**

Uses: *Bacterial Infxns of the upper & lower resp tract, skin, bone, urinary tract, abdomen*

Action: 2nd-gen cephalosporin; ↓ cell wall synth. Spectrum: More gram(–) activity than 1st-gen cephalosporins; effective against gram(+) (Streptococcus sp, *S. aureus*); good gram(–) against *H. influenzae, E. coli, Klebsiella, Proteus* Dose: Adults. 250–500 mg PO tid; ER 375–500 mg bid. Peds. 20–40 mg/kg/d PO ÷ 8–12 h; ↓ renal impair Caution: [B, +] antacids ↓ absorption CI: Cephalosporin/PCN allergy Disp: Caps 250, 500 mg; Tabs ER 375, 500 mg; chew tabs (Raniclor) 250, 375 mg; susp 125, 187, 250, 375 mg/5 mL SE: N/D, rash, eosinophilia, ↑ LFTs, HA, rhinitis, vaginitis

**Cefadroxil (Duricef)**

Uses: *Infxns of skin, bone, upper & lower resp tract, urinary tract*

Action: 1st-gen cephalosporin; ↓ cell wall synth. Spectrum: Good gram(+) (group A β-hemolytic Streptococcus, Staphylococcus); gram(–) (E. coli, Proteus, Klebsiella) Dose: Adults. 1–2 g/d PO, 2 ÷ doses Peds. 30 mg/kg/d ÷ bid; ↓ in renal impair Caution: [B,+] CI: Cephalosporin/PCN allergy Disp: Caps 500 mg; tabs 1 g; susp, 250, 500 mg/5 mL SE: N/V/D, rash, eosinophilia, ↑ LFTs

**Cefazolin (Ancef, Kefzol)**

Uses: *Infxns of skin, bone, upper & lower resp tract, urinary tract*

Action: 1st-gen cephalosporin; β-lactam ↓ cell wall synth. Spectrum: Good gram(+) bacilli & cocci, (Streptococcus, Staphylococcus [except Enterococcus]); some gram(–) (E. coli, Proteus, Klebsiella) Dose: Adults. 1–2 g IV q8h Peds. 25–100 mg/kg/d IV ÷ q6–8h; ↓ in renal impair Caution: [B,+] CI: Cephalosporin/PCN allergy Disp: Inj: 500 mg, 1, 10, 20 g SE: D, rash, eosinophilia, ↑ LFTs. Inf site pain Notes: Widely used for surgical prophylaxis

**Cefdinir (Omnicef)**

Uses: *Acute exacerbations of chronic bronchitis, pharyngitis, tonsillitis; skin Infxns* Dose: Adults. 300 mg PO bid or 600 mg/d PO. Peds. 7 mg/kg PO bid or 14 mg/kg/d PO; ↓ in renal impair Caution: [B,+] w/ PCN-sensitive pts, serum sickness-like Rxns reported CI: Hypersensitivity to cephalosporins Disp: Caps 300 mg; susp 125, 250 mg/5 mL SE: Anaphylaxis, D, rare pseudomembranous colitis

**Cefditoren (Spectracef)**

Uses: *Acute exacerbations of chronic bronchitis, pharyngitis, tonsillitis*; skin Infxns* Dose: Adults & Peds >12 y: Skin: 200 mg PO bid ÷ 10 d. Chronic bronchitis, pharyngitis, tonsillitis: 400 mg PO bid × 10 d; avoid antacids w/ in 2 h; take w/ meals; ↓ in renal impair Caution: [B, ?] Renal/hepatic impair CI: Cephalosporin/PCN allergy, milk protein, or carnitine deficiency Disp: 200 mg tabs SE: HA, N/V/D, colitis, nephrotox, hepatic dysfunction, Stevens-Johnson syndrome, toxic epidermal necrolysis, allergic Rxns Notes: Causes renal excretion of carnitine; tabs contain milk protein
Cefepime (Maxipime)  
*Uses:* *comp/uncomp UTI, pneumonia, empiric febrile neutropenia, skin/soft-tissue Infxns, comp intra-Abd Infxns*  
*Action:* 4th-gen cephalosporin; ↓ cell wall synth.  
*Spectrum:* gram(+) *S. pneumoniae, S. aureus, gram(–) K. pneumoniae, E. coli, P. aeruginosa, & Enterobacter* sp  
*Dose:* **Adults.** 1–2 g IV q8–12h. **Peds.** 50 mg/kg q8h for febrile neutropenia; 50 mg/kg bid for skin/soft-tissue Infxns; ↓ in renal impair **Caution:** [B, +] CI: Cephalosporin/PCN allergy  
**Disp:** Inj 500 mg, 1, 2 g  
**SE:** Rash, pruritus, N/V/D, fever, HA, (+) Coombs test w/o hemolysis  
**Notes:** Can give IM or IV

Cefixime (Suprax)  
*Uses:* *Resp tract, skin, bone, & urinary tract Infxns*  
*Action:* 3rd-gen cephalosporin; ↓ cell wall synth.  
*Spectrum:* *S. pneumoniae, S. pyogenes, H. influenzae,* & enterobacteria  
*Dose:* **Adults.** 400 mg PO ÷ daily-bid.  
**Peds.** 8–20 mg/kg/d PO ÷ daily-bid; ↓ w/ renal impair **Caution:** [B, +] CI: Cephalosporin/PCN allergy  
**Disp:** Susp 100, 200 mg/5 mL  
**SE:** N/V/D, flatulence, & Abd pain  
**Notes:** Monitor renal & hepatic Fxn; use susp for otitis media

Cefoperazone (Cefobid)  
*Uses:* *Rx Infxns of the resp, skin, urinary tract, sepsis*  
*Action:* 3rd-gen cephalosporin; ↓ bacterial cell wall synth.  
*Spectrum:* (eg, *E. coli, Klebsiella,* *P. aeruginosa* but < ceftazidime; gram(+) variable against *Streptococcus & Staphylococcus* sp  
*Dose:* **Adults.** 2–4 g/d IM/IV ÷ q 8–12h (16 g/d max). **Peds.** (Not approved) 100–150 mg/kg/d IM/IV ÷ bid-tid (12 g/d max); ↓ in renal/hepatic impair **Caution:** [B, +] May ↑ bleeding risk  
**CI:** Cephalosporin/PCN allergy  
**Disp:** Powder for Inj 1, 2, 10, 20 g  
**SE:** D, rash, eosinophilia, ↑ LFTs, hypoprothrombinemia, & bleeding (due to MTT side chain)  
**Notes:** May interfere w/ warfarin; disulfiram-like Rxn

Cefotaxime (Claforan)  
*Uses:* *Infxns of the upper & lower resp tract, skin, bone & joint, urinary tract, meningitis, sepsis, PID, GC*  
*Action:* 3rd-gen cephalosporin; ↓ cell wall synth.  
*Spectrum:* Most gram(–) (not *Pseudomonas*), some gram(+) cocci  
*S. pneumoniae, S. aureus* (penicillinase/nonpenicillinase producing), *H. influenzae* (including ampicillin-resistant), not *Enterococcus*; many PCN-resistant pneumococci  
*Dose:* **Adults.** Uncomplicated Infxn: 2 g IV/QM q12h; *Mod–severe Infxn* 1–2 g IV/IM q 8–12 h; Severe/septicemia 2 g IV/IM q4–8h; *GC urethritis, cervicitis, rectal in female:* 0.5 g IM × 1; rectal GC men 1 g IM × 1; **Peds.** 50–200 mg/kg/d IV ÷ q6–8h; ↓ w/ renal/hepatic impair **Caution:** [B, +] Arrhythmia w/ rapid Inj; w/colitis  
**CI:** Cephalosporin/PCN allergy  
**Disp:** Powder for Inj 500 mg, 1, 2, 10, 20 g, pre-mixed Infs 20 mg/mL, 40 mg/mL  
**SE:** D, rash, pruritus, colitis, eosinophilia, ↑ transaminases

Cefotetan (Cefotan)  
*Uses:* *Infxns of the upper & lower resp tract, skin, bone, urinary tract, abdomen, & gynecologic system*  
*Action:* 2nd-gen cephalosporin; ↓ cell wall synth  
*Spectrum:* Less active against gram(+) anaerobes including *B. fragilis;* gram(–), including *E. coli, Klebsiella,* & *Proteus*  
*Dose:* **Adults.** 1–3 g IV q12h. **Peds.** 20–40 mg/kg/d IV ÷ q12h (6 g/d max) ↓ w/ renal impair **Caution:** [B, +] May ↑ bleeding risk; w/ Hx of PCN allergies, w/ other nephrotoxic drugs  
**CI:** Cephalosporin/PCN allergy  
**Disp:** Powder for Inj 1, 2,
10 g SE: D, rash, eosinophilia, ↑ transaminases, hypoprothrombinemia, & bleeding (due to MTT side chain) Notes: May interfere w/ warfarin

**Cefoxitin (Mefoxin)** Uses: *Infxns of the upper & lower resp tract, skin, bone, urinary tract, abdomen, & gynecologic system* Action: 2nd-gen cephalosporin; ↓ cell wall synth. Spectrum: Good gram(−) against enteric bacilli (ie, *E. coli*, *Klebsiella*, & *Proteus*); anaerobic *B. fragilis* Dose: Adults. 1–2 g IV q6–8h. Peds. 80–160 mg/kg/d ÷ q4–6h (12 g/d max); ↓ w/ renal impair Caution: [B, +] CI: Cephalosporin/PCN allergy Disp: Powder for Inj 1, 2, 10 g SE: D, rash, eosinophilia, ↑ transaminases

**Cefpodoxime (Vantin)** Uses: *Rx resp tract, skin, & urinary tract Infxns* Action: 3rd-gen cephalosporin; ↓ cell wall synth. Spectrum: *S. pneumoniae* or non-β-lactamase-producing *H. influenzae*; acute uncomplicated *N. gonorrhoeae*; some uncomplicated gram(−) (E. coli, *Klebsiella*, *Proteus*) Dose: Adults. 100–400 mg PO q12h. Peds. 10 mg/kg/d PO ÷ bid; ↓ in renal impair, w/ food Caution: [B, +] CI: Cephalosporin/PCN allergy Disp: Tabs 100, 200 mg; susp 50, 100 mg/5 mL SE: D, rash, HA, eosinophilia, ↑ transaminases Notes: Drug interactions w/ agents that ↑ gastric pH

**Cefprozil (Cefzil)** Uses: *Rx resp, skin, & urinary tract Infxns* Action: 2nd-gen cephalosporin; ↓ cell wall synth. Spectrum: Active against MSSA, *Streptococcus*, & gram(−) bacilli (E. coli, *Klebsiella*, *P. mirabilis*, *H. influenzae*, *Moraxella*) Dose: Adults. 250–500 mg PO daily-bid. Peds. 7.5–15 mg/kg/d PO ÷ bid; ↓ in renal impair Caution: [B, +] CI: Cephalosporin/PCN allergy Disp: Tabs 250, 500 mg; susp 125, 250 mg/5 mL SE: D, dizziness, rash, eosinophilia, ↑ transaminases Notes: Use higher doses for otitis & pneumonia

**Ceftazidime (Fortaz, Tazicef)** Uses: *Rx resp tract, skin, bone, urinary tract Infxns, meningitis, & septicemia* Action: 3rd-gen cephalosporin; ↓ cell wall synth. Spectrum: *P. aeruginosa* sp, good gram(−) activity Dose: Adults. 500–2 g IV/IM q8–12h. Peds. 30–50 mg/kg/dose IV q8h; ↓ in renal impair Caution: [B, +] PCN sensitivity CI: Cephalosporin/PCN allergy Disp: Powder for Inj 500 mg, 1, 2, 6 g SE: D, rash, eosinophilia, ↑ transaminases Notes: Use only for proven or strongly suspected Infxn to ↓ development of drug resistance

**Ceftibuten (Cedax)** Uses: *Rx resp tract, skin, urinary tract Infxns & otitis media* Action: 3rd-gen cephalosporin; ↓ cell wall synth. Spectrum: *H. influenzae* & *M. catarrhalis*; weak against *S. pneumoniae* Dose: Adults. 400 mg/d PO. Peds. 9 mg/kg/d PO; ↓ in renal impair; take on empty stomach (susp) Caution: [B, +] CI: Cephalosporin/PCN allergy Disp: Caps 400 mg; susp 90 mg/5 mL SE: D, rash, eosinophilia, ↑ transaminases

**Ceftizoxime (Cefizox)** Uses: *Rx resp tract, skin, bone, & urinary tract Infxns, meningitis, septicemia* Action: 3rd-gen cephalosporin; ↓ cell wall synth. Spectrum: Good gram(−) bacilli (not *Pseudomonas*), some gram(+) cocci (not *Enterococcus*), & some anaerobes Dose: Adults. 1–4 g IV q8–12h. Peds. 150–200 mg/kg/d IV ÷ q6–8h; ↓ in renal impair Caution: [B, +] CI: Cephalosporin/PCN
**Ceftriaxone (Rocephin)**  
**WARNING:** Avoid in hyperbilirubinemic neonates or coinfused w/ calcium-containing products  
**Uses:** *Resp tract (pneumonia), skin, bone, Abd, urinary tract Infxns, meningitis, & septicemia*  
**Action:** 3rd-gen cephalosporin; ↓ cell wall synth.  
**Spectrum:** Mod gram(+)  
**β-lactamase producers**  
**Dose:**  
- **Adults.** 1–2 g IV/IM q12–24h.  
- **Peds.** 50–100 mg/kg/d IV/IM ↓ q12–24h; ↓ w/ renal impair  
**Caution:** [B, +] CI: Cephalosporin allergy; hyperbilirubinemic neonates  
**Disp:** Powder for Inj 250 mg, 500 mg, 1, 2, 10 g; premixed 20, 40 mg/mL  
**SE:** D, rash, leukopenia, thrombocytosis, eosinophilia, ↑ LFTs

**Cefuroxime (Ceftin [PO], Zinacef [parenteral])**  
**Uses:** *Upper & lower resp tract, skin, bone, urinary tract, abdomen, gynecologic Infxns*  
**Action:** 2nd-gen cephalosporin; ↓ cell wall synth  
**Spectrum:** Staphylococci, group B streptococci, *H. influenzae, E. coli, Enterobacter, Salmonella,* & *Klebsiella*  
**Dose:**  
- **Adults.** 750 mg–1.5 g IV q6h or 250–500 mg PO bid.  
- **Peds.** 75–150 mg/kg/d IV ↓ q8h or 20–30 mg/kg/d PO ↓ bid; ↓ w/ renal impair; take PO w/ food  
**Caution:** [B, +] CI: Cephalosporin/PCN allergy  
**Disp:** Tabs 250, 500 mg; susp 125, 250 mg/5 mL; powder for Inj 750 mg, 1.5, 7.5 g  
**SE:** D, rash, eosinophilia, ↑ LFTs  
**Notes:** Cefuroxime film-coated tabs & susp not bioequivalent; do not substitute on a mg/mg basis; IV crosses blood–brain barrier

**Celecoxib (Celebrex)**  
**WARNING:** ↑ Risk of serious CV thrombotic events, MI, & stroke, can be fatal; ↑ risk of serious GI adverse events including bleeding, ulceration, & perforation of the stomach or intestines; can be fatal  
**Uses:** *Osteoarthritis, RA, ankylosing spondylitis acute pain, primary dysmenorrhea preventive in FAP*  
**Action:** NSAID; ↓ COX-2 pathway  
**Dose:** 100–200 mg/d or bid; FAP: 400 mg PO bid; ↓ w/ hepatic impair; take w/ food/milk  
**Caution:** [C/D (3rd tri), ?] w/ Renal impair CI: Sulfonamide allergy, perioperative coronary artery bypass graft  
**Disp:** Caps 100, 200, 400 mg SE: See Warning; GI upset, HTN, edema, renal failure, HA  
**Notes:** Watch for Sxs of GI bleed; no effect on plt/bleeding time; can affect drugs metabolized by P-450 pathway

**Cephalexin (Keflex, Panixine DisperDose)**  
**Uses:** *Skin, bone, upper/lower resp tract (streptococcal pharyngitis), otitis media, uncomp cystitis Infxns*  
**Action:** 1st-gen cephalosporin; ↓ cell wall synth.  
**Spectrum:** *Streptococcus (including β-hemolytic), Staphylococcus, E. coli, Proteus,* & *Klebsiella*  
**Dose:**  
- **Adults & Peds ≥15 y:** 250–1000 mg PO qid; Rx cystitis 7–14 d (4 g/d max).  
- **Peds <15 y.** 25–100 mg/kg/d PO ↓ bid-qid; ↓ in renal impair; on empty stomach  
**Caution:** [B, +] CI: Cephalosporin/PCN allergy  
**Disp:** Caps 250, 500 mg; (Panixine DisperDose) tabs for oral susp 100, 125, 250 mg; susp 125, 250 mg/5 mL  
**SE:** D, rash, eosinophilia, gastritis, dyspepsia, ↑ LFTs, *C. difficile* colitis, vaginitis

**Cephradine (Velosef)**  
**Uses:** *Resp, GU, skin, soft-tissue, bone, & joint Infxns*  
**Action:** 1st-gen cephalosporin; ↓ cell wall synth.  
**Spectrum:** Gram(+)
bacilli & cocci (not Enterococcus); some gram(-) (E. coli, Proteus, & Klebsiella)
**Dose:** Adults. 250–500 mg q6–12 h (8 g/d max). **Peds >9 mo:** 25–100 mg/kg/d ÷ bid-qid (4 g/d max); ↓ in renal impair **Caution:** [B, +] CI: Cephalosporin/PCN allergy
**Disp:** Caps: 250, 500 mg; powder for susp 125, 250 mg/5 mL
**SE:** Rash, eosinophilia, ↑ LFTs, N/V/D

**Certolizumab (Cimzia)** **WARNING:** TB, invasive fungal infxns, and other opportunistic infxns, some fatal, reported. Evaluate for TB risk factors, test for latent TB prior to and during therapy
**Uses:** *Tx of Crohn Dz*
**Action:** TNF α-blocker
**Dose:** Adults. 400 mg SQ initially and wk 2 & 4; w/ response then 400 mg SQ q4wk
**Caution:** [B, ?]; w/ predisposition to Infxn; do not start therapy during active Infxn; D/C w/ serious Infxn
**CI:** None
**Disp:** Inj powder 200 mg
**SE:** HA, N, nasopharyngitis, UTI, URI, arthralgia, hypersensitivity Rxn, serious Infxns, TB, opportunistic Infxns, malignancies, demyelinating Dz, CHF, pancytopenia, lupus-like syndrome
**Notes:** Do not give live/attenuated vaccines during therapy; avoid use with anakinra

**Cetirizine (Zyrtec, Zyrtec D) [OTC]**
**Uses:** *Allergic rhinitis & other allergic Sxs including urticaria*
**Action:** Nonsedating antihistamine; Zyrtec D contains decongestant
**Dose:** Adults & Children ≥6 y: 5–10 mg/d. Zyrtec D 5/120 mg PO bid whole
**Peds 6–11 mo:** 2.5 mg daily. **12 mo-5 y:** 2.5 mg daily-bid; ↓ to q day in renal/hepatic impair
**Caution:** [C, ?/–] w/ HTN, BPH, rare CNS stimulation, DM, heart Dz
**CI:** Allergy to cetirizine, hydroxyzine
**Disp:** Tabs 5, 10 mg; chew tabs 5, 10 mg; syrup 1 mg/5 mL; Zyrtec D: Tabs 5/120 mg (cetirizine/pseudoephedrine)
**SE:** HA, drowsiness, xerostomia
**Notes:** Can cause sedation; swallow ER tabs whole

**Cetuximab (Erbitux)** **WARNING:** Severe Inf Rxns including rapid onset of airway obst (bronchospasm, stridor, hoarseness), urticaria, & ↓ BP; permanent D/C required; ↑ risk sudden death and cardiopulmonary arrest
**Uses:** *EGFR + metastatic colorectal CA w/wo irinotecan, unresectable head/neck small cell carcinoma w/ RT; monotherapy in metastatic head/neck cancer*
**Action:** Human/mouse recombinant MoAb; binds EGFR, ↓ tumor cell growth
**Dose:** Per protocol; load 400 mg/m² IV over 2 h; 250 mg/m² given over 1 h × 1 wk
**Caution:** [C, –] **Disp:** Inj 100 mg/50 mL
**SE:** Acneform rash, asthenia/malaise, N/V/D, Abd pain, alopecia, Inf Rxn, derm tox, interstitial lung Dz, fever, sepsis, dehydration, kidney failure, PE
**Notes:** Assess tumor for EGFR before Rx; pretreat w/ diphenhydramine; w/ mild SE ↓ Inf rate by 50%; limit sun exposure

**Charcoal, activated (Superchar, Actidose, Liqui-Char)**
**Uses:** *Emergency poisoning by most drugs & chemicals (see CI)*
**Action:** Adsorbent detoxicant
**Dose:** Give w/ 70% sorbitol (2 mL/kg); repeated use of sorbitol not OK
**Adults. Acute intoxication:** 25–100 g/dose. **GI dialysis:** 20–50 g q6h for 1–2 d.
**Peds 1–12 y. Acute intoxication:** 1–2 g/kg/dose. **GI dialysis:** 5–10 g/dose q4–8h
**Caution:** [C, ?/–] May cause V (hazardous w/ petroleum & caustic ingestions); do not mix w/ dairy
**CI:** Not effective for cyanide, mineral acids, caustic alkalis,
organic solvents, iron, EtOH, methanol poisoning, Li; do not use sorbitol in pts w/ fructose intolerance, intestinal obst, nonintact GI tracts Disps: Powder, liq, caps SE: Some liq dosage forms in sorbitol base (a cathartic); V/D, black stools, constipation Notes: Charcoal w/ sorbitol not OK in children <1 y; monitor for ↓ K⁺ & Mg²⁺; protect airway in lethargic/comatose pts

Chloral Hydrate (Aquachloral, Supprettes) [C-IV] Uses: *Short-term nocturnal & pre-op sedation* Action: Sedative hypnotic; active metabolite trichloroethanol Dose: Adults. Hypnotic: 500 mg–1 g PO or PR 30 min hs or before procedure. Sedative: 250 mg PO or PR tid. Peds. Hypnotic: 20–50 mg/kg/24 h PO or PR 30 min hs or before procedure. Sedative: 5–15 mg/kg/dose q8h; avoid w/ CrCl <50 mL/min or severe hepatic impair Caution: [C, +] Porphyria & in neonates, long-term care facility residents CI: Allergy to components; severe renal, hepatic or cardiac Dz Disps: Caps 500 mg; syrup 500 mg/5 mL; supp 325, 500 mg SE: GI irritation, drowsiness, ataxia, dizziness, nightmares, rash Notes: May accumulate; tolerance may develop >2 wk; taper dose; mix syrup in H₂O or fruit juice; do not crush caps; avoid EtOH & CNS depressants

Chlorambucil (Leukeran) WARNING: Myelosuppressive, carcino- genic, teratogenic, associated with infertility Uses: *CLL, Hodgkin Dz,* Waldenström macroglobulinemia Action: Alkylating agent (nitrogen mustard) Dose: (per protocol) 0.1–0.2 mg/kg/d for 3–6 wk or 0.4 mg/kg/dose q2wk; ↓ w/ renal impair Caution: [D,?] Sz disorder & BM suppression; affects human fertility CI: Previous resistance; alkylating agent allergy; w/ live vaccines Disps: Tabs 2 mg SE: ↓ BM, CNS stimulation, N/V, drug fever, rash, secondary leukemias, alveolar dysplasia, pulm fibrosis, hepatotoxic Notes: Monitor LFTs, CBC, plts, serum uric acid; ↓ dose if pt has received radiation

Chlordiazepoxide (Librium, Mitran, Libritabs) [C-IV] Uses: *Anxiety, tension, EtOH withdrawal,* & pre-op apprehension Action: Benzodi- azepine; antianxiety agent Dose: Adults. Mild anxiety: 5–10 mg PO tid-qid or PRN. Severe anxiety: 25–50 mg IM, IV, or PO q6–8h or PRN Peds >6 y: 0.5 mg/kg/24 h PO or IM ÷ q6–8h; ↓ in renal impair, elderly Caution: [D,?] Resp depression, CNS impair, Hx of drug dependence; avoid in hepatic impair CI: Preexisting CNS depression, NAG Disps: Caps 5, 10, 25 mg; Inj 100 mg SE: Drowsiness, CP, rash, fatigue, memory impair, xerostomia, wgt gain Notes: Erratic IM absorption

Chlorothiazide (Diuril) Uses: *HTN, edema* Action: Thiazide diuretic Dose: Adults. 500 mg–1 g PO daily-bid; 100–1000 mg/d IV (for edema only). Peds >6 mo: 10–20 mg/kg/24 h PO ÷ bid; 4 mg/kg/d IV; OK w/ food Caution: [D,+] CI: Sensitivity to thiazides/sulfonamides, anuria Disps: Tabs 250, 500 mg; susp 250 mg/5 mL; Inj 500 mg/vial SE: ↓ K⁺, Na⁺, dizziness, hyperglycemia, hyperuricemia, hyperlipidemia, photosensitivity Notes: Do not use IM/SQ; take early in the day to avoid nocturia; use sunblock; monitor lytes

Chlorpheniramine (Chlor-Trimeton, others) [OTC] WARNING: OTC meds w/ chlorpheniramine should not be used in peds <2 y Uses: *Allergic
rhinitis,* common cold **Action:** Antihistamine **Dose:** **Adults.** 4 mg PO q4–6h or 8–12 mg PO bid of SR **Peds.** 0.35 mg/kg/24 h PO ÷ q4–6h or 0.2 mg/kg/24 h SR **Caution:** [C, ?–/] BOO; NAG; hepatic Insuff **CI:** Allergy **Disp:** Tabs 4 mg; chew tabs 2 mg; SR tabs 8, 12 mg **SE:** Anticholinergic SE & sedation common, postural ↓ BP, QT changes, extrapyramidal Rxns, photosensitivity **Notes:** Do not cut/crush/chew ER forms; deaths in pts <2 y; associated w/ cough and cold meds (MMWR 2007;56(01):1–4)

**Chlorpromazine (Thorazine)** **Uses:** *Psychotic disorders, N/V,* apprehension, intractable hiccups **Action:** Phenothiazine antipsychotic; antiemetic **Dose:** **Adults.** Psychosis: 10–25 mg PO bid-tid (usual 30–2000 mg/d in ÷ doses). **Severe Sxs:** 25 mg IM/IV initial; may repeat in 1–4 h; then 25–50 mg PO or PR tid. **Hiccups:** 25–50 mg PO tid-qid. **Children >6 mo:** **Psychosis & N/V:** 0.5–1 mg/kg/doe PO q4–6h or IM/IV q6–8h; **Caution:** [C, ?–/] Safety in children <6 mo not established; Szs, avoid w/ hepatic impair, BM suppression **CI:** Sensitivity w/ phenothiazines; NAG **Disp:** Tabs 10, 25, 50, 100, 200 mg; soln 100 mg/mL; Inj 25 mg/mL; SE: Extrapyramidal SE & sedation; α-adrenergic blocking properties; ↓ BP; ↑ QT interval **Notes:** Do not D/C abruptly; dilute PO conc in 2–4 oz of liq

**Chlorpropamide (Diabinese)** **Uses:** *Type 2 DM* **Action:** Sulfonylurea; ↑ pancreatic insulin release; ↑ peripheral insulin sensitivity; ↓ hepatic glucose output **Dose:** 100–500 mg/d; w/ food, ↓ hepatic impair **Caution:** [C, ?–/] CrCl < 50 mL/min; ↓ in hepatic impair **CI:** Cross-sensitivity w/ sulfonylamides **Disp:** Tabs 100, 250 mg SE: HA, dizziness, rash, photosensitivity, hypoglycemia, SIADH **Notes:** Avoid EtOH (disulfiram-like Rxn)

**Chlorthalidone (Hygroton, others)** **Uses:** *HTN* **Action:** Thiazide diuretic **Dose:** **Adults.** 25–100 mg PO daily. **Peds.** (Not approved) 2 mg/kg/dose PO 3×/wk or 1–2 mg/kg/d PO; ↓ in renal impair; OK w/ food, milk **Caution:** [D, +] CI: Cross-sensitivity w/ thiazides or sulfonamides; anuria **Disp:** Tabs 15, 25, 50 mg SE: ↓ K⁺, dizziness, photosensitivity, hyperglycemia, hyperuricemia, sexual dysfunction

**Chlorzoxazone (Paraflex, Parafon Forte DSC, others)** **Uses:** Adjunct to rest & physical therapy to relieve discomfort associated w/ acute, painful musculoskeletal conditions* **Action:** Centrally acting skeletal muscle relaxant **Dose:** **Adults.** 250–500 mg PO tid-qid. **Peds.** 20 mg/kg/d in 3–4 ÷ doses **Caution:** [C, ?] Avoid EtOH & CNS depressants **CI:** Severe liver Dz **Disp:** Tabs 250, 500 mg SE: Drowsiness, tachycardia, dizziness, hepatotox, angioedema

**Cholecalciferol [Vitamin D₃] (Delta D)** **Uses:** Dietary suppl to Rx vit D deficiency **Action:** ↑ intestinal Ca²⁺ absorption **Dose:** 400–1000 Int Units/d PO **Caution:** [A (D doses above the RDA), +] CI: ↑ Ca²⁺, hypervitaminosis, allergy **Disp:** Tabs 400, 1000 Int Units SE: Vit D tox (renal failure, HTN, psychosis) **Notes:** 1 mg cholecalciferol = 40,000 Int Units vit D activity

**Cholestyramine (Questran, Questran Light, Prevalite)** **Uses:** *Hypercholesterolemia; hyperlipidemia, pruritus associated w/ partial biliary
obst; D associated w/ excess fecal bile acids* pseudomembranous colitis, dig tox, hyperoxaluria  
**Action:** Binds intestinal bile acids, forms insoluble complexes  
**Dose:** **Adults.** Titrate: 4 g/d-bid ↑ to max 24 g/d ÷ 1–6 doses/d. **Peds.** 240 mg/kg/d in 3 ÷ doses  
**↑** to max 24 g/d ÷ 1–6 doses/d.  
**Caution:** [C, ?] Constipation, phenylketonuria, may interfere with other drug absorption; consider supl w/ fat-soluble vits  
**CI:** Complete biliary or bowel obst; w/ mycophenolate hyperlipoproteinemia types III, IV  
**V Disp:** (Ques-tran) 4 g cholestyramine resin/9 g powder; (Prevalite) w/ aspartame: 4 g resin/5.5 g powder; (Questran Light) 4 g resin/6.4 g powder  
**SE:** Constipation, Abd pain, bloating, HA, rash, vit K deficiency  
**Notes:** OD may cause GI obst; mix 4 g in 2–6 oz of noncarbonated beverage; take other meds 1–2 h before or 6 h after; ✓ lipids

**Ciclesonide, Inhalation (Alvesco)**  
**Uses:** *Asthma maint*  
**Action:** Inhaled steroid  
**Dose:** **Adults & Peds >12 y:** On bronchodilators alone: 80 mcg bid (320 mcg/d max). **Inhaled corticosteroids:** 80 mcg bid, 640 mcg/d max  
**Caution:** [C, ?]  
**CI:** Status asthmaticus or other acute episodes of asthma, hypersensitivity  
**Disp:** Inh 80, 160 mcg/actuation  
**SE:** HA, nasopharyngitis, sinusitis, pharyngolaryngeal pain, URI, arthralgia, nasal congestion  
**Notes:** Oral Candida risk, rinse mouth and spit after, taper systemic steroids slowly when transferring to ciclesonide, monitor growth in pediatric pts, counsel on use of device, clean mouthpiece weekly

**Ciclesonide, nasal (Omnaris)**  
**Uses:** Allergic rhinitis  
**Action:** Nasal corticosteroid  
**Dose:** **Adults & Peds >12 y:** 2 sprays each nostril 1×/d  
**Caution:** [C,?–] w/ Ketoconazole  
**CI:** Component allergy  
**Disp:** Intransal spray susp, 50 mcg/spray, 120 doses  
**SE:** adrenal suppression, delayed nasal wound healing, URI, HA, ear pain, epistaxis ↑ risk viral Dz (eg, chickenpox), delayed growth in children

**Ciclopirox (Loprox, Penlac)**  
**Uses:** *Tinea pedis, tinea cruris, tinea corporis, cutaneous candidiasis, tinea versicolor, tinea rubrum*  
**Action:** Antifungal antibiotic; cellular depletion of essential substrates &/or ions  
**Dose:** **Adults & Peds >10 y:** Massage into affected area bid. Onychomycosis: apply to nails daily, w/ removal q7d  
**Caution:** [B, ?]  
**CI:** Component sensitivity  
**Disp:** Cream 0.77%, gel 0.77%, topical susp 0.77%, shampoo 1%, nail lacquer 8%  
**SE:** Pruritus, local irritation, burning  
**Notes:** D/C w/ irritation; avoid dressings; gel best for athlete’s foot

**Cidofovir (Vistide)**  
**WARNING:** Renal impair is the major tox. Follow administration instructions; possible carcinogenic, teratogenic  
**Uses:** *CMV retinitis w/ HIV*  
**Action:** Selective inhibition of viral DNA synth  
**Dose:** **Rx:** 5 mg/kg IV over 1 h once/wk for 2 wk w/ probenecid. **Maint:** 5 mg/kg IV once/2 wk w/ probenecid (2 g PO 3 h prior to cidofovir, then 1 g PO at 2 h & 8 h after cidofovir); ↓ in renal impair  
**Caution:** [C, –] SCr >1.5 mg/dL or CrCl <55 mL/min or urine protein >100 mg/dL; w/ other nephrotoxic drugs  
**CI:** Probenecid or sulfa allergy  
**Disp:** Inj 75 mg/mL  
**SE:** Renal tox, chills, fever, HA, N/V/D, thrombocytopenia, neutropenia  
**Notes:** Hydrate w/ NS prior to each Inf

**Cilostazol (Pletal)**  
**Uses:** *Reduce Sxs of intermittent claudication*  
**Action:** Phosphodiesterase III inhibitor; ↑ s cAMP in plts & blood vessels,
vasodilation & inhibit plt aggregation **Dose:** 100 mg PO bid, 1/2 h before or 2 h after breakfast & dinner **Caution:** [C, +/-] ↓ dose w/ drugs that inhibit CYP3A4 & CYP2C19 (Table 11) **CI:** CHF, hemostatic disorders, active pathologic bleeding

**Disp:** Tabs 50, 100 mg SE: HA, palpitation, D

**Cimetidine (Tagamet) (Tagamet HB, Tagamet DS OTC)**

*Duodenal ulcer; ulcer prophylaxis in hypersecretory states (eg, trauma, burns); & GERD*

**Action:** H₂-receptor antagonist

**Dose:** **Adults.** Active ulcer: 2400 mg/d IV cont Inf or 300 mg IV q6h; 400 mg PO bid or 800 mg hs. **Maint:** 400 mg PO hs. **GERD:** 300–600 mg PO q6h; maint 800 mg PO hs. **Peds. Infants:** 10–20 mg/kg/24 h PO or IV q6–12h. **Children:** 20–40 mg/kg/24 h PO or IV q6h; ↓ w/ renal Insuff & in elderly **Caution:** [B, +] Many drug interactions (P-450 system) **CI:** CHF, hemostatic disorders, active pathologic bleeding

**Disp:** Tabs 50, 100 mg SE: HA, palpitation, D

**Cenapax (Sensipar)**

*Secondary hyperparathyroidism in CRF; ↑ Ca²⁺ in parathyroid carcinoma*

**Action:** ↓ PTH by ↑ calcium-sensing receptor sensitivity

**Dose:** **Secondary hyperparathyroidism:** 30 mg PO daily. **Parathyroid carcinoma:** 30 mg PO bid; titrate q2–4wk based on calcium & PTH levels; swallow whole; take w/ food **Caution:** [C, ?/–] w/ Szs, adjust w/ CYP3A4 inhibitors (Table 11) **Disp:** Tabs 30, 60, 90 mg SE: N/V/D, myalgia, dizziness, ↓ Ca²⁺

**Notes:** Monitor Ca²⁺, PO₄⁻², PTH

**Ciprofloxacin (Cipro, Cipro XR, Proquin XR)**

**WARNING:** ↑ risk of tendonitis and tendon rupture

*Rx lower resp tract, sinuses, skin & skin structure, bone/joints, & UT Infxns, including prostatitis*

**Action:** Quinolone antibiotic; ↓ DNA gyrase. **Spectrum:** Broad gram(+) & (–) aerobics; little *Streptococcus*; good *Pseudomonas, E. coli, B. fragilis, P. mirabilis, K. pneumoniae, C. jejuni,* or *Shigella*

**Dose:** **Adults.** 250–750 mg PO q12h; XR 500–1000 mg PO q24h; or 200–400 mg IV q12h; ↓ in renal impair **Caution:** [C, ?/–] Children <18 y **CI:** Component sensitivity **Disp:** Tabs 100, 250, 500, 750 mg; Tabs XR 50, 100 mg; susp 5 g/100 mL, 10 g/100 mL; Inj 200, 400 mg; premixed piggyback 200, 400 mg/100 mL **SE:** Restlessness, N/V/D, rash, ruptured tendons, ↑ LFTs

**Notes:** Avoid antacids; reduce/restrict caffeine intake; interactions w/ theophylline, caffeine, sucrafate, warfarin, antacids, most tendon problems in Achilles, rare shoulder and hand

**Ciprofloxacin, ophthalmic (Ciloxan)**

*Rx & prevention of ocular Infxns (conjunctivitis, blepharitis, corneal abrasions)*

**Action:** Quinolone antibiotic; ↓ DNA gyrase

**Dose:** 1–2 gtt in eye(s) q2h while awake for 2 d, then 1–2 gtt q4h while awake for 5 d, oint 1/2-inch ribbon in eye tid × 2 d, then bid × 5 d **Caution:** [C, ?/–] **CI:** Component sensitivity **Disp:** Soln 3.5 mg/mL; oint 0.3%, 35 g SE: Local irritation

**Ciprofloxacin & Dexamethasone, otic (Ciprodel Otic)**

*Otitis externa, otitis media peds*

**Action:** Quinolone antibiotic; ↓ DNA gyrase;
w/ steroid **Dose:** **Adults.** 4 gtt in ear(s) bid × 7 d. **Peds >6 mo:** 4 gtt in ear(s) bid for 7 d **Caution:** [C, ?/–] **CI:** viral ear Infxns **Disp:** Susp ciprofloxacin 0.3% & dexamethasone 1% **SE:** ear discomfort **Notes:** OK w/ tympanostomy tubes

**Ciprofloxacin and Hydrocortisone, otic (Cipro HC Otic)**

**Uses:** *Otitis externa*  
**Action:** Quinolone antibiotic; ↓ DNA gyrase; w/ steroid  
**Dose:** **Adults & Peds >1 mo.** 1–2 gtt in ear(s) bid × 7 d **Caution:** [C, ?/–] **CI:** Perforated tympanic membrane, viral Infxns of the external canal **Disp:** Susp ciprofloxacin 0.2% & hydrocortisone 1% **SE:** HA, pruritus

**Cisplatin (Platinol, Platinol AQ)**  
**WARNING:** Anaphylactic-like Rxn, ototoxic, cumulative renal tox; doses >100 mg/m² q3–4wk rarely used, do not confuse w/ carboplatin  
**Uses:** *Testicular, bladder, ovarian,* SCLC, NSCLC, breast, head & neck, & penile CAs; osteosarcoma; ped brain tumors  
**Action:** DNA-binding; denatures double helix; intrasstrand cross-linking  
**Dose:** 10–20 mg/m²/d for 5 d q3wk; 50–120 mg/m² q3–4wk (per protocols); ↓ w/ renal impair **Caution:** [D, –] Cumulative renal tox may be severe; ↓ BM, hearing impair, preexisting renal insuff  
**CI:** w/ anthrax or live vaccines, platinum-containing compound allergy; w/ cidofovir  
**Disp:** Inj 1 mg/mL **SE:** Allergic Rxns, N/V, nephrotox (↑ w/ administration of other nephrotoxic drugs; minimize by NS Inf & mannitol diuresis), high-frequency hearing loss in 30%, peripheral “stocking glove”-type neuropathy, cardiotox (ST, T-wave changes), ↓ Mg²⁺, mild ↓ BM, hepatotox; renal impair dose-related & cumulative  
**Notes:** Give taxanes before platinum derivatives; ✓ Mg²⁺, lytes before & w/in 48 h after cisplatin

**Citalopram (Celexa)**  
**WARNING:** Closely monitor for worsening depression or emergence of suicidality, particularly in pts <24 y  
**Uses:** *Depression*  
**Action:** SSRI  
**Dose:** Initial 20 mg/d, may ↑ to 40 mg/d; ↓ in elderly & hepatic/renal insuff  
**Caution:** [C, +/–] Hx of mania, Szs & pts at risk for suicide  
**CI:** MAOI or w/in 14 d of MAOI use  
**Disp:** Tabs 10, 20, 40 mg; soln 10 mg/5 mL  
**SE:** Somnolence, insomnia, anxiety, xerostomia, N, diaphoresis, sexual dysfunction  
**Notes:** May cause ↓ Na+/SIADH

**Cladribine (Leustatin)**  
**WARNING:** Dose-dependent reversible myelosuppression; neurotox, nephrotox, administer by physician with experience in chemotherapy regimens  
**Uses:** *HCL, CLL, NHLs, progressive MS*  
**Action:** Induces DNA strand breakage; interferes w/ DNA repair/synth; purine nucleoside analog  
**Dose:** 0.09–0.1 mg/kg/d cont IV Inf for 1–7 d (per protocols); ↓ w/ renal impair  
**Caution:** [D, ?/–] Causes neutropenia & Infxn  
**Disp:** Inj 1 mg/mL  
**SE:** ↓ BM, T-lymphocyte ↓ may be prolonged (26–34 wk), fever in 46%, tumor lysis syndrome, Infxns (especially lung & IV sites), rash (50%), HA, fatigue, N/V  
**Notes:** Consider prophylactic allopurinol; monitor CBC

**Clarithromycin (Biaxin, Biaxin XL)**  
**Uses:** *Upper/lower resp tract, skin/skin structure Infxns, H. pylori Infxns, & Infxns caused by nontuberculous (atypical) Mycobacterium; prevention of MAC Infxns in HIV-Infxn*
**Clonazepam (Klonopin) [C-IV]**  
*Uses:* Lennox-Gastaut syndrome, akinetic & myoclonic Szs, absence Szs, panic attacks,* restless legs syndrome, neuralgia, parkinsonian dysarthria, bipolar disorder  
*Action:* Benzodiazepine; anticonvulsant  
*Dose:* Adults. 1.5 mg/d PO in 3 ÷ doses; ↑ by 0.5–1 mg/d q3d PRN up to 20 mg/d.  
*Peds.* 0.01–0.03 mg/kg/24 h PO ÷ tid; ↑ to 0.1–0.2 mg/kg/24 h ÷ tid;  
*Notes:* D/C drug w/ D, evaluate for C. difficile pseudomembranous colitis, rash, ↑ LFTs  
*Disp.* Tabs 0.5, 1, 2, 3 mg; susp 1 mg/5 mL.  
*Caution:* Do not take with MAOI; can cause fatal colitis  
*CI:* Hx pseudomembranous colitis  
*SE:* N/V/D, anemia, leukopenia, thrombocytopenia, neutropenia, Infxn, ↑ AST/ALT  
*Disp.* Monitor for tumor lysis syndrome & systemic inflammatory response syndrome (SIRS)/capillary leak syndrome; hydrate well  
*Notes:* Avoid EtOH  

**Clindamycin (Cleocin, Cleocin-T, others)**  
*WARNING:* Pseudomembranous colitis may range from mild to life-threatening  
*Uses:* Rx aerobic & anaerobic Infxn; topical for severe acne & vaginal Infxn*  
*Action:* Bacteriostatic; interferes w/ protein synth.  
*Spectrum:* Streptococci, pneumococci, staphylococci, & gram(+) & (−) anaerobes; no activity against gram(−) aerobes  
*Dose:* Adults. PO: 150–450 mg PO q6–8h. IV: 300–600 mg IV q6h or 900 mg IV q8h. Vaginal: 1 applicator hs for 7 d. Topical: Apply 1% gel, lotion, or soln bid.  
*Peds Neonates:* (Avoid use; contains benzyl alcohol) 10–15 mg/kg/24 h ÷ q8–12h.  
*Children >1 mo:* 10–30 mg/kg/24 h ÷ q6–8h, to a max of 1.8 g/d PO or 4.8 g/d IV. Topical: Apply 1%, gel, lotion, or soln bid; ↓ in severe hepatic impair  
*Caution:* Hx pseudomembranous colitis  
*Disp.* Caps 75, 150, 300 mg; susp 75 mg/5 mL; Inj 300 mg/2 mL; vaginal cream 2%, topical soln 1%, gel 1%, lotion 1%, vaginal supp 100 mg  
*SE:* D may be C. difficile pseudomembranous colitis, rash, ↑ LFTs  
*Notes:* D/C drug w/ D, evaluate for C. difficile  

**Clofarabine (Clolar)**  
*Uses:* Rx relapsed/refractory ALL after at least 2 regimens in children 1–21 y  
*Action:* Antimetabolite; ↓ ribonucleotide reductase w/ false nucleotide base-inhibiting DNA synth  
*Dose:* 52 mg/m² IV over 2 h daily ÷ 5 d (repeat q2–6wk); per protocol  
*Caution:* [D, −]  
*Disp.* Inj 20 mg/20 mL SE: N/V/D, anemia, leukopenia, thrombocytopenia, neutropenia, Infxn, ↑ AST/ALT  
*Notes:* Monitor for tumor lysis syndrome & systemic inflammatory response syndrome (SIRS)/capillary leak syndrome; hydrate well  

**Clemastine Fumarate (Tavist, Dayhist, Antihist-1) [OTC]**  
*Uses:* *Allergic rhinitis & Sxs of urticaria*  
*Action:* Antihistamine  
*Dose:* Adults & Peds >12 y: 1.34 mg bid-2.68 mg tid; max 8.04 mg/d <6 y: 0.335–0.67 mg/d ÷ into 2–3 doses (max 1.34 mg/d), 6–12 y: 0.67–1.34 mg bid (max 4.02 /d)  
*Caution:* [B, M] BOO; Do not take w/ MAOI  
*CI:* NAG  
*Disp.* Tabs 1.34, 2.68 mg; syrup 0.67 mg/5 mL  
*SE:* Drowsiness, dyscoordination, epigastric distress, urinary retention  
*Notes:* Avoid EtOH  

**Action:** Macrolide antibiotic, ↓ protein synth.  
*Spectrum:* H. influenzae, M. catarrhalis, S. pneumoniae, M. pneumoniae, & H. pylori  
*Dose:* Adults. 250–500 mg PO bid or 1000 mg (2 × 500 mg XL tab)/d. Mycobacterium: 500 mg PO bid.  
*Peds >6 mo:* 7.5 mg/kg/dose PO bid; ↓ w/ renal impair  
*Caution:* [C, ?] Antibiotic-associated colitis; rare QT prolongation & ventricular arrhythmias, including torsade de pointes  
*CI:* Macrolide allergy; w/ ranitidine in pts w/ Hx of porphyria or CrCl <25 mL/min  
*Disp.* Tabs 250, 500, susp 125, 250 mg/5 mL; 500 mg XL tab  
*SE:* ↑ QT interval, causes metallic taste, N/D, Abd pain, HA, rash  
*Notes:* Multiple drug interactions, ↑ theophylline & carbamazepine levels; do not refrigerate susp
avoid abrupt D/C Caution: [D, M] Elderly pts, resp Dz, CNS depression, severe hepatic impair, NAG CI: Severe liver Dz, acute NAG Disp: Tabs 0.5, 1, 2 mg, oral disintegrating tabs 0.125, 0.25, 0.5, 1, 2 mg SE: CNS side effects, including drowsiness, dizziness, ataxia, memory impair Notes: Can cause retrograde amnesia; a CYP3A4 substrate

**Clonidine, oral (Catapres)** Uses: *HTN*; opioid, EtOH, & tobacco withdrawal, ADHD Action: Centrally acting α-adrenergic stimulant Dose: Adults. 0.1 mg PO bid, adjust daily by 0.1- to 0.2-mg increments (max 2.4 mg/d). Peds. 5–10 mcg/kg/d ÷ q8–12h (max 0.9 mg/d); ↓ in renal impair Caution: [C, +/–] Avoid w/ β-blocker, elderly, severe CV Dz, renal impair CI: Component sensitivity Disp: Tabs 0.1, 0.2, 0.3 mg SE: drowsiness, orthostatic ↓ BP, xerostomia, constipation, bradycardia, dizziness Notes: More effective for HTN if combined w/ diuretics; withdraw slowly, rebound HTN w/ abrupt D/C of doses >0.2 mg bid; ADHD use in peds needs CV assessment before starting epidural clonidine (Duraclon) used for chronic CA pain

**Clonidine, transdermal (Catapres TTS)** Uses: *HTN* Action: Centrally acting α-adrenergic stimulant Dose: 1 patch q7d to hairless area (upper arm/torso); titrate to effect; ↓ w/ severe renal impair; Caution: [C, +/–] Avoid w/ β-blocker, withdraw slowly, in elderly, severe CV Dz and w/ renal impair CI: Component sensitivity Disp: TTS-1, TTS-2, TTS-3 (delivers 0.1, 0.2, 0.3 mg, respectively, of clonidine/d for 1 wk) SE: Drowsiness, orthostatic ↓ BP, xerostomia, constipation, bradycardia Notes: Do not D/C abruptly (rebound HTN) Doses >2 TTS-3 usually not associated w/ ↑ efficacy; steady state in 2–3 d

**Clopidogrel (Plavix)** Uses: *Reduce atherosclerotic events,* administer ASAP in ECC setting w/ high-risk ST depression or T-wave inversion Action: ↓ Plt aggregation Dose: 75 mg/d; 300–600 mg PO × 1 dose can be used to load pts; 300 mg PO, then 75 mg/d 1–9 mo (ECC 2005) Caution: [B, ?] Active bleeding; risk of bleeding from trauma & other; TTP; liver Dz CI: Coagulation disorders, active/ intracranial bleeding; CABG planned w/in 5–7 d Disp: Tabs 75, 300 mg SE: ↑ bleeding time, GI intolerance, HA, dizziness, rash, thrombocytopenia, ↓ WBC Notes: Plt aggregation to baseline ~ 5 d after D/C, plt transfusion to reverse acutely

**Clorazepate (Tranxene) [C-IV]** Uses: *Acute anxiety disorders, acute EtOH withdrawal Sxs, adjunctive therapy in partial Szs* Action: Benzodiazepine; antianxiety agent Dose: Adults. 15–60 mg/d PO single or ÷ doses. Elderly & debilitated pts: Initial 7.5–15 mg/d in ÷ doses. EtOH withdrawal: Day 1: Initial 30 mg; then 30–60 mg ÷ doses; Day 2: 45–90 mg ÷ doses; Day 3: 22.5–45 mg ÷ doses; Day 4: 15–30 mg ÷ doses. Peds. 3.75–7.5 mg/dose bid to 60 mg/d max ÷ bid-tid Caution: [D, ?/–] Elderly; Hx depression CI: NAG; Not OK <9 y of age Disp: Tabs 3.75, 7.5, 15 mg; Tabs-SD (daily) 11.25, 22.5 mg SE: CNS depressant effects (drowsiness, dizziness, ataxia, memory impair), ↓ BP Notes: Monitor pts w/ renal/hepatic impair (drug may accumulate); avoid abrupt D/C; may cause dependence
Clotrimazole (Lotrimin, Mycelex, others) [OTC]  Uses: *Candidiasis & tinea Infxns*

Action: Antifungal; alters cell wall permeability. Spectrum: Oropharyngeal candidiasis, dermatophytoses, superficial mycoses, cutaneous candidiasis, & vulvovaginal candidiasis

Dose: PO: Prophylaxis: 1 troche dissolved in mouth tid Rx: 1 troche dissolved in mouth 5×/d for 14 d. Vaginal 1% Cream: 1 applicator-full hs for 7 d. 2% Cream: 1 applicator-full hs for 3 d Tabs: 100 mg vaginally hs for 7 d or 200 mg (2 tabs) vaginally hs for 3 d or 500-mg tabs vaginally hs once.

Topical: Apply bid 10–14 d Caution: [B (C if PO), ?] Not for systemic fungal Infxn; safety in children <3 y not established CI: Component allergy

Disp: 1% cream; soln; lotion; troche 10 mg; vaginal tabs 100, 200, 500 mg; vaginal cream 1%, 2%

SE: Topical: Local irritation; PO: N/V, ↑ LFTs Notes: PO prophylaxis immunosuppressed pts

Clotrimazole & Betamethasone (Lotrisone)  Uses: *Fungal skin Infxns*

Action: Imidazole antifungal & anti-inflammatory. Spectrum: Tinea pedis, cruris, & corpora

Dose: ≥17 y. Apply & massage into area bid for 2–4 wk Caution: [C, ?] Varicella Infxn CI: Children <12 y Disp: Cream 1/0.05% 15, 45 g; lotion 1/0.05% 30 mL

SE: Local irritation, rash Notes: Not for diaper dermatitis or under occlusive dressings

Clozapine (Clozaril & FazaClo)  WARNING: Myocarditis, agranulocytosis, Szs, & orthostatic ↓ BP associated w/ clozapine; ↑ mortality in elderly w/ dementia-related psychosis

Uses: *Refractory severe schizophrenia*; childhood psychosis; obsessive-compulsive disorder (OCD), bipolar disorder

Action: “Atypical” TCA

Dose: 25 mg daily-bid initial; ↑ to 300–450 mg/d over 2 wk; maintain lowest dose possible; do not D/C abruptly Caution: [B, +/–] Monitor for psychosis & cholinergic rebound CI: Uncontrolled epilepsy; comatose state; WBC <3500 cells/mm³ and ANC <2000 cells/mm³ before Rx or <3000 cells/mm³ during Rx

Disp: Orally disintegrating tabs 12.5, 25, 100 mg; tabs 25, 100 mg SE: Sialorrhea, tachycardia, drowsiness, ↑ wgt, constipation, incontinence, rash, Szs, CNS stimulation, hyperglycemia

Notes: Avoid activities where sudden loss of consciousness could cause harm; benign temperature ↑ may occur during the 1st 3 wk of Rx, weekly CBC mandatory 1st 6 mo, then q other wk

Cocaine [C-II]  Uses: *Topical anesthetic for mucous membranes*

Action: Narco tic analgesic, local vasoconstrictor

Dose: Lowest topical amount that provides relief; 1 mg/kg max Caution: [C, ?] CI: PRG, ocular anesthesia

Disp: Topical soln & viscous preparations 4–10%; powder SE: CNS stimulation, nervousness, loss of taste/smell, chronic rhinitis, CV tox, abuse potential

Notes: Use only on PO, laryngeal, & nasal mucosa; do not use on extensive areas of broken skin

Codeine [C-II]  Uses: *Mild-mod pain; symptomatic relief of cough*

Action: Narcotic analgesic;

dough reflex

Dose: Adults. Analgesic: 15–20 mg PO or IM qid PRN. Antitussive: 10–20 mg PO q4h PRN; max 120 mg/d. Peds. Analgesic: 0.5–1 mg/kg/dose PO q4–6h PRN. Antitussive: 1–1.5 mg/kg/24 h PO ÷ q4h; max 30 mg/24 h; ↓ in renal/hepatic impair Caution: [C (D if prolonged use or
high dose at term), +] CNS depression, Hx drug abuse, severe hepatic impair
CI: Component sensitivity Disp: Tabs 15, 30, 60 mg; soln 15 mg/5 mL; Inj 15, 30 mg/mL
SE: Drowsiness, constipation, ↓ BP Notes: Usually combined w/ APAP for pain or w/ agents (eg, terpin hydrate) as an antitussive; 120 mg IM = 10 mg IM morphine

Colchicine Uses: *Acute gouty arthritis & prevention of recurrences; familial Mediterranean fever*; primary biliary cirrhosis Action: ↓ migration of leukocytes; ↓ leukocyte lactic acid production Dose: Initial: 0.6–1.2 mg PO, then 0.6 mg q1–2h until relief or GI SE develop (max 8 mg/d); do not repeat for 3 d. Prophy- laxis: PO: 0.6 mg/d or 3–4 d/wk; ↓ renal impair Caution: [D, +] Elderly CI: Serious renal, GI, hepatic, or cardiac disorders; blood dyscrasias Disp: Tabs 0.6 mg SE: N/V/D, Abd pain, BM suppression, hepatotox; local Rxn w/ SQ/IM Notes: IV no longer available

Colestivelm (WelChol) Uses: *Reduction of LDL & total cholesterol alone or in combo w/ an HMG-CoA reductase inhibitor* Action: Bile acid sequest- trant Dose: 3 tabs PO bid or 6 tabs daily w/ meals Caution: [B, ?] Severe GI motility disorders; in pts w/ triglycerides ≥300 mg/dL (may ↑ levels); use not established in peds CI: Bowel obst, serum triglycerides >500; hx hypertriglyceridemia-pancreatitis Disp: Tabs 625 mg SE: Constipation, dyspepsia, myalgia, weakness Notes: May ↓ absorption of fat-soluble vits

Colestipol (Colestid) Uses: *Adjunct to ↓ serum cholesterol in primary hypercholesterolemia, relieve pruritus associated w/ ↑ bile acids* Action: Binds intestinal bile acids to form insoluble complex Dose: Granules: 5–30 g/d ÷ 2–4 doses; tabs: 2–16 g/d ÷ daily-bid Caution: [C, ?] Avoid w/ high triglycerides, GI dysfunction CI: Bowel obst Disp: Tabs 1 g; granules 5, 7.5, 300, 450, 500 g SE: Constipation, Abd pain, bloating, HA, GI irritation & bleeding Notes: Do not use dry powder; mix w/ beverages, cereals, etc; may ↓ absorption of other meds and fat-soluble vits

Conivaptan HCL (Vaprisol) Uses: Euvolemic & hypervolemic hyponatremia Action: Dual arginine vasopressin V1A/V2 receptor antagonist Dose: 20 mg IV × 1 or 30 min, then 20 mg cont IV Inf over 24 h; 20 mg/d cont IV Inf for 1–3 more d; may ↑ to 40 mg/d if Na⁺ not responding; 4 d max use; use large vein, change site q24h Caution: [C; ?/–] Rapid ↑ Na⁺ (>12 mEq/L/24 h) may cause osmotic demyelination syndrome; impaired renal/hepatic Fxn; may ↑ digoxin levels; CYP3A4 inhibitor (Table 11) CI: Hypovolemic hyponatremia; w/ CYP3A4 inhibitors Disp: Amp 20 mg/4 mL SE: Inf site Rxns, HA, N/V/D, constipation, ↓ K⁺, orthostatic ↓ BP, thirst, dry mouth, pyrexia, pollakiuria, polyuria, Infxn Notes: Monitor Na⁺, vol and neurologic status; D/C w/ very rapid ↑ Na⁺; mix only w/ 5% dextrose

Copper IUD Contraceptive (ParaGard T 380A) Uses: *Contra- ception, long-term (up to 10 y)* Action: ?, interfere w/ sperm survival/transport Dose: Insert any time during menstrual cycle; replace at 10 y max Caution: [C, ?]
Cyclobenzaprine, extended release

Remove w/ intrauterine PRG, increased risk of comp w/ PRG and device in place

**CI:** Acute PID or in high-risk behavior, postpartum endometritis, cervicitis  
**Disp:** 52 mg IUD  
**SE:** PRG, ectopic PRG, pelvic Infxn immunocompromise, embolization, perforation expulsion, Wilson Dz, fainting w/ insert, vag bleeding, expulsion

**Notes:** Counsel patient does not protect against STD/HIV; see insert for detailed instructions; 99% effective

**Cortisone**  
See Steroids (page 214) and Tables 3 & 4

**Cromolyn Sodium (Intal, NasalCrom, Opticrom, others)**

**Uses:** *Adjunct to the Rx of asthma; prevent exercise-induced asthma; allergic rhinitis; ophthal allergic manifestations*; food allergy, systemic mastocytosis, IBD

**Action:** Antiasthmatic; mast cell stabilizer  
**Dose:** Adults & Children >12 y:  
**Inh:** 20 mg (as powder in caps) inhaled qid or metered-dose inhaler 2 puffs qid.  
**PO:** 200 mg qid 15–20 min ac, up to 400 mg qid. **Nasal instillation:** Spray once in each nostril 2–6 ×/d. **Ophthal:** 1–2 gtt in each eye 4–6 ×/d. **Peds. Inh:** 2 puffs qid of metered-dose inhaler.  
**PO:** Infants <2 y: (not OK) 20 mg/kg/d in 4 ÷ doses.  
**12 y:** 100 mg qid ac  
**Disp:** PO conc 100 mg/5 mL; soln for nebulizer 20 mg/2 mL; metered-dose inhaler; nasal soln 40 mg/mL; ophthal soln 4%

**SE:** Unpleasant taste, hoarseness, coughing

**Notes:** No benefit in acute Rx; 2–4 wk for maximal effect in perennial allergic disorders

**Cyanocobalamin [Vitamin B12] (Nascobal)**

**Uses:** *Pernicious anemia & other vit B12 deficiency states; ↑ requirements due to PRG; thyrotoxicosis; liver or kidney Dz*

**Action:** Dietary vit B12 supl  
**Dose:** *Adults.* 30 mcg/d × 5–10 d; 100 mcg IM or SQ daily; intranasal: 500 mcg once/wk for pts in remission, for 5–10 d, then 100 mcg IM 2 ×/wk for 1 mo, then 100 mcg IM monthly. **Peds.** Use 0.2 mcg/kg × 2 d test dose; if OK 30–50 mcg/d for 2 or more wk (total 10 mcg) then maint: 100 mcg/mo.  
**Caution:** [A (C if dose exceeds RDA), +] **CI:** Allergy to cobalt; hereditary optic nerve atrophy; Leber Dz  
**Disp:** Tabs 50, 100, 250, 500, 1000, 2500, 5000 mcg; Inj 100, 1000 mcg/mL; intranasal (Nascobal) gel 500 mcg/0.1 mL  
**SE:** Itching, D, HA, anxiety

**Notes:** PO absorption erratic and not; ok for use w/ hyperalimentation

**Cyclobenzaprine (Flexeril)**

**Uses:** *Relief of muscle spasm*  
**Action:** Centrally acting skeletal muscle relaxant; reduces tonic somatic motor activity  
**Dose:** 5–10 mg PO bid-qid (2–3 wk max)  
**Caution:** [B, ?] Shares the toxic potential of the TCAs; urinary hesitancy, NAG  
**CI:** Do not use concomitantly or w/in 14 d of MAOIs; hyperthyroidism; heart failure; arrhythmias  
**Disp:** Tabs, 5, 10 mg  
**SE:** Sedation & anticholinergic effects

**Notes:** May inhibit mental alertness or physical coordination

**Cyclobenzaprine, extended release (Amrix)**

**Uses:** *Muscle spasm*  
**Action:** ? Centrally acting long-term muscle relaxant  
**Dose:** 15–30 mg PO daily 2–3 wk; 30 mg/d max  
**Caution:** [B, ?/–] w/ Urinary retention, NAG, w/ EtOH/CNS depressant  
**CI:** MAOI w/in 14 d, elderly, arrhythmias, heart block,
CHF, MI recovery phase, ↑ thyroid Disp: Caps 15, 30 ER SE: Dry mouth, drowsiness, dizziness, HA, N, blurred vision, dysgeusia Notes: Avoid abrupt D/C w/ long-term use

**Cyclopentolate, ophthalmic (Cyclogyl, Cylate)**

Uses: *Cycloplegia, mydriasis* Action: Cycloplegic mydriatic, anticholinergic inhibits iris sphincter and ciliary body Dose: **Adults.** 1 gtt in eye 40–50 min preprocedure, may repeat × 1 in 5–10 min **Peds.** As adult, children 0.5%; infants use 0.5%

Caution: (C [may cause late-term fetal anoxia/bradycardia, +/-], premature infants HTN, Down syndrome, elderly, CI: NAG Disp: Ophthal soln 0.5, 1, 2%

SE: Tearing, HA, irritation, eye pain, photophobia, arrhythmia, tremor, ↑ IOP, confusion Notes: Compress lacrimal sac for several min after dose; heavily pigmented irises may require ↑ strength; peak 25–75 min, cycloplegia 6–24 h, mydriasis up to 24 h; 2% soln may result in psychotic Rxs and behavioral disturbances in peds

**Cyclopentolate with Phenyldracone (Cyclomydril)**

Uses: *Mydriasis greater than cyclopentolate alone* Action: Cycloplegic mydriatic, α-adrenergic agonist w/ anticholinergic to inhibit iris sphincter Dose: 1 gtt in eye q 5–10 min (max 3 doses) 40–50 min preprocedure Caution: (C [may cause late-term fetal anoxia/bradycardia, +/-] HTN, w/ elderly w/ CAD CI: NAG Disp: Ophthal soln cyclopentolate 0.2%/phenylephrine 1% (2, 5 mL) SE: Tearing, HA, irritation, eye pain, photophobia, arrhythmia, tremor Notes: Compress lacrimal sac for several min after dose; heavily pigmented irises may require ↑ strength; peak 25–75 min, cycloplegia 6–24 h, mydriasis up to 24 h

**Cyclophosphamide (Cytoxan, Neosar)**

Uses: *Hodgkin Dz & NHLs; multiple myeloma; small cell lung, breast, & ovarian CAs; mycosis fungoides; neuroblastoma; retinoblastoma; acute leukemias; allogeneic & ABMT in high doses; severe rheumatologic disorders (SLE, JRA)*

Action: Alkylating agent Dose: **Adults.** (per protocol) 500–1500 mg/m²; single dose at 2- to 4-wk intervals; 1.8 g/m² to 160 mg/kg (or at 12 g/m² in 75-kg individual) in the BMT setting (per protocols). **Peds. SLE:** 500–750 mg/m² q mo. JRA: 10 mg/kg q 2 wk; ↓ w/ renal impair Caution: [D, ?] w/ BM suppression, hepatic Insuff CI: Component sensitivity Disp: Tabs 25, 50 mg; Inj 500 mg, 1 g, 2 g SE: ↓ BM; hemorrhagic cystitis, SIADH, alopecia, anorexia; N/V; hepatotox; rare interstitial pneumonitis; irreversible testicular atrophy possible; cardiotox rare; 2nd malignancies (bladder, ALL), risk 3.5% at 8 y, 10.7% at 12 y

Notes: Hemorrhagic cystitis prophylaxis: cont bladder irrigation & mesna uroprotection; encourage hydration, long-term bladder Ca screening

**Cyclosporine (Sandimmune, Neoral, Gengraf)**

**WARNING:** ↑ risk neoplasm, ↑ risk skin malignancies, ↑ risk HTN and nephrotox Uses: *Organ rejection in kidney, liver, heart, & BMT w/ steroids; RA; psoriasis* Action: Immunosuppressant; reversible inhibition of immunocompetent lymphocytes Dose: **Adults & Peds. PO:** 15 mg/kg/d12h pretransplant; after 2 wk, taper by
Cyclosporine, ophthalmic (Restasis)  
**Uses:** *↑ Tear production suppressed due to ocular inflammation*  
**Action:** Immune modulator, anti-inflammatory  
**Dose:** 1 gtt bid each eye 12 h apart; OK w/ artificial tears, allow 15 min between  
**Caution:** [C, –]  
**Disp:** Single-use vial 0.05%  
**SE:** Ocular burning/hyperemia  
**Notes:** Mix vial well

Cyproheptadine (Periactin)  
**Uses:** *Allergic Rxns; itching*  
**Action:** Phenothiazine antihistamine; serotonin antagonist  
**Dose:** Adults. 4–20 mg PO ÷ q8h; max 0.5 mg/kg/d. *Peds 2–6 y:* 2 mg bid-tid (max 12 mg/24 h). 7–14 y: 4 mg bid-tid; ↓ in hepatic impair  
**Caution:** [B, ?] Elderly, CV Dz, Asthma, thyroid Dz, BPH  
**Disp:** Tabs 4 mg; syrup 2 mg/5 mL  
**SE:** Anticholinergic, drowsiness  
**Notes:** May stimulate appetite

Cytarabine [ARA-C] (Cytosar-U)  
**WARNING:** Administration by experienced physician in properly equipped facility; potent myelosuppressive agent  
**Uses:** *Acute leukemias, CML, NHL; IT for leukemic meningitis or prophylaxis*  
**Action:** Antimetabolite; interferes w/ DNA synth  
**Dose:** 100–150 mg/m²/d for 5–10 d (low dose); 3 g/m² q12h for 6–12 doses (high dose); 1 mg/kg 1–2/wk (SQ maint); 5–70 mg/m² up to 3/wk IT (per protocols); ↓ in renal/hepatic impair  
**Caution:** [D, ?] in elderly, w/ marked BM suppression, ↓ dosage by ↓ the number of days of administration  
**Disp:** Inj 100, 500 mg, 1, 2 g, also 20, 100 mg/mL  
**SE:** ↓ BM, N/V/D, stomatitis, flu-like syndrome, rash on palms/soles, hepatic/cerebellar dysfunction w/ high doses, noncardiogenic pulm edema, neuropathy, fever  
**Notes:** Little use in solid tumors; high-dose tox limited by corticosteroid ophthal soln

Cytarabine Liposome (DepoCyt)  
**WARNING:** Can cause chemical arachnoiditis (N/V/HA, fever) ↓ severity w/ dexamethasone. Administer by experienced physician in properly equipped facility  
**Uses:** *Lymphomatous meningitis*  
**Action:** Antimetabolite; interferes w/ DNA synth  
**Dose:** 50 mg IT q14d for 5 doses, then 50 mg IT q28d × 4 doses; use dexamethasone prophylaxis  
**Caution:** [D, ?] May cause neurotox; blockage to CSF flow may ↑ the risk of neurotox; use in peds not established  
**Disp:** IT Inj 50 mg/5 mL  
**SE:** Neck pain/rigidity, HA, confusion, somnolence, fever, back pain, N/V, edema, neutropenia, ↓ plt, anemia  
**Notes:** Cytarabine liposomes are similar in microscopic appearance to WBCs; caution in interpreting CSF studies
Cytomegalovirus Immune Globulin [CMV-IG IV] (CytoGam)

**Uses:** *Attenuation CMV Dz associated w/ transplantation*  
**Action:** Exogenous IgG antibodies to CMV  
**Dose:** 150 mg/kg/dose w/in 72 h of transplant, for 16 wk posttransplant; see insert  
**Caution:** [C, ?] Anaphylactic Rxns; renal dysfunction  
**CI:** Allergy to immunoglobulins; IgA deficiency  
**Disp:** Inj 50 mg/mL  
**SE:** Flush-ing, N/V, muscle cramps, wheezing, HA, fever  
**Notes:** IV only; administer by separate line; do not shake

Dacarbazine (DTIC)  
**WARNING:** Causes hematopoietic depression, hepatic necrosis, may be carcinogenic, teratogenic  
**Uses:** *Melanoma, Hodgkin Dz, sarcoma*  
**Action:** Alkylating agent; antimetabolite as a purine precursor; ↓ protein synth, RNA, & especially DNA  
**Dose:** 2–4.5 mg/kg/d for 10 consecutive d or 250 mg/m^2/d for 5 d (per protocols); ↓ in renal impair  
**Caution:** [C, ?] In BM suppression; renal/hepatic impair  
**CI:** Component sensitivity  
**Disp:** Inj 100, 200 mg  
**SE:** ↓ BM, N/V, hepatotox, flu-like syndrome, ↓ BP, photosensitivity, alopecia, facial flushing, facial paresthesias, urticaria, phlebitis at Inj site  
**Notes:** Avoid extrav, ✓ CBC, plt

Daclizumab (Zenapax)  
**WARNING:** Administer under skilled supervision in equipped facility  
**Uses:** *Prevent acute organ rejection*  
**Action:** IL-2 receptor antagonist  
**Dose:** 1 mg/kg/dose IV; 1st dose pretransplant, then 1 mg/kg q 14d × 4 doses  
**Caution:** [C, ?]  
**CI:** Component sensitivity  
**Disp:** Inj 5 mg/mL  
**SE:** Hyperglycemia, edema, HTN, ↓ BP, constipation, HA, dizziness, anxiety, nephrotox, pulm edema, pain, anaphylaxis/hypersensitivity  
**Notes:** Administer w/in 4 h of preparation

Dactinomycin (Cosmegen)  
**WARNING:** Administer under skilled supervision in equipped facility; powder and soln toxic, corrosive, mutagenic, carcinogenic, and teratogenic; avoid exposure and use precautions  
**Uses:** *Choriocarcinoma, Wilms tumor, Kaposi and Ewing sarcomas, rhabdomyosarcoma, uterine and testicular CA*  
**Action:** DNA-intercalating agent  
**Dose:** Adults. 0.5 mg/d for 5 d; 2 mg/wk for 3 consecutive wk; 15 mcg/kg or 0.45 mg/m^2/d (max 0.5 mg) for 5 d q3–8wk  
**Peds. Sarcoma** (per protocols); ↓ in renal impair  
**Caution:** [C, ?]  
**CI:** Concurrent/recent chickenpox or herpes zoster; infants <6 mo  
**Disp:** Inj 0.5 mg SE: Myelo-/immunosuppression, severe N/V/D, alopecia, acne, hyperpigmentation, radiation recall phenomenon, tissue damage w/ extrav, hepatotox  
**Notes:** Classified as antibiotic but not used as antimicrobial

Dalteparin (Fragmin)  
**WARNING:** ↑ Risk of spinal/epidural hematoma with LP  
**Uses:** *Unstable angina, non–q-wave MI, prevent & Rx DVT following surgery (hip, Abd), pt w/ restricted mobility, extended therapy for PE DVT in CA pt*  
**Action:** LMW heparin  
**Dose:** Angina/MI: 120 units/kg (max 10,000 units) SQ q12h w/ ASA. DVT prophylaxis: 2500–5000 units SQ 1–2 h pre-op, then daily for 5–10 d. Systemic anticoagulation: 200 units/kg/d SQ or 100 units/kg bid SQ. Cancer: 200 Int Units/kg (max 18,000 Int Units) SQ q24h × 30 d, mo 2–6 150 Int Units/kg SQ q24h (max 18,000 Int Units)  
**Caution:** [B, ?] In renal/hepatic impair,
active hemorrhage, cerebrovascular Dz, cerebral aneurysm, severe HTN CI: HIT; pork product allergy; w/ mifepristone Disp: Inj 2500 units (16 mg/0.2 mL), 5000 units (32 mg/0.2 mL), 7500 units (48 mg/0.3 mL), 10,000 units (64 mg/mL), 25,000 units/mL (3.8 mL); prefilled vials 10,000 units/mL (9.5 mL) SE: Bleeding, pain at site, ↓ plt Notes: Predictable effects eliminate lab monitoring; not for IM/IV use

**Dantrolene (Dantrium)**  
**WARNING:** Hepatotox reported; D/C after 45 d if no benefit observed  
**Uses:** *Rx spasticity due to upper motor neuron disorders (eg, spinal cord injuries, stroke, CP, MS); malignant hyperthermia*  
**Action:** Skeletal muscle relaxant  
**Dose:** *Adults.* Spasticity: 25 mg PO daily; ↑ 25 mg to effect to 100 mg max PO qid PRN. *Peds.* 0.5 mg/kg/dose bid; ↑ by 0.5 mg/kg to effect, to 3 mg/kg/dose max qid PRN. *Adults & Peds.* Malignant hyperthermia: Rx: Cont rapid IV, start 1 mg/kg until Sxs subside or 10 mg/kg is reached. Postcrisis follow-up: 4–8 mg/kg/d in 3–4 ÷ doses for 1–3 d to prevent recurrence  
**Caution:** [C, ?] Impaired cardiac/pulm/hepatic Fxn CI: Active hepatic Dz; where spasticity needed to maintain posture or balance  
**Disp:** Caps 25, 50, 100 mg; powder for Inj 20 mg/vial  
**SE:** Hepatotox, ↑ LFTs, drowsiness, dizziness, rash, muscle weakness, D/N/V, pleural effusion w/ pericarditis, D, blurred vision, hep, photosensitivity  
**Notes:** Monitor LFTs; avoid sunlight/EtOH/CNS depressants

**Dapsone, oral**  
**Uses:** *Rx & prevent PCP; toxoplasmosis prophylaxis; leprosy*  
**Action:** Unknown; bactericidal  
**Dose:** *Adults.* PCP prophylaxis 50–100 mg/d PO; Rx PCP 100 mg/d PO w/ TMP 15–20 mg/kg/d for 21 d. *Peds.* PCP prophylaxis alternated dos: (>1 mo) 4 mg/kg/dose once/wk (max 200 mg); prophylaxis of PCP 1–2 mg/kg/24 h PO daily; max 100 mg/d  
**Caution:** [C, +] G6PD deficiency; severe anemia CI: Component sensitivity  
**Disp:** Tabs 25, 100 mg SE: Hemolysis, methemoglobinemia, agranulocytosis, rash, cholestatic jaundice  
**Notes:** Absorption ↑ by an acidic environment; for leprosy, combine w/ rifampin & other agents

**Dapsone, topical (Aczone)**  
**Uses:** *Topical for acne vulgaris*  
**Action:** Unknown; bactericidal  
**Dose:** Apply pea-size amount and rub into areas bid; wash hands after  
**Caution:** [C, +] G6PD deficiency; severe anemia CI: Component sensitivity  
**Disp:** 5% gel SE: Skin oiliness/peeling, dryness erythema  
**Notes:** Not for oral, ophthalm, or intravag use; check G6PD levels before use; follow CBC if G6PD deficient

**Daptomycin (Cubicin)**  
**Uses:** *Complicated skin/skin structure Infxs due to gram(+) organisms*  
**Action:** Cyclic lipopeptide; rapid membrane depolarization & bacterial death.  
**Spectrum:** *S. aureus* (including MRSA), *S. pyogenes, S. agalactiae, S. dysgalactiae subsp Equisimilis, & E. faecalis* (vancomycin-susceptible strains only)  
**Dose:** *Skin:* 4 mg/kg IV daily × 7–14 d (over 30 min); *Bacteremia & Endocarditis:* 6 mg/kg q48h; ↓ w/ CrCl <30 mL/min or dialysis: q48h  
**Caution:** [B, ?] w/ HMG-CoA inhibitors  
**Disp:** Inj 250, 500 mg/10 mL  
**SE:** Anemia, constipation, N/V/D, HA, rash, site Rxn, muscle pain/weakness, edema, cellulitis, hypo-/hyperglycemia, ↑ alkaline
phosphatase, cough, back pain, Abd pain, ↓ K+, anxiety, chest pain, sore throat, cardiac failure, confusion, Candida Infxns

**Darbepoetin Alfa (Aranesp)**  
**WARNING:** Associated with ↑ CV, thromboembolic events and/or mortality; D/C if Hgb >12 g/dL; may increase tumor progression and death in cancer pts  
**Uses:** *Anemia associated w/ CRF,*  
**Action:** ↑ Erythropoiesis, recombinant erythropoietin variant  
**Dose:** 0.45 mcg/kg single IV or SQ q wk; titrate, do not exceed target Hgb of 12 g/dL; use lowest doses possible, see insert to convert from Epogen  
**Caution:** [C, ?] May ↑ risk of CV &/or neurologic SE in renal failure; HTN; w/ Hx Szs  
**CI:** Uncontrolled HTN, component allergy  
**Disp:** Tabs 25, 40, 60, 100, 200, 300 mcg/mL, 150 mcg/0.075 mL in polysorbate or albumin excipient  
**SE:** May ↑ cardiac risk, CP, hypo-/hypertension, N/V/D, myalgia, arthralgia, dizziness, edema, fatigue, fever, ↑ risk Infxn  
**Notes:** Longer half-life than Epogen; weekly CBC until stable  

**Darifenacin (Enablex)**  
**Uses:** *OAB* Urinary antispasmodic  
**Action:** Muscarinic receptor antagonist  
**Dose:** 7.5 mg/d PO; 15 mg/d max (7.5 mg/d w/ mod hepatic impair or w/ CYP3A4 inhibitors); w/ drugs metabolized by CYP2D (Table 11); swallow whole  
**Caution:** [C, ?/–] w/ Hepatic impair  
**CI:** Urinary/gastric retention, uncontrolled NAG, paralytic ileus  
**Disp:** Tabs ER 7.5 mg, 15 mg  
**SE:** Xerostomia/eyes, constipation, dyspepsia, Abd pain, retention, abnormal vision, dizziness, asthenia  

**Darunavir (Prezista)**  
**Uses:** *Rx HIV w/ resistance to multiple protease inhibitors*  
**Action:** HIV-1 protease inhibitor  
**Dose:** 600 mg PO bid, administer w/ ritonavir 100 mg bid; w/ food  
**Caution:** [B, ?/–] Hx Sulf allergy, CYP3A4 substrate, changes levels of many meds (↑ amiodarone, ↑ dihydropyridines, ↑ HMG-CoA reductase inhibitors [statins], ↓ SSRIs, ↓ rifampin, ↓ methadone)  
**CI:** w/ astemizole, terfenadine, dihydroergotamine, ergonovine, ergotamine, methylergonovine, pimozide, midazolam, triazolam  
**Supplied:** Tabs 300 mg SE: ↑ glucose, cholesterol, triglycerides, central redistribution of fat (metabolic syndrome), N, ↓ neutrophils & ↑ amylase  

**Dasatinib (Sprycel)**  
**Uses:** CML, Ph + ALL  
**Action:** multi-TKI  
**Dose:** 70 mg PO bid; adjust w/ CYP3A4 inhibitors/inducers (Table 11)  
**Caution:** [D, ?/–] CI: None  
**Disp:** Tabs 20, 50, 70 mg SE: ↓ BM, edema, fluid retention, pleural effusions, N/V/D, Abd pain, bleeding, fever, ↑ QT  
**Notes:** replace K, Mg before Rx  

**Daunorubicin (Daunomycin, Cerubidine)**  
**WARNING:** Cardiac Fxn should be monitored due to potential risk for cardiac tox & CHF, renal/hepatic dysfunction  
**Uses:** *Acute leukemias*  
**Action:** DNA-intercalating agent; ↓ topoisomerase II; generates oxygen free radicals  
**Dose:** 45–60 mg/m²/d for 3 consecutive d; 25 mg/m²/wk (per protocols); ↓ in renal/hepatic impair  
**CI:** Component sensitivity  
**Disp:** Inj 20, 50 mg SE: ↓ BM, mucositis, N/V, orange urine, alopecia, radiation recall phenomenon, hepatotox (hyperbilirubinemia), tissue
necrosis w/ extrav, cardiotox (1–2% CHF w/ 550 mg/m² cumulative dose) Notes: Prevent cardiotox w/ dexrazoxane (when pt received >300 mg/m² of daunorubicin cum dose); for IV use only; allopurinol prior to ↓ hyperuricemia

Decitabine (Dacogen) Uses: *MDS* Action: Inhibits DNA methyltransferase Dose: 15 mg/m² cont Inf over 3 h; repeat q8h × 3 d; repeat cycle q6wk, min 4 cycles; delay Tx and ↓ dose if inadequate hematologic recovery at 6 wk (see label protocol); delay Tx w/ Cr >2 mg/dL or bilirubin >2× ULN Caution: [D, ?/–]; avoid pregnancy; males should not father a child during or 2 mo after; renal/hepatic impair Disp: Powder 50 mg/vial SE: Neutropenia, febrile neutropenia, thrombocytopenia, anemia, leukopenia, peripheral edema, petechiae, N/V/D, constipation, fatigue, ↑ LFTs & bilirubin, hyperglycemia, Infxn, HA Notes: ✓ CBC & plt before each cycle and prn; may premedicate w/ antiemetic

Deferasirox (Exjade) Uses: *Chronic iron overload due to transfusion in pts >2 y* Action: Oral iron chelator Dose: Initial: 20 mg/kg PO/d; adjust by 5–10 mg/kg q3–6mo based on monthly ferritin; 30 mg/kg/d max; on empty stomach 30 min before food; hold dose if ferritin <500 mcg/L, dissolve in water, orange, apple juice (<1 g/3.5 oz; >1 g in 7 oz) drink immediately; resuspend residue and swallow; do not chew, swallow whole tabs or take w/ Al-containing antacids Caution: [B, ?/–] elderly, renal impair, heme disorders Disp: Tabs for oral susp 125, 250, 500 mg SE: N/V/D, Abd pain, skin rash, HA, fever, cough, ↑ Cr & LFTs, Infxn, hearing loss, dizziness, cataracts, retinal disorders, ↑ IOP, lens opacities, dizziness Notes: ARF, peripheral cytopenias possible; ✓ Cr weekly 1st mo then q mo, ✓ CBC; do not combine w/ other iron-chelator therapies; dose to nearest whole tab; auditory/ophthal testing initially and q12mo; monthly Cr, urine protein, LFTs

Delavirdine (Rescriptor) Uses: *HIV Infxn* Action: Nonnucleoside RT inhibitor Dose: 400 mg PO tid Caution: [C, ?] CDC recommends HIV-infected mothers not breast-feed (transmission risk); w/ renal/hepatic impair CI: Use w/ drugs dependent on CYP3A for clearance (Table 11) Disp: Tabs 100, 200 mg SE: Fat redistribution, immune reconstitution syndrome, HA, fatigue, rash, ↑ LFTs, Infxn, hearing loss, dizziness, cataracts, retinal disorders, ↑ IOP, lens opacities, dizziness Notes: Avoid antacids; ↓ cytochrome P-450 enzymes; numerous drug interactions; monitor LFTs

Demeclocycline (Declomycin) Uses: *SIADH* Action: Antibiotic, antagonizes ADH action on renal tubules Dose: 300–600 mg PO q12h on empty stomach; ↓ in renal failure; avoid antacids Caution: [D, +] Avoid in hepatic/renal impair & children CI: Tetracycline allergy Disp: Tabs 150, 300 mg SE: D, Abd cramps, photosensitivity, DI Notes: Avoid sunlight, numerous drug interactions; not for peds <8 y.

Desipramine (Norpramin) WARNING: Closely monitor for worsening depression or emergence of suicidality Uses: *Endogenous depression,* chronic pain, peripheral neuropathy Action: TCA; ↑ synaptic serotonin or norepinephrine in CNS Dose: Adults. 100–200 mg/d single or ↓ dose; usually single hs
dose (max 300 mg/d) **Peds 6–12 y:** 1–3 mg/kg/d ÷ dose, 5 mg/kg/d max; ↓ dose in elderly **Caution:** [C, ?/–] CV Dz, Sz disorder, hypothyroidism, elderly, liver impair **CI:** MAOIs w/in 14 d; during AMI recovery phase **Disp:** Tabs 10, 25, 50, 75, 100, 150 mg; caps 25, 50 mg **SE:** Anticholinergic (blurred vision, urinary retention, xerostomia); orthostatic ↓ BP; ↑ QT interval, arrhythmias **Notes:** Numerous drug interactions; blue-green urine; avoid sunlight

**Desloratadine (Clarinex)**

**Uses:** *Seasonal & perennial allergic rhinitis; chronic idiopathic urticaria*

**Action:** Active metabolite of Claritin, H1-antihistamine, blocks inflammatory mediators

**Dose:** Adults & Peds >12 y: 5 mg PO daily; 5 mg PO q other day w/ hepatic/renal impair **Caution:** [C, ?/–] RediTabs contain phenylalanine

**Disp:** Tabs & RediTabs (rapid dissolving) 5 mg, syrup 0.5 mg/mL

**SE:** Allergy, anaphylaxis, somnolence, HA, dizziness, fatigue, pharyngitis, xerostomia, N, dyspepsia, myalgia

**Desmopressin (DDAVP, Stimate)**

**WARNING:** Not for hemophilia B or w/ factor VIII antibody; not for hemophilia A w/ factor VIII levels <5% **Uses:** *DI (intranasal & parenteral); bleeding due to uremia, hemophilia A, & type I von Willebrand Dz (parenteral), nocturnal enuresis*

**Action:** Synthetic analog of vasopressin (human ADH); ↑ factor VIII

**Dose:** DI: Intranasal: Adults. 0.1–0.4 mL (10–40 mcg/d in 1–3 ÷ doses). Peds 3 mo–12 y: 0.05–0.3 mL/d in 1 or 2 doses. Parenteral: Adults. 0.5–1 mL (2–4 mcg/d in 2 ÷ doses); converting from nasal to parenteral, use 1/10 nasal dose. PO: Adults. 0.05 mg bid; ↑ to max of 1.2 mg. Hemophilia A & von Willebrand Dz (type I): Adults & Peds >10 kg: 0.3 mcg/kg in 50 mL NS, Inf over 15–30 min. Peds <10 kg: As above w/ dilution to 10 mL w/ NS. Nocturnal enuresis: Peds >6 y: 20 mcg intranasally hs **Caution:** [B, M] Avoid overhydration **CI:** Hemophilia B; CrCl <50 mL/min, severe classic von Willebrand Dz; pts w/ factor VIII antibodies; hyponatremia **Disp:** Tabs 0.1, 0.2 mg; Inj 4, 15 mcg/mL; nasal soln 0.1, 1.5 mg/mL NS. Facial flushing, HA, dizziness, vulval pain, nasal congestion, pain at Inj site, ↓ Na+, H₂O intoxication **Notes:** In very young & old pts, ↓ fluid intake to avoid H₂O intoxication & ↓ Na⁺

**Desvenlafaxine (Pristiq)**

**WARNING:** Monitor for worsening or emergence of suicidality, particularly in ped, adolescent, and young adult pts **Uses:** *Major depressive disorder*

**Action:** Selective serotonin and norepinephrine reuptake inhibitor **Dose:** 50 mg PO daily, ↓ w/ renal impair **Caution:** [C, ±/M]

**CI:** Hypersensitivity, MAOI w/ or w/in 14 d of stopping MAOI **Disp:** Tabs 50, 100 mg **SE:** N, dizziness, insomnia, hyperhidrosis, constipation, somnolence, decreased appetite, anxiety, and specific male sexual Fxn disorders **Notes:** Tablets should be taken whole, allow 7 d after stopping before starting an MAOI

**Dexamethasone, nasal (Dexacort Phosphate Turbinaire)**

**Uses:** *Chronic nasal inflammation or allergic rhinitis*

**Action:** Anti-inflammatory corticosteroid **Dose:** Adults & Peds >12 y: 2 sprays/nostril bid–tid, max 12 sprays/d. Peds 6–12 y: 1–2 sprays/nostril bid, max 8 sprays/d **Caution:** [C, ?] **CI:** Untreated Infxn **Disp:** Aerosol, 84 mcg/activation **SE:** Local irritation
Dexamethasone, ophthalmic (AK-Dex Ophthalmic, Decadron Ophthalmic) Uses: *Inflammatory or allergic conjunctivitis* Action: Anti-inflammatory corticosteroid Dose: Instill 1–2 gtt tid-qid Caution: [C, ?/–] CI: Active untreated bacterial, viral, & fungal eye Infxns Disp: Susp & soln 0.1%; oint 0.05% SE: Long-term use associated w/ cataracts

Dexamethasone, systemic, topical (Decadron) See Steroids, Systemic, page 214, & Tables 3 & 4.

Dexpanthenol (Ilopan-Choline PO, Ilopan) Uses: *Minimize paralytic ileus, Rx post-op distention* Action: Cholinergic agent Dose: Adults. Relief of gas: 2–3 tabs PO tid. Prevent post-op ileus: 250–500 mg IM stat, repeat in 2 h, then q6h, PRN Ileus: 500 mg IM stat, repeat in 2 h, then q6h, PRN Caution: [C, ?] CI: Hemophilia, mechanical bowel obst Disp: Inj 250 mg/mL; tabs 50 mg; cream 2% SE: GI cramps

Dexrazoxane (Zinecard, Totect) Uses: *Prevent anthracycline-induced (eg, doxorubicin) cardiomyopathy (Zinecard), extrav of anthracycline chemotherapy (Totect)* Action: Chelates heavy metals; binds intracellular iron & prevents anthracycline-induced free radicals Dose: Systemic(cardiomyopathy, Zinecard) 10:1 ratio dexrazoxane:doxorubicin 30 min before each dose, 5:1 ratio w/ CrCl <40 mL/min. Extrav (Totect): IV Inf over 1–2 hqd × 3 d, w/in 6 h of extrav. Day 1: 1000 mg/m² (max 2000 mg); Day 2: 1000 mg/m² (max 2000 mg); Day 3: 500 mg/m² (max: 1000 mg); w/ CrCl <40 mL/min, ↓ dose by 50% Caution: [D, –] CI: Component sensitivity Disp: Inj powder 250, 500 mg (10 mg/mL) SE: ↓ BM, fever, Infxn, stomatitis, alopecia, N/V/D; ↑ LFTs, Inj site pain

Dextran 40 (Rheomacrodex, Gentran 40) Uses: *Shock, prophylaxis of DVT & thromboembolism, adjunct in peripheral vascular surgery* Action: Expands plasma vol; ↓ blood viscosity Dose: Shock: 10 mL/kg Inf rapidly; 20 mL/kg max 1st 24 h; beyond 24 h 10 mL/kg max; D/C after 5 d. Prophylaxis of DVT & thromboembolism: 10 mL/kg IV day of surgery, then 500 mL/d IV for 2–3 d, then 500 mL IV q2–3d based on risk for up to 2 wk Caution: [C, ?] Inf Rxns; w/ corticosteroids CI: Major hemostatic defects; cardiac decompensation; renal Dz w/ severe oliguria/anuria Disp: 10% dextran 40 in 0.9% NaCl or 5% dextrose SE: Allergy/anaphylactoid Rxn (observe during 1st min of Inf), arthralgia, cutaneous Rxns, ↓ BP, fever Notes: Monitor Cr & lytes; keep well hydrated

Dextromethorphan (Mediquell, Benylin DM, PediaCare 1, Delsym, others) [OTC] Uses: *Control nonproductive cough* Action: Suppresses medullary cough center Dose: Adults. 10–30 mg PO q4h PRN (max 120 mg/24 h). Peds 2–6 y: 2.5–7.5 mg q4–8h (max 30 mg/24 h). 7–12 y: 5–10 mg q4–8h (max 60 mg/24 h) Caution: [C, ?/–] Not for persistent or chronic cough CI: <2 y Disp: Caps 30 mg; lozenges 2.5, 5, 7.5, 15 mg; syrup 15 mg/15 mL, 10 mg/5 mL; liq 10 mg/15 mL, 3.5, 7.5, 15 mg/5 mL; sustained-action liq 30 mg/5 mL SE: GI disturbances Notes: Found in combo OTC products w/ guaifenesin; deaths reported in pts <2 y; abuse potential; efficacy in children debated; do not use w/in 14 d of D/C MAOI
**Diazepam (Valium, Diastat) [C-IV]**  
**Uses:** *Anxiety, EtOH withdrawal, muscle spasm, status epilepticus, panic disorders, amnesia, pre-op sedation*  
**Action:** Benzo diazepine  
**Dose:**  
**Adults.**  
**Status epilepticus:** 5–10 mg q10–20 min to 30 mg max in 8-h period.  
**Anxiety, muscle spasm:** 2–10 mg PO bid-qid or IM/IV q3–4h PRN.  
**Pre-op:** 5–10 mg PO or IM 20–30 min or IV just prior to procedure.  
**EtOH withdrawal:** Initial 2–5 mg IV, then 5–10 mg q5–10 min, 100 mg in 1 h max.  
May require up to 1000 mg/24 h for severe withdrawal; titrate to agitation; avoid excessive sedation; may lead to aspiration or resp arrest.  
**Peds.**  
**Status epilepticus:** <5 y: 0.05–0.3 mg/kg/dose IV q15–30 min up to a max of 5 mg. >5 y: to max of 10 mg.  
**Sedation, muscle relaxation:** 0.04–0.3 mg/kg/dose q2–4h IM or IV to max of 0.6 mg/kg in 8 h, or 0.12–0.8 mg/kg/24 h PO ↓ tid-qid; ↓ w/ hepatic impair  
**Caution:** [D, ?/–] CI: Coma, CNS depression, resp depression, NAG, severe uncontrolled pain, PRG  
**Disp:** Tabs 2, 5, 10 mg; soln 1, 5 mg/mL; Inj 5 mg/mL; rectal gel 2.5, 5, 10, 20 mg/mL  
**SE:** Sedation, amnesia, bradycardia, ↓ BP, rash, ↓ resp rate  
**Notes:** 5 mg/min IV max in adults or 1–2 mg/min in peds (resp arrest possible); IM absorption erratic; avoid abrupt D/C  

**Diazoxide (Proglycem)**  
**Uses:** *Hypoglycemia due to hyperinsulinism (Pro glycem); hypertensive crisis (Hyperstat)*  
**Action:** ↓ Pancreatic insulin release; antihypertensive  
**Dose:** Repeat in 5–15 min until BP controlled; repeat q4–24h; monitor BP closely.  
**Hypoglycemia:**  
**Adults & Peds.** 3–8 mg/kg/24 h PO ÷ q8–12h.  
**Neonates.** 8–15 mg/kg/24 h ÷ in 3 equal doses; maint 8–10 mg/kg/24 h PO in 2–3 equal doses  
**Caution:** [C, ?] ↓ Effect w/ phenytoin; ↑ effect w/ diuretics, warfarin  
**CI:** Allergy to thiazides or other sulfonamide-containing products; HTN associated w/ aortic coarctation, AV shunt, or pheochromocytoma  
**Disp:** Caps 50 mg; PO susp 50 mg/mL; IV 15 mg/mL  
**SE:** Hyperglycemia, ↓ BP, dizziness, Na⁺ & H₂O retention, N/V, weakness  
**Notes:** Can give false-negative insulin response to glucagons; Rx extrav w/ warm compress  

**Dibucaine (Nupercainal)**  
**Uses:** *Hemorrhoids & minor skin conditions*  
**Action:** Topical anesthetic  
**Dose:** Insert PR w/ applicator bid & after each bowel movement; apply sparingly to skin  
**Caution:** [C, ?] topical use only CI: Component sensitivity  
**Disp:** 1% oint w/ rectal applicator; 0.5% cream  
**SE:** Local irritation, rash  

**Diclofenac (Arthrotec, Cataflam, Flector, Flector patch, Voltaren, Voltaren XR, Voltaren gel)**  
**WARNING:** May ↑ risk of cv events & GI bleeding; CI in post-op CABG  
**Uses:** *Arthritis & pain, oral and topical, actinic keratosis*  
**Action:** NSAID  
**Dose:** 50–75 mg PO bid; w/ food or milk; 1 patch to painful area bid. Topical gel upper extremity 2 g qid (max 8 g/d); lower extremity 4 g qid (max 16 g/d)  
**Caution:** [C, ?] CHF, HTN, renal/hepatic dysfunction, & Hx PUD, asthma  
**CI:** NSAID/aspirin allergy; porphyria; following CABG  
**Disp:** Tabs 50 mg; tabs DR 25, 50, 75, 100 mg; XR tabs 100 mg; *Flector Patch* 1.3% 10 × 14 cm, gel 1%  
**SE:** Oral: Abd cramps, heartburn, GI ulceration, rash, interstitial nephritis; patch/gel: pruritus, dermatitis, burning,
Diclofenac, ophthalmic (Voltaren ophthalmic) Uses: *Inflammation postcataract or pain/photophobia postcorneal refractive surgery*  
Action: NSAID  
Dose: Post-op cataract: 1 gtt qid, start 24 h post-op× 2 wk. Post-op refractive: 1–2 gtts w/in 1 hr pre- and w/in 15 min post-op then qid up to 3 d Caution: [C, ?] May ↑ bleed risk in ocular tissues CI: NSAID/aspirin allergy Disp: ophthalm soln 0.1% 2.5, 5 mL bottle SE: Burning/stinging/itching, keratitis, ↑ IOP, lacrimation, abnormal vision, conjunctivitis, lid swelling, discharge, iritis.

Dicloxacillin (Dynapen, Dycill) Uses: *Rx of pneumonia, skin, & soft-tissue Infxns, & osteomyelitis caused by penicillinase-producing staphylococci*  
Action: Bactericidal; ↓ cell wall synth. Spectrum: S. aureus & Streptococcus  
Dose: Adults. 150–500 mg qid (2 g/d max) Peds <40 kg: 12.5–100 mg/kg/d ÷ qid; take on empty stomach Caution: [B, ?] CI: Component or PCN sensitivity Disp: Caps 125, 250, 500 mg; soln 62.5 mg/5 mL SE: N/D, Abd pain Notes: Monitor PTT if pt on warfarin

Dicyclomine (Bentyl) Uses: *Functional IBS*  
Action: Smooth-muscle relaxant  
Dose: Adults. 20 mg PO qid; ↑ to 160 mg/d max or 20 mg IM q6h, 80 Mg/d ÷ qid then ↑ to 160 mg/d, max 2 wk Peds Infants >6 mo: 5 mg/dose tid-qid. Children: 10 mg/dose tid-qid Caution: [B, –] CI: Infants <6 mo, NAG, MyG, severe UC, BOO, GI obst, reflux esophagitis Disp: Caps 10, 20 mg; tabs 20 mg; syrup 10 mg/5 mL; Inj 10 mg/mL SE: Anticholinergic SEs may limit dose Notes: Take 30–60 min ac; avoid EtOH, do not administer IV

Didanosine [ddI] (Videx) WARNING: Allergy manifested as fever, rash, fatigue, GI/resp Sxs reported; stop drug immediately & do not rechallenge; lactic acidosis & hepatomegaly/steatosis reported Uses: *HIV Infxn in zidovudine-intolerant pts*  
Action: NRTI  
Dose: Adults. >60 kg: 400 mg/d PO or 200 mg PO bid. <60 kg: 250 mg/d or 125 mg PO bid; adults should take 2 tabs/administration. Peds 2 wk–8 mo: 100 mg/m² PO bid; on empty stomach; ↓ w/ renal impair Caution: [B, –] CDC recommends HIV-infected mothers not breast-feed CI: Component sensitivity Disp: Chew tabs 25, 50, 100, 150, 200 mg; powder packets 100, 167, 250, 375 mg; powder for soln 2, 4 g SE: Pancreatitis, peripheral neuropathy, D, HA Notes: Do not take w/ meals; thoroughly chew tabs, do not mix w/ fruit juice or acidic beverages; reconstitute powder w/ H₂O, many drug interactions

Diflunisal (Dolobid) WARNING: May ↑ risk of cv events & GI bleeding; CI in post-op CABG Uses: *Mild–mod pain; osteoarthritis*  
Action: NSAID  
Dose: Pain: 500 mg PO bid. Osteoarthritis: 500–1500 mg PO in 2–3 ÷ doses; ↓ in renal impair, take w/ food/milk Caution: [C (D 3rd tri or near delivery), ?] CHF, HTN, renal/hepatic dysfunction, & Hx PUD CI: Allergy to NSAIDs or aspirin, active GI bleed, post-CABG Disp: Tabs 250, 500 mg SE: May ↑ bleeding time; HA, Abd cramps, heartburn, GI ulceration, rash, interstitial nephritis, fluid retention
**Digoxin (Lanoxin, Lanoxicaps, Digitek)**  
Uses: *CHF, AF & flutter, & PAT*  
**Action:** Positive inotrope; ↑ AV node refractory period  
**Dose:**  
**Adults. PO digitalization:** 0.5–0.75 mg PO, then 0.25 mg PO q6–8h to total 1–1.5 mg. **IV or IM digitalization:** 0.25–0.5 mg IM or IV, then 0.25 mg q4–6h to total 0.125–0.5 mg/d PO, IM, or IV (average daily dose 0.125–0.25 mg). **Peds preterm infants:** Digitalization: 30 mcg/kg PO or 25 mcg/kg IV; give 1/2 of dose initial, then 1/4 of dose at 8–12-h intervals for 2 doses. **Maint:** 5–7.5 mcg/kg/24 h PO or 4–6 mcg/kg/24 h IV q12h. **Term infants:** Digitalization: 25–35 mcg/kg PO or 20–30 mcg/kg IV; give 1/2 the initial dose, then 1/3 of dose at 8–12 h. **1 mo–2 y:** Digitalization: 35–60 mcg/kg PO or 30–50 mcg/kg IV; give 1/2 the initial dose, then 1/3 dose at 8–12-h intervals for 2 doses. **Maint:** 10–15 mcg/kg/24 h PO or 7.5–15 mcg/kg/24 h IV q12h. **2–10 y:** Digitalization: 30–40 mcg/kg PO or 25 mcg/kg IV; give 1/2 initial dose, then 1/3 of the dose at 8–12-h intervals for 2 doses. **Maint:** 8–10 mcg/kg/24 h PO or 6–8 mcg/kg/24 h IV q12h. **7–10 y:** Same as for adults; ↓ in renal impair  
**Caution: [C, +] w/ ↓ K+, Mg2+, renal failure CI: AV block; idiopathic hypertrophic subaortic stenosis; constrictive pericarditis Disp:** Caps 0.05, 0.1, 0.2 mg; tabs 0.125, 0.25, 0.5 mg; elixir 0.05 mg/mL; Inj 0.1, 0.25 mg/mL  
**SE:** Can cause heart block; ↓ K+ potentiates tox; N/V, HA, fatigue, visual disturbances (yellow-green halos around lights), cardiac arrhythmias  
**Notes:** Multiple drug interactions; IM Inj painful, has erratic absorption & should not be used. Levels: **Trough:** Just before next dose: **Therapeutic:** 0.8–2.0 ng/mL; **Toxic:** >2 ng/mL; **Half-life:** 36 h

**Digoxin Immune Fab (Digibind, DigiFab)**  
Uses: *Life-threatening digoxin intoxication*  
**Action:** Antigen-binding fragments bind & inactivate digoxin  
**Dose:**  
**Adults & Peds.** Based on serum level & pt’s wt; see charts provided w/ drug  
**Caution: [C, ?] CI: Sheep product allergy Disp:** Inj 38 mg/vial  
**SE:** Worsening of cardiac output or CHF, ↓ K+, facial swelling, & redness  
**Notes:** Each vial binds ≈ 0.6 mg of digoxin; renal failure may require redosing in several days

**Diltiazem (Cardizem, Cardizem CD, Cardizem LA, Cardizem SR, Cartia XT, Dilacor XR, Diltia XT, Taztia XT, Tiamate, Tiazac)**  
Uses: *Angina, prevention of reinfarction, HTN, AF or flutter, & PAT*  
**Action:** CCB  
**Dose:**  
**Stable angina PO:** Initial, 30 mg PO qid; ↑ to 180–360 mg/d in 3–4 ÷ doses PRN; XR 120 mg/d (540 mg/d max), LA: 180–360 mg/d. **HTN:** SR: 60–120 mg PO bid; ↑ to 360 mg/d max. **CD or XR:** 120–360 mg/d (max 540 mg/d) or LA 180–360 mg/d. **IV:** 0.25 mg/kg IV bolus over 2 min; may repeat in 15 min at 0.35 mg/kg; begin Inf of 5–15 mg/h. **Acute rate control:** 15–20 mg (0.25 mg/kg) IV over 2 min, repeat in 15 min at 20–25 mg (0.35 mg/kg) over 2 min *(ECC 2005)*  
**Caution: [C, +] ↑ effect w/ amiodarone, cimetidine, fentanyl, lithium, cyclosporine, digoxin, β-blockers, theophylline CI: SSS, AV block, ↓ BP, AMI, pulm congestion Disp:** Caps 120, 180, 240, 300, 360 mg; **Cardizem CD:** 120, 180, 240, 300, 360, 420 mg; **Cardizem LA:** caps 60, 90, 120 mg; **Cardizem SR:** caps 30, 60, 90, 120 mg; **Cartia XT:** Caps 120, 180, 240, 300 mg; **Dilacor XR:** Caps 180, 240 mg;
Diltia XT: Caps 120, 180, 240 mg; Tiazac: Caps 120, 180, 240, 300, 360, 420 mg; Tiamate (XR): Tabs 120, 180, 240 mg; Inj 5 mg/mL; Taztia XT: 120, 180, 240, 300, 360 mg

SE: Gingival hyperplasia, bradycardia, AV block, ECG abnormalities, peripheral edema, dizziness, HA

Notes: Cardizem CD, Dilacor XR, & Tiazac not interchangeable

Dimenhydrinate (Dramamine, others)  Uses: *Prevention & Rx of N/V, dizziness, or vertigo of motion sickness*  Action: Antiemetic, action unknown  Dose: Adults. 50–100 mg PO q4–6h, max 400 mg/d; 50 mg IM/IV PRN.  Peds 2–6 y: 12.5–25 mg q6–8h max 75 mg/d. 6–12 y: 25–50 mg q6–8h max 150 mg/d  Caution: [B, ?] CI: Component sensitivity  Disp: Tabs 50 mg; chew tabs 50 mg; liq 12.5 mg/4 mL, 12.5 mg/5 mL, 15.62 mg/5 mL  SE: Anticholinergic  Notes: Take 30 min before travel for motion sickness

Dimethyl Sulfoxide [DMSO] (Rimso-50)  Uses: *Interstitial cystitis*  Action: Unknown  Dose: Intravesical, 50 mL, retain for 15 min; repeat q2wk until relief  Caution: [C, ?] CI: Component sensitivity  Disp: 50% & 100% soln  SE: Cystitis, eosinophilia, GI, & taste disturbance

Dinoprostone (Cervidil Vaginal Insert, Prepidil Vaginal Gel, Prostin E2)  WARNING: Should only be used by trained personnel in an appropriate hospital setting  Uses: *Induce labor; terminate PRG (12–20 wk); evacuate uterus in missed abortion or fetal death*  Action: Prostaglandin, changes consistency, dilatation, & effacement of the cervix; induces uterine contraction  Dose: Gel: 0.5 mg; if no cervical/uterine response, repeat 0.5 mg q6h (max 24-h dose 1.5 mg). Vaginal insert: 1 insert (10 mg = 0.3 mg dinoprostone/h over 12 h); remove w/ onset of labor or 12 h after insertion. Vaginal supp: 20 mg repeated q3–5h; adjust PRN supp: 1 high in vagina, repeat at 3–5-h intervals until abortion (240 mg max)  Caution: [X, ?] CI: Ruptured membranes, allergy to prostaglandins, placenta previa or AUB, when oxytocic drugs CI or if prolonged uterine contractions are inappropriate (Hx C-section, cephalopelvic disproportion, etc)  Disp: Endocervical gel: 0.5 mg in 3-g syringes (w/ 10- & 20-mm shielded catheter). Vaginal gel: 0.5 mg/3 g  Vaginal supp: 20 mg. Vaginal insert, CR: 10 mg SE: N/V/D, dizziness, flushing, HA, fever, abnormal uterine contractions

Diphenhydramine (Benadryl) [OTC]  Uses: *Rx & prevent allergic Rxns, motion sickness, potentiate narcotics, sedation, cough suppression, & Rx of extrapyramidal Rxns*  Action: Antihistamine, antiemetic  Dose: Adults. 25–50 mg PO, IV, or IM bid–tid.  Peds >2 y: 5 mg/kg/24 h PO or IM ÷ q6h (max 300 mg/d); ↑ dosing interval w/ mod–severe renal Insuff  Caution: [B, –] elderly, NAG, BPH, w/ MAOI CI: acute asthma  Disp: Tabs, caps 25, 50 mg; chew tabs 12.5 mg; elixir 12.5 mg/5 mL; syrup 12.5 mg/5 mL; liq 6.25 mg/5 mL, 12.5 mg/5 mL; Inj 50 mg/mL, cream 2%  SE: Anticholinergic (xerostomia, urinary retention, sedation)

Diphenoxylate + Atropine (Lomotil, Lonox) [C-V]  Uses: *D*  Action: Constipating meperidine congener, ↓ GI motility  Dose: Adults. Initial, 5 mg PO tid-qid until controlled, then 2.5–5 mg PO bid; 20 mg/d max  Peds >2 y:
0.3–0.4 mg/kg/24 h (of diphenoxylate) bid-qid, 10 mg/d max Caution: [C, +] elderly, w/ renal impair CI: Obstructive jaundice, D due to bacterial Infxn; children <2 y Disp: Tabs 2.5 mg diphenoxylate/0.025 mg atropine; liq 2.5 mg diphenoxylate/0.025 mg atropine/5 mL SE: Drowsiness, dizziness, xerostomia, blurred vision, urinary retention, constipation

**Diphtheria, Tetanus Toxoids, & Acellular pertussis adsorbed, Hep B (Recombinant), & Inactivated Poliovirus Vaccine [IPV] combined (Pediarix)**

Uses: *Vaccine against diphtheria, tetanus, pertussis, HBV, polio (types 1, 2, 3) as a 3-dose primary series in infants & children <7, born to HBsAg(–) mothers* Actions: Active immunization Dose: Infants: Three 0.5-mL doses IM, at 6–8-wk intervals, start at 2 mo; child given 1 dose of hep B vaccine, same; previously vaccinated w/ one or more doses inactivated poliovirus vaccine, use to complete series Caution: [C, N/A] CI: HBsAg(+) mother, adults, children >7 y, immunosuppressed, allergy to yeast, neomycin, polymyxin B, or any component, encephalopathy, or progressive neurologic disorders; caution in bleeding disorders Disp: Single-dose vials 0.5 mL SE: Drowsiness, restlessness, fever, fussiness, ↓ appetite, nodule redness, Inj site pain/swelling Notes: If IM use only preservative-free Inj

**Dipivefrin (Propine)**

Uses: *Open-angle glaucoma* Action: α-Adrenergic agonist Dose: 1 gtt in eye q12h Caution: [B, ?] CI: NAG Disp: 0.1% soln SE: HA, local irritation, blurred vision, photophobia, HTN

**Dipyridamole (Persantine)**

Uses: *Prevent post-op thromboembolic disorders, often in combo w/ ASA or warfarin (eg, CABG, vascular graft); w/ warfarin after artificial heart valve; chronic angina; w/ ASA to prevent coronary artery thrombosis; dipyridamole IV used in place of exercise stress test for CAD* Action: Anti-plt activity; coronary vasodilator Dose: Adults. 75–100 mg PO tid-qid; stress test 0.14 mg/kg/min (max 60 mg over 4 min). Peds >12 y; 3–6 mg/kg/d divided tid (safety/efficacy not established) Caution: [B, ?/–] w/ Other drugs that affect coagulation CI: Component sensitivity Disp: Tabs 25, 50, 75 mg; Inj 5 mg/mL SE: HA, ↓ BP, N, Abd distress, flushing rash, dizziness, dyspnea Notes: IV use can worsen angina

**Dipyridamole & Aspirin (Aggrenox)**

Uses: *↓ Reinfarction after MI; prevent occlusion after CABG; ↓ risk of stroke* Action: ↓ Plt aggregation (both agents) Dose: 1 cap PO bid Caution: [C, ?] CI: Ulcers, bleeding diathesis Disp: Dipyridamole (XR) 200 mg/aspirin 25 mg SE: ASA component: allergic Rxns, skin Rxns, ulcers/GI bleed, bronchospasm; dipyridamole component: dizziness, HA, rash Notes: Swallow caps whole

**Disopyramide (Norpace, Norpace CR, NAPAmide, Rythmodan)**

WARNING: Excessive mortality or nonfatal cardiac arrest rate with use in asymptomatic non–life-threatening ventricular arrhythmias with MI 6 d to 2 y prior. Restrict use to life-threatening arrhythmias only Uses: *Suppression & prevention of VT* Action: Class 1A antiarrhythmic; stabilizes membranes,
Dobutamine (Dobutrex) Uses: *Short-term in cardiac decompensation secondary to ↓ contractility* Action: Positive inotrope Dose: Adults & Peds. Cont IV Inf of 2.5–15 mcg/kg/min; rarely, 40 mcg/kg/min required; titrate; 2–20 mcg/kg/min; titrate to HR not >10% of baseline (ECC 2005) Caution: [C, ?] w/ Arrhythmia, MI, severe CAD, ↓ vol CI: Sensitivity to sulfites, IHSS Disp: Inj 250 mg/20 mL, 12.5/mL SE: Chest pain, HTN, dyspnea Notes: Monitor PWP & cardiac output if possible; ✓ ECG for ↑ HR, ectopic activity; follow BP

Docetaxel (Taxotere) WARNING: Do not administer if neutrophil count <1500 cell/mm³; severe Rxns possible in hepatic dysfunction Uses: *Breast (anthracycline-resistant), ovarian, lung, & prostate CA* Action: Antimitotic agent; promotes microtubular aggregation; semisynthetic taxoid Dose: 100 mg/m² over 1 h IV q3wk (per protocols); dexamethasone 8 mg bid prior & continue for 3–4 d; ↓ dose w/ ↑ bilirubin levels Caution: [D, –] CI: Sensitivity to meds w/ polysorbate 80, component sensitivity Disp: Inj 20 mg/0.5 mL, 80 mg/2 mL SE: ↓ BM, neuropathy, N/V, alopecia, fluid retention syndrome; cumulative doses of 300–400 mg/m² w/o steroid preparation & posttreatment & 600–800 mg/m² w/ steroid preparation; allergy possible (rare w/ steroid preparation) Notes: ✓ Bilirubin, SGOT and SGPT prior to each cycle; frequent CBC during therapy

Docusate Calcium (Surfak)/Docusate Potassium (Diasole)/Docusate Sodium (DOSS, Colace) Uses: *Constipation; adjunct to painful anorectal conditions (hemorrhoids)* Action: Stool softener Dose: Adults. 50–500 mg PO ÷ daily–qid. Peds Infants–3 y: 10–40 mg/24 h ÷ daily–qid. 3–6 y: 20–60 mg/24 h ÷ daily–qid. 6–12 y: 40–120 mg/24 h ÷ daily–qid Caution: [C, ?] CI: Use w/ mineral oil; intestinal obst, acute Abd pain, N/V Disp: Ca: Caps 50, 240 mg. K: Caps 100, 240 mg. Na: Caps 50, 100 mg; syrup 50, 60 mg/15 mL; liq 150 mg/15 mL; soln 50 mg/mL SE: Rare Abd cramping, D Notes: Take w/ full glass of H₂O; no laxative action; do not use >1 wk

Dofetilide (Tikosyn) WARNING: To minimize the risk of induced arrhythmia, hospitalize for minimum of 3 d to provide calculations of CrCl, cont ECG monitoring, & cardiac resuscitation Uses: *Maintain nl sinus rhythm in AF/A flutter after conversion* Action: Type III antiarrhythmic, prolongs action potential Dose: Based on CrCl & QTc; CrCl >60 mL/min 500 mcg PO q12h, ✓ QTc 2–3 h after, if QTc >15% over baseline or >500 msec, ↓ to 250 mcg q 12h, ✓ after
each dose; if CrCl <60 mL/sec, see insert; D/C if QTc >500 msec after dosing adjustments Caution: [C, –] w/ AV block, renal Dz, electrolyte imbalance CI: Baseline QTc >440 msec, CrCl <20 mL/min; w/ verapamil, cimetidine, trimethoprim, ketoconazole, quinolones, ACE inhibitors/HCTZ combo Disp: Caps 125, 250, 500 mcg SE: Ventricular arrhythmias, QT ↑, torsade de pointes, rash, HA, CP, dizziness Notes: Avoid w/ other drugs that ↑ QT interval; hold class I/III antiarrhythmics for 3 half-lives prior to dosing; amiodarone level should be <0.3 mg/L before use, do not initiate if HR <60 BPM; restricted to participating prescribers; correct K⁺ and Mg²⁺ before use.

Dolasetron (Anzemet) Uses: *Prevent chemotherapy and post–op–associated N/V* Action: 5-HT₃ receptor antagonist Dose: Adults & Peds. IV: 1.8 mg/kg IV as single dose 30 min prior to chemotherapy Adults. PO: 100 mg PO as a single dose 1 h prior to chemotherapy. Post-op: 12.5 mg IV, 100 mg PO 2 h pre-op Peds 2–16 y: 1.8 mg/kg PO (max 100 mg) as single dose. Post-op: 0.35 mg/kg IV or 1.2 mg/kg PO Caution: [B, ?] w/ Cardiac conduction problems CI: Component sensitivity Disp: Tabs 50, 100 mg; Inj 20 mg/mL SE: ↑ QT interval, D, HTN, HA, Abd pain, urinary retention, transient ↑ LFTs

Donepezil (Aricept) Uses: *Severe Alzheimer dementia* ADHD; behavioral syndromes in dementia; dementia w/ Parkinson Dz; Lewy-body dementia Action: ACH inhibitor Dose: Adults. 5 mg qhs, ↑ to 10 mg PO qhs after 4–6 wk Peds. ADHD: 5 mg/d Caution: [C, ?] risk for bradycardia w/ preexisting conduction abnormalities, may exaggerate succinylcholine-type muscle relaxation w/ anesthesia, ↑ gastric acid secretion CI: Hypersensitivity Disp: Tabs 5, 10 mg; orally disintegrating tab 5, 10 mg SE: N/V/D, insomnia, Infxn, muscle cramp, fatigue, anorexia Notes: N/V/D dose-related & resolves in 1–3 wk

Dopamine (Intropin) WARNING: Vesicant, give phentolamine w/ extrav Uses: *Short-term use in cardiac decompensation secondary to ↓ contractility; ↑ organ perfusion (at low dose)* Action: Positive inotropic agent w/ dose response: 1–10 mcg/kg/min β effects (↑ CO & renal perfusion); 10–20 mcg/kg/min β effects (peripheral vasoconstriction, pressor); >20 mcg/kg/min peripheral & renal vasoconstriction Dose: Adults & Peds. 5 mcg/kg/min by cont Inf, ↑ by 5 mcg/kg/min to 50 mcg/kg/min max to effect (ECC 2005) Caution: [C, ?] ↓ Dose w/ MAOI CI: Pheochromocytoma, VF, sulfite sensitivity Disp: Inj 40, 80, 160 mg/mL, premixed 0.8, 1.6, 3.2 mg/mL SE: Tachycardia, vasoconstriction, ↓ BP, HA, N/V, dyspnea Notes: >10 mcg/kg/min ↓ renal perfusion; monitor urinary output & ECG for ↑ HR, BP, ectopy; monitor PCWP & cardiac output if possible, phentolamine used for extrav 10 to 15 mL NS w/5 to 10 mg of phentolamine

Doripenem (Doribax) Uses: *Complicated intra-Abd and UTI including pyelo* Action: Carbapenem, ↓ cell wall synth, a β-lactam Spectrum: Excellent gram(+) (except MRSA and Enterococcus sp.), excellent gram(−) coverage including β-lactamase producers, good anaerobic Dose: 500 mg IV q8h, ↓ w/
renal impair **Caution:** [B, ?] **CI:** carbapenem β-lactams hypersensitivity **Disp:** 500 mg single-use vial **SE:** HA, N/D, rash, phlebitis **Notes:** May ↓ valproic acid levels; overuse may ↑ bacterial resistance; monitor for *C. difficile*-associated D

**Dornase Alfa** *(Pulmozyme, DNase)* **Uses:** *Frequency of resp Infxns in CF* **Action:** Enzyme cleaves extracellular DNA, ↓ mucous viscosity **Dose:** Adults. Inh 2.5 mg/bid dosing w/ FVC >85% w/ recommended nebulizer **Ped:** >5 y: Inh 2.5 mg/daily-bid if forced vital capacity >85% **Caution:** [B, ?] **CI:** Chinese hamster product allergy **Disp:** Soln for Inh 1 mg/mL **SE:** Pharyngitis, voice alteration, CP, rash

**Dorzolamide** *(Trusopt)* **Uses:** *Open-angle glaucoma, ocular hypertension* **Action:** Carbonic anhydrase inhibitor **Dose:** 1 gtt in eye(s) tid **Caution:** [C, ?] w/ NAG, CrCl <30 mL/min **CI:** Component sensitivity **Disp:** 2% soln **SE:** irritation, bitter taste, punctate keratitis, ocular allergic Rxn

**Dorzolamide & Timolol** *(Cosopt)* **Uses:** *Open-angle glaucoma, ocular hypertension* **Action:** Carbonic anhydrase inhibitor w/ β-adrenergic blocker **Dose:** 1 gtt in eye(s) bid **Caution:** [C, ?] CrCl <30 **CI:** Component sensitivity, asthma, severe COPD, sinus bradycardia, AV block **Disp:** Soln dorzolamide 2% & timolol 0.5% **SE:** Irritation, bitter taste, superficial keratitis, ocular allergic Rxn

**Doxazosin** *(Cardura, Cardura XL)* **Uses:** *HTN & symptomatic BPH* **Action:** α1-Adrenergic blocker; relaxes bladder neck smooth muscle **Dose:** HTN: Initial 1 mg/d PO; may be ↑ to 16 mg/d PO. BPH: Initial 1 mg/d PO, may ↑ to 8 mg/d; XL 2–8 mg q A.M. **Caution:** [C, ?] w/ Liver impair **CI:** Component sensitivity **Disp:** Tabs 1, 2, 4, 8 mg; XL 4, 8 mg **SE:** Dizziness, HA, drowsiness, fatigue, malaise, sexual dysfunction, doses >4 mg ↑ postural ↓ BP risk **Notes:** 1st dose hs; syncope may occur w/in 90 min of initial dose

**Doxepin** *(Adapin)* **WARNING:** Closely monitor for worsening depression or emergence of suicidality **Uses:** *Depression, anxiety, chronic pain* **Action:** TCA; ↑ synaptic CNS serotonin or norepinephrine **Dose:** 25–150 mg/d PO, usually hs but can ÷ doses; up to 300 mg/d for depression ↓ in hepatic impair **Caution:** [C, ?/–] w/ EtOH abuse, elderly, w/ MAOI **CI:** NAG, urinary retention, MAOI use w/in 14 d, in recovery phase of MI **Disp:** Caps 10, 25, 50, 75, 100, 150 mg; PO conc 10 mg/mL **SE:** Anticholinergic SEs, ↓ BP, tachycardia, drowsiness, photosensitivity

**Doxepin, Topical** *(Zonalon, Prudoxin)* **Uses:** *Short-term Rx pruritus (atopic dermatitis or lichen simplex chronicus)* **Action:** Antipruritic; H2- & H2-receptor antagonism **Dose:** Apply thin coating qid, 8 d max **Caution:** [C, ?/–] **CI:** Component sensitivity **Disp:** 5% cream **SE:** ↓ BP, tachycardia, drowsiness, photosensitivity **Notes:** Limit application area to avoid systemic tox

**Doxorubicin** *(Adriamycin, Rubex)* **Uses:** *Acute leukemias; Hodgkin Dz & NHLs; soft tissue, osteo- & Ewing sarcoma; Wilms tumor; neuroblastoma; bladder, breast, ovarian, gastric, thyroid, & lung CAs* **Action:** Intercalates DNA; ↓ DNA topoisomerases I & II **Dose:** 60–75 mg/m² q3wk; ↓ w/ hepatic impair;
IV use only ↓ cardiotox w/ weekly (20 mg/m²/wk) or cont Inf (60–90 mg/m² over 96 h); (per protocols) Caution: [D, ?] CI: Severe CHF, cardiomyopathy, preexisting ↓ BM, previous Rx w/ total cumulative doses of doxorubicin, idarubicin, daunorubicin Disp: Inj 10, 20, 50, 75, 150, 200 mg SE: ↓ BM, venous streaking & phlebitis, N/V/D, mucositis, radiation recall phenomenon, cardiomyopathy rare (dose-related) Notes: Limit of 550 mg/m² cumulative dose (400 mg/m² w/ prior mediastinal irradiation); dexrazoxane may limit cardiac tox; tissue damage w/ extrav; red/orange urine; vesicant w/ extrav, Rx with dexrazoxane

**Doxycycline (Adoxa, Periostat, Oracea, Vibramycin, Vibra-Tabs)** Uses: *Broad-spectrum antibiotic* acne vulgaris, uncomplicated GC, chlamydia, PID, Lyme Dz, skin Infxns, anthrax, malaria prophylaxis Action: Tetracycline; bacteriostatic; ↓ protein synth. Spectrum: Limited gram(+) and (–), *Rickettsia* sp, *Chlamydia, M. pneumoniae, B. anthracis* Dose: Adults. 100 mg PO q12h on 1st d, then 100 mg PO daily–bid or 100 mg IV q12h; acen q day, chlamydia × 7d, Lyme × 21 d, Peds >8 y: 5 mg/kg/24 h PO, 200 mg/d max × daily-bid Caution: [D, +] hepatic impair CI: Children <8 y, severe hepatic dysfunction Disp: Tabs 20, 50, 75, 100, 150 mg; caps 50, 100 mg; Oracea 40 mg caps (30 mg timed release, 10 mg DR); syrup 50 mg/5 mL; susp 25 mg/5 mL; Inj 100, 200 mg/vial SE: D, GI disturbance, photosensitivity Notes: ↓ effect w/ antacids; tetracycline of choice w in renal impair; for inhalational anthrax use w/ 1–2 additional antibiotics, not for CNS anthrax

**Dronabinol (Marinol) [C-II]** Uses: *N/V associated w/ CA chemotherapy; appetite stimulation* Action: Antiemetic; ↓ V center in the medulla Dose: Adults & Peds. Antiemetic: 5–15 mg/m²/dose q4–6h PRN. Adults. Appetite stimulant: 2.5 mg PO before lunch & dinner; max 20 mg/d Caution: [C, ?] elderly, Hx psychological disorder, Sz disorder, substance abuse CI: Hx schizophrenia, sesame oil hypersensitivity Disp: Caps 2.5, 5, 10 mg SE: Drowsiness, dizziness, anxiety, mood change, hallucinations, depersonalization, orthostatic ↓ BP, tachycardia Notes: Principal psychoactive substance present in marijuana

**Droperidol (Inapsine)** WARNING: Cases of QT interval prolongation and torsades de pointes (same fatal) reported Uses: *N/V; anesthetic premedication* Action: Tranquilizer, sedation, antiemetic Dose: Adults. N: initial max 2.5 mg IV/IM, may repeat 1.25 mg based on response; Premed: 2.5–10 mg IV, 30–60 min pre-op. Peds. Premed: 0.1–0.15 mg/kg/dose Caution: [C, ?]w/ Hepatic/renal impair CI: Component sensitivity Disp: Inj 2.5 mg/mL SE: Drowsiness, ↓ BP, occasional tachycardia & extrapyramidal Rxns, ↑ QT interval, arrhythmias Notes: Give IV push slowly over 2–5 min

**Drotrecogin Alfa (Xigris)** Uses: *↓ Mortality in adults w/ severe sepsis (w/ acute organ dysfunction) at high risk of death (eg, determined by APACHEII score [www.ncemi.org])* Action: Recombinant human-activated protein C; antithrombotic and anti-inflammatory, unclear mechanism Dose: 24 mcg/kg/h, total of 96 h Caution: [C, ?] w/ Anticoagulation, INR >3, plt <30,000, GI bleed
w/in 6 wk **CI:** Active bleeding, recent stroke/CNS surgery, head trauma/CNS lesion w/ herniation risk, trauma w/ ↑ bleeding risk, epidural catheter, mifepristone  
**Disp:** 5-, 20-mg vials  
**SE:** Bleeding  
**Notes:** Single-organ dysfunction & recent surgery may not be at high risk of death irrespective of APACHE II score & therefore not indicated. Percutaneous procedures: Stop Inf 2 h before & resume 1 h after; major surgery: stop Inf 2 h before & resume 12 h after in absence of bleeding

**Duloxetine (Cymbalta)**  
**WARNING:** Antidepressants may ↑ risk of suicidality; consider risks/benefits of use. Closely monitor for clinical worsening, suicidality, or behavior changes  
**Uses:** *Depression, DM peripheral neuropathic pain, generalized anxiety disorder (GAD)*  
**Action:** Selective serotonin & norepinephrine reuptake inhibitor (SSNRI)  
**Dose:** Depression: 40–60 mg/d PO ÷ bid. DM neuropathy: 60 mg/d PO; GAD: 30–60 mg/d max 120 mg/d  
**Caution:** [C, ?/–]; use in 3rd tri; avoid if CrCl <30 mL/min, NAG, w/ fluvoxamine, inhibitors of CYP2D6 (Table 11), TCAs, phenothiazines, type 1C antiarrhythmics (Table 10)  
**CI:** MAOI use w/in 14 d, w/ thioridazine, NAG, hepatic Insuff  
**Disp:** Caps delayed-release 20, 30, 60 mg  
**SE:** N, dizziness, somnolence, fatigue, sweating, xerostomia, constipation, ↓ appetite, sexual dysfunction, urinary hesitancy, ↑ LFTs, HTN  
**Notes:** Swallow whole; monitor BP; avoid abrupt D/C

**Dutasteride (Avodart)**  
**Uses:** *Symptomatic BPH to improve Sxs, ↓ risk of retention and BPH surgery alone or in combo w/ tamsulosin*  
**Action:** 5α-Reductase inhibitor; ↓ intracellular dihydrotestosterone (DHT)  
**Dose:** Monotherapy: 0.5 mg PO/d. Combo: 0.5 mg PO q day w/ tamsulosin 0.4 mg q day  
**Caution:** [X, –] Hepatic impair; pregnant women should not handle pills  
**CI:** Women, peds  
**Disp:** Caps 0.5 mg  
**SE:** ↑ testosterone, thyroid-stimulating hormone ↑, ↓ PSA levels, impotence, ↓ libido, gynecomastia, ejaculatory disturbance  
**Notes:** No blood donation until 6 mo after D/C, new baseline PSA at 6 mo; corrected PSA × 2; under study for PCa chemotherapy prevention

**Echothiophate Iodine (Phospholine Ophthalmic)**  
**Uses:** *Glaucoma*  
**Action:** Cholinesterase inhibitor  
**Dose:** 1 gtt eye(s) bid w/ 1 dose hs  
**Caution:** [C, ?]  
**CI:** Active uveal inflammation, inflammatory Dz of iris/ciliary body, glaucoma iridocyclitis  
**Disp:** Powder, reconstitute 1.5 mg/0.03%; 3 mg/0.06%; 6.25 mg/0.125%; 12.5 mg/0.25%  
**SE:** Local irritation, myopia, blurred vision, ↓ BP, bradycardia

**Econazole (Spectazole)**  
**Uses:** *Tinea, cutaneous Candida, & tinea versicolor Infxns*  
**Action:** Topical antifungal  
**Dose:** Apply to areas bid (daily for tinea versicolor) for 2–4 wk  
**Caution:** [C, ?]  
**CI:** Component sensitivity  
**Disp:** Topical cream 1%  
**SE:** Local irritation, pruritus, erythema  
**Notes:** Early Sx/clinical improvement; complete course to avoid recurrence

**Eculizumab (Soliris)**  
**WARNING:** ↑ Risk of meningococcal infections (give meningococcal vaccine 2 wk prior to 1st dose and revaccinate per guidelines)  
**Uses:** *Rx paroxysmal nocturnal hemoglobinuria*  
**Action:** Complement inhibitor  
**Dose:** 600 mg IV q 7 d × 4 wk, then 900 mg IV 5th dose 7 d later, then 900 mg IV
Edrophonium

Uses: *Diagnosis of MyG; acute MyG crisis; curare antagonist, reverse of nondepolarizing neuromuscular blockers*

**Action:** Anticholinesterase

**Dose:** Adults. *Test for MyG:* 2 mg IV in 1 min; if tolerated, give 8 mg IV; (+) test is brief ↑ in strength. **Peds. Test for MyG:** Total dose 0.2 mg/kg; 0.04 mg/kg test dose; if no Rxn, give remainder in 1 mg increments to 10 mg max; ↓ in renal impair

**Caution:** [C, ?] CI: GI or GU obst; allergy to sulfite

**Disp:** Inj 10 mg/mL

**SE:** N/V/D, excessive salivation, stomach cramps, ↑ amino-transferases

Notes: Can cause severe cholinergic effects; keep atropine available

Efalizumab (Raptiva)

**WARNING:** Associated w/ serious Infxns, malignancy, thrombocytopenia

Uses: Chronic mod–severe plaque psoriasis

**Action:** MoAb

**Dose:** Adults. 0.7 mg/kg SQ conditioning dose, followed by 1 mg/kg/wk; single doses should not exceed 200 mg

**Caution:** [C, +/−], chronic Infxn elderly

**Disp:** 125-mg vial

**SE:** 1st-dose Rxn, HA, worsening psoriasis, ↑ LFTs, hemolytic anemia immunosuppressive-related Rxs

(see Warning) **Notes:** Minimize 1st-dose Rxn by conditioning dose; ✓ plts monthly, then q3mo & w/ dose ↑; pts may be trained in self-administration

Efavirenz (Sustiva)

**WARNING:** Lactic acidosis and severe hepatomegaly with steatosis, including fatal cases, reported w/ nucleoside analogs alone or combo w/ other antiretrovirals

Uses: *HIV Infxns*

**Action:** Antiretroviral; non-nucleoside RT inhibitor

**Dose:** Adults. 600 mg/d PO q hs. **Peds ≥3 y 10–<15 kg:** 200 mg PO q day; **15–<20 kg:** 250 mg PO q day; **20–<25 kg:** 300 mg PO q day; **25–<32.5 kg:** 350 mg PO q day; **32.5–<40 kg:** 400 mg PO q day; **≥40 kg:** 600 mg PO q day; on empty stomach

**Caution:** [D, ?] CDC recommends HIV-infected mothers not breast-feed

**CI:** ~18 y, w/ astemizole, midazolam, triazolam, ergot derivatives, voriconazole

**Disp:** Caps 50, 100, 200; 600 mg tab

**SE:** Somnolence, vivid dreams, depression, CNS Sxs, dizziness, rash, N/V/D

Notes: Monitor LFTs, cholesterol; see individual agents for additional info, not for HIV/hep B coinfection

Eletriptan (Relpax)

Uses: *Acute Rx of migraine*

**Action:** Selective serotonin receptor (5-HT$_{1B/1D}$) agonist

**Dose:** 20–40 mg PO, may repeat in 2 h;
80 mg/24 h max Caution: [C, +] CI: Hx ischemic heart Dz, coronary artery spasm, stroke or TIA, peripheral vascular Dz, IBD, uncontrolled HTN, hemiplegic or basilar migraine, severe hepatic impair, w/in 24 h of another 5-HT1 agonist or ergot, w/in 72 h of CYP3A4 inhibitors Disp: Tabs 20, 40 mg SE: Dizziness, somnolence, N, asthenia, xerostomia, paresthesias; pain, pressure, or tightness in chest, jaw, or neck; serious cardiac events

Emedastine (Emadine) Uses: *Allergic conjunctivitis* Action: Antihistamine; selective H1-antagonist Dose: 1 gtt in eye(s) up to qid Caution: [B, ?] CI: Allergy to ingredients (preservatives benzalkonium, tromethamine) Disp: 0.05% soln SE: HA, blurred vision, burning/stinging, corneal infiltrates/staining, dry eyes, foreign body sensation, hyperemia, keratitis, tearing, pruritus, rhinitis, sinusitis, asthenia, bad taste, dermatitis, discomfort Notes: Do not use contact lenses if eyes are red

Emtricitabine (Emtriva) WARNING: Lactic acidosis, & severe hepatomegaly w/ steatosis reported; not for HBV Infxn Uses: HIV-1 Infxn Action: NRTI Dose: 200 mg caps or 240 mg soln PO daily; ↓ w/ renal impair Caution: [B, –] risk of liver Dz CI: Component sensitivity Disp: Soln 10 mg/mL, caps 200 mg SE: HA, N/D, rash, hyperpigmentation of feet & hands, posttreatment exacerbation of hep Notes: 1st one-daily NRTI; caps/soln not equivalent; not ok as monotherapy; screen for hep B, do not use w/ HIV and HBV coinfection

Enalapril (Vasotec) WARNING: ACE inhibitors used during PRG can cause fetal injury & death Uses: *HTN, CHF, LVD,* DN Action: ACE inhibitor Dose: Adults. 2.5–40 mg/d PO; 1.25 mg IV q6h. Peds. 0.05–0.08 mg/kg/d PO q12–24h; ↓ w/ renal impair Caution: [C (1st tri; D 2nd & 3rd tri), +] D/C immediately w/PRG, w/ NSAIDs, K+ supls CI: Bilateral RAS, angioedema Disp: Tabs 2.5, 5, 10, 20 mg; IV 1.25 mg/mL (1, 2 mL) SE: ↓ BP w/ initial dose (especially w/ diuretics), ↑ K+, ↑ Cr nonproductive cough, angioedema Notes: Monitor Cr; D/C diuretic for 2–3 d prior to start

Enfuvirtide (Fuzeon) WARNING: Rarely causes allergy; never rechallenge Use: *w/ Antiretroviral agents for HIV-1 in treatment-experienced pts w/ viral replication despite ongoing therapy* Action: Viral fusion inhibitor Dose: Adults. 90 mg (1 mL) SQ bid in upper arm, anterior thigh, or abdomen; rotate site Peds. see insert Caution: [B, –] CI: Previous allergy to drug Disp: 90 mg/mL recons; pt kit w/ supplies × 1 mo SE: Inj site Rxns; pneumonia, D, N, fatigue, insomnia, peripheral neuropathy Notes: Available via restricted distribution system; use immediately on recons or refrigerate (24 h max)

Enoxaparin (Lovenox) WARNING: Recent or anticipated epidural/spinal anesthesia ↑ risk of spinal/epidural hematoma w/ subsequent paralysis Uses: *Prevention & Rx of DVT; Rx PE; unstable angina & non–q-wave MI* Action: LMW heparin; inhibit thrombin by complexing w/ antithrombin III Dose: Adults. Prevention: 30 mg SQ bid or 40 mg SQ q24h. DVT/PE Rx: 1 mg/kg SQ q12h or 1.5 mg/kg SQ q24h. Angina: 1 mg/kg SQ q12h; Ancillary to AMI fibrinolysis:
Entacapone

**Entacapone (Comtan)**  
**Uses:** *Parkinson Dz*  
**Action:** Selective & reversible carboxymethyl transferase inhibitor  
**Dose:** 200 mg w/ each levodopa/carbidopa dose; max 1600 mg/d; ↓ levodopa/carbidopa dose 25% w/ levodopa dose >800 mg  
**Caution:** [C, ?] Hepatic impair  
**Disp:** Tabs 200 mg  
**SE:** Dyskinesia, hyperkinesia, N, D, dizziness, hallucinations, orthostatic ↓ BP, brown-orange urine  
**Notes:** ✓ LFTs; do not D/C abruptly

**Ephedrine**  
**Uses:** *Acute bronchospasm, bronchial asthma, nasal congestion,* ↓ BP, narcolepsy, enuresis, & MyG  
**Action:** Sympathomimetic; stimulates α- & β-receptors; bronchodilator  
**Dose:** Adults. Congestion: 25–50 mg PO q6h PRN; ↓ BP: 25–50 mg IV q5–10min, 150 mg/d max.  
**Peds.** 0.2–0.3 mg/kg/dose IV q4–6h  
**PRN Caution:** [C, ?–/] CI: Arrhythmias; NAG  
**Disp:** Nasal soln 0.48%, 0.5%; caps 25 mg; Inj 50 mg/mL; nasal spray 0.25%  
**SE:** CNS stimulation (nervousness, anxiety, trembling), tachycardia, arrhythmia, HTN, xerostomia, dysuria  
**Notes:** Protect from light; monitor BP, HR, urinary output; can cause false (+) amphetamine EMIT; take last dose 4–6 h before hs; abuse potential, OTC sales mostly banned/restricted

**Epinephrine (Adrenalin, Sus-Phrine, EpiPen, EpiPen Jr, others)**  
**Uses:** *Cardiac arrest, anaphylactic Rxn, bronchospasm, open-angle glaucoma*  
**Action:** β-Adrenergic agonist, some α effects  
**Dose:** Adults. 1 mg IV push, repeat q3–5min; (0.2 mg/kg max) if 1-mg dose fails. Inf: 30 mg (30 mL of 1:1000 soln) in 250 mL NS or D₃W, at 100 mL/h, titrate. ET 2–2.5 mg in 20 mL NS.  
**Profound bradycardia/hypotension:** 2–10 mcg/min (1 mg of 1:1000 in 500 mL NS, infuse 1–5 mL/min) *(ECC 2005).*  
**Anaphylaxis:** 0.3–0.5 mL SQ of 1:1000 dilution, repeat PRN q5–15min to max 1 mg/dose & 5 mg/d.  
**Asthma:** 0.1–0.5 mL SQ of 1:1000 dilution, repeat q 20 min to 4 h, or 1 Inh (metered-dose) repeat in 1–2 min, or susp 0.1–0.3 mL SQ for extended effect.  
**Peds. ACLS:** 1st dose 0.1 mL/kg IV of 1:10,000 dilution, then 0.1 mL/kg IV of 1:1000 dilution q3–5min to response. Anaphylaxis: 0.15–0.3 mg IM depending on wgt <30 kg 0.01 mg/kg.  
**Asthma:** 0.01 mL/kg SQ of 1:1000 dilution q8–12h  
**Caution:** [C, ?] ↓ bronchodilation with β-blockers CI: Cardiac arrhythmias, NAG  
**Disp:** Inj 1:1000, 1:2000, 1:10,000, 1:100,000; susp for Inj 1:200; aerosol 220 mcg/spray; 1% Inh soln; EpiPen Autoinjector 1 dose = 0.30 mg; EpiPen Jr 1 dose = 0.15 mg  
**SE:** CV (tachycardia, HTN, vasoconstriction), CNS stimulation (nervousness, anxiety, trembling), ↓ renal blood flow  
**Notes:**
Can give via ET tube if no central line (use 2–2.5 × IV dose); EpiPen for pt self-use (www.EpiPen.com)

**Epinastine (Elestat)**

**Uses:** Itching w/ allergic conjunctivitis

**Action:** Antihistamine

**Dose:** 1 gtt bid

**Caution:** [C, ?–/–]  

**Disp:** Soln 0.05%  

**SE:** Burning, folliculosis, hyperemia, pruritus, URI, HA, rhinitis, sinusitis, cough, pharyngitis

**Notes:** Remove contacts before, reinsert in 10 min

**Epirubicin (Ellence)**  

**WARNING:** Do not give IM or SQ. Extrav causes tissue necrosis; potential cardiotoxic; severe myelosuppression; ↓ dose w/ hepatic impair

**Uses:** *Adjuvant therapy for + axillary nodes after resection of primary breast CA*

**Actions:** Anthracycline cytotoxic agent

**Dose:** Per protocols; ↓ dose w/ hepatic impair

**Caution:** [D, –]  

**CI:** Baseline neutrophil count <1500 cells/mm³, severe cardiac Insuff, recent MI, severe arrhythmias, severe hepatic dysfunction, previous anthracyclines Rx to max cumulative dose

**Disp:** Inj 50 mg/25 mL, 200 mg/100 mL

**SE:** Mucositis, N/V/D, alopecia, ↓ BM, cardiotox, secondary AML, tissue necrosis w/ extrav (see Adriaycin for Rx), lethargy

**Notes:** ✓ CBC, bilirubin, AST, Cr, cardiac Fxn before/during each cycle

**Eplerenone (Inspra)**

**Uses:** *HTN*

**Action:** Selective aldosterone antagonist

**Dose:** *Adults.* 50 mg PO daily-bid, doses >100 mg/d no benefit w/ ↑ K⁺; ↓ to 25 mg PO daily if giving w/ CYP3A4 inhibitors

**Caution:** [B, +/–] w/ CYP3A4 inhibitors (Table 11); monitor K⁺ with ACE inhibitor, ARBs, NSAIDs, K⁺-sparring diuretics; grapefruit juice, St. John’s wort

**CI:** Baseline neutrophil count <1500 cells/mm³; non–insulin-dependent diabetes mellitus (NIDDM) w/ microalbuminuria; SCr >2 mg/dL (males), >1.8 mg/dL (females); CrCl <30 mL/min; w/ K⁺ supls/K⁺-sparring diuretics, ketoconazole

**Disp:** Tabs 25, 50 mg

**SE:** ↑ cholesterol/triglycerides, ↑ K⁺, HA, dizziness, gynecomastia, D, orthostatic ↓ BP

**Notes:** May take 4 wk for full effect

**Epoetin Alfa [Erythropoietin, EPO] (Epogen, Procrit)**  

**WARNING:** ↑ Mortality, serious CV/thromboembolic events, and tumor progression.

Renal failure pts experienced ↑ greater risks (death/CV events) on erythropoiesis-stimulating agents (ESAs) to target higher Hgb levels. Maintain Hgb 10–12g/dL.

In cancer pt, ESAs ↓ survival/time-to progression in some cancers when dosed Hgb ≥12 g/dL. Use lowest dose needed. Use only for myelosuppressive chemotherapy. D/C following chemotherapy. Pre-op ESA ↑ DVT. Consider DVT prophylaxis

**Uses:** *CRF-associated anemia, zidovudine Rx in HIV-infected pts, CA chemotherapy; ↓ transfusions associated w/ surgery*  

**Action:** Induces erythropoiesis

**Dose:** *Adults & Peds.* 50–150 units/kg IV/SQ 3x/wk; adjust dose q4–6wk PRN.

**Surgery:** 300 units/kg/d × 10 d before to 4 d after; ↓ dose if Hct ~ 36% or Hgb, ↑ ≥ 12 g/dL or Hgb ↑ >1 g/dL in 2-wk period; hold dose if Hgb >12 g/dL

**Caution:** [C, +]  

**Disp:** Inj 2000, 3000, 4000, 10,000, 20,000, 40,000 units/mL

**SE:** HTN, HA, fatigue, fever, tachycardia, N/V

**Notes:** Refrigerate; monitor baseline & posttreatment Hct/Hgb, BP, ferritin

**Epoprostenol (Flolan)**

**Uses:** *Pulm HTN*

**Action:** Dilates pulm/systemic arterial vascular beds; ↓ plt aggregation

**Dose:** Initial 2 ng/kg/min; ↑ by
2 ng/kg/min q15min until dose-limiting SE (CP, dizziness, N/V, HA, ↓ BP, flushing); IV cont Inf 4 ng/kg/min < max tolerated rate; adjust based on response; see package insert Caution: [B, ?] ↑ tox w/ diuretics, vasodilators, acetate in dialysis fluids, anticoagulants CI: Chronic use in CHF 2nd degree, if pt develops pulm edema w/ dose initiation, severe LVSD Disp: Inj 0.5, 1.5 mg SE: Flushing, tachycardia, CHF, fever, chills, nervousness, HA, N/V/D, jaw pain, flu-like Sxs Notes: Ablupt D/C can cause rebound pulm HTN; monitor bleeding w/ other antiplatelet/anticoagulants; watch ↓ BP w/ other vasodilators/diuretics

**Eprosartan** (Teveten) Uses: *HTN,* DN, CHF Action: ARB Dose: 400–800 mg/d single dose or bid Caution: [C (1st tri); D (2nd & 3rd tri), D/C immediately when pregnancy detected] w/ Lithium, ↑ K+ with K+-sparing diuretics/supls/high-dose trimethoprim CI: Bilateral RAS, 1st-degree aldosteronism Disp: Tabs 400, 600 mg SE: Fatigue, depression, URI, UTI, Abd pain, rhinitis/pharyngitis/cough, hypertriglyceridemia

**Eptifibatide** (Integrilin) Uses: *ACS, PCI* Action: Glycoprotein IIb/IIIa inhibitor Dose: 180 mcg/kg IV bolus, then 2 mcg/kg/min cont Inf; ↓ in renal impair (SCR >2 mg/dL, <4 mg/dL: 135 mcg/kg bolus & 0.5 mcg/kg/min Inf); ACS: 180 mcg/kg IV bolus then 2 mcg/kg/min. PCI: 135 mcg/kg IV bolus then 0.5 mcg/kg/min; bolus again in 10 min (ECC 2005) Caution: [B, ?] Monitor bleeding w/ other anticoagulants CI: Other glycoprotein IIb/IIIa inhibitors, Hx abnormal bleeding, hemorrhagic stroke (within 30 d), severe HTN, major surgery (w/in 6 wk), plt count <100,000 cells/mm³, renal dialysis Disp: Inj 0.75, 2 mg/mL SE: Bleeding, ↓ BP, Inj site Rxn, thrombocytopenia Notes: Monitor bleeding, coagulants, pltts, SCr, activated coagulation time (ACT) w/ prothrombin consumption index (keep ACT 200–300 s)

**Erlotinib** (Tarceva) Uses: *NSCLC after failing 1 chemotherapy; CA pancreas* Action: HER2/EGFR TKI Dose: CA Pancreas 100 mg, others 150 mg/d PO 1 h ac or 2 h pc; ↓ (in 50-mg decrements) w/ severe Rxn or w/ CYP3A4 inhibitors (Table 11); per protocols Caution: [D, ?/–]; w/ CYP3A4 (Table 11) inhibitors Disp: Tabs 25, 100, 150 mg SE: Rash, N/V/D, anorexia, Abd pain, fatigue, cough, dyspnea, edema, stomatitis, conjunctivitis, pruritus, dry skin, Infxn, ↑ LFTs, interstitial lung Dz Notes: May ↑ INR w/ warfarin, monitor INR

**Ertapenem** (Invanz) Uses: *Complicated intra-Abd, acute pelvic, & skin Infxns, pyelonephritis, CAP* Action: A carbapenem; β-lactam antibiotic, ↓ cell wall synth. Spectrum: Good gram(+) & anaerobic coverage, not Pseudomonas, PCN-resistant pneumococci, MRSA, Enterococcus, β-lactamase (+) H. influenzae, Mycoplasma, Chlamydia Dose: Adults. 1 g IM/IV daily; 500 mg/d in CrCl <30 mL/min. Peds 3 mo–12 y: 15 mg/kg bid IM/IV, max 1 g/d Caution: [B, ?/–] Sz Hx, CNS disorders, β-lactam & multiple allergies, probenecid ↓ renal clearance CI: component hypersensitivity or amide anesthetics Disp: Inj 1 g/vial SE: HA, N/V/D, Inj site Rxns, thrombocytosis, ↑ LFTs Notes: Can give IM × 7 d, IV × 14 d; 137 mg Na⁺ (6 mEq)/g ertapenem
**Erythromycin (E-Mycin, E.E.S., Ery-Tab, EryPed, Ilotycin)**

**Uses:** *Bacterial Infxns; bowel preparation*; ↑ GI motility (*prokinetic*); *acne vulgaris*

**Action:** Bacteriostatic; interferes w/ protein synth. *Spectrum:* Group A streptococci (*S. pyogenes*), *S. pneumoniae, N. meningitidis, N. gonorrhoeae* (if PCN-allergic), *Legionella, M. pneumoniae*

**Dose:** *Adults.* Base 250–500 mg PO q6–12h or ethylsuccinate 400–800 mg q6–12h; 500 mg–1 g IV q6h. *Prokinetic:* 250 mg PO tid 30 min ac.

**Pediatric:** 30–50 mg/kg/d PO ÷ q6–8h or 20–40 mg/kg/d IV ÷ q6h, max 2 g/d **Caution:** [B, +] ↑ tox of carbamazepine, cyclosporine, digoxin, methylprednisolone, theophylline, felodipine, warfarin, simvastatin/lovastatin; ↓ sildenafil dose w/ use

**CI:** Hepatic impair, preexisting liver Dz (estolate), use with pimozide *Disp:* lactobionate (*Ilotycin*): Powder for Inj 500 mg, 1 g. *Base:* Tabs 250, 333, 500 mg; caps 250 mg. *Estolate* (*Ilosone*): Susp 125, 250 mg/5 mL. *Stearate* (*Erythrocin*): Tabs 250, 500 mg. *Ethylsuccinate* (*EES, EryPed*): Chew tabs 200 mg; tabs 400 mg; susp 200, 400 mg/5 mL **SE:** HA, Abd pain, N/V/D; [QT prolongation, torsade de pointes, ventricular arrhythmias/tachycardias (rarely)]; cholestatic jaundice (estolate)

**Notes:** 400 mg ethylsuccinate = 250 mg base/estolate; w/ food minimizes GI upset; lactobionate contains benzyl alcohol (caution in neonates)

**Erythromycin & Benzoyl Peroxide (Benzamycin)**

**Uses:** *Topical for acne vulgaris*

**Action:** Macrolide antibiotic w/ keratolytic

**Dose:** Apply bid (A.M. & P.M.) **Caution:** [C, ?] CI: Component sensitivity

**Disp:** Gel erythromycin 30 mg/benzoyl peroxide 50 mg/g **SE:** Local irritation, dryness

**Erythromycin & Sulfisoxazole (Eryzole, Pediazole)**

**Uses:** *Conjunctival/corneal Infxns*

**Action:** Macrolide antibiotic w/ sulfonamide

**Dose:** *Adults.* Based on erythromycin content; 400 mg erythromycin/1200 mg sulfisoxazole PO q6h. *Peds >2 mo:* 40–50 mg/kg/d erythromycin & 150 mg/kg/d sulfisoxazole PO ÷ q6h; max 2 g/d erythromycin or 6 g/d sulfisoxazole × 10 d; ↓ in renal impair **Caution:** [C (D if near term), +] w/ PO anticoagulants, hypoglycemics, phenytoin, cyclosporine CI: Infants <2 mo **Disp:** Susp erythromycin ethylsuccinate 200 mg/sulfisoxazole 600 mg/5 mL (100, 150, 200 mL) **SE:** GI upset

**Erythromycin, ophthalmic (Ilotycin Ophthalmic)**

**Uses:** *Acne vulgaris*

**Action:** Macrolide antibiotic

**Dose:** 1/2 inch 2–6×/d **Caution:** [B, +] CI: Erythromycin hypersensitivity

**Disp:** 0.5% oint **SE:** Local irritation

**Erythromycin, topical (A/T/S, Eryderm, Erycette, T-Stat)**

**Uses:** *Acne vulgaris*

**Action:** Macrolide antibiotic

**Dose:** Wash & dry area, apply 2% product over area bid **Caution:** [B, +] CI: Component sensitivity

**Disp:** Soln 1.5%, 2%; gel 2%; pads & swabs 2% **SE:** Local irritation

**Escitalopram (Lexapro)**

**WARNING:** Closely monitor for worsening depression or emergence of suicidality, particularly in ped pts

**Uses:** Depression,
anxiety **Action:** SSRI **Dose:** Adults. 10–20 mg PO daily; 10 mg/d in elderly & hepatic impair **Caution:** [C, +/-] Serotonin syndrome (Table 12); use of escitalopram, w/ NSAID, ASA or other drugs affecting coagulation associated w/ ↑ bleeding risk **CI:** w/ or w/in 14 d of MAOI **Disp:** Tabs 5, 10, 20 mg; soln 1 mg/mL **SE:** N/V/D, sweating, insomnia, dizziness, xerostomia, sexual dysfunction **Notes:** Full effects may take 3 wk

**Esmolol (Brevibloc)** **Uses:** *SVT & noncompensatory sinus tachycardia, AF/flutter* **Action:** β₁-Adrenergic blocker; class II antiarrhythmic **Dose:** Adults & Peds. Initial 500 mcg/kg load over 1 min, then 50 mcg/kg/min × 4 min; if inadequate response, repeat load & maint Inf of 100 mcg/kg/min × 4 min; titrate by repeating load, then incremental ↑ in the maint dose of 50 mcg/kg/min for 4 min until desired HR reached or ↓ BP; average dose 100 mcg/kg/min; 0.5 mg/kg over 1 min, then 0.05 mg/kg/min (ECC 2005) **Caution:** [C (1st tri; D 2nd or 3rd tri), ?] **CI:** Sinus bradycardia, heart block, uncompensated CHF, cardiogenic shock, ↓ BP **Disp:** Inj 10, 20, 250 mg/mL; premix Inf 10 mg/mL **SE:** ↓ BP; bradycardia, diaphoresis, dizziness, pain on Inf **Notes:** Hemodynamic effects back to baseline w/in 30 min after D/C Inf

**Esomeprazole (Nexium)** **Uses:** *Short-term (4–8 wk) for erosive esophagitis/GERD; H. pylori Infxn in combo with antibiotics* **Action:** Proton pump inhibitor, ↓ gastric acid **Dose:** Adults. GERD/erosive gastritis: 20–40 mg/d PO × 4–8 wk; 20–40 mg IV 10–30 min Inf or >3 min IV push, 10 d max; **Maint:** 20 mg/d PO. H. pylori Infxn: 40 mg/d PO, plus clarithromycin 500 mg PO bid & amoxicillin 1000 mg/bid for 10 d; **Caution:** [B, +/-] **CI:** Component sensitivity **Disp:** Caps 20, 40 mg; IV 20, 40 mg **SE:** HA, D, Abd pain **Notes:** Do not chew; may open caps & sprinkle on applesauce

**Estazolam (ProSom) [C-IV]** **Uses:** *Short-term management of insomnia* **Action:** Benzodiazepine **Dose:** 1–2 mg PO qhs PRN; ↓ in hepatic impair/elderly/debilitated **Caution:** [X, –] ↑ Effects w/ CNS depressants; cross-sensitivity w/ other benzodiazepines **CI:** PRG, component hypersensitivity, w/ itraconazole or ketoconazole **Disp:** Tabs 1, 2 mg SE: Somnolence, weakness, palpitations, anaphylaxis, angioedema, amnesia **Notes:** May cause psychological/physical dependence; avoid abrupt D/C after prolonged use

**Estrified Estrogens (Estratab, Menest)** **WARNING:** ↑ Risk endometrial cancer. Do not use in the prevention of CV Dz or dementia; ↑ risk of MI, stroke, breast CA, PE, DVT, in postmenopausal **Uses:** *Vasomotor Sxs or vulvar/vaginal atrophy w/ menopause*; female hypogonadism, PCa, prevent osteoporosis **Action:** Estrogen supl **Dose:** Menopausal vasomotor Sx: 0.3–1.25 mg/d, cyclically 3 wk on, 1 wk off; add progestin 10–14 d w/ 28-d cycle w/ uterus intact; Vulvovaginal atrophy: same regimen except use 0.3–1.25 mg; **Hypogonadism:** 2.5–7.5 mg/d PO × 20 d, off × 10 d; add progestin 10–14 d w/ 28-d cycle w/uterus intact **Caution:** [X, –] **CI:** Undiagnosed genital bleeding, breast CA, estrogen-dependent tumors, thromboembolic disorders, thrombophlebitis, recent MI, PRG,
severe hepatic Dz Disp: Tabs 0.3, 0.625, 1.25, 2.5 mg SE: N, HA, bloating, breast enlargement/tenderness, edema, venous thromboembolism, hypertriglyceridemia, gallbladder Dz Notes: Use lowest dose for shortest time (see WHI data [www.whi.org])

**Esterified Estrogens + Methyltestosterone (Estratest, Estratest HS, Syntest DS, HS)** WARNING: ↑ Risk endometrial cancer. Avoid in PRG. Do not use in the prevention of CV Dz or dementia; ↑ risk of MI, stroke, breast CA, PE, DVT in postmenopausal women Uses: *Vasomotor Sxs*; postpartum breast engorgement Action: Estrogen & androgen supl Dose: 1 tab/d × 3 wk, 1 wk off Caution: [X, –] CI: Genital bleeding of unknown cause, breast CA, estrogen-dependent tumors, thromboembolic disorders, thrombophlebitis, recent MI, PRG Disp: Tabs (estradiol/methyltestosterone) 0.625 mg/1.25 mg, 1.25 mg/2.5 mg SE: N, HA, bloating, breast enlargement/tenderness, edema, ↑ triglycerides, venous thromboembolism, gallbladder Dz Notes: Use lowest dose for shortest time; (see WHI data [www.whi.org])

**Estradiol, gel (Divigel)** WARNING: ↑ Risk of endometrial CA. Do not use in the prevention of CV Dz or dementia; ↑ risk MI, stroke, breast CA, PE, and DVT in postmenopausal women (50–79 y). ↑ Dementia risk in postmenopausal women (≥65 y) Uses: *Vasomotor Sx in menopause* Action: Estrogen Dose: 0.25 g q day on right or left upper thigh Caution: [X, +/-] may ↑ PT/PTT/plt aggregation w/ thyroid Dz CI: Undiagnosed genital bleeding, breast CA, estrogen-dependent tumors, thromboembolic disorders, thrombophlebitis, recent MI, PRG, severe hepatic Dz Disp: 0.1% gel 0.25/0.5/1 g single-dose foil packets w/ 0.25, 0.5, 1-mg estradiol, respectively SE: N, HA, bloating, breast enlargement/tenderness, edema, venous thromboembolism, ↑ BP, hypertriglyceridemia, gallbladder Dz Notes: if person other than pt applies, glove should be used, keep dry immediately after, rotate site; contains alcohol, caution around flames until dry, not for Vag use

**Estradiol, gel (Elestrin)** WARNING: Do not use in the prevention of CV Dz or dementia; ↑ risk MI, stroke, breast CA, PE, and DVT in postmenopausal women Uses: *Postmenopausal vasomotor Sxs* Action: Estrogen Dose: Apply 0.87–1.7 g to skin q day; add progestin × 10–14 d/28-d cycle w/ intact uterus; use lowest effective estrogen dose Caution: [X, ?] CI: AUB, breast CA, estrogen-dependent tumors, thromboembolic disorders, recent MI, PRG, severe hepatic Dz Disp: Gel 0.06% SE: Thromboembolic events, MI, stroke, ↑ BP, breast/ovarian/endometrial CA, site Rxns, vag spotting, breast changes, Abd bloating, cramps, HA, fluid retention Notes: Apply to upper arm, wait >25 min before sunscreen; avoid concomitant use for >7 d; BP, breast exams

**Estradiol, oral (Estrace, Delestrogen, Femtrace)** WARNING: ↑ Risk of endometrial CA; avoid in PRG Uses: *Atrophic vaginitis, menopausal vasomotor Sxs, low estrogen levels, palliation breast and PCa* Action: Estrogen Dose: PO: 1–2 mg/d, adjust PRN to control Sxs. Vaginal cream: 2–4 g/d × 2 wk, then 1 g 1–3x/wk. Vasomotor Sx/Vag Atrophy: 10–20 mg IM q4wk, D/C or taper at
3–6-mo intervals. Hypoestrogenism: 10–20 mg IM q4wk. PCa: 30 mg IM q12wk

Caution: [X, –] CI: Genital bleeding of unknown cause, breast CA, porphyria, estrogen-dependent tumors, thromboembolic disorders, thrombophlebitis; recent MI; hepatic impair

Disp: Ring 0.05, 0.1, 2 mg; gel 0.061%; tabs 0.5, 1, 2 mg; vag cream 0.1 mg/g, depot Inj (Delestrogen) 10, 20, 40 mg/mL

SE: N, HA, bloating, breast enlargement/tenderness, edema, ↑ triglycerides, venous thromboembolism, gallbladder Dz

**Estradiol, spray (Evamist)**

WARNING: ↑ Risk of endometrial CA. Do not use in the prevention of CV Dz or dementia; ↑ risk MI, stroke, breast CA, PE, and DVT in postmenopausal women (50–79 y). ↑ Dementia risk in postmenopausal women (≥65 y)

Uses: *Vasomotor Sx in menopause*  
**Action:** Estrogen

Dose: 1 spray on inner surface of forearm

Caution: [X, +/–] May ↑ PT/PTT/plt aggregation w/ thyroid Dz

CI: Undiagnosed genital bleeding, breast CA, estrogen-dependent tumors, thromboembolic disorders, thrombophlebitis, recent MI, PRG, severe hepatic Dz

Disp: 1.53 mg/spray (56 sprays container)

SE: N, HA, bloating, breast enlargement/tenderness, edema, ↑ BP, hypertriglyceridemia, gallbladder Dz

Notes: Contains alcohol, caution around flames until dry; not for Vag use

**Estradiol, transdermal (Estraderm, Climara, Vivelle, Vivelle Dot)**

WARNING: ↑ Risk of endometrial CA. Do not use in the prevention of CV Dz or dementia; ↑ risk MI, stroke, breast CA, PE, and DVT in postmenopausal women (50–79 y). ↑ Dementia risk in postmenopausal women (≥65 y)

Uses: *Severe menopausal vasomotor Sxs; female hypogonadism*  
**Action:** Estrogen supl

Dose: Start 0.0375–0.05 mg/d patch 2×/wk based on product; adjust PRN to control Sxs; w/ intact uterus cycle 3 wk on 1 wk off or use cyclic progestin 10–14 d

Caution: [X, –] See estradiol CI: PRG, AUB, porphyria, breast CA, estrogen-dependent tumors, Hx thromboembolitis, thrombosis

Disp: Transdermal patches (mg/24 h) 0.025, 0.0375, 0.05, 0.06, 0.075, 0.1

SE: N, bloating, breast enlargement/tenderness, edema, HA, hypertriglyceridemia, gallbladder Dz

Notes: Do not apply to breasts, place on trunk, rotate sites

**Estradiol, vaginal (Estring, Femring, Vagifem)**

WARNING: ↑ Risk of endometrial CA. Do not use in the prevention of CV Dz or dementia; ↑ risk MI, stroke, breast CA, PE, and DVT in postmenopausal women (50–79 y)

Uses: *Postmenopausal vaginal atrophy (Estring)*  
*vasomotor Sxs and vulvar/vaginal atrophy associated with menopause (Femring)*  
*atrophic vaginitis (Vagifem)*

**Action:** Estrogen

Dose: Estring: Insert ring into upper third of vaginal vault; remove and replace after 90 d; reassess 3–6 mo; Femring use lowest effective dose, insert vaginally, replace q3mo; Vagifem 1 tab vaginally q day × 2 wk, then main 1 tab 2×/wk, D/C or taper at 3–6 mo

Caution: [X, –] May ↑ PT/PTT/plt aggregation w/ thyroid Dz, toxic shock reported

CI: Undiagnosed genital bleeding, breast CA, estrogen-dependent tumors, thromboembolic disorders, thrombophlebitis, recent MI, PRG, severe hepatic Dz

Disp: Estring Ring: 0.0075 mg/24 h; Femring
Estramustine Phosphate

Ring: 0.05 and 0.1 mg/d; Vagifem tab (vaginal) 25 mcg SE: HA, leukorrhea, back pain, candidiasis, vaginitis, vaginal discomfort/hemorrhage, arthralgia, insomnia, Abd pain

**Estradiol Cypionate & Medroxyprogesterone Acetate (Lunelle)** WARNING: Cigarette smoking ↑ risk of serious CV side effects from contraceptives w/ estrogen. This risk ↑ w/ age & w/ heavy smoking (>15 cigarettes/d) & is marked in women >35 y. Women who use Lunelle should not smoke Uses: *Contraceptive* Action: Estrogen & progestin Dose: 0.5 mL IM (deltoid, anterior thigh, buttock) monthly, do not exceed 33 d Caution: [X, M] HTN, gallbladder Dz, ↑ lipids, migraines, sudden HA, valvular heart Dz with comps CI: PRG, heavy smokers >35 y, DVT, PE, cerebro-/CV Dz, estrogen-dependent neoplasm, undiagnosed AUB, porphyria, hepatic tumors, cholestatic jaundice Disp: Estradiol cypionate (5 mg), medroxyprogesterone acetate (25 mg) single-dose vial or syringe (0.5 mL) SE: Arterial thromboembolism, HTN, cerebral hemorrhage, MI, amenorrhea, acne, breast tenderness Notes: Start w/in 5 d of menstruation

**Estradiol/Levonorgestrel, transdermal (Climara Pro)** WARNING: ↑ Risk of endometrial CA. Do not use in the prevention of CV Dz or dementia; ↑ risk MI, stroke, breast CA, PE, and DVT in postmenopausal women (50–79 y). Dementia risk in postmenopausal women (≥65 y) Uses: *Menopausal vasomotor Sx; prevent postmenopausal osteoporosis* Action: Estrogen & progestosterone Dose: 1 Patch 1×/wk Caution: [X, –] w/ ↓ Thyroid CI: AUB, estrogen-sensitive tumors, Hx thromboembolism, liver impair, PRG, hysterectomy Disp: Estradiol 0.045 mg/levonorgestrel 0.015/mg day patch SE: Site Rxn, Vag bleed/spotting, breast changes, Abd bloating/cramps, HA, retention fluid, edema, ↑ BP Notes: Apply lower Abd; for osteoporosis give CA²⁺/vit D supl; follow breast exams

**Estradiol/Norethindrone Acetate (Femhrt, Activella)** WARNING: ↑ Risk of endometrial CA. Do not use in the prevention of CV Dz or dementia; ↑ risk MI, stroke, breast CA, PE, and DVT in postmenopausal women (50–79 y). Dementia risk in postmenopausal women (≥65 y) Uses: *Menopause vasomotor Sxs; prevent osteoporosis* Action: Estrogen/progestin; plant derived Dose: 1 tab/d start w/ lowest dose combo Caution: [X, –] w/ ↓ CA²⁺/thyroid CI: PRG; Hx breast CA; estrogen-dependent tumor; abnormal genital bleeding; Hx DVT, PE, or related disorders; recent (w/in past year) arterial thromboembolic Dz (CVA, MI) Disp: Femhrt tabs 2.5/0.5, 5 mcg/1 mg; Activella tabs 1.0/0.5, 0.5 mg/0.1 mg SE: Thrombosis, dizziness, HA, libido changes, insomnia, emotional stability, breast pain Notes: Use in women w/ intact uterus; caution in heavy smokers

**Estramustine Phosphate (Emcyt)** Uses: *Advanced PCa* Action: estradiol w/ nornitrogen mustard; exact mechanism unknown Dose: 14 mg/kg/d in 3–4 ÷ doses; on empty stomach, no dairy products Caution: [NA, not used in females] CI: Active thrombophlebitis or thromboembolic disorders Disp: Caps
140 mg SE: N/V, exacerbation of preexisting CHF, edema, hepatic disturbances, thrombophlebitis, MI, PE, gynecomastia in 20–100% NOTE: low-dose breast irradiation before may ↓ gynecomastia

**Estrogen, Conjugated (Premarin)** WARNING: ↑ Risk of endometrial CA. Do not use in the prevention of CV Dz or dementia; ↑ risk MI, stroke, breast CA, PE, and DVT in postmenopausal women (50–79 y). ↑ Dementia risk in postmenopausal women (≥65 y) Uses: *Mod–severe menopausal vasomotor Sxs; atrophic vaginitis; palliative advanced CAP; prevention & Tx of estrogen deficiency osteoporosis* Action: Estrogen hormonal replacement Dose: 0.3–1.25 mg/d PO cyclically; prostatic CA 1.25–2.5 mg PO tid; Caution: [X, –] CI: Severe hepatic impair, genital bleeding of unknown cause, breast CA, estrogen-dependent tumors, thromboembolic disorders, thrombosis, thrombophlebitis, recent MI Disp: Tabs 0.3, 0.45, 0.625, 0.9, 1.25, 2.5 mg; Vag cream 0.625 mg/g SE: ↑ Risk of endometrial CA, gallbladder Dz, thromboembolism, HA, & possibly breast CA Notes: generic products not equivalent

**Estrogen, Conjugated Synthetic (Cenestin, Enjuvia)** WARNING: ↑ Risk of endometrial CA. Do not use in the prevention of CV Dz or dementia; ↑ risk MI, stroke, breast CA, PE, and DVT in postmenopausal women (50–79 y). ↑ Dementia risk in postmenopausal women (≥65 y) Uses: *Vasomotor menopausal Sxs, vulvovaginal atrophy, prevent postmenopausal osteoporosis* Action: Multiple estrogen hormonal replacement Dose: For all w/ intact uterus progestin × 10–14 d/28-d cycle; Vasomotor 0.3–1.25 mg (Enjuvia) 0.625–1.25 mg (Cenestin) PO daily; Vag atrophy 0.3 mg/d; Osteoporosis (Cenestin) 0.625 mg/d Caution: [X, –] CI: See estrogen, conjugated Disp: Tabs Cenestin 0.3, 0.45, 0.625, 0.9 mg; Enjuvia ER 0.3, 0.45, 0.625, 1.25 mg SE: ↑ Risk endometrial/breast CA, gallbladder Dz, thromboembolism

**Estrogen, Conjugated + Medroxyprogesterone (Prempiro, Premphase)** WARNING: Should not be used for the prevention of CV Dz or dementia; ↑ risk of MI, stroke, breast CA, PE, & DVT; ↑ risk of dementia in postmenopausal women Uses: *Mod–severe menopausal vasomotor Sxs; atrophic vaginitis; prevent postmenopausal osteoporosis* Action: Hormonal replacement Dose: Prempiro 1 tab PO daily; Premphase 1 tab PO daily Caution: [X, –] CI: Severe hepatic impair, genital bleeding of unknown cause, breast CA, estrogen-dependent tumors, thromboembolic disorders, thrombosis, thrombophlebitis Disp: (As estrogen/medroxyprogesterone) Prempiro: Tabs 0.625/2.5, 0.625/5 mg; Premphase: Tabs 0.625/0 (d 1–14) & 0.625/5 mg (d 15–28) SE: Gallbladder Dz, thromboembolism, HA, breast tenderness Notes: See WHI (www.whi.org)

**Estrogen, Conjugated + Methylprogesterone (Premin + Methylprogesterone)** WARNING: Do not use in the prevention of CV Dz or dementia; ↑ risk of endometrial cancer Uses: *Menopausal vasomotor Sxs; osteoporosis* Action: Estrogen & androgen combo Dose: 1 tab/d Caution: [X, –] CI: Severe hepatic impair, AUB, breast CA, estrogen-dependent tumors,
thromboembolic disorders, thrombosis, thrombophlebitis **Disp:** Tabs 0.625 mg estrogen, conjugated, & 2.5 or 5 mg of methylprogesterone **SE:** N, bloating, breast enlargement/tenderness, edema, HA, hypertriglyceridemia, gallbladder Dz

**Estrogen, Conjugated + Methyltestosterone (Premarin + Methyltestosterone)**  **WARNING:** Do not use in the prevention of CV Dz or dementia; ↑ risk of endometrial cancer  **Uses:** *Mod–severe menopausal vasomotor Sxs*; postpartum breast engorgement  **Action:** Estrogen & androgen combo  **Dose:** 1 tab/d × 3 wk, then 1 wk off  **Caution:** [X, –]  **CI:** Severe hepatic impair, genital bleeding of unknown cause, breast CA, estrogen-dependent tumors, thromboembolic disorders, thrombophlebitis  **Disp:** Tabs (estrogen/methyltestosterone) 0.625 mg/5 mg, 1.25 mg/10 mg  

**Eszopiclone (Lunesta) [C-IV]**  **Uses:** *Insomnia*  **Action:** Nonbenzodiazepine hypnotic  **Dose:** 2–3 mg/d hs  **Elderly:** 1–2 mg/d hs; w/ hepatic impair use w/ CYP3A4 inhibitor (Table 11): 1 mg/d hs  **Caution:** [C, ?/–]  **Disp:** Tabs 1, 2, 3 mg  

**Etanercept (Enbrel)**  **WARNING:** Serious Infxns (bacterial sepsis, TB, reported); D/C w/ severe Infxn. Evaluate for TB risk; test for TB before use  **Uses:** *↓ Sxs of RA in pts who fail other DMARD,* Crohn Dz  **Action:** TNF receptor blocker  **Dose:** *Adults.* RA 50 mg SQ weekly or 25 mg SQ 2×/wk (separated by at least 72–96 h). *Peds 4–17 y:* 0.8 mg/kg/wk (max 50 mg/wk) or 0.4 mg/kg (max 25 mg/dose) 2×/wk 72–96 h apart  **Caution:** [B, ?] w/ Predisposition to Infxn (ie, DM); may ↑ risk of malignancy in peds and young adults  **CI:** Active Infxn  

**Ethambutol (Myambutol)**  **Uses:** *Pulm TB* & other mycobacterial Infxns, MAC  **Action:** ↓ RNA synth  **Dose:** *Adults & Peds >12 y:* 15–25 mg/kg/d PO single dose; ↓ in renal impair, take w/ food, avoid antacids  **Caution:** [C, +]  **CI:** unconscious pts, optic neuritis  **Disp:** Tabs 100, 400 mg SE: HA, hyperuricemia, acute gout, Abd pain, ↑ LFTs, optic neuritis, GI upset

**Ethynyl Estradiol (Estinyl, Feminone)**  **WARNING:** ↑ Risk endometrial cancer. Avoid in PRG. Do not use in the prevention of CV Dz or dementia; ↑ risk of MI, stroke, breast CA, PE, DVT, in postmenopausal women  **Uses:** *Menopausal vasomotor Sxs; female hypogonadism*  **Action:** Estrogen supl  **Dose:** 0.02–1.5 mg/d ÷ daily–tid  **Caution:** [X, –]  

**Ethynyl Estradiol & Norelgestromin (Ortho Evra)**  **Uses:** *Contraceptive patch*  **Action:** Estrogen & progestin  **Dose:** Apply patch to abdomen, buttocks, upper torso (not breasts), or upper outer arm at the beginning of the
menstrual cycle; new patch is applied weekly for 3 wk; wk 4 is patch-free Caution: [X, M] CI: PRG, Hx or current DVT/PE, stroke, MI, CV Dz, CAD; severe HTN; severe HA w/ focal neurologic Sx; breast/endometrial CA; estrogen-dependent neoplasms; hepatic dysfunction; jaundice; major surgery w/ prolonged immobilization; heavy smoking if >35 y Disp: 20 cm² patch (6 mg norelgestromin [active metabolite norgestimate] & 0.75 mg of ethinyl estradiol) SE: Breast discomfort, HA, site Rxns, N, menstrual cramps; thrombosis risks similar to OCP Notes: Less effective in women >90 kg; instruct pt does not protect against STD/HIV

Ethosuximide (Zarontin) Uses: *Absence (petit mal) Szs* Action: Anticonvulsant; ↑ Sz threshold Dose: Adults and peds >6 y: Initial, 500 mg PO ÷ bid; ↑ by 250 mg/d q4–7d PRN (max 1500 mg/d) usual maint 20–30 mg/kg. Peds 3–6 y: Initial: 15 mg/kg/d PO ÷ bid. Maint: 15–40 mg/kg/d ÷ bid, max 1500 mg/d Caution: [D, +] In renal/hepatic impair; antiepileptics may ↑ risk of suicidal behavior or ideation CI: Component sensitivity Disp: Caps 250 mg; syrup 250 mg/5 mL SE: Blood dyscrasias, GI upset, drowsiness, dizziness, irritability Notes: Levels: Trough: just before next dose; Therapeutic: Peak 40–100 mcg/mL; Toxic Trough: >100 mcg/mL; Half-life: 25–60 h

Etidronate Disodium (Didronel) Uses: *↑ Ca²⁺ of malignancy, Paget Dz, & heterotopic ossification* Action: ↓ Nl & abnormal bone resorption Dose: Paget Dz: 5–10 mg/kg/d PO ÷ doses (for 3–6 mo). ↑ Ca²⁺: 7.5 mg/kg/d IV Inf over 2 h × 3 d, then 20 mg/kg/d PO on last day of Inf × 1–3 mo Caution: [B PO (C parenteral), ?] Bisphosphonates may cause severe musculoskeletal pain CI: Overt osteomalacia, SCr >5 mg/dL Disp: Tabs 200, 400 mg; Inj 50 mg/mL SE: GI intolerance (↓ by ÷ daily doses); hyperphosphatemia, hypomagnesemia, bone pain, abnormal taste, fever, convulsions, nephrotoxic Notes: Take PO on empty stomach 2 h before or 2 h pc

Etodolac WARNING: May ↑ risk of cv events & GI bleeding; may worsen ↑ BP Uses: *Osteoarthritis & pain,* RA Action: NSAID Dose: 200–400 mg PO bid-qid (max 1200 mg/d) Caution: [C (D 3rd tri), ?] ↑ Bleeding risk w/ aspirin, warfarin, ↑ nephrotoxic w/ cyclosporine; Hx CHF, HTN, renal/hepatic impair, PUD CI: Active GI ulcer Disp: Tabs 400, 500 mg; ER tabs 400, 500, 600 mg; caps 200, 300 mg SE: N/V/D, gastritis, Abd cramps, dizziness, HA, depression, edema, renal impair Notes: Do not crush tabs

Etonogestrel/Ethinyl Estradiol vaginal insert (NuvaRing) Uses: *Contraceptive* Action: Estrogen & progestin combo Dose: Rule out PRG first; insert ring vaginally for 3 wk, remove for 1 wk; insert new ring 7 d after last removed (even if bleeding) at same time of day ring removed. 1st day of menses is day 1, insert before day 5 even if bleeding. Use other contraception for 1st 7 d of starting therapy. See insert if converting from other contraceptive; after delivery or 2nd tri abortion, insert 4 wk postpartum (if not breast-feeding) Caution: [X, ?/−] HTN, gallbladder Dz, ↑ lipids, migraines, sudden HA CI: PRG, heavy smokers >35 y, DVT, PE, cerebro-/CV Dz, estrogen-dependent neoplasm, undiagnosed
abnormal genital bleeding, hepatic tumors, cholestatic jaundice  
Disp: Intravag ring: ethinyl estradiol 0.015 mg/d & etonogestrel 0.12 mg/d  
Notes: If ring removed, rinse w/ cool/lukewarm H2O (not hot) & reinsert ASAP; if not reinserted w/in 3 h, effectiveness ↓; do not use with diaphragm  

Etonogestrel implant (Implanon)  
Uses: *Contraception*  
Action: Transforms endometrium from proliferative to secretory  
Dose: 1 Implant subdermally q3y  
Caution: [X, +] Exclude pregnancy before implant  
CI: PRG, hormonally responsive tumors, breast CA, AUB, hepatic tumor, active liver Dz, hx thromboembolic Dz  
Disp: 68-mg implant  
SE: Spotting, irregular periods, amenorrhea, dysmenorrhea, HA, tender breasts, N, wgt gain, acne, ectopic pregnancy, PE, ovarian cysts, stroke, ↑ BP  
Notes: 99% Effective; remove implant and replace; restricted distribution; physician must register and train; does not protect against STDs  

Etoposide [VP-16] (VePesid, Toposar)  
Uses: *Testicular, NSCLC, Hodgkin Dz, & NHLs, peds ALL, & allogeneic/autologous BMT in high doses*  
Action: Topoisomerase II inhibitor  
Dose: 50 mg/m2/d IV for 3–5 d; 50 mg/m2/d PO for 21 d (PO availability = 50% of IV); 2–6 g/m2 or 25–70 mg/kg in BMT (per protocols); ↓ in renal/hepatic impair  
Caution: [D, –] IT administration  
Disp: Caps 50 mg; Inj 20 mg/mL  
SE: N/V (Emesis in 10–30%), ↓ BM, alopecia, ↓ BP w/ rapid IV, anorexia, anemia, leukopenia, ↑ risk secondary leukemias  

Etravirine (Intelen)  
Uses: *HIV*  
Action: Non-NRTI  
Dose: 200 mg PO bid following a meal  
Caution: [B, ±] Many interactions: substrate/inducer (CYP3A4), substrate/inhibitor (CYP2C9, CYP2C19); do not use w/ tipranavir/ritonavir, fosamprenavir/ritonavir, atazanavir/ritonavir, protease inhibitors w/o ritonavir, and non-NRTIs  
CI: None  
Disp: Tabs 100 mg SE: N/V/D, rash, severe/potentially life-threatening skin Rxns, fat redistribution  

Exemestane (Aromasin)  
Uses: *Advanced breast CA in postmenopausal women w/ progression after tamoxifen*  
Action: Irreversible, steroidal aromatase inhibitor; ↓ estrogens  
Dose: 25 mg PO daily after a meal  
Caution: [D, 7/–] CI: PRG, component sensitivity  
Disp: Tabs 25 mg SE: Hot flashes, N, fatigue, ↑ alkaline phosphate  

Exenatide (Byetta)  
Uses: Type 2 DM combined w/ metformin &/or sulfonylurea  
Action: An incretin mimic: ↑ insulin release, ↓ glucagon secretion, ↓ gastric emptying, promotes satiety  
Dose: 5 mcg SQ bid w/in 60 min before A.M. & P.M. meals; ↑ to 10 mcg SQ bid after 1 mo PRN; do not give pc  
Caution: [C, 7/–] CI: Absorption of other drugs (take antibiotics/contraceptives 1 h before)  
Disp: Sohn 5, 10 mcg/dose in prefilled pen  
SE: Hypoglycemia, N/V/D, dizziness, HA, dyspepsia, ↓ appetite, jittery; acute pancreatitis  
Notes: Consider ↓ sulfonylurea to ↓ risk of hypoglycemia; discard pen 30 d after 1st use  

Ezetimibe (Zetia)  
Uses: *Hypercholesterolemia alone or w/ a HMG-CoA reductase inhibitor*  
Action: ↓ cholesterol & phytosterols absorption  
Dose: Adults & Peds >10 y: 10 mg/d  
Caution: [C, +/–] Bile acid sequestrants ↓ bioavailability
Ezetimibe/Simvastatin (Vytorin) 

**Uses:** *Hypercholesterolemia*  
**Action:** ↓ Absorption of cholesterol & phytosterols w/ HMG-CoA-reductase inhibitor  
**Dose:** 10/10–10/80 mg/d PO; w/ cyclosporine or danazol: 10/10 mg/d max; w/ amiodarone or verapamil: 10/20 mg/d max; ↓ w/ severe renal Insuff; give 2 h before or 4 h after bile acid sequestrants  
**Caution:** [X, –]; w/ CYP3A4 inhibitors (Table 11), gemfibrozil, niacin >1 g/d, danazol, amiodarone, verapamil CI: PRG/lactation; liver Dz, ↑ LFTs  
**Disp:** Tabs (ezetimibe/simvastatin) 10/10, 10/20, 10/40, 10/80 mg  
**SE:** HA, GI upset, myalgia, myopathy (muscle pain, weakness, or tenderness w/ creatine kinase 10 × ULN, rhabdomyolysis), hep, Infxn  
**Notes:** Monitor LFTs, lipids; ezetimibe/simvastatin combo lowered LDL more than simvastatin alone in ENHANCE study, but there was no difference in carotid-intima media thickness

**Famciclovir (Famvir)**  
**Uses:** *Acute herpes zoster (shingles) & genital herpes*  
**Action:** ↓ Viral DNA synth  
**Dose:** Zoster: 500 mg PO q8h × 7 d. Simplex: 125–250 mg PO bid; ↓ w/ renal impair  
**Caution:** [B, –] CI: Component sensitivity  
**Disp:** Tabs 125, 250, 500 mg  
**SE:** Fatigue, dizziness, HA, pruritus, N/D  
**Notes:** Best w/in 72 h of initial lesion

**Famotidine (Pepcid, Pepcid AC) [OTC]**  
**Uses:** *Short-term Tx of duodenal ulcer & benign gastric ulcer; maint for duodenal ulcer, hypersecretory conditions, GERD, & heartburn*  
**Action:** H₂-antagonist; ↓ gastric acid  
**Dose:** Adults. Ulcer: 20 mg IV q12h or 20–40 mg PO qhs × 4–8 wk. Hypersecretion: 20–160 mg PO q6h. GERD: 20 mg PO bid × 6 wk; maint: 20 mg PO hs. Heartburn: 10 mg PO PRN q12h. Peds. 0.5–1 mg/kg/d; ↓ in severe renal Insuff  
**Caution:** [B, M] CI: Component sensitivity  
**Disp:** Tabs 10, 20, 40 mg; chew tabs 10 mg; susp 40 mg/5 mL; gelatin caps 10 mg, Inj 10 mg/2 mL  
**SE:** Dizziness, HA, constipation, D, thrombocytopenia  
**Notes:** Chew tabs contain phenylalanine

**Felodipine (Plendil)**  
**Uses:** *HTN & CHF*  
**Action:** CCB  
**Dose:** 2.5–10 mg PO daily; swallow whole; ↓ in hepatic impair  
**Caution:** [C, ?] ↑ effect with azole antifungals, erythromycin, grapefruit juice CI: Component sensitivity  
**Disp:** ER tabs 2.5, 5, 10 mg SE: Peripheral edema, flushing, tachycardia, HA, gingival hyperplasia  
**Notes:** Follow BP in elderly & w/ hepatic impair

**Fenofibrate (TriCor, Antara, Lofibra, Lipofen, Triglide)**  
**Uses:** *Hypertriglyceridemia, hypercholesterolemia*  
**Action:** ↓ Triglyceride synth  
**Dose:** 43–160 mg/d; ↓ w/ renal impair; take w/ meals  
**Caution:** [C, ?] CI: Hepatic/severe renal Insuff, primary biliary cirrhosis, unexplained ↑ LFTs, gallbladder Dz  
**Disp:** Caps 50, 100, 150 mg; caps (micronized): (Lofibra) 67, 134, 200 mg, (Antara) 43, 130 mg; tabs 54, 160 mg SE: GI disturbances, cholecystitis, arthralgia, myalgia, dizziness, ↑ LFTs  
**Notes:** Monitor LFTs

**Fenoldopam (Corlopam)**  
**Uses:** *Hypertensive emergency*  
**Action:** Rapid vasodilator  
**Dose:** Initial 0.03–0.1 mcg/kg/min IV Inf, titrate q15min by
1.6 mcg/kg/min to max 0.05–0.1 mcg/kg/min Caution: [B, ?] ↓ BP w/ β-blockers
CI: Allergy to sulfites Disp: Inj 10 mg/mL SE: ↓ BP, edema, facial flushing, N/V/D, atrial flutter/fibrillation, ↑ IOP Notes: Avoid concurrent β-blockers

Fenoprofen (Nalfon) [C-II] WARNING: May ↑ risk of cv events and GI bleeding Uses: *Arthritis & pain* Action: NSAID Dose: 200–600 mg q4–8h, to 3200 mg/d max; w/ food Caution: [B (D 3rd tri), +/-] CHF, HTN, renal/hepatic impair, Hx PUD CI: NSAID sensitivity Disp: Caps 200, 300, 600 mg SE: GI disturbance, dizziness, HA, rash, edema, renal impair, hep Notes: Swallow whole

Fentanyl (Sublimaze) [C-II] Uses: *Short-acting analgesic* in anesthesia & PCA Action: Narcotic analgesic Dose: Adults. 25–100 mcg/kg/dose IV/IM titrated; Anesthesia: 5–15 mcg/kg; Pain: 200 mcg over 15 min, titrate to effect Ped. 1–2 mcg/kg IV/IM q1–4h titrate; ↓ in renal impair Caution: [B, +] CI: Paralytic ileus ↑ ICP, resp depression, severe renal/hepatic impair Disp: Inj 0.05 mg/mL SE: Sedation, ↓ BP, bradycardia, constipation, N, resp depression, miosis Notes: 0.1 mg fentanyl = 10 mg morphine IM

Fentanyl iontophoretic transdermal system (Ionsys) WARNING: Use only w/ hospitalized pts, D/C on discharge; fentanyl may result in potentially life-threatening resp depression and death Uses: *Short-term in-hospital analgesia* Action: Opioid narcotic, iontophoretic transdermal Dose: 40 mcg/activation by pt; dose given over 10 min; max over 24 h 3.2 mg (80 doses) Caution: [C, –] CI: See fentanyl Disp: Battery-operated self-contained transdermal system, 40 mcg/activation, 80 doses SE: See fentanyl, site Rxn Notes: Choose nl skin site chest or upper outer arm; titrate to comfort, pts must have access to supplemental analgesia; instruct in device use; dispose properly at discharge

Fentanyl, transdermal (Duragesic) [C-II] WARNING: Potential for abuse and fatal overdose Uses: *Persistent mod–severe chronic pain in pts already tolerant to opioids* Action: Narcotic Dose: Apply patch to upper torso q72h; dose based on narcotic requirements in previous 24 h; start 25 mcg/h patch q72h; ↓ in renal impair Caution: [B, +] w/ Cyp3A4 inhibitors (Table 11) may ↑ fentanyl effect, w/ Hx substance abuse CI: Not opioid tolerant, short-term pain management, post-op pain in outpatient surgery, mild pain, PRN use ↑ ICP, resp depression, severe renal/hepatic impair, peds <2 y Disp: Patches 12.5, 25, 50, 75, 100 mcg/h SE: Resp depression (fatal), sedation, ↓ BP, bradycardia, constipation, N, miosis Notes: 0.1 mg fentanyl = 10 mg morphine IM; do not cut patch; peak level 24–72 h

Fentanyl, transmucosal system (Actiq, Fentora) [C-II] WARNING: Potential for abuse and fatal overdose; use only in CA pts with chronic pain who are opioid tolerant; buccal formulation ↑ bioavailability over transmucosal; do not substitute on a mcg-per-mcg basis; use w/ strong CYP3A4 inhibitors may ↑ fentanyl levels Uses: *Breakthrough CA pain* Action: Narcotic analgesic, transmucosal absorption Dose: Start 100 mcg buccal (Fentora) × 1, may
repeat in 30 min, 4 tabs/dose max; titrate; start 200 mcg PO (Actiq) × 1, may repeat × 1 after 30 min; titrate. **Caution:** [B, +] CI: ↑ ICP, resp depression, severe renal/hepatic impair, management of post-op or awake pain. **Disp:** (Actiq) Lozenges on stick 200, 400, 600, 800, 1200, 1600 mcg; (Fentora) buccal tabs 100, 200, 300, 400, 600, 800 mcg. **SE:** Sedation, ↓ BP, bradycardia, constipation, N, resp depression, miosis. **Notes:** 0.1 mg fentanyl = 10 mg IM morphine; for use in pts already tolerant to opioid therapy.

**Ferrous Gluconate (Fergon [OTC], others)** **WARNING:** Accidental overdose of iron-containing products is a leading cause of fatal poisoning in children <6. Keep out of reach of children. **Uses:** *Iron-deficiency anemia* & Fe suppl. **Action:** Dietary suppl. **Dose:** Adults. 100–200 mg of elemental Fe/d ÷ doses. **Peds.** 4–6 mg/kg/d ÷ doses; on empty stomach (OK w/ meals if GI upset occurs); avoid antacids. **Caution:** [A, ?] CI: Hemochromatosis, hemolytic anemia. **Disp:** Tabs Fergon 240 (27 mg Fe), 246 (28 mg Fe), 300 (34 mg Fe), 325 mg (36 mg Fe). **SE:** GI upset, constipation, dark stools, discoloration of urine, may stain teeth. **Notes:** 12% Elemental Fe; false (+) stool guaiac; keep away from children; severe tox in overdose.

**Ferrous Gluconate Complex (Ferrlecit)** **Uses:** *Iron-deficiency anemia or suppl to erythropoietin therapy.* **Action:** Fe suppl. **Dose:** Test dose: 2 mL (25 mg Fe) IV over 1 h, if OK, 125 mg (10 mL) IV over 1 h. Usual cumulative dose 1 Fe over 8 sessions (until favorable Hct). **Caution:** [B, ?] CI: non–Fe-deficiency anemia; CHF; Fe overload. **Disp:** Inj 12.5 mg/mL Fe. **SE:** ↓ BP, serious allergic Rxns, GI disturbance, Inj site Rxn. **Notes:** Dose expressed as mg Fe; may infuse during dialysis.

**Ferrous Sulfate (OTC)** **Uses:** *Fe-deficiency anemia & Fe suppl.* **Action:** Dietary suppl. **Dose:** Adults. 100–200 mg elemental Fe/d ÷ doses. **Peds.** 1–6 mg/kg/d ÷ daily–tid; on empty stomach (OK w/ meals if GI upset occurs); avoid antacids. **Caution:** [A, ?] ↑ Absorption w/ vit C; ↓ absorption w/ tetracycline, fluoroquinolones, antacids, H₂ blockers, proton pump inhibitors. **CI:** Hemochromatosis, hemolytic anemia. **Disp:** Tabs 187 (60 mg Fe), 200 (65 mg Fe), 324 (65 mg Fe), 325 mg (65 mg Fe); SR caplets & tabs 160 (50 mg Fe), 200 mg (65 mg Fe); gtt 75 mg/0.6 mL (15 mg Fe/0.6 mL); elixir 220 mg/5 mL (44 mg Fe/5 mL); syrup 90 mg/5 mL (18 mg Fe/5 mL). **SE:** GI upset, constipation, dark stools, discolored urine.

**Fexofenadine (Allegra, Allegra-D)** **Uses:** *Allergic rhinitis chronic idiopathic urticaria.* **Action:** Selective antihistamine, antagonizes H₁-receptors. **Allegra D** contains pseudoephedrine. **Dose:** Adults & Peds >12 y: 60 mg PO bid or 180 mg/d; 12-h ER form bid, 24-h ER form q day. **Peds 6–11 y:** 30 mg PO bid; ↓ in renal impair. **Caution:** [C, ?] w/ Nevirapine. **CI:** Component sensitivity. **Disp:** Tabs 30, 60, 180 mg; susp 6 mg/mL; Allegra-D 12-h ER tab (60 mg fexofenadine/120 mg pseudoephedrine), Allegra-d 24-h ER (180 mg fexofenadine/240 mg pseudoephedrine). **SE:** Drowsiness (rare), HA.
Filgrastim [G-CSF] (Neupogen)  
**Uses:** *↓* Incidence of Infxn in febrile neutropenic pts; Rx chronic neutropenia*  
**Action:** Recombinant G-CSF  
**Dose:** *Adults & Peds.* 5 mcg/kg/d SQ or IV single daily dose; D/C when ANC >10,000  
**Caution:** [C, ?] w/ Drugs that potentiate release of neutrophils (eg, lithium)  
**Cl:** Allergy to *E. coli*-derived proteins or G-CSF  
**Disp:** Inj 300, 600 mcg/mL  
**SE:** Fever, alopecia, N/V/D, splenomegaly, bone pain, HA, rash  
**Notes:** ✓ CBC & plt; monitor for cardiac events; no benefit w/ ANC >10,000/mm³

Finasteride (Proscar, Propecia)  
**Uses:** BPH & androgenetic alopecia*  
**Action:** ↓ 5α-Reductase  
**Dose:** *BPH:* 5 mg/d PO. *Alopecia:* 1 mg/d PO; food ↓ absorption  
**Caution:** [X, –] Hepatic impair  
**Cl:** Pregnant women should avoid handling pills, teratogen to male fetus  
**Disp:** Tabs 1 mg (*Propecia*), 5 mg (*Proscar*)  
**SE:** ↓ Libido, vol ejaculate, ED, gynecomastia  
**Notes:** ↓ PSA by ~ 50%; reestablish PSA baseline 6 mo (double PSA for “true” reading); 3–6 mo for effect on urinary Sxs; continue to maintain new hair, not for use in women

Flavoxate (Urispas)  
**Uses:** *Relief of Sx of dysuria, urgency, nocturia, suprapubic pain, urinary frequency, incontinence*  
**Action:** Antispasmodic  
**Dose:** 100–200 mg PO tid-qid  
**Caution:** [B, ?] GI obst, GI hemorrhage, ileus, achalasia, BPH  
**Disp:** Tabs 100 mg  
**SE:** Drowsiness, blurred vision, xerostomia

Flecainide (Tambocor)  
**WARNING:** ↑ Mortality in pts with ventricular arrhythmias and recent MI; pulm effects reported; ventricular proarhythmic effects in atrial fibrillation/flutter, not ok for chronic atrial fibrillation  
**Uses:** Prevent AF/flutter & PSVT, *prevent/suppress life-threatening ventricular arrhythmias*  
**Action:** Class 1C antiarrhythmic  
**Dose:** *Adults.* 100 mg PO q12h; ↑ by 50 mg q12h q4d to max 400 mg/d. *Peds.* 3–6 mg/kg/d in 3 ÷ doses; ↓ w/ renal impair,  
**Caution:** [C, +] Monitor w/hepatic impair, ↑ conc with amiodarone, digoxin, quinidine, ritonavir/amprenavir, β-blockers, verapamil; may worsen arrhythmias  
**Cl:** 2nd-/3rd-degree AV block, right bundle-branch block w/ bifascicular or trifascicular block, cardiogenic shock, CAD, ritonavir/amprenavir, alkalinizing agents  
**Disp:** Tabs 50, 100, 150 mg  
**SE:** Dizziness, visual disturbances, dyspnea, palpitations, edema, chest pain, tachycardia, CHF, HA, fatigue, rash, N  
**Notes:** Initiate Rx in hospital; dose q8h if pt is intolerant/uncontrolled at q12h; Levels: *Trough:* Just before next dose; *Therapeutic:* 0.2–1 mcg/mL; *Toxic:* >1 mcg/mL; *Half-life:* 11–14 h

Flouxuridine (FUDR)  
**WARNING:** Administration by experienced physician only; pts should be hospitalized for 1st course due to risk for severe Rxn  
**Uses:** GI adenoma, liver, renal cancers*; colon & pancreatic CAs  
**Action:** Converted to 5-FU; inhibits thymidylate synthase; ↓ DNA synthase (S-phase specific)  
**Dose:** 0.1–0.6 mg/kg/d for 1–6 wk (per protocols) usually intraarterial for liver mets  
**Caution:** [D, –] Interaction w/ vaccines  
**Cl:** BM suppression, poor nutritional status, serious Infxn, PRG, component sensitivity  
**Disp:** Inj 500 mg SE: ↓ BM, anorexia, Abd cramps, N/V/D, mucositis, alopecia, skin rash, & hyperpigmentation; rare neurotox (blurred vision, depression, nystagmus, vertigo, & lethargy);
intraarterial catheter-related problems (ischemia, thrombosis, bleeding, & Infxn)

Notes: Need effective birth control; palliative Rx for inoperable/incurable pts

Fluconazole (Diflucan)  Uses: *Candidiasis (esophageal, oropharyngeal, urinary tract, vaginal, prophylaxis); cryptococcal meningitis, prophylaxis w/ BMT*  
Action: Antifungal; ↓ cytochrome P-450 sterol demethylation.  
Spectrum: All Candida sp except C. krusei  
Dose: Adults. 100–400 mg/d PO or IV.  
Vaginitis: doses up to 800 mg/d reported; 400 mg d 1, then 200 mg × 10–12 wk after CSF (–).  
Peds. 3–6 mg/kg/d PO or IV; 12 mg/kg/d/systemic Infxn; ↓ in renal impair  
Caution: [C, –] CI: None  
Disp: Tabs 50, 100, 150, 200 mg; susp 10, 40 mg/mL; Inj 2 mg/mL  
SE: HA, rash, GI upset, ↓ K+, ↑ LFTs  
Notes: PO (preferred) = IV levels

Fludarabine Phosphate (Flamp, Fludara)  WARNING: Administer only under supervision of qualified physician experienced in chemotherapy. Can ↓ BM and cause severe CNS effects (blindness, coma, and death). Severe/fatal autoimmune hemolytic anemia reported; monitor for hemolysis. Use w/ pentostatin not ok (fatal pulm tox)  
Uses: *Autoimmune hemolytic anemia, CLL, cold agglutinin hemolysis,* low-grade lymphoma, mycosis fungoides  
Action: ↓ Ribonucleotide reductase; blocks DNA polymerase-induced DNA repair  
Dose: 18–30 mg/m²/d for 5 d, as a 30-min Inf (per protocols); ↓ w/ renal impair  
Caution: [D, –]  
Give cytarabine before fludarabine (↓ its metabolism)  
CI: w/ pentostatin, severe Infxns, CrCl <30 mL/min, hemolytic anemia  
Disp: Inf 50 mg SE: ↓ BM, N/V/D, ↑ LFTs, edema, CHF, fever, chills, fatigue, dyspnea, nonproductive cough, pneumonia, severe CNS tox rare in leukemia, autoimmune hemolytic anemia

Fludrocortisone Acetate (Florinef)  Uses: *Adrenocortical Insuff, Addison Dz, salt-wasting syndrome*  
Action: Mineralocorticoid  
Dose: Adults. 0.1–0.2 mg/d PO.  
Peds. 0.05–0.1 mg/d PO  
Caution: [C, ?] CI: Systemic fungal Infxns; known allergy  
Disp: Tabs 0.1 mg SE: HTN, edema, CHF, HA, dizziness, convulsions, acne, rash, bruising, hyperglycemia, hypothalamic–pituitary–adrenal suppression, cataracts  
Notes: For adrenal Insuff, use w/ glucocorticoid; dose changes based on plasma renin activity

Flumazenil (Romazicon)  Uses: *Reverse sedative effects of benzodiazepines & general anesthesia*  
Action: Benzodiazepine receptor antagonist  
Dose: Adults. 0.2 mg IV over 15 s; repeat PRN, to 1 mg max (5 mg max in benzodiazepine OD).  
Peds. 0.01 mg/kg (0.2 mg/dose max) IV over 15 s; repeat 0.005 mg/kg at 1-min intervals to max 1 mg total; ↓ in hepatic impair  
Caution: [C, ?] CI: TCA OD; if pts given benzodiazepines to control life-threatening conditions (ICP/status epilepticus)  
Disp: Inf 0.1 mg/mL SE: N/V, palpitations, HA, anxiety, nervousness, hot flashes, tremor, blurred vision, dyspnea, hyperventilation, withdrawal syndrome  
Notes: Does not reverse narcotic Sx or amnesia, use associated w/ Szs

Flunisolide (AeroBid, Aerospan, Nasarel)  Uses: *Asthma in pts requiring chronic steroid therapy; relieve seasonal/perennial allergic rhinitis*
**Fluoxymesterone**

**Action:** Topical steroid  
**Dose:** Adults. Metered-dose Inh: 2 Inh bid (max 8/d).  
**Caution:** [C, ?] w/ Adrenal Insuff  
**Disp:** AeroBid 0.25 mg/Inh; Nasarel 29 mcg/spray; Aerospan 80 mcg/Inh (CFC-Free)  
**SE:** Tachycardia, bitter taste, local effects, oral candidiasis  
**Notes:** Not for acute asthma

**Fluorouracil [5-FU] (Adrucil)**  
**WARNING:** Administration by experienced chemotherapy physician only; pts should be hospitalized for 1st course due to risk for severe Rxn  
**Uses:** *Colorectal, gastric, pancreatic, breast, basal cell,* head, neck, bladder, CAs  
**Action:** Inhibits thymidylate synthetase (↓ DNA synth, S-phase specific)  
**Dose:** 370–1000 mg/m²/d × 1–5 d IV push to 24-h cont Inf; protracted venous Inf of 200–300 mg/m²/d (per protocol); 800 mg/d max  
**Caution:** [D, ?] ↑ tox w/ allopurinol; do not give *Moraxella catarrhalis* vaccine (MRX) before 5-FU  
**CI:** Poor nutritional status, depressed BM Fxn, thrombocytopenia, major surgery w/in past mo, G6PD enzyme deficiency, PRG, serious Infxn, bilirubin >5 mg/dL  
**Disp:** Inj 50 mg/mL  
**SE:** Stomatitis, esophagopharyngitis, N/V/D, ↓ BM, rash/dry skin/photosensitivity, tingling in hands/feet w/ pain (palmar–plantar erythrodysesthesia), phlebitis/discoloration at Inj sites  
**Notes:** ↑ Thiamine intake; contraception ok

**Fluorouracil, Topical [5-FU] (Efudex)**  
**Uses:** *Basal cell carcinoma; actinic/solar keratosis*  
**Action:** Inhibits thymidylate synthetase (↓ DNA synth, S-phase specific)  
**Dose:** 5% cream bid × 2–6 wk  
**Caution:** [D, ?] Irritant chemotherapy  
**CI:** Component sensitivity  
**Disp:** Cream 0.5, 1, 5%; soln 1, 2, 5%  
**SE:** Rash, dry skin, photosensitivity  
**Notes:** Healing may not be evident for 1–2 mo; wash hands thoroughly; avoid occlusive dressings; do not overuse

**Fluoxetine (Prozac, Sarafem)**  
**WARNING:** Closely monitor for worsening depression or emergence of suicidality, particularly in ped pts  
**Uses:** *Depression, OCD, panic disorder, bulimia (Prozac)* *PMDD (Sarafem)*  
**Action:** SSRI  
**Dose:** 20 mg/d PO (max 80 mg/d ÷ dose); weekly 90 mg/wk after 1–2 wk of standard dose.  
**Bulimia:** 60 mg q A.M.  
**Panic disorder:** 20 mg/d.  
**PMDD:** 20 mg/d or 20 mg intermittently, start 14 d prior to menses, repeat with each cycle; ↓ in hepatic failure  
**Caution:** [C, ?/–] Serotonin syndrome w/ MAOI, SSRI, serotonin agonists, linezolid; QT prolongation w/ phenothiazines  
**CI:** MAOI/thioridazine (wait 5 wk before D/C before MAOI)  
**Disp:** Prozac: Caps 10, 20, 40 mg; scored tabs 10, 20 mg; SR caps 90 mg; soln 20 mg/5 mL. Sarafem: Caps 10, 20 mg  
**SE:** N, nervousness, wgt loss, HA, insomnia

**Fluoxymesterone (Halotestin, Androxy)[CIII]**  
**Uses:** Androgen-responsive metastatic *breast CA, hypogonadism*  
**Action:** ↓ Secretion of LH & FSH (feedback inhibition)  
**Dose:** Breast CA: 10–40 mg/d ÷ × 1–3 mo. Hypogonadism: 5–20 mg/d  
**Caution:** [X, ?/–] ↑ Effect w/ anticoagulants, cyclosporine, insulin, lithium, narcotics  
**CI:** Serious cardiac, liver, or kidney Dz; PRG  
**Disp:** Tabs 10 mg  
**SE:** Priapism, edema, virilization, amenorrhea & menstrual irregularities, hirsutism,
alopecia, acne, N, cholestasis; suppression of factors II, V, VII, & X, & polycythemia; ↑ libido, HA, anxiety. 

Notes: Radiographic exam of hand/wrist q6mo in prepubertal children; ↓ total T₄ levels.

**Flurazepam (Dalmane) [C-IV]**

**Uses:** *Insomnia*  
**Action:** Benzodiazepine  
**Dose:** Adults & Peds >15 y: 15–30 mg PO qhs PRN; ↓ in elderly  
**Caution:** [X, ?/–] Elderly, low albumin, hepatic impair  
**CI:** NAG; PRG  
**Disp:** Caps 15, 30 mg  
**SE:** “Hangover” due to accumulation of metabolites, apnea, anaphylaxis, angioedema, amnesia.  
**Notes:** May cause dependence.

**Flurbiprofen (Ansaid, Ocufen)**

**WARNING:** May ↑ risk of cv events and GI bleeding  
**Uses:** *Arthritis, ocular surgery*  
**Action:** NSAID  
**Dose:** 50–300 mg/d ÷ bid-qid, max 300 mg/d w/ food, ocular 1 gtt q 30 min × 4, beginning 2 h pre-op  
**Caution:** [B (D in 3rd tri), +] CI: PRG (3rd tri); aspirin allergy  
**Disp:** Tabs 50, 100 mg  
**SE:** Dizziness, GI upset, peptic ulcer Dz, ocular irritation.  
**Notes:** May cause dependency.

**Flutamide (Eulexin)**

**WARNING:** Liver failure & death reported. Measure LFTs before, monthly, & periodically after; D/C immediately if ALT 2 × upper limits of nl or jaundice develops  
**Uses:** Advanced *PCa* (w/ LHRH agonists, eg, leuprolide or goserelin); w/ radiation & GnRH for localized CAP  
**Action:** Non-steroidal antiandrogen  
**Dose:** 250 mg PO tid (750 mg total)  
**Caution:** [D, ?] CI: Severe hepatic impair  
**Disp:** Caps 125 mg SE: Dizziness, loss of libido, impotence, N/V/D, gynecomastia, hepatic failure.  
**Notes:** ✓ LFTs, avoid EtOH.

**Fluticasone Furoate, nasal (Veramyst)**  
**Uses:** *Seasonal allergic rhinitis*  
**Action:** Topical steroid  
**Dose:** Adults & Peds > 12 y: 2 sprays/nostril/d, then 1 spray /d maint. Peds 2–11 y: 1–2 sprays/nostril/d  
**Caution:** [C, M] Avoid w/ ritonavir, other steroids, recent nasal surgery/trauma  
**CI:** None  
**Disp:** Nasal spray 27.5 mcg/actuation SE: HA, epistaxis, nasopharyngitis, pyrexia, pharyngolaryngeal pain, cough, nasal ulcers, back pain.

**Fluticasone Propionate, nasal (Flonase)**

**Uses:** *Seasonal allergic rhinitis*  
**Action:** Topical steroid  
**Dose:** Adults & Peds >12 y: 2 sprays/nostril/d  
**Caution:** [C, M] CI: Primary Rx of status asthmaticus  
**Disp:** Nasal spray 50 mcg/actuation SE: HA, dysphonia, oral candidiasis.  
**Notes:** Risk of thrush, rinse mouth after; counsel on use of devices.

**Fluticasone Propionate & Salmeterol Xinafoate (Advair Diskus, Advair HFA, 45/21, 115/21, 230/21 inhaled aerosol)**

**WARNING:** Increased risk of worsening wheezing or asthma-related death with long acting β₂-adrenergic agonists  
**Uses:** *Maint therapy for asthma*  
**Action:** Corticosteroid w/ LA bronchodilator β₂ agonist  
**Dose:** Adults & Peds >12 y: 1 Inh bid
q12h; titrate to lowest effective dose (4 Inh or 920/84 mcg/d max) **Caution:** [C, M]  
**CI:** Acute asthma attack; conversion from PO steroids; w/ phenothiazines  
**Disp:** Diskus = metered-dose Inh powder (fluticasone/salmeterol in mcg) 100/50, 250/50, 500/50; HFA = aerosol 45/21, 115/21, 230/21 mg  
**SE:** Upper resp Infxn, pharyngitis, HA  
**Notes:** Combo of Flovent & Serevent; do not wash mouthpiece, do not exhale into device; Advair HFA for pts not controlled on other meds (eg, low-medium dose Inh steroids) or whose Dz severity warrants 2 maint therapies

**Fluvastatin (Lescol)**  
**Uses:** *Atherosclerosis, primary hypercholesterolemia, heterozygous familial hypercholesterolemia hypertriglyceridermia*  
**Action:** HMG-CoA reductase inhibitor  
**Dose:** 20–40 mg bid PO or XL 80 mg/d ↓ w/ hepatic impair  
**Caution:** [X, –]  
**CI:** Active liver Dz, ↑ LFTs, PRG, breast-feeding  
**Disp:** Caps 20, 40 mg; XL 80 mg  
**SE:** HA, dyspepsia, N/D, Abd pain  
**Notes:** Dose no longer limited to HS ✓ LFTs

**Fluvoxamine (Luvox)**  
**WARNING:** Closely monitor for worsening depression or emergence of suicidality, particularly in ped pts  
**Uses:** *OCD*  
**Action:** SSRI  
**Dose:** Initial 50-mg single qhs dose, ↑ to 300 mg/d in ÷ doses; ↓ in elderly/hepatic impair, titrate slowly; ÷ doses >100 mg  
**Caution:** [C, ?/–] Interactions (MAOIs, phenothiazines, SSRIs, serotonin agonists, others)  
**CI:** MAOI w/in 14 d  
**Disp:** Tabs 25, 50, 100 mg  
**SE:** HA, N/D, somnolence, insomnia

**Folic Acid**  
**Uses:** *Megaloblastic anemia; folate deficiency*  
**Action:** Dietary supl  
**Dose:** Adults. Supl: 0.4 mg/d PO. PRG: 0.8 mg/d PO. Folate deficiency: 1 mg PO daily–tid. Peds. Supl: 0.04–0.4 mg/24 h PO, IM, IV, or SQ. Folate deficiency: 0.5–1 mg/24 h PO, IM, IV, or SQ  
**Caution:** [A, +] CI: Pernicious, aplastic, normocytic anemias  
**Disp:** Tabs 0.4, 0.8, 1 mg; Inj 5 mg/mL  
**SE:** Well tolerated  
**Notes:** OK for all women of child-bearing age; ↓ fetal neural tube defects by 50%; no effect on normocytic anemias

**Fondaparinux (Arixtra)**  
**WARNING:** When epidural/spinal anesthesia or spinal puncture is used, pts anticoagulated or scheduled to be anticoagulated with LMW heparins, heparinoids, or fondaparinux are at risk for epidural or spinal hematoma, which can result in long-term or permanent paralysis  
**Uses:** *DVT prophylaxis* w/ hip fracture, hip or knee replacement, Abd surgery; w/ DVT or PE in combo w/ warfarin  
**Action:** Synth inhibitor of activated factor X; a pentasaccharide  
**Dose:** 2.5 mg SQ daily, up to 5–9 d; start >6 h post-op; ↓ w/ renal impair  
**Caution:** [B, ?] ↑ Bleeding risk w/ anticoagulants, antplatelets, drotrecogin alfa, NSAIDs  
**CI:** Wgt <50 kg, CrCl <30 mL/min, active bleeding, SBE ↓ plt w/ antiplatelet Ab  
**Disp:** Prefilled syringes w/ 27-gauge needle: 2.5/0.5, 5/0.4, 7.5 /0.6, 10/0.8, mg/mL  
**SE:** Thrombocytopenia, anemia, fever, N  
**Notes:** D/C if plts <100,000 mm³; only give SQ; may monitor antifactor Xa levels

**Formoterol Fumarate (Foradil, Perforomist)**  
**WARNING:** May ↑ risk of asthma related death  
**Uses:** *Long-term Rx of bronchoconstriction in COPD, EIB (only Foradil)*  
**Action:** LA β₂-agonist  
**Dose:** Adults. Perforomist: 20-mcg Inh
Foradil: 12-mcg Inh q12h, 24 mcg/d max; EIB: 12 mcg 15 min before exercise Peds >5y: (Foradil) See Adults Caution: [C, M] Not for acute Sx, w/ CV Dz, w/ adrenergic meds, xanthine derivatives meds that ↑ QT; β-blockers may ↓ effect, D/C w/ ECG change CI: none Disp: Foradil caps 12 mcg for Aerolizer Inhaler (12 & 60 doses) SE: N/D, nasopharyngitis, dry mouth, angina, HTN, ↓ BP, tachycardia, arrhythmias, nervousness, HA, tremor, muscle cramps, palpitations, dizziness Notes: excess use may ↑ CV risks; not for oral use

Fosamprenavir (Lexiva) WARNING: Do not use with severe liver dysfunction, reduce dose with mild–mod liver impair (fosamprenavir 700 mg bid w/o ritonavir) Uses: HIV Infxn Action: Protease inhibitor Dose: 1400 mg bid w/o ritonavir; w/ritonavir, fosamprenavir 1400 mg + ritonavir 200 mg daily or fosamprenavir 700 mg + ritonavir 100 mg bid; w/ efavirenz & ritonavir: fosamprenavir 1400 mg + ritonavir 300 mg daily Caution: [C, ?/–] CI: w/ Drugs that use CYP A4 for clearance (Table 11) such as w/ rifampin, lovastatin, simvastatin, delavirdine, ergot alkaloids, midazolam, triazolam, or pimozide; sulfa allergy Disp: Tabs 700 mg SE: N/V/D, HA, fatigue, rash Notes: Numerous drug interactions because of hepatic metabolism

Fosaprepitant (Emend, Inj) Uses: *Prevent chemotherapy-associated N/V* Action: Substance P/neurokinin 1 receptor antagonist Dose: Chemotherapy: 115 mg IV 30 min before chemotherapy on d 1 (followed by aprepitant [Emend, Oral] 80 mg PO days 2 and 3) in combo w/ other antiemetics Caution: [B, ?/–] Potential for drug interactions, substrate and mod CYP3A4 inhibitor (dose-dependent) CI: w/ Pimozide, terfenadine, astemizole, or cisapride Disp: Inj 115 mg SE: N/D, weakness, hiccups, dizziness, HA, dehydration, hot flushing, dyspepsia, Abd pain, neutropenia, ↑ LFTs, Inj site discomfort Notes: ↓ Effect of OCP and warfarin

Foscarnet (Foscavir) Uses: *CMV retinitis*; acyclovir-resistant *herpes Infxns* Action: ↓ Viral DNA polymerase & RT Dose: CMV retinitis: Induction: 60 mg/kg IV q8h or 100 mg/kg q12h × 14–21 d. Maint: 90–120 mg/kg/d IV (Mon–Fri). Acyclovir-resistant HSV: Induction: 40 mg/kg IV q8–12h × 14–21 d; use central line; ↓ with renal impair Caution: [C, –] ↑ Sz potential w/ fluoroquinolones; avoid nephrotoxic Rx (cyclosporine, aminoglycosides, amphotericin B, protease inhibitors) CI: CrCl <0.4 mL/min/kg Disp: Inj 24 mg/mL SE: Nephrotox, electrolyte abnormalities Notes: Sodium loading (500 mL 0.9% NaCl) before & after helps minimize nephrotox; monitor-ionized Ca²⁺

Fosfomycin (Monurol) Uses: *Uncomplicated UTI* Action: ↓ cell wall synth Spectrum: gram(+)Enterococcus, staphylococci, pneumococci; gram(–) (E. coli, Salmonella, Shigella, H. influenzae, Neisseria, indole-negative Proteus, Providencia); B. fragilis & anaerobic gram(–) cocci are resistant Dose: 3 g PO in 90–120 mL of H₂O single dose; ↓ in renal impair Caution: [B, ?] ↓ Absorption w/ antacids/Ca salts CI: Component sensitivity Disp: Granule packets 3 g SE: HA, GI upset Notes: May take 2–3 d for Sxs to improve
**Fosinopril (Monopril)**

*Uses:* *HTN, CHF,* DN

*Action:* ACE inhibitor

*Dose:* 10 mg/d PO initial; max 40 mg/d PO; ↓ in elderly; ↓ in renal impair

*Caution:* [D, +] \↑ K⁺ w/ K⁺ supls, ARBs, K⁺-sparking diuretics; ↑ renal after effects w/ NSAIDs, diuretics, hypovolemia CI: Hereditary idiopathic angioedema or angioedema w/ ACE inhibitor, bilateral RAS

*Disp:* Tabs 10, 20, 40 mg

*SE:* Cough, dizziness, angioedema, ↑ K⁺

**Fosphenytoin (Cerebyx)**

*Uses:* *Status epilepticus*

*Action:* ↓ Sz spread in motor cortex

*Dose:* As phenytoin equivalents (PE). Load: 15–20 mg PE/kg.

*Maint:* 4–6 mg PE/kg/d; ↓ dosage, monitor levels in hepatic impair

*Caution:* [D, +] May \↑ phenobarbital CI: Sinus bradycardia, SA block, 2nd-/3rd-degree AV block, Adams–Stokes syndrome, rash during Rx

*Disp:* Inj 75 mg/mL

*SE:* ↓ BP, dizziness, ataxia, pruritus, nystagmus

*Notes:* 15 min to convert fosphenytoin to phenytoin; administer <150 mg PE/min to prevent ↓ BP; administer with BP monitoring

**Frovatriptan (Frova)**

*Uses:* *Rx acute migraine*

*Action:* Vascular serotonin receptor agonist

*Dose:* 2.5 mg PO repeat in 2 h PRN, 7.5 mg/d max PO dose; max 7.5 mg/d

*Caution:* [C, ?/] CI: Angina, ischemic heart Dz, coronary artery vasospasm, hemiplegic or basilar migraine, uncontrolled HTN, ergot use, MAOI use w/in 14 d

*Supplied:* Tabs 2.5 mg

*SE:* N, V, dizziness, hot flashes, paresthesias, dyspepsia, dry mouth, hot/cold sensation, chest pain, skeletal pain, flushing, weakness, numbness, coronary vasospasm, HTN

**Fulvestrant (Faslodex)**

*Uses:* *HR(+) metastatic breast CA in postmenopausal women w/ progression following antiestrogen therapy*

*Action:* Estrogen receptor antagonist

*Dose:* 250 mg IM monthly, as single 5-mL Inj or 2 concurrent 2.5-mL IM Inj in buttocks

*Caution:* [X, ?/] CI: Angina, ischemic heart Dz, coronary artery vasospasm, hemiplegic or basilar migraine, uncontrolled HTN, ergot use, MAOI use w/in 14 d

*Disp:* Prefilled syringes 50 mg/mL (single 5 mL, dual 2.5 mL)

*SE:* N/V/D, constipation, Abd pain, HA, back pain, hot flushes, pharyngitis, lnj site Rxns

*Notes:* Only use IM

**Furosemide (Lasix)**

*Uses:* *CHF, HTN, edema,* ascites

*Action:* Loop diuretic; ↓ Na & Cl reabsorption in ascending loop of Henle & distal tubule

*Dose:* **Adults** 20–80 mg PO or IV bid. **Peds.** 1 mg/kg/dose IV q6–12h; 2 mg/kg/dose PO q12–24h (max 6 mg/kg/dose); ↑ doses w/renal impair

*Caution:* [C, +] ↓ K⁺, ↑ risk digoxin tox & ototox w/ aminoglycosides, cisplatin (especially in renal dysfunction) CI: Sulfonylurea allergy; anuria; hepatic coma; electrolyte depletion

*Disp:* Tabs 20, 40, 80 mg; soln 10 mg/mL, 40 mg/5 mL; Inj 10 mg/mL

*SE:* ↓ BP, hyperglycemia, ↓ K + Notes: ✓ Lytes, renal Fxn; high doses IV may cause ototox

**Gabapentin (Neurontin)**

*Uses:* Adjunct in *partial Szs; postherpetic neuralgia (PHN)*; chronic pain syndromes

*Action:* Anticonvulsant; GABA analog

*Dose:* **Adults & Peds >12 y:** Anticonvulsant: 300 mg PO tid, ↑ max 3600 mg/d. PHN: 300 mg day 1, 300 mg bid day 2, 300 mg tid day 3, titrate (1800–3600 mg/d); **Peds 3–12 y:** Start 0–15 mg/kg/d ÷ tid, ↑ over 3 d: 3–4 y: 40 mg/kg/d given tid ≥5 y: 25–35 mg/kg/d ÷ tid, 50 mg/kg/d max; ↓ w/ renal impair

*Notes:* [C, ?]
Galantamine

Use in ped 3–12 y w/ epilepsy may ↑ CNS-related adverse events CI: Component sensitivity Disp: Caps 100, 300, 400, soln 250 mg/5 mL; scored tab 600, 800 mg SE: Somnolence, dizziness, ataxia, fatigue Notes: Not necessary to monitor levels; taper ↑ or ↓ over 1 wk

Galantamine (Razadyne) Uses: *Mild-mod Alzheimer Dz* Action: ? Acetylcholinesterase inhibitor Dose: 4 mg PO bid, ↑ to 8 mg bid after 4 wk; may ↑ to 12 mg bid in 4 wk Caution: [B, ?] Caution w/ heart block, ↑ effect w/ succinylcholine, bethanechol, amiodarone, diltiazem, verapamil, NSAIDs, digoxin; ↓ effect w/ anticholinergics; ↑ risk of death w/ mild impair CI: Severe renal/hepatic impair Disp: Tabs 4, 8, 12 mg; soln 4 mg/mL SE: GI disturbances, ↓ wgt, sleep disturbances, dizziness, HA Notes: Caution w/ urinary outflow obst, Parkinson Dz, severe asthma/COPD, severe heart Dz or ↓ BP

Gallium Nitrate (Ganite) WARNING: ↑ Risk of severe renal Insuff w/ concurrent use of nephrotoxic drugs (eg, aminoglycosides, amphotericin B). D/C if use of potently nephrotoxic drug is indicated; hydrate several d after administration. D/C w/ Cr >2.5 mg/dL Uses: *↑ Ca2+ of malignancy*; bladder CA Action: ↓ Bone resorption of Ca2+ Dose: ↑ Ca2+: 100–200 mg/m2/d × 5 d. CA: 350 mg/m2 cont Inf × 5 d to 700 mg/m2 rapid IV Inf q2wk in antineoplastic settings (per protocols) Caution: [C, ?] Do not give w/ live or rotavirus vaccine CI: SCr >2.5 mg/dL Disp: Inj 25 mg/mL SE: Renal Insuff, ↓ Ca2+, hypophosphatemia, ↓ bicarb, <1% acute optic neuritis Notes: Bladder CA, use in combo w/ vinblastine & ifosfamide

Ganciclovir (Cytovene, Vitrasert) Uses: *Rx & prevent CMV retinitis, prevent CMV Dz* in transplant recipients Action: ↓ viral DNA synth Dose: Adults & Peds. IV: 5 mg/kg IV q12h for 14–21 d, then maint 5 mg/kg/d IV × 7 d/wk or 6 mg/kg/d IV × 5 d/wk. Ocular implant: One implant q5–8mo. Adults. PO: Following induction, 1000 mg PO tid. Prevention: 1000 mg PO tid; with food; ↓ in renal impair Caution: [C, –] ↑ Effect w/ immunosuppressives, imipenem/cilastatin, zidovudine, didanosine, other nephrotoxic Rx CI: ANC <500, plt <25,000, intravitreal implant Disp: Caps 250, 500 mg; Inj 500 mg, ocular implant 4.5 mg SE: Granulocytopenia & thrombocytopenia, fever, rash, GI upset Notes: Not a cure for CMV; handle Inj w/ cytotoxic cautions; no systemic benefit w/ implant

Gefitinib (Iressa) Uses: *Rx locally advanced or metastatic NSCLC after platinum-based & docetaxel chemotherapy fails* Action: selective TKI of EGFR Dose: 250 mg/d PO Caution: [D, –] Disp: Tabs 250 mg SE: D, rash, acne, dry skin, N/V, interstitial lung Dz, ↑ transaminases Notes: ✓ LFTs, only give to pts who have already received drug; no new pts because it has not been shown to increase survival

Gemcitabine (Gemzar) Uses: *Pancreatic CA, brain mets, NSCLC,* gastric CA Action: Antimetabolite; ↓ ribonucleotide reductase; produces false nucleotide base-inhibiting DNA synth Dose: 1000–1250 mg/m2 over 30 min–1 h IV Inf/wk × 3–4 wk or 6–8 wk; modify dose based on hematologic Fxn (per protocol)
**Caution:** [D, ?/–] CI: PRG Disp: Inj 200 mg, 1 g SE: ↓ BM, N/V/D, drug fever, skin rash Notes: Reconstituted soln 38 mg/mL; hepatic/renal Fxn

**Gemfibrozil (Lopid)** Uses: *Hypertriglyceridemia, coronary heart Dz*

**Action:** Fibric acid Dose: 1200 mg/d PO ÷ bid 30 min ac A.M. & P.M. Caution: [C, ?] ↑ Warfarin effect, sulfonylureas; ↑ risk of myopathy w/ HMG-CoA reductase inhibitors; ↓ effects w/ cyclosporine CI: Renal/hepatic impaire (SCR >2.0 mg/dL), gallbladder Dz, primary biliary cirrhosis Disp: Tabs 600 mg SE: Cholelithiasis, GI upset Notes: Avoid w/HMG-CoA reductase inhibitors; ✓ LFTs & serum lipids

**Gemifloxacin (Factive)**

**Uses:** *CAP, acute exacerbation of chronic bronchitis* Action: ↓ DNA gyrase & topoisomerase IV; Spectrum: *S. pneumoniae* (including multidrug-resistant strains), *H. influenzae, H. parainfluenzae, M. catarrhalis, M. pneumoniae, C. pneumoniae, K. pneumoniae* Dose: 320 mg PO daily × 5–7 d; CrCl <40 mL/min: 160 mg PO/d Caution: [C, ?/–]; Peds <18 y; Hx of ↑ QTc interval, electrolyte disorders, w/ class IA/III antiarrhythmics, erythromycin, TCAs, antipsychotics, ↑ INR and bleeding risk w/ warfarin CI: Fluoroquinolone allergy Disp: Tab 320 mg SE: Rash, N/V/D, *C. difficile* enterocolitis, ↑ risk of Achilles tendon rupture, tendonitis, Abd pain, dizziness, xerostomia, arthralgia, allergy/anaphylactic Rxns, peripheral neuropathy, tendon rupture Notes: Take 3 h before or 2 h after Al/Mg antacids, Fe, Z, or other metal cations; ↑ rash risk w/ ↑ duration of therapy

**Gemtuzumab Ozogamicin (Mylotarg)**

**WARNING:** Can cause severe allergic Rxns & other Inf-related Rxns including severe pulm events; hepatotox, including severe hepatic venoocclusive Dz (VOD) reported Uses: *Relapsed CD33+ AML in pts >60 who are poor candidates for chemotherapy* Action: MoAb linked to calicheamicin; selective for myeloid cells Dose: 9 mg/m² IV over 2 h × 2 doses; separate doses by 2 wk or per protocol Caution: [D, –] CI: Component sensitivity, lactating mothers Disp: 5 mg/20 mL vial SE: ↓ BM, allergy, anaphylaxis, chills, fever, N/V, HA, pulm events, hepatotox Notes: Single-agent use only, not in combo; premedicate w/ diphenhydramine & acetaminophen; ✓ CBC, LFTs, lytes

**Gentamicin (Garamycin, G-myticin, others)**

Uses: *Septicemia, serious bacterial Infxn of CNS, urinary tract, resp tract, GI tract, including peritonitis, skin, bone, soft tissue, including burns; severe Infxn P. aeruginosa w/ carbenicillin; group D streptococci endocarditis w/ PCN-type drug; serious staphylococcal Infxn but not the antibiotic of 1st choice; mixed Infxn w/ staphylococci and gram-negatives* Action: Aminoglycoside, bactericidal; ↓ protein synth Spectrum: gram(–) (not *Neisseria, Legionella, Acinetobacter*); weaker gram(+) but synergy w/ PCNs Dose: Adults. Standard: 1–2 mg/kg IV q8–12h or daily dosing 4–7 mg/kg q24h IV. Gram (+) Synergy: 1 mg/kg q8h Peds Infants <7 d <1200 g: 2.5 mg/kg/dose q12–18h. Infants >1200 g: 2.5 mg/kg/dose q12–18h. Infants >2 d: 2.5 mg/kg/dose IV q8–12h. Children: 2.5 mg/kg/d IV q8h; ↓ w/ renal Insuff; if obese, dose based on IBW Caution: [C, +/–] Avoid other
nephrotoxics CI: Aminoglycoside sensitivity Disp: Premixed Infs 40, 60, 70, 80, 90, 100, 120 mg; ADD-Vantage Inj vials 10 mg/mL; Inj 40 mg/mL; IT preservative-free 2 mg/mL SE: Nephro-/oto-/neurotox Notes: Follow CrCl, SCr & serum conc for dose adjustments; use IBW to dose (use adjusted if obese >30% IBW); OK to use intraperitoneal for peritoneal dialysis-related Infxns Levels: Peak: 30 min after Inf; Trough <0.5 h before next dose; Therapeutic: Peak 5–8 mcg/mL, Trough <2 mcg/mL, if >2 associated w/ renal tox

**Gentamicin & Prednisolone, Ophthalmic (Pred-G Ophthalmic)**

Uses: *Steroid-responsive ocular & conjunctival Infxns* sensitive to gentamicin


Dose: Oint: 1/2 inch in conjunctival sac daily-tid. Susp: 1 gtt bid-qid, up to 1 gtt/h for severe Infxns CI: Aminoglycoside sensitivity Caution: [C, ?] Disp: Oint, ophthal: Prednisolone acetate 0.6% & gentamicin sulfate 0.3% (3.5 g). Susp, ophthal: Prednisolone acetate 1% & gentamicin sulfate 0.3% (2, 5, 10 mL)

SE: Local irritation

**Gentamicin, ophthalmic (Garamycin, Genoptic, Gentacidin, Gentak, others)**

Uses: *Conjunctival Infxns* sensitive to gentamicin

Action: Bactericidal; ↓ protein synth

Dose: Oint: Apply 1/2 inch bid–tid. Soln: 1–2 gtt q2–4h, up to 2 gtt/h for severe Infxn Caution: [C, ?] CI: Aminoglycoside sensitivity Disp: Soln & oint 0.1% and 0.3% SE: Local irritation Notes: Do not use other eye drops w/in 5–10 min; do not touch dropper to eye

**Gentamicin, topical (Garamycin, G-myticin)**

Uses: *Skin Infxns* caused by susceptible organisms

Action: Bactericidal; ↓ protein synth

Dose: Adults & Peds >1 y: Apply tid-qid Caution: [C, ?] CI: Aminoglycoside sensitivity Disp: Cream & oint 0.1% SE: Irritation

**Glimepiride (Amaryl)**

Uses: *Type 2 DM* Action: Sulfonylurea; ↑ pancreatic insulin release; ↑ peripheral insulin sensitivity; ↓ hepatic glucose output/production

Dose: 1–4 mg/d, max 8 mg Caution: [C, –] CI: Aminoglycoside sensitivity Disp: Tabs 1, 2, 4 mg SE: HA, N, hypoglycemia Notes: Give w/ 1st meal of day

**Glimepiride/pioglitazone (Duetact)**

Uses: *Adjunct to exercise type 2 DM not controlled by single agent* Action: Sulfonylurea (↓ glucose) w/ agent that ↑ insulin sensitivity & ↓ gluconeogenesis

Dose: initial 30 mg/2 mg PO q A.M.; 45 mg pioglitazone/8 mg glimepiride/d max; w/food Caution: [C, ?–/] w/ Liver impair, elderly CI: Component hypersensitivity, DKA Disp: Tabs 30/2, 30 mg/4 mg SE: Hct, ↑ ALT, ↓ glucose, URI, ↑ wgt, edema, HA, N/D, may ↑ CV mortality Notes: Monitor CBC, ALT, Cr, wgt

**Glipizide (Glucotrol, Glucotrol XL)**

Uses: *Type 2 DM* Action: Sulfonylurea; ↑ pancreatic insulin release; ↑ peripheral insulin sensitivity; ↓ hepatic glucose output/production; ↓ intestinal glucose absorption

Dose: 5 mg initial, ↑ by 2.5–5 mg/d, max 40 mg/d; XL max 20 mg; 30 min ac; hold if NPO Caution: [C, ?–/] Severe liver Dz CI: DKA, type 1 DM, sulfonamide sensitivity Disp: Tabs 5, 10 mg;
XL tabs 2.5, 5, 10 mg SE: HA, anorexia, N/V/D, constipation, fullness, rash, urticaria, photosensitivity Notes: Counsel about DM management; wait several d before adjusting dose; monitor glucose

**Glucagon** Uses: Severe *hypoglycemic* Rxns in DM with sufficient liver glycogen stores; β-blocker OD Action: Accelerates liver gluconeogenesis Dose: Adults. 0.5–1 mg SQ, IM, or IV; repeat in 20 min PRN. β-blocker OD: 3–10 mg IV; repeat in 10 min PRN; may give cont Inf 1–5 mg/h (ECC 2005). Peds Neonates: 0.3 mg/kg/dose SQ, IM, or IV q4h PRN. Children: 0.025–0.1 mg/kg/dose SQ, IM, or IV; repeat in 20 min PRN Caution: [B, M] CI: Pheochromocytoma Disp: Inj 1 mg SE: N/V, ↓ BP Notes: Administration of dextrose IV necessary; ineffective in starvation, adrenal Insuff, or chronic hypoglycemia

**Glyburide (DiaBeta, Micronase, Glynase)** Uses: *Type 2 DM* Action: Sulfonylurea; ↑ pancreatic insulin release; ↑ peripheral insulin sensitivity; ↓ hepatic glucose output/production; ↓ intestinal glucose absorption Dose: 1.25–10 mg daily-bid, max 20 mg/d. Micronized: 0.75–6 mg daily-bid, max 12 mg/d Caution: [C, ?] Renal impair CI: DKA, type I DM Disp: Tabs 1.25, 2.5, 5 mg; micronized tabs 1.5, 3, 6 mg SE: HA, hypoglycemia Notes: Not OK for CrCl <50 mL/min; hold dose if NPO

**Glyburide/Metformin (GlucoVance)** Uses: *Type 2 DM* Action: Sulfonylurea: ↑ Pancreatic insulin release. Metformin: Peripheral insulin sensitivity; ↓ hepatic glucose output/production; ↓ intestinal glucose absorption Dose: 1st line (naïve pts), 1.25/250 mg PO daily-bid; 2nd line, 2.5/500 mg or 5/500 mg bid (max 20/2000 mg); take w/ meals, slowly ↑ dose; hold before & 48 h after ionic contrast media Caution: [C, –] CI: SCr >1.4 in females or >1.5 in males; hypoxic conditions (sepsis, recent MI); alcoholism; metabolic acidosis; liver Dz; Disp: Tabs 1.25/250 mg, 2.5/500 mg, 5/500 mg SE: HA, hypoglycemia, lactic acidosis, anorexia, N/V, rash Notes: Avoid EtOH; hold dose if NPO; monitor folate levels (megaloblastic anemia)

**Glycerin Suppository** Uses: *Constipation* Action: Hyperosmolar laxative Dose: Adults. 1 Adult supp PR PRN. Peds. 1 Infant supp PR daily-bid PRN Caution: [C, ?] Disp: Supp (adult, infant); liq 4 mL/applicator-full SE: D

**Gonadorelin (Factrel)** Uses: *Primary hypothalamic amenorrhea* Action: ↑ Pituitary release of LH & FSH Dose: 5 mcg IV over 1 min q 90 min × 21 d using pump kit Caution: [B, M] ↑ Levels w/ androgens, estrogens, progesterins, glucocorticoids, spironolactone, levodopa; ↓ levels with OCP, digoxin, dopamine antagonists CI: Condition exacerbated by PRG or reproductive hormones, ovarian cysts, causes of anovulation other than hypothalamic, hormonally dependent tumor Disp: Inj 100 mcg SE: Multiple pregnancy risk; Inj site pain Notes: Monitor LH, FSH

**Goserelin (Zoladex)** Uses: Advanced *CA Prostate* & w/ radiation for localized high-risk Dz, *endometriosis, breast CA* Action: LHRH agonist, transient ↑ then ↓ in LH, w/ ↓ testosterone Dose: 3.6 mg SQ (implant) q28d or 10.8 mg
SQ q3mo; usually upper Abd wall Caution: [X, –] CI: PRG, breast-feeding, 10.8-mg implant not for women Disp: SQ implant 3.6 (1 mo), 10.8 mg (3 mo) SE: Hot flashes, ↓ libido, gynecomastia, & transient exacerbation of CA-related bone pain (“flare Rxn” 7–10 d after 1st dose) Notes: Inject SQ into fat in Abd wall; do not aspirate; females must use contraception

**Granisetron (Kytril)**  
Uses: *Rx and Prevention of N/V (chemo/radiation/postoperation)*  
Action: Serotonin (5-HT3) receptor antagonist Dose: Adults & Peds. Chemotherapy: 10 mcg/kg/dose IV 30 min prior to chemotherapy Adults. Inj 0.1, 1 mg/mL Chemotherapy: 2 mg PO q day 1 h before chemotherapy, then 12 h later. Post-op N/V: 1 mg IV over 30 s before end of case Caution: [B, +/–] St. John’s wort ↓ levels CI: Liver Dz, children <2 y Disp: Tabs 1 mg; Inj 0.1, 1 mg/mL; soln 2 mg/10 mL SE: HA, asthenia, somnolence, D, constipation, Abd pain, dizziness, insomnia, ↑ LFTs

**Guaifenesin (Robitussin, others)**  
Uses: *Relief of dry, nonproductive cough*  
Action: Expectorant Dose: Adults. 200–400 mg (10–20 mL) PO q4h SR 600–1200 mg PO bid, (max 2.4 g/d). Peds 2–5 y: 50–100 mg (2.5–5 mL) PO q4h (max 600 mg/d). 6–11 y: 100–200 mg (5–10 mL) PO q4h (max 1.2 g/d) Caution: [C, ?] Disp: Tabs 100, 200; SR tabs 600, 1200 mg; caps 200 mg; SR caps 300 mg; liq 100 mg/5 mL SE: GI upset Notes Give w/ large amount of H2O; some dosage forms contain EtOH

**Guaifenesin & Codeine (Robitussin AC, Brontex, others) [C-V]**  
Uses: *Relief of dry cough*  
Action: Antitussive w/ expectorant Dose: Adults. 5–10 mL or 1 tab PO q6–8h (max 60 mL/24 h). Peds 2–6 y: 1–1.5 mg/kg codeine/d ÷ dose q4–6h (max 30 mg/24 h). 6–12 y: 5 mL q4h (max 30 mL/24 h) Caution: [C, +] Disp: Brontex tab 10 mg codeine/300 mg guaifenesin; liq 2.5 mg codeine/75 mg guaifenesin/5 mL; others 10 mg codeine/100 mg guaifenesin/5 mL SE: Somnolence, constipation

**Guaifenesin & Dextromethorphan (many OTC brands)**  
Uses: *Cough* due to upper resp tract irritation Action: Antitussive w/ expectorant Dose: Adults & Peds >12 y: 10 mL PO q6–8h (max 40 mL/24 h). Peds 2–6 y: Dextromethorphan 1–2 mg/kg/24 h ÷ 3–4 × d (max 10 mL/d). 6–12 y: 5 mL q6–8h (max 20 mL/d) Caution: [C, +] CI: Administration w/ MAOI Disp: Many OTC formulations SE: Somnolence Notes Give with plenty of fluids; some forms contain EtOH

**Haemophilus B Conjugate Vaccine (ActHIB, HibTITER, Ped-vaxHIB, Prohibit, others)**  
Uses: Routine *immunization* of children against *H. influenzae* type B Dzs Action: Active immunization against *Haemophilus B* Dose: Peds. 0.5 mL (25 mg) IM in deltoid or vastus lateralis Caution: [C, +] CI: Febrile illness, immunosuppression, allergy to thimerosal Disp: Inj 7.5, 10, 15, 25 mcg/0.5 mL SE: Observe for anaphylaxis; edema, ↑ risk of *Haemophilus B* Infxn the wk after vaccination Notes: Booster not required; report SAE to Vaccine Adverse Events Reporting System (VAERS: 1-800-822-7967); dosing varies w/ product
Haloperidol (Haldol)  WARNING: Risk for torsade de pointes and QT prolongation, death w/ IV administration at higher doses Uses: *Psychotic disorders, agitation, Tourette disorders, hyperactivity in children* Action: Butyrophenone; antipsychotic, neuroleptic Dose: Adults. Mod Sxs: 0.5–2 mg PO bid–tid. Severe Sxs/ agitation: 3–5 mg PO bid–tid or 1–5 mg IM q4h PRN (max 100 mg/d). Peds 3–6 y: 0.01–0.03 mg/kg/24 h PO daily. 6–12 y: Initial, 0.5–1.5 mg/24 h PO; ↑ by 0.5 mg/24 h to maint of 2–4 mg/24 h (0.05–0.1 mg/kg/24 h) or 1–3 mg/dose IM q4–8h to 0.1 mg/kg/24 h max; Tourette Dz may require up to 15 mg/24 h PO; ↓ in elderly Caution: [C, ?] ↑ Effects w/ SSRIIs, CNS depressants, TCA, indomethacin, metoclopramide; avoid levodopa (↓ antiparkinsonian effects) CI: NAG, severe CNS depression, coma, Parkinson Dz, BM suppression, severe cardiac/hepatic Dz Disp: Tabs 0.5, 1, 2, 5, 10, 20 mg; conc liq 2 mg/mL; Inj 5 mg/mL; decanoate Inj 50, 100 mg/mL. SE: Extrapyramidal Sxs (EPS), ↓ BP, anxiety, dystonias Notes: Do not give decanoate IV; dilute PO conc liq w/ H2O/ juice; monitor for EPS; ECG monitoring w/ off-label IV use

Heparin  Uses: *Rx & prevention of DVT & PE,* unstable angina, AF w/ emboli, & acute arterial occlusion Action: Acts w/ antithrombin III to inactivate thrombin & ↓ thromboplastin formation Dose: Adults. Prophylaxis: 3000–5000 units SQ q8–12h. DVT/PE Rx: Load 50–80 units/kg IV (max 10,000 units), then 10–20 units/kg IV qh (adjust based on PTT); bolus 60 units/kg (max 4000 units); then 12 units/kg/h (max 1000 units/h) round to nearest 50 units; keep PTT 1.5–2.0 (control 48 h or until angiography) (ECC 2005) Peds Infants: Load 50 units/kg IV bolus, then 20 units/kg/h IV by cont Inf. Children: Load 50 units/kg IV, then 15–25 units/kg cont Inf or 100 units/kg/dose q4h IV intermittent bolus (adjust based on PTT) Caution: [B, +] ↑ Risk of hemorrhage w/ anticoagulants, aspirin, antiplatelets, cephalosporins w/ MTT side chain CI: Uncontrolled bleeding, severe thrombocytopenia, suspected ICH Disp: Inj 10, 100, 1000, 2000, 2500, 5000, 7500, 10,000, 20,000, 40,000 units/mL SE: Bruising, bleeding, thrombocytopenia Notes: Follow PTT, thrombin time, or activated clotting time; little PT effect; therapeutic PTT 1.5–2 × control for most conditions; monitor for HIT w/ plt counts

Hep A Vaccine (Havrix, Vaqta)  Uses: *Prevent hep A* in high-risk individuals (eg, travelers, certain professions, or high-risk behaviors) Action: Active immunity Dose: (Expressed as ELISA units [EL.U.]) Havrix: Adults. 1440 EL.U. single IM dose. Peds >2 y: 720 EL.U. single IM dose. Vaqta: Adults. 50 units single IM dose. Peds. 25 units single IM dose Caution: [C, +] CI: Component allergy Disp: Inj 720 EL.U./0.5 mL, 1440 EL.U./1 mL; 50 units/mL SE: Fever, fatigue, HA, Inj site pain Notes: Booster OK 6–12 mo after primary; report SAE to Vaccine Adverse Events Reporting System (VAERS: 1-800-822-7967)

Hep A (Inactivated) & Hep B (Recombinant) Vaccine (Twinrix) Uses: *Active immunization against hep A/B in pts >18 y* Action: Active immunity Dose: 1 mL IM at 0, 1, & 6 mo; accelerated regimen 1 mL IM day 0, 7 and 21–20 then booster at 12 mo Caution: [C, +/–] CI: Component sensitivity Disp:
Single-dose vials, syringes SE: Fever, fatigue, pain at site, HA Notes: Booster OK 6–12 mo after vaccination; report SAE to Vaccine Adverse Events Reporting System (VAERS: 1-800-822-7967)

**Hep B Immune Globulin (HyperHep, HepaGam B, H-BIG)**

**Uses:** *Exposure to HBsAg(+) material (eg, blood, accidental needlestick, mucous membrane contact, PO), prevent hep B in HBsAg(+) liver Tx pt*

**Dose:** *Adults & Peds.* 0.06 mL/kg IM 5 mL max; w/in 24 h of exposure; w/in 14 d of sexual contact; repeat 1 mo if nonresponder or refused initial after exposure; liver Tx per protocols

**Action:** Passive immunization

**Caution:** [C, ?] CI: Allergies to γ-globulin or anti-immunoglobulin Ab; allergies to thimerosal; IgA deficiency

**Disp:** Inj SE: Inj site pain, dizziness Notes: IM in gluteal or deltoid; w/ continued exposure, give hep B vaccine; not for active hep B; ineffective for chronic hep B

**Hep B Vaccine (Engerix-B, Recombivax HB)**

**Uses:** *Prevent hep B*

**Action:** Active immunization; recombinant DNA

**Dose:** *Adults.* 3 IM doses 1 mL each; 1st 2 doses 1 mo apart; the 3rd 6 mo after the 1st.

**Peds.** 0.5 mL IM adult schedule

**Caution:** [C, +] ↓ Effect w/ immunosuppressives

**CI:** Yeast allergy

**Disp:** Engerix-B: Inj 20 mcg/mL; peds Inj 10 mcg/0.5 mL

Recombivax HB: Inj 10 & 40 mcg/mL; peds Inj 5 mcg/0.5 mL

**SE:** Fever, Inj site pain

Notes: IM in deltoid IM in adults/older peds; younger peds, use anterolateral thigh

**Hetastarch (Hespan)**

**Uses:** *Plasma vol expansion* adjunct in shock & leukapheresis

**Action:** Synthetic colloid; acts similar to albumin

**Dose:** *Vol expansion:* 500–1000 mL (1500 mL/d max) IV (20 mL/kg/h max rate).

**Leukapheresis:** 250–700 mL; ↓ in renal failure

**Caution:** [C, +] CI: Severe bleeding disorders, CHF, oliguric/anuric renal failure

**Disp:** Inj 6 g/100 mL

**SE:** Bleeding (↑ PT, PTT, bleed time)

Notes: Not blood or plasma substitute

**Human Papillomavirus (Types 6, 11, 16, 18) Recombinant Vaccine (Gardasil)**

**Uses:** *Prevent cervical CA, precancerous genital lesions, and genital warts due to human papillomavirus (HPV) types 6, 11, 16, 18 in females 9–26 y*

**Action:** Recombinant vaccine, passive humoral immunity

**Dose:** 0.5 mL IM initial, then at 2 and 6 mo

**Caution:** [B, ?/–] Disp: Single-dose vial & prefilled syringe

**SE:** Site Rxn (pain, erythema, swelling, pruritus), fever, syncope

Notes: First approved cancer prevention vaccine; report adverse events to Vaccine Adverse Events Reporting System (VAERS: 1-800-822-7967); IM in upper thigh or deltoid; continue cervical CA screening.

**Hydralazine (Apresoline, others)**

**Uses:** *Mod–severe HTN; CHF* (w/ Isordil)

**Action:** Peripheral vasodilator

**Dose:** *Adults.* Initial 10 mg PO 3–4×/d, ↑ to 25 mg 3–4×/d, 300 mg/d max.

**Peds.** 0.75–3 mg/kg/24 h PO ÷ q6–12h; ↓ in renal impair; ✓ CBC & ANA before

**Caution:** [C, +] ↓ Hepatic Fxn & CAD; ↑ tox w/ MAOI, indomethacin, β-blockers

**CI:** Dissecting aortic aneurysm, mitral valve/rheumatic heart Dz

**Disp:** Tabs 10, 25, 50, 100 mg; Inj 20 mg/mL

**SE:** SLE-like syndrome w/ chronic high doses; SVT following IM route, peripheral neuropathy

Notes: Compensatory sinus tachycardia eliminated w/ β-blocker
Hydrochlorothiazide (HydroDIURIL, Esidrix, others)  **Uses:** *Edema, HTN* prevent stones in hypercalcuria **Action:** Thiazide diuretic; ↓ distal tubule Na⁺ reabsorption **Dose:** *Adults.* 25–100 mg/d PO single or ÷ doses; 200 mg/d max. *Peds <6 mo:* 2–3 mg/kg/d in 2 ÷ doses. *>6 mo:* 2 mg/kg/d in 2 ÷ doses **Caution:** [D, +] CI: Anuria, sulfonamide allergy, renal Insuff **Disp:** Tabs 25, 50, mg; caps 12.5 mg; PO soln 50 mg/5 mL **SE:** ↓ K⁺, hyperglycemia, hyperuricemia, ↓ Na⁺; sun sensitivity

Hydrochlorothiazide & Amiloride (Moduretic)  **Uses:** *HTN* **Action:** Combined thiazide & K⁺-sparing diuretic **Dose:** 1–2 tabs/d PO **Caution:** [D, ?] CI: Renal failure, sulfonamide allergy **Disp:** Tabs (amiloride/HCTZ) 5 mg/50 mg **SE:** ↓ BP, photosensitivity, ↑ K⁺/↓ K⁺, hyperglycemia, ↓ Na⁺, hyperlipidemia, hyperuricemia

Hydrochlorothiazide & Spironolactone (Aldactazide)  **Uses:** *Edema, HTN* **Action:** Thiazide & K⁺-sparing diuretic **Dose:** 25–200 mg each component/d, ÷ doses **Caution:** [D, +] CI: Sulfonamide allergy **Disp:** Tabs (HCTZ/spironolactone) 25 mg/25 mg, 50 mg/50 mg **SE:** Photosensitivity, ↓ BP, ↑ or ↓ K⁺, ↓ Na⁺, hyperglycemia, hyperlipidemia, hyperuricemia **Notes:** HCTZ component in Maxzide more bioavailable than in Dyazide

Hydrochlorothiazide & Acetaminophen (Lorcet, Vicodin, Hycet, others) [C-III]  **Uses:** *Mod–severe pain*; **Action:** Narcotic analgesic w/ nonnarcotic analgesic **Dose:** *Adults.* 1–2 caps or tabs PO q4–6h PRN; soln 15 mL q4–6h **Peds.** Soln (Hycet) 0.27 mL/kg q4–6h **Caution:** [C, M] CI: CNS depression, severe resp depression **Disp:** Many formulations; specify hydrocodone/APAP dose; caps 5/500; tabs 2.5/500, 5/325, 5/400, 5/500, 7.5/325, 7.5/400, 7.5/500, 7.5/650, 7.5/750, 10/325, 10/400, 10/500, 10/650, 10/660, 10/750; soln Hycet (fruit punch) 7.5 mg hydrocodone/325 mg acetaminophen/15 mL **SE:** GI upset, sedation, fatigue **Notes:** Do not exceed >4 g APAP/d

Hydrocodone & Acetaminophen (Lortab ASA, others) [C-III]  **Uses:** *Mod–severe pain*; **Action:** Narcotic analgesic with NSAID **Dose:** 1–2 PO q4–6h PRN, w/ food/milk **Caution:** [C, M] ↓ Renal Fxn, gastritis/PUD. CI: Component sensitivity; children w/chickenpox (Reye syndrome) **Disp:** 5 mg hydrocodone/500 mg ASA/tab **SE:** GI upset, sedation, fatigue **Notes:** Monitor for GI bleed

Hydrocodone & Guaifenesin (Hycotuss Expectorant, others) [C-III]  **Uses:** *Nonproductive cough* associated with resp Infxn **Action:** Expectorant w/ cough suppressant **Dose:** *Adults & Peds* >12 y: 5 mL q4h pc & hs. *Peds* <2 y: 0.3 mg/kg/d ÷ qid. 2–12 y: 2.5 mL q4h pc & hs **Caution:** [C, M] CI: Component sensitivity **Disp:** Hydrocodone 5 mg/guaifenesin 100 mg/5 mL **SE:** GI upset, sedation, fatigue
Hydrocodone & Homatropine (Hycodan, Hydromet, others) [C-III]
Uses: *Relief of cough* Action: Combo antitussive Dose: (Based on hydrocodone) Adults. 5–10 mg q4–6h. Peds. 0.6 mg/kg/d ÷ tid-qid Caution: [C, M] CI: NAG, ↑ ICP, depressed ventilation Disp: Syrup 5 mg hydrocodone/5 mL; tabs 5 mg hydrocodone SE: Sedation, fatigue, GI upset Notes: Do not give < q4h; see individual drugs

Hydrocodone & Ibuprofen (Vicoprofen) [C-III]
Uses: *Mod–severe pain (<10 d)* Action: Narcotic w/ NSAID Dose: 1–2 tabs q4–6h PRN Caution: [C, M] Renal Insuff; ↓ effect w/ ACE inhibitors & diuretics; ↑ effect w/ CNS depressants, EtOH, MAOI, aspirin, TCA, anticoagulants CI: Component sensitivity Disp: Tabs 7.5 mg hydrocodone/200 mg ibuprofen SE: Sedation, fatigue, GI upset

Hydrocodone & Pseudoephedrine (Detussin, Histussin-D, others) [C-III]
Uses: *Cough & nasal congestion* Action: Narcotic cough suppressant with decongestant Dose: 5 mL qid, PRN Caution: [C, M] CI: MAOIs Disp: hydrocodone/pseudoephedrine 5 mg/60 mg, 3 mg/15 mg 5 mL; tab 5 mg/60 mg SE: ↑ BP, GI upset, sedation, fatigue

Hydrocodone, Chlorpheniramine, Phenylephrine, Acetaminophen, & Caffeine (Hycomine Compound) [C-III]
Uses: *Cough & Sxs of URI* Action: Narcotic cough suppressant w/ decongestants & analgesic Dose: 1 tab PO q4h PRN Caution: [C, M] CI: NAG Disp: Hydrocodone 5 mg/chlorpheniramine 2 mg/phenylephrine 10 mg/APAP 250 mg/caffeine 30 mg/tab SE: ↑ BP, GI upset, sedation, fatigue

Hydrocortisone, rectal (Anusol-HC Suppository, Cortifoam Rectal, Proctocort, others)
Uses: *Painful anorectal conditions,* radiation proctitis, ulcerative colitis Action: Anti-inflammatory steroid Dose: Adults. Ulcerative colitis: 10–100 mg PR daily-bid for 2–3 wk Caution: [B, ?/–] CI: Component sensitivity Disp: Hydrocortisone acetate: Rectal aerosol 90 mg/applicator; supp 25 mg. Hydrocortisone base: Rectal 0.5%, 1%, 2.5%; rectal susp 100 mg/60 mL SE: Minimal systemic effect

Hydrocortisone, topical & systemic (Cortef, Solu-Cortef)
See Steroids page 214 and Tables 3 & 4 Caution: [B, –] CI: Viral, fungal, or tubercular skin lesions; serious Infxns (except septic shock or TB meningitis) SE: Systemic: ↑ Appetite, insomnia, hyperglycemia, bruising Notes: May cause hypothalamic–pituitary–adrenal axis suppression

Hydromorphone (Dilaudid) [C-II]
WARNING: A potent Schedule II opioid agonist; highest potential for abuse and risk of resp depression. HP formula is highly concentrated; do not confuse w/ standard formulations, OD and death could result. Alcohol, other opioids, CNS depressants ↑ resp depressant effects Uses: *Mod/severe pain* Action: Narcotic analgesic Dose: 1–4 mg PO, IM, IV, or PR q4–6h PRN; 3 mg PR q6–8h PRN; ↓ w/ hepatic failure Caution: [B (D if prolonged use or high doses near term), ?] ↑ Resp depression and CNS effects
CNS depressants, phenothiazines, TCA CI: CNS lesion w/ ↑ ICP, COPD, cor pulmonale, emphysema, kyphoscoliosis, status asthmaticus; HP-Inj form in OB analgesia Disp: Tabs 2, 4 mg, 8 mg scored; liq 5 mg/5 mL or 1 mg/mL; Inj 1, 2, 4, HP is 10 mg/mL; supp 3 SE: Sedation, dizziness, GI upset Notes: Morphine 10 mg IM = hydromorphone 1.5 mg IM

**Hydroxocobalamin (Cyanokit)**

**Uses:** *Cyanide poisoning*
**Action:** Binds cyanide to form nontoxic cyanocobalamin excreted in urine
**Dose:** 5 mg IV over 15 min, repeat PRN 5 g IV over 15 min–2 h, total dose 10 g
**Caution:** [C, ?]
**CI:** None known Disp: Kit 2 2.5 g vials w/ Inf set SE: ↑ BP (can be severe) anaphylaxis, chest tightness, edema, urticaria, rash, chromaturia, N, HA, Inj site Rxns

**Hydroxyurea (Hydrea, Droxia)**

**Uses:** *CML, head & neck, ovarian & colon CA, melanoma, ALL, sickle cell anemia, polycythemia vera, HIV*
**Action:** ↓ Ribonucleotide reductase
**Dose:** (per protocol) 50–75 mg/kg for WBC >100,000 cells/mL; 20–30 mg/kg in refractory CML. HIV: 1000–1500 mg/d in single or ÷ doses; ↓ in renal Insuff Caution: [D, –] Effects w/ zidovudine, zalcitabine, didanosine, stavudine, fluorouracil CI: Severe anemia, BM suppression, WBC <2500 or plt <100,000, PRG Disp: Caps 200, 300, 400, 500 mg, tabs 1000 mg SE: ↓ BM (mostly leukopenia), N/V, rashes, facial erythema, radiation recall Rxns, renal impair Notes: Empty caps into H2O

**Hydroxyzine (Atarax, Vistaril)**

**Uses:** *Anxiety, sedation, itching*
**Action:** Antihistamine, antianxiety
**Dose:** Adults. Anxiety/sedation: 50–100 mg PO or IM qid or PRN (max 600 mg/d). Itching: 25–50 mg PO or IM tid-qid. Peds. 0.5–1.0 mg/kg/24 h PO or IM q6h; ↓ w/hepatic impair Caution: [C, +/–] Effects w/ CNS depressants, anticholinergics, EtOH CI: Component sensitivity Disp: Tabs 10, 25, 50 mg; caps 25, 50 mg; syrup 10 mg/5 mL; susp 25 mg/5 mL; Inj 25, 50 mg/mL SE: Drowsiness, anticholinergic effects Notes: Used to potentiate narcotic effects; not for IV/SQ (thrombosis & digital gangrene possible)

**Hyoscyamine, Atropine, Scopolamine, & Phenobarbital (Donnatal, others)**

**Uses:** *Spasm w/ GI & bladder disorders* 
**Action:** Anticholinergic
**Dose:** Adults. 0.125–0.25 mg (1–2 tabs) SL/PO tid-qid, ac & hs; 1 SR caps q12h Caution: [C, +] ↑ Effects w/ amantadine, antihistamines, antimuscarinics, haloperidol, phenothiazines, TCA, MAOI CI: BOO, GI obst, NAG, MyG, paralytic ileus, ulcerative colitis, MI Disp: (Cystospaz-M, Levsinex) time-release caps 0.375 mg; elixir (EtOH); soln 0.125 mg/5 mL; Inj 0.5 mg/mL; tab 0.125 mg; tab (Cystospaz) 0.15 mg; XR tab (Levbid) 0.375 mg; SL (Levsin SL) 0.125 mg SE: Dry skin, xerostomia, constipation, anticholinergic SE, heat prostration w/ hot weather Notes: Administer tabs ac
Ibandronate (Boniva) Uses: *Rx & prevent osteoporosis in postmenopausal women* Action: Bisphosphonate, ↓ osteoclast-mediated bone-resorption Dose: 2.5 mg PO daily or 150 mg once/month on same day (do not lie down for 60 min after); 3 mg IV over 15–30 s q3mo Caution: [C, ?–] Avoid w/ CrCl <30 mL/min CI: Uncorrected ↓ Ca²⁺; inability to stand/sit upright for 60 min (PO) Disp: Tabs 2.5, 150 mg, Inj IV 3 mg/3 mL SE: Jaw osteonecrosis (avoid extensive dental procedures) N/D, HA, dizziness, asthenia, HTN, Infxn, dysphagia, esophagitis, esophageal/gastric ulcer, musculoskeletal pain Notes: Take 1st thing in A.M. w/ H₂O (6–8 oz) >60 min before 1st food/beverage & any meds w/ multivalent cations; give adequate Ca²⁺ & vit D supls; possible association between bisphosphonates & severe muscle/bone/joint pain Ibuprofen (Motrin, Motrin IB, Rufen, Advil, others) [OTC] WARNING: May ↑ risk of cv events & GI bleeding Uses: *Arthritis, pain, fever* Action: NSAID Dose: Adults. 200–800 mg PO bid-qid (max 2.4 g/d). Peds. 30–40 mg/kg/d in 3–4 ÷ doses (max 40 mg/kg/d); w/ food Caution: [B, +] May interfere w/ aspirin’s antiplatelet effect if given <8 h before aspirin CI: 3rd tri PRG, severe hepatic impair, allergy, use w/ other NSAIDs, upper GI bleeding, ulcers Disp: Tabs 100, 200, 400, 600, 800 mg; chew tabs 50, 100 mg; caps 200 mg; susp 100 mg/2.5 mL, 100 mg/5 mL, 40 mg/mL (Motrin IB & Advil OTC 200 mg are the OTC forms) SE: Dizziness, peptic ulcer, plt inhibition, worsening of renal Insuff Ibutilide (Corvert) Uses: *Rapid conversion of AF/flutter* Action: Class III antiarrhythmic Dose: Adults >60 kg 0.01 mg/kg (max 1 mg) IV Inf over 10 min; may repeat × 1; <60 kg use 0.01 mg/kg (ECC 2005; DC cardioversion preferred) Caution: [C, –] CI: w/ Class I/III antiarrhythmics (Table 10); QTc >440 msec Disp: Inj 0.1 mg/mL SE: Arrhythmias, HA Notes: Give w/ ECG monitoring; ✓ K⁺, Mg²⁺ Idarubicin (Idamycin) WARNING: Administer only under supervision of an MD experienced in leukemia and in an institution with resources to maintain a patient compromised by drug tox Uses: *Acute leukemias* (AML, ALL), *CML in blast crisis, breast CA* Action: DNA-intercalating agent; ↓ DNA topoiso-merases I & II Dose: (Per protocol) 10–12 mg/m²/d for 3–4 d; ↓ in renal/hepatic impair Caution: [D, –] CI: Bilirubin >5 mg/dL, PRG Disp: Inj 1 mg/mL (5, 10, 20 mg vials) SE: ↓ BM, cardiotox, N/V, mucositis, alopecia, & IV site Rxns, rarely ↓ renal/hepatic Fxn Notes: Avoid extravant, potent vesicant; IV only Ifosfamide (Ifex, Holoxan) Uses: Lung, breast, pancreatic & gastric CA, Hodgkin lymphoma/NHL, soft-tissue sarcoma Action: Alkylating agent
Dose: (Per protocol) 1.2 g/m²/d for 5 d bolus or cont Inf; 2.4 g/m²/d for 3 d; w/ mesna uroprotection; ↓ in renal/hepatic impair Caution: [D, M] ↑ Effect w/ phenobarbital, carbamazepine, phenytoin; St. John’s wort may ↓ levels CI: ↓ BM Fxn, PRG Disp: Inj 1, 3 g SE: Hemorrhagic cystitis, nephrotox, N/V, mild–mod leukopenia, lethargy & confusion, alopecia, ↑ hepatic enzyme Notes: Administer w/ mesna to prevent hemorrhagic cystitis

**Iloprost (Ventavis)** WARNING: Associated with syncope; may require dosage adjustment Uses: *NYHA class III/IV pulm arterial HTN* Action: Prostaglandin analog Dose: Initial 2.5 mcg; if tolerated, ↑ to 5 mcg Inh 6–9×/d at least 2 h apart while awake Caution: [C, ?/–] Antiplatelet effects, ↑ bleeding risk w/ anticoagulants; additive hypotensive effects CI: SBP <85 mm Hg Disp: Inh soln 10 mcg/mL SE: Syncope, ↓ BP, vasodilation, cough, HA, trismus Notes: Requires Pro-Dose AAD or I-neb ADD system nebulizer; counsel on syncope risk; do not mix w/ other drugs

**Imatinib (Gleevec)** Uses: *Rx CML Ph +, CML blast crisis, ALL Ph +, myelodysplastic/myeloproliferative Dz, aggressive systemic mastocytosis, chronic eosinophilic leukemia, GIST, dermatofibrosarcoma protuberans* Action: ↓ BCL-ABL; TKI Dose: Adults. Typical dose 400–600 mg PO daily; w/ meal Peds. CML Ph + newly diagnosed 340 mg/m²/d, 600 mg/d max; recurrent 260 mg/m²/d PO ÷ daily-bid, to 340 mg/m²/d max Caution: [D, ?/–] w/ CYP3A4 meds (Table 11), warfarin CI: Component sensitivity Disp: Tab 100, 400 mg SE: GI upset, fluid retention, muscle cramps, musculoskeletal pain, arthralgia, rash, HA, neutropenia, thrombocytopenia Notes: Follow CBCs & LFTs baseline & monthly; w/ large glass of H₂O & food to ↓ GI irritation

**Imipenem–Cilastatin (Primaxin)** Uses: *Serious Infxns* due to susceptible bacteria Action: Bactericidal; ↓ cell wall synth. Spectrum: Gram(+) (S. aureus, group A & B streptococci), gram(–) (not Legionella), anaerobes Dose: Adults. 250–1000 mg (imipenem) IV q6–8h, 500–750 mg IM. Peds. 60–100 mg/kg/24 h IV ÷ q6h; ↓ if CrCl is <70 mL/min Caution: [C, ?/–] Probencid ↑ tox CI: Ped pts w/ CNS Infxn (↑ Sz risk) & <30 kg w/ renal impair Disp: Inj (imipenem/cilastatin) 250/250 mg, 500/500 mg SE: Szs if drug accumulates, GI upset, thrombocytopenia

**Imipramine (Tofranil)** WARNING: Close observation for suicidal thinking or unusual changes in behavior Uses: *Depression, enuresis,* panic attack, chronic pain Action: TCA; ↑ CNS synaptic serotonin or norepinephrine Dose: Adults. Hospitalized: Initial 100 mg/24 h PO in ÷ doses; ↑ over several wk 300 mg/d max. Outpatient: Maint 50–150 mg PO hs, 300 mg/24 h max. Peds. Antidepressant: 1.5–5 mg/kg/24 h ÷ daily–qid. Enuresis: >6 y: 10–25 mg PO qhs; ↑ by 10–25 mg at 1–2-wk intervals (max 50 mg for 6–12 y, 75 mg for >12 y); Rx for 2–3 mo, then taper Caution: [D, ?/–] CI: Use with MAOIs, NAG, acute recovery from MI, PRG, CHF, angina, CV Dz, arrhythmias Disp: Tabs 10, 25, 50 mg; caps 75, 100, 125, 150 mg SE: CV Sxs, dizziness, xerostomia, discolored urine Notes: Less sedation than amitriptyline
Imiquimod Cream, 5% (Aldara)  
*Uses:* Anogenital warts, HPV, condylomata acuminata.  
*Action:* Unknown; cytokine induction  
*Dose:* Apply 3×/wk, leave on 6–10 h & wash off w/ soap & water, continue 16 wk max  
*Caution:* [B, ?]  
*CI:* Component sensitivity  
*Disp:* Single-dose packets 5% (250-mg cream)  
*SE:* Local skin Rxns  
*Notes:* Not a cure; may weaken condoms/Vag diaphragms, wash hands before & after use

Immune Globulin, IV (Gamimune N, Sandoglobulin, Gammar IV)  
*Uses:* IgG Ab deficiency Dz states (eg, congenital agammaglobulinemia, CVH, & BMT), HIV, hep A prophylaxis, ITP  
*Action:* IgG supl  
*Dose:* Adults & Peds. Immunodeficiency: 100–200 mg/kg/mo IV at 0.01–0.04 mL/kg/min to 400 mg/kg/dose max. ITP: 400 mg/kg/dose IV daily × 5 d. BMT: 500 mg/kg/wk; ↓ in renal Insuff  
*Caution:* [C, ?]  
*CI:* Separate administration of live vaccines by 3 mo  
*Disp:* Inj  
*SE:* Associated mostly w/ Inf rate; GI upset

Immune Globulin, subcutaneous (Vivaglobin)  
*Uses:* Primary immunodeficiency  
*Action:* IgG supl  
*Dose:* 100–200 mg/kg body wgt SQ weekly  
*Caution:* [C, ?]  
*CI:* Hx anaphylaxis to immune globulin; some IgA deficiency  
*Disp:* 10-, 20-mL vials w/ 160 mg/IgG/mL  
*SE:* Inj site Rxns, HA, GI complaint, fever, N, D, rash, sore throat  
*Notes:* May instruct in home administration; keep refrigerated; discard unused drug; dose >15 mL divide between sites

Inamrinone [Amrinone] (Inocor)  
*Uses:* Acute CHF, ischemic cardiomyopathy  
*Action:* Inotrope w/ vasodilator  
*Dose:* IV bolus 0.75 mg/kg over 2–3 min; maint 5–10 mcg/kg/min, 10 mg/kg/d max; ↓ if CrCl <10 mL/min  
*Caution:* [C, ?]  
*CI:* Bisulfite allergy  
*Disp:* Inj 5 mg/mL  
*SE:* Monitor fluid, electrolyte, & renal changes  
*Notes:* Incompatible w/ dextrose solns, ✔ LFTs, observe for arrhythmias

Indapamide (Lozol)  
*Uses:* HTN, edema, CHF  
*Action:* Thiazide diuretic; ↑ Na, Cl, & H2O excretion in distal tubule  
*Dose:* 1.25–5 mg/d PO  
*Caution:* [D, ?]  
*CI:* Anuria, thiazide/sulfonamide allergy, renal Insuff, PRG  
*Disp:* Tabs 1.25, 2.5 mg SE: ↓ BP, dizziness, photosensitivity  
*Notes:* No additional effects w/ doses >5 mg; take early to avoid nocturia; use sunscreen; OK w/ food/milk

Indinavir (Crixivan)  
*Uses:* HIV Infxn*  
*Action:* Protease inhibitor; ↓ maturation of noninfectious virions to mature infectious virus  
*Dose:* Typical 800 mg PO q8h in combo w/ other antiretrovirals (dose varies); on empty stomach; ↓ w/ hepatic impair  
*Caution:* [C, ?] Numerous drug interactions, especially CYP3A4 inhibitor (Table 11)  
*CI:* w/ Triazolam, midazolam, pimozide, ergot alkaloids, simvastatin, lovastatin, sildenafil, St. John’s wort, amiodarone  
*Disp:* Caps 100, 200, 333, 400 mg SE: Nephrolithiasis, dyslipidemia, lipodystrophy, N/V, ↑ bilirubin  
*Notes:* Drink six 8-oz glasses of H2O/d

Indomethacin (Indocin)  
*WARNING:* May ↑ risk of cv events & GI bleeding  
*Uses:* Arthritis; close ductus arteriosus; ankylosing spondylitis*  
*Action:* ↓ Prostaglandins  
*Dose:* Adults. 25–50 mg PO bid-tid, max 200 mg/d  
*Infants:*
Infliximab (Remicade) **WARNING:** TB, invasive fungal Infxns, & other opportunistic Infxns reported, some fatal; perform TB skin testing prior to use; possible association with rare lymphoma **Uses:** *Mod–severe Crohn Dz; fistulizing Crohn Dz; ulcerative colitis; RA (w/ MTX) psoriasis, ankylosing spondylitis* **Action:** IgG1K neutralizes TNF-α  **Dose:** **Adults. Crohn Dz:** Induction: 5 mg/kg IV Inf, w/ doses 2 & 6 wk after. **Maint:** 5 mg/kg IV Inf q8wk. **RA:** 3 mg/kg IV Inf at 0, 2, 6 wk, then q8wk. **Peds >6 y:** 5 mg/kg IV q8wk **Caution:** [B, ?/–] Active Infxn, hepatic impair, Hx or risk of TB, hep B CI: Murine allergy, mod–severe CHF, w/ live vaccines (eg, smallpox) **Disp:** 100 mg Inj  **SE:** Allergic Rxns; HA, fatigue, GI upset, Inf Rxns; hepatotox; reactivation hep B, pneumonia, BM suppression, systemic vasculitis, pericardial effusion **Notes:** Monitor LFTs, PPD at baseline, monitor hep B carrier, skin exam for malignancy w/ psoriasis; can premedicate w/ antihistamines, APAP, and/or steroids to ↓ Inf Rxns **Influenza Vaccine (Fluarix, FluLaval, Fluzone, Fluvirin)** **Uses:** *Prevent influenza* in adults >50 y, children 6–23 mo, pregnant women (2nd/3rd tri during flu season), nursing home residents, chronic Dzs, health-care workers, household contacts of high-risk pts, children <9 y receiving vaccine for the first time **Action:** Active immunization **Dose:** **Adults and Peds >9 y:** 0.5 mL/dose IM annually. **Peds 6 mo–3 y:** 0.25 mL IM annually; 0.25 mL IM ×2 doses >4 wk apart 1st vaccination; give 2 doses in 2nd vaccination year if only 1 dose given in 1st year. **3–8 y:** 0.5 mL IM annually, start 0.5 mL IM × 2 doses >4 wk apart in 1st vaccination year **Caution:** [C, +] CI: Egg, gentamicin, or thimerosal allergy, Infxn at site, acute resp or febrile illness, Hx Guillain–Barré, immunocompromised, children 5–17 y on aspirin **Disp:** Based on manufacturer, 0.25- & 0.5-mL prefilled syringes  **SE:** Inj site soreness, fever, myalgia, malaise, Guillain–Barré syndrome (controversial) **Notes:** Fluarix not labeled for peds; optimal in US Oct–Nov, protection begins 1–2 wk after, lasts up to 6 mo; each year, vaccines based on predictions of flu active in flu season (December–spring in US); whole or split virus for adults; peds <13 y split virus or purified surface antigen to ↓ febrile Rxns; see www.cdc.gov/flu for more info **Influenza Virus Vaccine Live, intranasal (FluMist)** **Uses:** *Prevent influenza* **Action:** Live-attenuated vaccine **Dose:** **Adults 18–49 y:** 0.1 mL each nostril × 1 annually **Peds 5–8 y:** 0.1 mL each nostril × 1 annually; initial 0.1 mL each nostril × 2 doses >6 wk apart in 1st vaccination year >9 y: See adult dose **Caution:** [C, ?/–] CI: Egg allergy, PRG, Hx Guillain–Barré syndrome, known/suspected immune deficiency, asthma or reactive airway Dz, acute febrile
illness, peds 5–17 y on ASA Disp: Prefilled, single-use, intranasal sprayer; shipped frozen, store 35–46°F; new refrigerated shipping form for 2008 SE: Runny nose, nasal congestion, HA, cough Notes: Do not give w/ other vaccines; avoid contact w/immunocompromised individuals for 21 d

**Insulin, injectable (see Table 5 page 255)**

**Uses:** *Type 1 or type 2 DM refractory to diet or PO hypoglycemic agents; acute life-threatening ↑ K+*  
**Action:** Insulin supl  
**Dose:** Based on serum glucose; usually SQ; can give IV (only regular)/IM; type 1 typical start dose 0.5–1 units/kg/d; type 2 0.3–0.4 units/kg/d; renal failure ↓ insulin needs  
**Caution:** [B, +] CI: Hypoglycemia  
**Disp:** Table 5  
**SE:** Highly purified insulins ↑ free insulin; monitor for several wk when changing doses/agents

**Interferon Alfa (Roferon-A, Intron-A)**  
**WARNING:** Can cause or aggravate fatal or life-threatening neuropsychological, autoimmune, ischemic, and infectious disorders. Monitor closely  
**Uses:** *Hairy cell leukemia, Kaposi sarcoma, melanoma, CML, chronic hep B & C, follicular NHL, condylomata acuminata*  
**Action:** Antiproliferative; modulates host immune response; ↓ viral replication in infected cells  
**Dose:** Per protocols. **Adults.**  
**Hairy cell leukemia:** Alfa-2a (Roferon-A): 3 million units/d for 16–24 wk SQ/IM then 3 million units 3×/wk × 6–24 mo; Alfa-2b (Intron A): 2 million units/m² IM/SQ 3×/wk for 2–6 mo. **Chronic hep B:** Alfa-2b (Intron A): 3 million units/m² SQ 3×/wk × 1 wk, then 6 million units/m² 3×/wk (max 10 million units 3×/wk, total duration 16–24 wk). **Follicular NHL** (Intron A): 5 million units SQ 3×/wk for 18 mo. **Melanoma** (Intron A): 20 million units/m² IV × 5 d/wk × 4 wk, then 10 million units/m² SQ 3×/wk × 18 mo. **Kaposi sarcoma** (Intron A): 30 million units/m² IM/SQ 3×/wk × 10–12 wk, then 36 million units IM/SQ 3×/wk. **Chronic hep C** (Intron A): 3 million units 3×/wk × 16 wk (continue 18–24 mo if response). **Roferon A:** 3 million units 3×/wk for 12 mo SQ/IM. **Condyloma** (Intron A): 1 million units/lesion (max 5 lesions) 3×/wk for 3 wk.  
**Peds. CML:** Alfa-2a (Roferon-A): 2.5–5 million units/m² IM daily. CI: Benzyl alcohol sensitivity, decompensated liver Dz, autoimmune Dz, immunosuppressed, neonates, infants  
**Disp:** Inj forms (see also polyethylene glycol [PEG]-interferon)  
**SE:** Flu-like Sxs, fatigue, anorexia, neurotox at high doses; up to 40% neutralizing Ab w/ therapy

**Interferon Alfa-2b & Ribavirin Combo (Rebetron)**  
**WARNING:** Can cause or aggravate fatal or life-threatening neuropsychological, autoimmune, ischemic, and infectious disorders. Monitor pts closely. CI in pregnant females & their male partners  
**Uses:** *Chronic hep C w/ compensated liver Dz who relapse after α-interferon therapy*  
**Action:** Combo antiviral agents (see individual agents)  
**Dose:** 3 million units Intron A SQ 3× wk w/ 1000–1200 mg of Rebetron PO ÷ bid dose for 24 wk. **Pts <75 kg:** 1000 mg of Rebetron/d  
**Caution:** [X, ?] CI: PRG, males w/ PRG female partner, autoimmune hep, CrCl <50 mL/min  
**Disp:** Pts <75 kg: Combo packs: 6 vials Intron A (3 Munits/0.5 mL) w/ 6 syringes & EtOH swabs, 70 Rebetol caps; one 18-MU multidose vial of Intron A Inj (22.8 million units/3.8 mL;
3 million units/0.5 mL) & 6 syringes & swabs, 70 Rebetol caps; one 18-million units IntrA Inj multidose pen (22.5 million units/1.5 mL; 3 million units/0.2 mL) w/ 6 needles & swabs, 70 Rebetol caps. Pts >75 kg: Identical except 84 Rebetol caps/pack.

**Interferon Alfacon-1 (Infergen)**  
**WARNING:** Can cause or aggrivate fatal or life-threatening neuropsychological, autoimmune, ischemic, & infectious disorders. Monitor closely.  
**Uses:** *Chronic hep C*  
**Action:** Biologic response modifier  
**Dose:** 9 mcg SQ 3×/wk × 24 wk  
**Caution:** [C, M]  
**CI:** E. coli product allergy  
**Disp:** Inj 9, 15 mcg  
**SE:** Flu-like syndrome, depression, blood dyscrasias, colitis, pancreatitis, hepatic decompensation, ↑ SCr, eye disorders, ↓ thyroid  
**Notes:** Monthly PRG test; instruct in self-administration of SQ Intron A

**Interferon Beta-1a (Rebif)**  
**WARNING:** Can cause or aggrivate fatal or life-threatening neuropsychological, autoimmune, ischemic, & infectious disorders. Monitor closely.  
**Uses:** *MS, relapsing*  
**Action:** Biologic response modifier  
**Dose:** 44 mcg SQ 3×/wk; start 8.8 mcg SQ 3×/wk × 2 wk, then 22 mcg SQ 3×/wk × 2 wk  
**Caution:** [C, ?] w/ Hepatic impair, depression, Sz disorder, thyroid Dz  
**CI:** Human albumin allergy  
**Disp:** 0.5 mL prefilled syringes w/ 29-gauge needle  
**Titrata Pak 8.8 and 22 mcg; 22 or 44 mcg SE:** Inj site Rxn, HA, flu-like Sx, malaise, fatigue,rigors, myalgia, depression w/ suicidal ideation, hepatotox, ↓ BM  
**Notes:** Dose >48 h apart; CBC 1, 3, 6 mo; TFTs q6mo w/ hx thyroid Dz

**Interferon Beta-1b (Betaseron)**  
**Uses:** *MS, relapsing/remitting/secondary progressive*  
**Action:** Biologic response modifier  
**Dose:** 0.625 mg (2 MU) q other day, ↑ by 0.0625 mg q2wk to target dose 0.25 mg q other day  
**Caution:** [C, ?]  
**CI:** Human albumin sensitivity  
**Disp:** Powder for Inj 0.3 mg (32 MU interferon [IFN])  
**SE:** Flu-like syndrome, depression, blood dyscrasias, Inj site necrosis, anaphylaxis  
**Notes:** Teach pt self-injection, rotate sites; √ LFTs, CBC 1, 3, 6 mo, TFT q6mo

**Interferon Gamma-1b (Actimmune)**  
**Uses:** *↓ Incidence of serious Infxns in chronic granulomatous Dz (CGD), osteoporosis*  
**Action:** Biologic response modifier  
**Dose:** Adults. CGD: 50 mcg/m² SQ (1.5 MU/m²) BSA >0.5 m²; if BSA <0.5 m², give 1.5 mcg/kg/dose; given 3× wk  
**Caution:** [C, ?]  
**CI:** Allergy to E. coli-derived products  
**Disp:** Inj 100 mcg (2 MU)  
**SE:** Flu-like syndrome, depression, blood dyscrasias, dizziness, altered mental status, gait disturbance, hepatic tox  
**Notes:** may ↑ deaths in interstitial pulm fibrosis

**Ipecac Syrup [OTC]**  
**Uses:** *Drug OD, certain cases of poisoning*  
**NOTE:** Usage is falling out of favor & is no longer recommended by some groups  
**Action:** Irritation of the GI mucosa; stimulation of the chemoreceptor trigger zone  
**Dose:** Adults. 15–30 mL PO, followed by 200–300 mL of H₂O; if no emesis in 20 min, repeat once. Peds 6–12 y: 5–10 mL PO, followed by 10–20 mL/kg of H₂O; if no emesis in 20 min, repeat once. 1–12 y: 15 mL PO followed by 10–20 mL/kg of H₂O; if no emesis in 20 min, repeat once  
**Caution:** [C, ?]  
**CI:** Ingestion of petroleum distillates, strong acid, base, or other caustic agents; comatose/unconscious
Ipratropium (Atrovent HFA, Atrovent nasal) Uses: *Bronchospasm w/ COPD, rhinitis, rhinorrhea* Action: Synthetic anticholinergic similar to atropine; antagonizes acetylcholine receptors, inhibits mucous gland secretions Dose: Adults & Peds >12 y: 2–4 puffs qid, max 12 Inh/d Nasal: 2 sprays/nostril bid-tid; Nebulization: 500 mcg 3–4 times/d Caution: [B, +/-] w/ Inhaled insulin CI: Allergy to soya lecithin-related foods Disp: HFA Metered-dose inhaler 18 mcg/dose; Inh soln 0.02%; nasal spray 0.03, 0.06% SE: Nervousness, dizziness, HA, cough, bitter taste, nasal dryness, URI, epistaxis Notes: Not for acute bronchospasm

Irbesartan (Avapro) Uses: *HTN, DN,* CHF Action: Angiotensin II receptor antagonist Dose: 150 mg/d PO, may ↑ to 300 mg/d Caution: [C (1st tri; D 2nd/3rd), ?/–] Disp: Tabs 75, 150, 300 mg SE: Fatigue, ↓ BP ↑ K

Irinotecan (Camptosar) Warning: D & myelosuppression Uses: *Colorectal* & lung CA Action: Topoisomerase I inhibitor; ↓ DNA synth Dose: Per protocol; 125–350 mg/m² q wk–q3wk (↓ hepatic dysfunction, as tolerated per tox) Caution: [D, –] CI: Allergy to component Disp: Inj 20 mg/mL SE: ↓ BM, N/V/D, Abd cramping, alopecia; D is dose limiting; Rx acute D w/ atropine; Rx subacute D w/ loperamide Notes: D correlated to levels of metabolite SN-38

Iron Dextran (Dexferrum, INFeD) Warning: Anaphylactic Rxns with use; use only if oral iron not possible; administer where resuscitation techniques available Uses: *Fe deficiency anemia* Action: Fe suppl Dose: Adults. Irondeficiency anemia: Estimate Fe deficiency, give 25–100 mg IM/IV/d until total dose; total dose (mL) = [0.0442 × (desired Hgb – observed Hgb) × lean body wgt] + (0.26 × lean body wgt); Iron replacement, blood loss: total dose (mg) = blood loss (mL) × Hct (as decimal fraction) max 100 mg/d; Peds >4 mo: As above; max: 0.5 mL (wgt <5 kg), 1 mL (5–10 kg), 2 mL (>10 kg) per dose IM or direct IV Caution: [C, M] CI: Anemia w/o Fe deficiency. Disp: Inj 50 mg (Fe)/mL SE: Anaphylaxis, flushing, dizziness, Inj site & Inf Rxns, metallic taste Notes: Give IM w/ “Z-track” technique; IV preferred; give test dose >1 h before

Iron Sucrose (Venofer) Uses: *Fe deficiency anemia w/ chronic HD in those receiving erythropoietin* Actions: Fe replacement. Dose: 5 mL (100 mg) IV on dialysis, 1 mL (20 mg)/min max Caution: [C, M] CI: Anemia w/o Fe deficiency Disp: 20 mg elemental Fe/mL, 5-mL vials. SE: Anaphylaxis, ↓ BP, cramps, N/V/D. HA Notes: Most pts require cumulative doses of 1000 mg; give slowly

Isoniazid (INH) Uses: *Rx & prophylaxis of TB* Action: Bactericidal; interferes w/ mycolic acid synth, disrupts cell wall Dose: Adults. Active TB: 5 mg/kg/24 h PO or IM (usually 300 mg/d) or DOT: 15 mg/kg (max 900 mg) 3x/wk. Prophylaxis: 300 mg/d PO for 6–12 mo or 900 mg 2x/wk. Peds. Active TB: 10–15 mg/kg/d daily-bid PO or IM 300 mg/d max. Prophylaxis: 10 mg/kg/24 h PO; ↓ in hepatic/renal dysfunction Caution: [C, +] Liver Dz, dialysis; avoid EtOH
CI: Acute liver Dz, Hx INH hep Disp: Tabs 100, 300 mg; syrup 50 mg/5 mL; Inj 100 mg/mL SE: Hep, peripheral neuropathy, GI upset, anorexia, dizziness, skin Rxn Notes: Use w/ 2–3 other drugs for active TB, based on INH resistance patterns when TB acquired & sensitivity results; prophylaxis usually w/ INH alone. IM rarely used. ↓ Peripheral neuropathy w/ pyridoxine 50–100 mg/d. See CDC guidelines (MMWR) for current recommendations

Isoproterenol (Isuprel) Uses: *Shock, cardiac arrest, AV nodal block* Action: β₁- & β₂-receptor stimulant Dose: Adults. 2–10 mcg/min IV Inf; titrate; 2–10 mcg/min titrate (ECC 2005) Peds. 0.2–2 mcg/kg/min IV Inf; titrate Caution: [C, ?] CI: Angina, tachyarrhythmias (digitalis-induced or others) Disp: 0.02 mg/mL, 0.2 mg/mL SE: Insomnia, arrhythmias, HA, trembling, dizziness Notes: Pulse >130 BPM may induce arrhythmias

Isosorbide Dinitrate (Isordil, Sorbitrate, Dilatrate-SR) Uses: *Rx & prevent angina,* CHF (w/ hydralazine) Action: Relaxes vascular smooth muscle Dose: Acute angina: 5–10 mg PO (chew tabs) q2–3h or 2.5–10 mg SL PRN q5–10 min; do not give >3 doses in a 15–30-min period. Angina prophylaxis: 5–40 mg PO q6h; do not give nitrates on a chronic q6h or qid basis >7–10 d; tolerance may develop; provide 10–12-h drug-free intervals; dose in CHF: initial 20 mg 3–4×/d, target 120–160 mg/d Caution: [C, ?] CI: Severe anemia, NAG, postural ↓ BP, cerebral hemorrhage, head trauma (can ↑ ICP), w/ sildenafil, tadalafil, vardenaafil Disp: Tabs 5, 10, 20, 30; SR tabs 40 mg; SL tabs 2.5, 5 mg; SR caps 40 mg SE: HA, ↓ BP, flushing, tachycardia, dizziness Notes: Higher PO dose needed for same results as SL forms

Isosorbide Mononitrate (Ismo, Imdur) Uses: *Prevention/Rx of angina pectoris* Action: Relaxes vascular smooth muscle Dose: 5–10 mg PO bid, w/ the 2 doses 7 h apart or XR (Imdur) 30–60 mg/d PO, max 240 mg Caution: [C, ?] CI: Head trauma/cerebral hemorrhage (can ↑ ICP), w/ sildenafil, tadalafil, vardenaafil Disp: Tabs 10, 20 mg; XR 30, 60, 120 mg SE: HA, dizziness, ↓ BP

Isotretinoin [13-cis Retinoic Acid] (Accutane, Amnesteem, Claravis, Sotret) WARNING: Must not be used by PRG females; can induce severe birth defects; pt must be capable of complying w/ mandatory contraceptive measures; prescribed according to product-specific risk management system. Because of teratogenicity, is approved for marketing only under a special restricted distribution FDA program called iPLEDGE Uses: *Refractory severe acne* Action: Retinoic acid derivative Dose: 0.5–2 mg/kg/d PO ÷ bid; ↓ in hepatic Dz, take w/ food Caution: [X, –] Avoid tetracyclines CI: Retinoid sensitivity, PRG Disp: Caps 10, 20, 30, 40 mg SE: Rare: Depression, psychosis, suicidal thoughts; derm sensitivity, xerostomia, photosensitivity, LFTs, triglycerides Notes: Risk management program requires 2 (–) PRG tests before Rx & use of 2 forms of contraception 1 mo before, during, & 1 mo after therapy; to prescribe isotretinoin, the prescriber must access the iPLEDGE system via the Internet (www.ipledgeprogram.com); monitor LFTs & lipids
Isradipine (DynaCirc)  Uses: *HTN* Action: CCB Dose: Adults. 2.5–5 mg PO bid. Caution: [C, ?] CI: Severe heart block, sinus bradycardia, CHF, dosing w/in several hours of IV β-blockers Disp: Caps 2.5, 5 mg; tabs CR 5, 10 mg SE: HA, edema, flushing, fatigue, dizziness, palpitations

Itraconazole (Sporanox)  WARNING: CI w/ cisapride, pimozide, quinidine, dofetilide, or levacetylmethadol. Serious CV events (eg, ↑ QT, torsade de pointes, ventricular tachycardia, cardiac arrest, and/or sudden death) reported w/ these meds and other CYP3A4 inhibitors. Do not use for onychomycosis w/ ventricular dysfunction Uses: *Fungal Infxns (aspergillosis, blastomycosis, histoplasmosis, candidiasis)* Action: Azole antifungal, ↓ ergosterol synth Dose: 200 mg PO daily-bid (caps w/ meals or cola/grapefruit juice); PO soln on empty stomach; avoid antacids Caution: [C, ?] Numerous interactions CI: See warning; PRG or considering PRG; ventricular dysfunction Disp: Caps 100 mg; soln 10 mg/mL SE: N/V, rash, hepatotoxic, ↓ K+, CHF, ↑ BP, neuropathy Notes: soln & caps not interchangeable; useful in pts who cannot take amphotericin B; follow LFTs

Ixabepilone (Ixempra)  WARNING: CI in combo w/ capecitabine w/ AST/ALT >2.5× ULN or bilirubin >1× ULN due to ↑ tox and neutropenia-related death Uses: *Metastatic/locally advanced breast CA after failure of an anthracycline, a taxane, and capecitabine* Action: Microtubule inhibitor Dose: 40 mg/m² IV over 3 h q3wk Caution: [D, ?/–] CI: Hypersensitivity to Cremophor EL; baseline ANC <1500 cells/mm³ or plt <100,000 cells/mm³; AST or ALT >2.5× ULN, bilirubin >1× ULN Disp: Inj 15, 45 mg SE: neutropenia, leukopenia, anemia, thrombocytopenia, peripheral sensory neuropathy, fatigue/asthenia, myalgia/arthritis, alopecia, N/V/D, stomatitis/mucositis Notes: Substrate CYP3A4, dose must be adjusted with strong CYP3A4 inhibitor/inducers

Ketoconazole (Nizoral)  WARNING: (Oral use) Risk of fatal hepatotox. Concomitant terfenadine, astemizole, and cisapride are CI due to serious cardiovascular adverse events Uses: *Systemic fungal Infxns (Candida, blastomycosis, histoplasmosis, etc); refractory topical dermatophyte Infxn*; PCa when rapid ↓ testosterone needed or hormone refractory Action: Azole, ↓ fungal cell wall synth; high dose blocks P450, ↓ testosterone production Dose: PO: 200 mg PO daily; ↑ to 400 mg PO daily for serious Infxn. PCa: 400 mg PO tid w/hydrocortisone 20–40 mg ÷ bid; best on empty stomach Caution: [C, +/–] Any agent that ↑ gastric pH ↓ absorption; may enhance anticoagulants; w/ EtOH (disulfiram-like Rxn); numerous interactions including statins, niacin CI: CNS fungal Infxns, w/astemizole, triazolam Disp: Tabs 200 mg SE: N, rashes, hair loss, HA, ↑ wgt gain, dizziness, disorientation, fatigue, impotence, hepatox, adrenal suppression, acquired cutaneous adherence (“sticky skin syndrome”) Notes: Monitor LFTs; can rapidly ↓ testosterone levels

Ketoconazole, topical (Extina, Kuric, Nizoral AD Shampoo, Xolegel) [Shampoo—OTC]  Uses: *Topical for seborrheic dermatitis, shampoo for dandruff* local fungal Infxns due to dermatophytes & yeast Action:
Kunecatechins 

Kunecatechins [sinecatechins] (Veregen)  Uses: *External genital/perianal warts*  Action: Unknown; green tea extract  Dose: Apply 0.5-cm ribbon to each wart 3x/d until all warts clear; not >16 wk  Caution: [C; ?]  Disp: Oint 15%  SE: Erythema, pruritus, burning, pain, erosion/ulceration, edema, induration, rash, phimosis  Notes: Wash hands before/after use; not necessary to wipe off prior to next use; avoid on open wounds

Ketotifen (Alaway, Zaditor) [OTC]  Uses: *Allergic conjunctivitis*  Action: Antihistamine H₁-receptor antagonist, mast cell stabilizer  Dose: Adults & Peds >3 y: 1 gtt in eye(s) q8–12h  Caution: [C, ?–]  Disp: Soln 0.025%/5 & 10 mL  SE: Local irritation, HA, rhinitis, keratitis, mydriasis  Notes: Wait 10 min before inserting contacts

Ketorolac Ophthalmic (Acular, Acular LS, Acular PF)  Uses: *Pain*  Action: NSAID; ↓ prostaglandins  Dose: Adults. 15–30 mg IV/IM q6h; 10 mg PO qid only as continuation of IM/IV; max IV/IM 120 mg/d, max PO 40 mg/d. Peds 2–16 y: 1 mg/kg IM × 1 dose; 30 mg max; IV: 0.5 mg/kg, 15 mg max; do not use for >5 d; ↓ if >65 y, elderly, w/ renal impair, <50 kg  Caution: [C (D 3rd tri), –] w/ ACE inhibitor, diuretics, BP meds, warfarin  CI: See Warning  Disp: Tabs 10 mg; Inj 15 mg/mL, 30 mg/mL  SE: Bleeding, peptic ulcer Dz, ↑ Cr & LFTs, ↑ BP, edema, dizziness, allergy

Ketorolac (Toradol)  WARNING: For short-term (<5 d) Rx of mod–severe acute pain; CI w/ PUD, GI bleed, postcoronary artery bypass graft, anticipated major surgery, severe renal Insuff, bleeding diathesis, labor & delivery, nursing, and w/ ASA/NSAIDs. NSAIDs may cause an increased risk of CV thrombotic events (MI, stroke). PO CI in peds <16 y  Uses: *Pain*  Action: NSAID; ↓ prostaglandins  Dose: Adults. 15–30 mg IV/IM q6h; 10 mg PO qid only as continuation of IM/IV; max IV/IM 120 mg/d, max PO 40 mg/d. Peds 2–16 y: 1 mg/kg IM × 1 dose; 30 mg max; IV: 0.5 mg/kg, 15 mg max; do not use for >5 d; ↓ if >65 y, elderly, w/ renal impair, <50 kg  Caution: [C (D 3rd tri), –] w/ ACE inhibitor, diuretics, BP meds, warfarin  CI: See Warning  Disp: Tabs 10 mg; Inj 15 mg/mL, 30 mg/mL  SE: Bleeding, peptic ulcer Dz, ↑ Cr & LFTs, ↑ BP, edema, dizziness, allergy

Ketorolac (Toradol)  WARNING: May ↑ risk of cv events & GI bleeding; CI for perioperative pain in CABG surgery  Uses: *Arthritis (RA/OA), pain*  Action: NSAID; ↓ prostaglandins  Dose: 25–75 mg PO tid-qid, 300 mg/d/max; SR 200 mg/d; w/ food; ↓ w/ hepatic/renal impair, elderly  Caution: [C(D 3rd tri), –] w/ ACE, diuretics; ↑ warfarin, Li, MTX  CI: NSAID/ASA sensitivity  Disp: Caps 50, 75 mg; caps, SR 200 mg  SE: Irritation, pruritus, stinging

Notes: Do not dispense foam into hands

Ketoconazole (Nizoral)  Uses: *Fungal infections*  Action: Antifungal  Dose: TOPICAL: Apply q day-bid  Caution: [C, +/–]  CI: Broken/inflamed skin  Disp: Tabs 200 mg; topical cream 2%; (Xolegel) gel 2% (Extina) foam 2%, shampoo 1% & 2%  SE: Irritation, pruritus, stinging

Notes: Do not dispense foam into hands
Labetalol (Trandate)  
**Uses:** *HTN* & hypertensive emergencies (IV)  
**Action:** α- & β-Adrenergic blocker  
**Dose:** Adults. HTN: Initial, 100 mg PO bid, then 200–400 mg PO bid. Hypertensive emergency: 20–80 mg IV bolus, then 2 mg/min IV Inf, titrate up to 300 mg; 10 mg IV over 1–2 min; repeat or double dose q10min (150 mg max); or initial bolus, then 2–8 mg/min (ECC 2005). Peds.  
PO: 1–3 mg/kg/d in ÷ doses, 1200 mg/d max. Hypertensive emergency: 0.4–1.5 mg/kg/h IV cont Inf  
**Caution:** [C (D in 2nd or 3rd tri), +] CI: Asthma/COPD, cardiogenic shock, uncompensated CHF, heart block, sinus brady  
Disp: Tabs 100, 200, 300 mg; Inj 5 mg/mL  
SE: Dizziness, N, ↓ BP, fatigue, CV effects  

Lactic Acid & Ammonium Hydroxide [Ammonium Lactate] (Lac-Hydrin)  
**Uses:** *Severe xerosis & ichthyosis*  
**Action:** Emollient moisturizer, humectant  
**Dose:** Apply bid  
**Caution:** [B, ?]  
Disp: Cream, lotion, lactic acid 12% w/ ammonium hydroxide  
SE: Local irritation, photosensitivity  
Notes: Shake well before use  

Lactobacillus (Lactinex Granules) [OTC]  
**Uses:** *Control of D,* especially after antibiotic therapy  
**Action:** Replaces nl intestinal flora, lactase production; *Lactobacillus acidophilus* and *Lactobacillus helveticus*.  
**Dose:** Adults & Peds >3 y: 1 packet, 1–2 caps, or 4 tabs q day-qid  
**Caution:** [A, +]  
Disp: Tabs, caps; granules in packets (all OTC)  
SE: Flatulence  
Notes: May take granules on food  

Lactulose (Constulose, Generlac, Enulose, others)  
**Uses:** *Hepatic encephalopathy; constipation*  
**Action:** Acidifies the colon, allows ammonia to diffuse into colon; osmotic effect to ↑ peristalsis  
**Dose:** Acute hepatic encephalopathy: 30–45 mL PO q1h until soft stools, then tid-qid, adjust 2–3 stool/d.  
Constipation: 15–30 mL/d, ↑ to 60 mL/d 1–2 ÷ doses, adjust to 2–3 stools. Rectally: 200 g in 700 mL of H₂O PR, retain 30–60 min q4–6h.  
**Peds Infants:** 2.5–10 mL/24 h ÷ tid-qid.  
**Other Peds:** 40–90 mL/24 h ÷ tid-qid.  
**Peds Constipation:** 5 g (7.5 mL) PO after breakfast  
**Caution:** [B, ?] CI: Galactosemia  
Disp: Syrup 10 g/15 mL, soln 10 g/15 mL, 10, 20 g/packet  
SE: Severe D, N/V, cramping, flatulence; life-threatening electrolyte disturbances  

Lamivudine (Epivir, Epivir-HBV, 3TC [many combo regimens])  
**WARNING:** Lactic acidosis & severe hepatomegaly w/ steatosis reported w/ nucleoside analogs  
**Uses:** *HIV Infxn, chronic hep B*  
**Action:** NRTI, ↓ HIV RT & hep B viral polymerase, causes viral DNA chain termination  
**Dose:** HIV: Adults & Peds >16 y: 150 mg PO bid or 300 mg PO daily. Peds able to swallow pills: 14–21 kg: 75 mg bid; 22–29 kg: 75 mg q A.M., 150 mg q P.M.; >30 kg: 150 mg bid.  
**Neonates <30 d:** 2 mg/kg bid. Epivir-HBV: Adults. 100 mg/d PO. Peds 2–17 y: 3 mg/kg/d PO, 100 mg max; ↓ w/ CrCl <50 mL/min  
**Caution:** [C, –] w/ Interferon-α and ribavirin may cause liver failure; do not use w/ zalcitabine or w/ ganciclovir/valganciclovir  
Disp: Tabs 100 mg (Epivir-HBV) 150 mg, 300 mg; soln 5 mg/mL (Epivir-HBV), 10 mg/mL  
SE: malaise, fatigue, N/V/D, HA, pancreatitis,
lactic acidosis, peripheral neuropathy, fat redistribution, rhabdomyolysis hyperglycemia, nasal Sxs

Notes: Differences in formulations; do not use Epivir-HBV for hep in pt with unrecognized HIV due to rapid emergence of HIV resistance

**Lamotrigine (Lamictal)**

**WARNING:** Serious rashes requiring hospitalization & D/C of Rx reported; rash less frequent in adults; ↑ suicidality risk for antiepileptic drug, higher for those w/ epilepsy vs. those using drug for psychological indications

**Uses:** *Partial Szs, tonic-clonic Szs, bipolar disorder, Lennox-Gastaut syndrome*  
**Action:** Phenyltriazine antiepileptic, ↓ glutamate, stabilize neuronal membrane

**Dose:**  
**Adults. Szs:** Initial 50 mg/d PO, then 50 mg PO bid for × 1–2 wk, maint 300–500 mg/d in 2 ÷ doses.  
**Bipolar:** Initial 25 mg/d PO × 1–2 wk, 50 mg PO daily for 2 wk, 100 mg PO daily for 1 wk, maint 200 mg/d.  
**Peds.** 0.6 mg/kg in 2 ÷ doses for wk 1 & 2, then 1.2 mg/kg for wk 3 & 4, q1–2wk to maint 5–15 mg/kg/d (max 400 mg/d) 1–2 ÷ doses; ↓ in hepatic Dz or if w/ enzyme inducers or valproic acid

**Caution:** [C, –] Interactions w/ other antiepileptics, estrogen, rifampin

**Disp:** Tabs 25, 100, 150, 200 mg; chew tabs 2, 5, 25 mg (color-coded for those on interacting meds)

**SE:** Photosensitivity, HA, GI upset, dizziness, diplopia, blurred vision, blood dyscrasias, ataxia, rash (may be much more life-threatening to peds than to adults)

**Notes:** ? value of therapeutic monitoring, taper w/ D/C

**Lansoprazole (Prevacid, Prevacid IV)**

**Uses:** *Duodenal ulcers, prevent & Rx NSAID gastric ulcers, active gastric ulcers, H. pylori Infxn, erosive esophagitis, & hypersecretory conditions, GERD*

**Action:** Proton pump inhibitor

**Dose:** 15–30 mg/d PO; NSAID ulcer prevention: 15 mg/d PO = 12 wk.  
**NSAID ulcers:** 30 mg/d PO × 8 wk; hypersecretory condition: 60 mg/d before food; 30 mg IV daily = 7 d change to PO for 6–8 wk; ↓ w/ severe hepatic impair

**Caution:** [B, ?/–]  
**Disp:** Caps 15, 30 mg; granules for susp 15, 30 mg, IV 30 mg; once-daily tabs 15, 30 mg

**SE:** N/V, Abd pain HA, fatigue

**Notes:** For IV provided inline filter must be used; do not crush/chew granules

**Lanthanum Carbonate (Fosrenol)**

**Uses:** *Hyperphosphatemia in renal Dz*

**Action:** Phosphate binder

**Dose:** 750–1500 mg PO daily ÷ doses, w/ or immediately after meal; titrate q2–3wk based on PO4 –2 levels

**Caution:** [C, ?/–] No data in GI Dz; not for peds

**Disp:** Chew tabs 250, 500, 750, 1000 mg

**SE:** N/V, graft occlusion, HA, ↓ BP

**Notes:** Chew tabs before swallowing; separate from meds that interact with antacids by 2 h

**Lapatinib (Tykerb)**

**Uses:** *Advanced breast CA w/ capecitabine w/ tumors that overexpress HER2 and failed w/ anthracycline, taxane, & trastuzumab*

**Action:** TKI

**Dose:** Per protocol, 1250 mg PO days 1–21 w/ capecitabine 2000 mg/m²/d divided 2 doses/d days 1–14; ↓ w/ severe cardiac or hepatic impair

**Caution:** [D; ?] Avoid CYP3A4 inhibitors/inducers

**CI:** w/ Phenothiazines

**Disp:** Tabs 250 mg

**SE:** N/V/D, anemia, ↓ plt, neutropenia, ↑ QT interval, hand-foot syndrome, ↑ LFTs, rash, ↓ left ventricular ejection fraction, interstitial lung Dz and pneumonitis

**Notes:** Consider baseline LVEF & periodic ECG
**Latanoprost (Xalatan)**  
**Uses:** *Open-angle glaucoma, ocular HTN*  
**Action:** Prostaglandin, ↑ outflow of aqueous humor  
**Dose:** 1 gtt eye(s) hs  
**Caution:**  
- [C, ?] Disp: 0.005% soln  
- SE: May darken light irides; blurred vision, ocular stinging, & itching, ↑ number & length of eyelashes  
**Notes:** Wait 15 min after before using contacts; separate form other eye products by 5 min

**Leflunomide (Arava)**  
**WARNING:** PRG must be excluded prior to start of Rx  
**Uses:** *Active RA, orphan drug for organ rejection*  
**Action:** DMARD, ↓ pyrimidine synth  
**Dose:** Initial 100 mg/d PO for 3 d, then 10–20 mg/d  
**Caution:**  
- [X, –] w/ Bile acid sequestrants, warfarin, rifampin, MTX  
- CI: PRG  
- Disp: Tabs 10, 20, 100 mg SE: D, Infxn, HTN, alopecia, rash, N, joint pain, hep, interstitial lung Dz, immunosuppression  
**Notes:** Monitor LFTs, CBC PO 4 during initial therapy; vaccine should be up-to-date, do not give w/ live vaccines

**Lenalidomide (Revlimid)**  
**WARNING:** Significant teratogen; patient must be enrolled in RevAssist risk-reduction program; hematologic tox, DVT & PE risk  
**Uses:** *MDS, combo w/ dexamethasone in multiple myeloma in pt failing one prior therapy*  
**Action:** Thalidomide analog, immune modulator  
**Dose:** Adults. 10 mg PO daily; swallow whole w/ water; multiple myeloma 25 mg/d days 1–21 of 28-d cycle w/ protocol dose of dexamethasone  
**Caution:**  
- [X, –] w/ Renal impair  
- Disp: Caps 5, 10, 15, 25 mg SE: D, pruritus, rash, fatigue, night sweats, edema, nasopharyngitis, ↓ BM (plt, WBC), ↑ K+, ↑ LFTs, thromboembolism  
**Notes:** Monitor CBC and for thromboembolism, hepatotox; routine PRG tests required; Rx only in 1-mo increments; limited distribution network; males must use condom and not donate sperm; use at least 2 forms contraception at least 4 wk beyond D/C

**Lepirudin (Refludan)**  
**Uses:** *HIT*  
**Action:** Direct thrombin inhibitor  
**Dose:** Bolus: 0.4 mg/kg IV, then 0.15 mg/kg/h Inf; if >110 kg 44 mg of Inf 16.5 mg/h max; ↓ dose & Inf rate if CrCl <60 mL/min or if used w/ thrombolytics  
**Caution:**  
- [B, ?/–] Hemorrhagic event or severe HTN  
- CI: Active bleeding  
**Disp:** Inj 50 mg SE: Bleeding, anemia, hematoma, anaphylaxis  
**Notes:** Adjust based on aPTT ratio, maintain aPTT 1.5–2 × control

**Letrozole (Femara)**  
**Uses:** *Advanced breast CA in postmenopausal; adjuvant early breast CA in postmenopausal*  
**Action:** Nonsteroidal aromatase inhibitor  
**Dose:** 2.5 mg/d PO; q other day w/ severe liver Dz or cirrhosis  
**Caution:**  
- [D, ?] CI: PRG, premenopausal  
**Disp:** Tabs 2.5 mg SE: Anemia, N, hot flashes, arthralgia  
**Notes:** Monitor CBC, thyroid Fxn, lytes, LFTs, & SCR

**Leucovorin (Wellcovorin)**  
**Uses:** *OD of folic acid antagonist; megaloblastic anemia, augment 5-FU impaired MTX elimination; w/ 5-FU in colon CA*  
**Action:** Reduced folate source; circumvents action of folate reductase inhibitors (eg, MTX)  
**Dose:** Leucovorin rescue: 10 mg/m² PO/IM/IV q6h; start w/in 24 h after dose or 15 mg PO/IM/IV q6h, 25 mg/dose max PO; Folate antagonist OD (eg, Pemetrexed) 100 mg/m² IM/IV × 1 then 50 mg/m² IM/IV q6h × 8 d 100 mg/m² × 1; 5-FU adjuvant tx, colon CA per protocol; low dose: 20 mg/m²/d IV × 5 d w/ 5-FU 425 mg/m²/d IV × 5 d, repeat q4–5wk × 6; high dose: 500 mg/m²
IV q wk × 6, w/ 5-FU 500 mg/m² IV q wk × 6 wk, repeat after 2 wk off × 4; Megaloblastic anemia: 1 mg IM/IV daily **Caution:** [C, ʔ/] CI: Pernicious anemia **Disp:** Tabs 5, 10, 15, 25 mg; Inj 50 mg, 100 mg, 200 mg, 350 mg, 500 mg **SE:** Allergic Rxn, N/V/D, fatigue, wheezing, ↑ plt **Notes:** Monitor Cr, methotrexate levels q24h w/ leucovorin rescue; do not use intrathecally/intraventricularly; w/ 5-FU CBC w/ diff, plt, LFTs, lytes

**Leuprolide (Lupron, Lupron DEPOT, Lupron DEPOT-Ped, Viadur, Eligard)**  **Uses:** *Advanced PCa (all except Depot-Ped), endometriosis (Lupron), & precocious puberty (Lupron-Ped)*

**Action:** LHRH agonist; paradoxically ↓ release of GnRH w/ ↓ LH from anterior pituitary; in men ↓ testosterone **Dose:** **Adults.** PCa: Lupron DEPOT: 7.5 mg IM q28d or 22.5 mg IM q3mo or 30 mg IM q4mo. Eligard: 7.5 mg SQ q28d or 22.5 mg SQ q3mo or 30 mg SQ q4mo or 45 mg SQ 6 mo. Endometriosis (Lupron DEPOT): 3.75 mg IM q mo × 6 or 11.25 IM q3mo × 2. Fibroids: 3.75 mg IM q mo × 3 or 11.25 mg IM × 1. **Peds.** CPP (Lupron DEPOT-Ped): 50 mcg/kg/d SQ Inj; ↑ by 10 mcg/kg/d until total downregulation achieved. Lupron DEPOT: <25 kg: 7.5 mg IM q4wk; 25–37.5 kg: 11.25 mg IM q4wk; >37.5 kg: 15 mg IM q4wk, ↑ by 3.75 mg q4wk until response **Caution:** [X, –] w/ Impending cord compression in PCa **CI:** AUB, implant in women/peds; PRG **Disp:** Inj 5 mg/mL; Lupron DEPOT 3.75 (1 mo for fibroids, endometriosis); Lupron DEPOT for PCa: 7.5 mg (1 mo), 11.25 (3 mo), 22.5 (3 mo), 30 mg (4 mo); Eligard depot for PCA: 7.5 (1 mo); 22.5 (3 mo), 30 (4 mo), 45 mg (6 mo); Viadur 65 mg 12-mo SQ implant (unavailable to new Rx after April 2008). Lupron DEPOT-Ped 7.5, 11.25, 15 mg **SE:** Hot flashes, gynecomastia, N/V, alopecia, anorexia, dizziness, HA, insomnia, paresthesias, depression exacerbation, peripheral edema, & bone pain (transient “flare Rxn” at 7–14 d after the 1st dose [LH/testosterone surge before suppression]); ↓ BMD w/ >6 mo use, bone loss possible **Notes:** Nonsteroidal antiandrogen (eg, bicalutamide) may block flare in men w/ PCa

**Levalbuterol (Xopenex, Xopenex HFA)**  **Uses:** *Asthma (Rx & prevention of bronchospasm)*

**Action:** Sympathomimetic bronchodilator; R-isomer of albuterol **Dose:** Based on NIH Guidelines 2007 **Adults.** Acute–severe exacerbation Xopenex HFA 4–8 puffs q20min up to 4 h, the q1–4h PRN or nebulizer 1/25–2.5 mg q20min × 3, then 1.25–5 mg q1–4h PRN; **Peds <4 y:** Quick relief 0.31–1.25 mg q4–6h PRN, severe 1.25 mg q20min × 3, then 0.075–0.15 mg/kg q1–4h PRN, 5 mg max. 5–11 y: Acute–severe exacerbation 1.25 mg q20min × 3, then 0.075–0.15 mg/kg q1–4h PRN, 5 mg max. >11 y: 0.63–1.25 mg nebulizer q6–8h **Caution:** [C, ʔ/] w/ Non–K⁺-sparing diuretics, CAD, HTN, arrhythmias, ↓ K⁺ **CI:** w/ Phenothiazines 7 TCAs, MAOI w/in 14 d **Disp:** Multidose inhaler (Xopenex HFA) 45 mcg/puff (15 g); soln nebulizer Inh 0.31, 0.63, 1.25 mg/3 mL; concentrate 1.25 mg/0.5 mL **SE:** Paradox bronchospasm, anaphylaxis, angioedema, tachycardia, nervousness, V, ↓ K⁺ **Notes:** May ↓ CV side effects compared w/ albuterol; do not mix w/ other nebs or dilute
Levetiracetam (Keppra) Uses: *Adjunctive PO Rx in partial onset Sz (adults & peds ≥4 y), myoclonic Szs (adults & peds ≥12 y) w/ juvenile myoclonic epilepsy (JME), primary generalized tonic-clonic (PGTC) Szs (adults & peds ≥6 y) w/ idiopathic generalized epilepsy. Adjunctive Inj Rx partial-onset Szs in adults w/ epilepsy; and myoclonic Szs in adults w/ JME. Inj alternative for adults (≥16 y) when PO not possible* Action: Unknown Dose: Adults & Peds >16 y: 500 mg PO bid, titrate q2wk, may ↑ 3000 mg/d max. Peds 4–15 y: 10–20 mg/kg/d ÷ in 2 doses, 60 mg/kg/d max (↓ in renal Insuff) Caution: [C, ?/–] Elderly, w/ renal impair, psychological disorders; ↑ suicidality risk for antiepileptic drugs, higher for those w/ epilepsy vs. those using drug for psychological indications; Inj not for <16 y CI: Component allergy Disp: Tabs 250, 500, 750, 1000 mg, soln 100 mg/mL; Inj 100 mg/mL SE: Dizziness, somnolence, HA, N/V, hostility, aggression, hallucinations, myelosuppression, impaired coordination Notes: Do not D/C abruptly; post-market hepatic failure and pancytopenia reported

Levobunolol (A-K Beta, Betagan) Uses: *Open-angle glaucoma, ocular HTN* Action: β-Adrenergic blocker Dose: 1 gtt daily-bid Caution: [C, ?] w/ Verapamil or systemic β-blockers CI: Asthma, COPD sinus bradycardia, heart block (2nd-, 3rd-degree) CHF Disp: Soln 0.25, 0.5% SE: Ocular stinging/burning, bradycardia, ↓ BP Notes: Possible systemic effects if absorbed

Levocetirizine (Xyzal) Uses: *Perennial/seasonal allergic rhinitis, chronic urticaria* Action: Antihistamine Dose: Adults. 5 mg q day Peds 6–11 y: 2.5 mg q day Caution: [B, ?] ↓ Adult dose w/ renal impair, CrCl 50–80 mL/min 2.5 mg daily, 30–50 mL/min 2.5 mg q other day 10–30 mL/min 2.5 mg 2×/wk CI: Peds 6–11 y w/ renal impair, adults w/ ESRD Disp: Tab 5 mg, soln 0.5 mL/mL (150 mL) SE: CNS depression, drowsiness, fatigue, xerostomia Notes: Take in evening

Levofloxacin (Levaquin) WARNING: ↑ Risk Achilles tendon rupture and tendonitis Uses: *Skin/skin structure Infxn(SSSI), UTI, chronic bacterial prostatitis, acute pyelo, acute bacterial sinusitis, acute bacterial exacerbation of chronic bronchitis, CAP, including multidrug-resistant S. pneumoniae, nosocomial pneumonia; Rx inhalational anthrax in adults & peds ≥6 mo* Action: Quinolone, ↓ DNA gyrase. Spectrum: Excellent gram(+) except MRSA & E. faecium; excellent gram(–) except Stenotrophomonas maltophilia & Acinetobacter sp; poor anaerobic Dose: Adults ≥18 y: IV/PO: Bronchitis: 500 mg q day × 7 d. CAP: 500 mg q day × 7–14 d or 750 mg q day × 5 d. Sinusitis: 500 mg q day × 10–14 d or 750 mg q day × 5 d. Prostatitis: 500 mg q day × 28 d. Uncomp SSSI: 500 mg q day × 7–10 d. Comp SSSI/Nosocomial Pneumonia: 750 mg q day × 7–14 d. Anthrax: 500 mg q day × 60 d; Uncomp UTI: 250 mg q day × 3 d. Comp UTI/Acute Pyelo: 250 mg q day × 10 d or 750 mg q day × 5 d. CrCl 10–19 mL/min: 250 mg, then 250 mg q48h or 750 mg, then 500 mg q48h. CrCl 5–9 mL/min: 125 mg, then 125 mg q48h. Hemodialysis: 750 mg, then 500 mg q48h. Peds ≥6 mo: Anthrax only >50 kg: 500 mg q 24h × 60 d, <50 kg 8 mg/kg (250 mg/ dose max) q12h for 60 d ↓ w/ renal impair avoid antacids w/ PO; oral soln 1 h before, 2 h after meals Caution: [C, –] w/ Cation-containing products (eg, antacids),
w/ drugs that ↑ QT interval CI: Quinolone sensitivity Disp: Tabs 250, 500, 750 mg; premixed IV 250, 500, 750 mg, Inj 25 mg/mL; Leva-Pak 750 mg × 5 d SE: N/D, dizziness, rash, GI upset, photosensitivity, CNS stimulant w/ IV use, C. difficile enterocolitis; rare fatal hepatotoxic Notes: Use w/ steroids ↑ tendon risk; only for anthrax in peds

Levofloxacin ophthalmic (Quixin, Iquix) Uses: *Bacterial conjunctivitis* Action: See levofloxacin Dose: Ophthal 1–2 gtt in eye(s) q2h while awake × 2 d, then q4h while awake × 5 d Caution: [C, –] CI: Quinolone sensitivity Disp: 25 mg/mL ophthal soln 0.5% (Quixin), 1.5% (Iquix) SE: Ocular burning/pain, ↓ vision, fever, foreign body sensation, HA, pharyngitis, photophobia

Levonorgestrel (Plan B) Uses: *Emergency contraceptive (“morning-after pill”)*; prevents PRG if taken <72 h after unprotected sex/contraceptive failure Action: Progestin, alters tubal transport & endometrium to implantation Dose: Adults & Peds (postmenarche females): 0.75 mg q12h × 2 Caution: [X, +] CI: Known/suspected PRG, AUB Disp: Tab, 0.75 mg, 2 blister pack SE: N/V, Abd pain, fatigue, HA, menstrual changes. Notes: Will not induce abortion; ↑ risk of ectopic PRG; OTC (“behind the counter”) if >18 y, RX if <18 y varies by state

Levonorgestrel IUD (Mirena) Uses: *Contraception, long-term* Action: Progestin, alters endometrium, thicken cervical mucus, inhibits ovulation and implantation Dose: Up to 5 y, insert w/in 7 d menses onset or immediately after 1st tri abortion; wait 6 wk if postpartum; replace any time during menstrual cycle Caution: [C, ?] CI: PRG, w/ active hepatic Dz or tumor, uterine anomaly, breast CA, acute/Hx of PID, postpartum endometriosis, infected abortion last 3 mo, gynecological neoplasia, abnormal Pap, AUB, untreated cervicitis/vaginitis, multiple sex partners, ↑ increased susceptibility to Infxn Disp: 52 mg IUD SE: Failed insertion, ectopic pregnancy, sepsis, PID, infertility, PRG comps w/ IUD left in place, abortion, embedment, ovarian cysts, perforation uterus/cervix, intestinal obst/perforation, peritonitis, N, Abd pain, ↑ BP, acne, HA Notes: Inform pt does not protect against STD/HIV; see insert for insertion instructions; reexamine placement after 1st menses; 80% PRG w/in 12 mo of removal

Levorphanol (Levo-Dromoran) [C-II] Uses: *Mod–severe pain; chronic pain* Action: Narcotic analgesic, morphine derivative Dose: 2–4 mg PO PRN q6–8h; ↓ in hepatic impair Caution: [B/D (prolonged use/high doses at term), ?/–] w/ ↑ ICP, head trauma, adrenal Insuff CI: Component allergy Disp: Tabs 2 mg SE: Tachycardia, ↓ BP, drowsiness, GI upset, constipation, resp depression, pruritus

Levothyroxine (Synthroid, Levoxyl, others) WARNING: Not for obesity or wgt loss; tox with high doses, especially when combined with sympathomimetic amines Uses: *Hypothyroidism, pituitary thyroid-stimulating hormone (TSH) suppression, myxedema coma* Action: T₄ supl L-thyroxine Dose: Adults. Hypothyroid titrate until euthyroid >50 y w/ heart Dz or <50 w/ heart Dz 25–50 mcg/d, ↑ q6–8wk; >50 y w/ heart Dz 12.5–25 mcg/d, ↑ q6–8wk;
Lidocaine, systemic

**Lidocaine, systemic (Xylocaine, others)**

**Uses:** *Rx cardiac arrhythmias*  
**Action:** Class IB antiarrhythmic  
**Dose:**  
*Adults.* Antiarrhythmic, ET: 5 mg/kg; follow w/ 0.5 mg/kg in 10 min if effective. IV load: 1 mg/kg/dose bolus over 2–3 min; repeat in 5–10 min; 200–300 mg/h max; cont Inf 20–50 mcg/kg/min or 1–4 mg/min; Cardiac arrest from VF/VT: Initial: 1.0–1.5 mg/kg IV. Refractory VF: Additional 0.5–0.75 mg/kg IV push, repeat in 5–10 min, max total 3 mg/kg. ET: 2–4 mg/kg. Perfuising stable VT, wide complex tachycardia or ectopy: 1.0–1.5 mg/kg IV push; repeat 0.5–0.75 mg/kg q 5–10 min; max total 3 mg/kg; Maint 1–4 mg/min (30–50 mcg/min) (ECC 2005).  
*Peds.* Antiarrhythmic, ET load: 1 mg/kg; repeat in 10–15 min 5 mg/kg max total, then IV Inf 20–50 mcg/kg/min  
**Caution:** [B, +] Corn allergy  
**CI:** Adams-Stokes syndrome; heart block  
**Disp:** Inj IV: 0.2%, 0.4%  
**SE:** Dizziness, paresthesias, & convulsions associated w/ tox  
**Notes:** 2nd line to amiodarone in ECC; dilute ET dose 1–2 mL w/ NS; for IV forms, ↓ w/ liver Dz or CHF; systemic levels: steady state 6–12 h: Therapeutic: 1.2–5 mcg/mL; Toxic: >6 mcg/mL; halflife: 1.5 h

**Lidocaine; Lidocaine with Epinephrine (Anestacon Topical, Xylocaine, Xylocaine Viscous, Xylocaine MPF others)**  
**Uses:** *Local anesthetic, epidual/caudal anesthesia, regional nerve blocks, topical on mucous membranes (mouth/pharynx/urethra)*  
**Action:** Anesthetic; stabilizes neuronal membranes; inhibits ionic fluxes required for initiation and conduction  
**Dose:**  
*Adults.* Local Inj anesthetic: 4.5 mg/kg max total dose or 300 mg; w/ epi 7 mg/kg or total 500 mg max dose. Oral: 15 mL viscous swish and spit or pharyngeal gargle and swallow, do not use <3-h intervals or >8 x in 24 h. Urethra: 10–15 mL (200–300 mg) jelly in men, 5 mL female urethra; 600 mg/24 h max.  
*Peds.* Topical: Apply max 3 mg/kg/dose. Local Inj anesthetic: Max 4.5 mg/kg (Table 2)  
**Caution:** [B, +] Corn allergy; epi-containing soln may interact w/ TCA or MAOI and cause severe ↑ BP  
**CI:** Do not use lidocaine w/ epi on digits, ears, or nose (vasoconstriction & necrosis)  
**Disp:** Inj local: 0.5, 1, 1.5, 2, 4, 10, 20%; Inj w/ epi 0.5%/1:200,000, 1%/1:100,000; (MPF) 1%/1:200,000, 1.5%/1:200,000, 2%/1:200,000; (Dental formulations) 2%/1:50,000, 2%/1:100,000; cream 2%; gel 2,
Lidocaine powder intradermal injection system (Zingo)

Uses: *Local anesthesia before venipuncture or IV in peds 3–18 y*  
Action: Local amide anesthetic  
Dose: Apply 3 min before procedure  
Caution: [N/A, N/A] only on intact skin  
CI: Lidocaine allergy  
Disp: 6.5-Inch device to administer under pressure 0.5 mg lidocaine powder in 2-cm area, single use  
SE: Skin Rxn, edema, petechiae

Lidocaine/Prilocaine (EMLA, LMX)

Uses: *Topical anesthetic for intact skin or genital mucous membranes*; adjunct to phlebotomy or dermal procedures  
Action: Amide local anesthetics  
Dose: Adults. EMLA cream, anesthetic disc (1 g/10 cm²): Thick layer 2–2.5 g to intact skin, cover w/ occlusive dressing (eg, Tegaderm) for at least 1 h. Anesthetic disc: 1 g/10 cm² for at least 1 h. Peds. Max dose: <3 mo or <5 kg: 1 g/10 cm² for 1 h. 3–12 mo & >5 kg: 2 g/20 cm² for 4 h. 1–6 y & >10 kg: 10 g/100 cm² for 4 h. 7–12 y & >20 kg: 20 g/200 cm² for 4 h  
Caution: [B, +] Methemoglobinemia  
CI: Use on mucous membranes, broken skin, eyes; allergy to amide-type anesthetics  
Disp: Cream 2.5% lidocaine/2.5% prilocaine; anesthetic disc (1 g); periodontal gel 2.5/2.5%  
SE: Burning, stinging, methemoglobinemia  
Notes: Longer contact time ↑ effect

Lindane (Kwell, others)

WARNING: Only for pts intolerant/failed first-line therapy w/ safer agents. Szs and deaths reported w/ repeat/prolonged use. Caution due to increased risk of neurotox in infants, children, elderly, w/ other skin conditions, and if <50kg. Instruct pts on proper use and inform that itching occurs after successful killing of scabies or lice  
Uses: *Head lice, pubic “crab” lice, body lice, scabies*  
Action: Ectoparasiticide & ovicide  
Dose: Adults & Peds. Cream or lotion: Thin layer to dry skin after bathing, leave for 8–12 h, pour on laundry. Shampoo: Apply 30 mL to dry hair, develop a lather w/ warm water for 4 min, comb out nits  
Caution: [C, +/–] CI: Premature infants, uncontrolled Sz disorders open wounds  
Disp: Lotion 1%; shampoo 1% SE: Arrhythmias, Szs, local irritation, GI upset, ataxia, alopecia, N/V, aplastic anemia  
Notes: Caution w/ overuse (may be absorbed); may repeat Rx in 7 d; try OTC first w/ pyrethrins (Pronto, Rid, others)

Linezolid (Zyvox)

Uses: *Infxs caused by gram(+) bacteria (including VRE), pneumonia, skin Infxs*  
Action: Unique, binds ribosomal bacterial RNA; bacteriocidal for streptococci, bacteriostatic for enterococci & staphylococci. Spectrum: Excellent gram(+) including VRE & MRSA  
Dose: Adults. 400–600 mg IV or PO q12h. Peds. 10 mg/kg IV or PO q8h (q12h in preterm neonates)  
Caution: [C, ?/–] w/ Reversible MAOI, avoid foods w/ tyramine & cough/cold products w/ pseudoephedrine; w/ ↓ BM  
Disp: Inj 200, 600 mg; tabs 600 mg; susp 100 mg/5 mL  
SE: Lactic acidosis, peripheral/optic neuropathy, HTN, N/D, HA, insomnia, GI upset, ↓ BM, tongue discoloration  
Notes: ✓ weekly CBC; not for gram(−) Infxn, ↑ deaths in catheter-related Infxs
Liothyronine (Cytomel, Triostat, T<sub>3</sub>)  **WARNING:** Not for obesity or wgt loss  **Uses:** *Hypothyroidism, nontoxic goiter, myxedema coma, thyroid suppression therapy*  **Action:** T<sub>3</sub> replacement  **Dose:**  **Adults.** Initial 25 mcg/24 h, titrate q1–2wk to response & TFT; maint of 25–100 mcg/d PO.  **Myxedema coma:** 5 mcg/d PO, ↑ 5–10 mcg/d q1–2wk; maint 50–100 mcg/d.  **Nontoxic goiter:** 5 mcg/d PO, ↑ 5–10 mcg/d q1–2wk, usual dose 75 mcg/d.  **T<sub>3</sub> suppression test:** 75–100 mcg/d × 7d.  **Peds.** Initial 5 mcg/24 h, titrate by 5-mcg/24-h increments at q3–4d intervals; maint peds 1–3 yrs: 50 mcg/d.  **Infants–12 mo:** 20 mcg/d. >3 y: adult dose; ↓ in elderly & CV Dz  **Caution:** [A, +] CI: Recent MI, uncorrected adrenal Insuff, uncontrolled HTN, thyrotoxicosis, artificial rewarming  **Disp:** Tabs 5, 25, 50 mcg; Inj 10 mcg/mL  **SE:** Alopecia, arrhythmias, CP, HA, sweating, twitching, ↑ HR, ↑ BP, MI, CHF, fever  **Notes:** Monitor TFT; separate antacids by 4 h; monitor glucose w/ DM meds; when switching from IV to PO, taper IV slowly

Lisdexamfetamine dimesylate (Vyvanse) [C-II]  **WARNING:** Amphetamines have high potential for abuse; prolonged administration may lead to dependence; misuse may cause sudden death and serious CV events  **Uses:** *ADHD*  **Action:** CNS stimulant  **Dose:**  **Adults & Peds 6–12 y:** 30 mg daily, ↑ q wk 10–20 mg/d, 70 mg/d max  **Caution:** [C, ?/–] w/ Potential for drug dependency in pt w/ psychological or Sz disorder, Tourette, HTN  **CI:** Severe arteriosclerotic CV Dz, mod–severe ↑ BP, ↑ thyroid, sensitivity to sympathomimetic amines, NAG, agitated states, Hx drug abuse, w/ or w/in 14 d of MAOI  **Disp:** Caps 30, 50, 70 mg  **SE:** Headache, insomnia, decreased appetite  **Notes:** AHA statement April 2008: All children diagnosed with ADHD who are candidates for stimulant meds should undergo CV assessment prior to use

Lisinopril (Prinivil, Zestril)  **WARNING:** ACE inhibitors can cause fetal injury/death in 2nd/3rd tri; D/C w/ PRG  **Uses:** *HTN, CHF, prevent DN & AMI*  **Action:** ACE inhibitor  **Dose:** 5–40 mg/24 h PO daily-bid, CHF target 40 mg/d.  **AMI:** 5 mg w/in 24 h of MI, then 5 mg after 24 h, 10 mg after 48 h, then 10 mg/d; ↓ in renal Insuff; use low dose, ↑ slowly in elderly  **Caution:** [D, –] CI: Bilateral RAS, PRG ACE inhibitor sensitivity (angioedema)  **Disp:** Tabs 2.5, 5, 10, 20, 30, 40 mg  **SE:** Dizziness, HA, cough, ↓ BP, angioedema, ↑ K⁺, ↑ Cr, rare ↓ BM  **Notes:** To prevent DN, start when urinary microalbuminemia begins; ✓ K, BUN, Cr, K⁺, WBC

Lithium Carbonate (Eskalith, Lithobid, others)  **WARNING:** Lithium toxicity related to serum levels and can be seen at close to therapeutic levels  **Uses:** *Manic episodes of bipolar Dz,* augment antidepressants, aggression, post-traumatic stress disorder  **Action:** ?, Effects shift toward intraneuronal metabolism of catecholamines  **Dose:**  **Adults.** Bipolar, acute mania: 1800 mg/d PO in 2–3 × doses (target serum 1–1.5 mEq/L ✓ 2×/wk until stable). Bipolar maint: 900–1200/d PO in 2–3 × doses (target serum 0.6–1.2 mEq/L).  **Peds ≥12 y:** See adult; ↓ in renal Insuff, elderly  **Caution:** [D, –] Many drug interactions; avoid ACE inhibitor or
diuretics; thyroid Dz CI: Severe renal impair or CV Dz, lactation Disp: Caps 150, 300, 600 mg; tabs 300 mg; SR tabs 300 mg, CR tabs 450 mg; syrup & soln 300 mg/5 mL SE: Polyuria, polydipsia, nephrogenic DI, long-term may affect renal conc ability and cause fibrosis; tremor; Na retention or diuretic use may ↑ tox; arrhythmias, dizziness, alopecia, goiter ↓ thyroid, N/V/D, ataxia, nystagmus, ↓ BP Notes: Levels: Trough: just before next dose: Therapeutic: 0.8–1.2 mEq/mL; Toxic: >1.5 mEq/mL. Half-life: 18–20h. Follow levels q1–2mo on maint

**Lodoxamide (Alomide)** Uses: *Vernal conjunctivitis/keratitis* Action: Stabilizes mast cells Dose: Adults & Peds >2 y: 1–2 gtt in eye(s) qid = 3 mo Caution: [B, ?] Disp: Soln 0.1% SE: Ocular burning, stinging, HA Notes: Do not use soft contacts during use

**Lomefloxacin (Maxaquin)** Uses: *UTI, acute exacerbation of chronic bronchitis; prophylaxis in transurethral procedures* Action: Quinolone antibiotic; ↓ DNA gyrase Spectrum: Good gram(–) including *H. influenzae* except *Stenotrophomonas maltophilia, Acinetobacter* sp, & some *P. aeruginosa* Dose: 400 mg/d PO; ↓ w/ renal Insuff, avoid antacids Caution: [C, –] Interactions w/ cation-containing products CI: Quinolone allergy, children <18 y, ↑ Qt interval, ↓ K+ Disp: Tabs 400 mg SE: N/V/D, Abd pain, photosensitivity, Szs, HA, dizziness, tendon rupture, peripheral neuropathy, pseudomembranous colitis, anaphylaxis

**Loperamide (Diamode, Imodium) [OTC]** Uses: *Diarrhea* Action: Slows intestinal motility Dose: Adults. Initial 4 mg PO, then 2 mg after each loose stool, up to 16 mg/d. Peds 2–5 y, 13–20 kg: 1 mg PO tid; 6–8 y, 20–30 kg: 2 mg PO bid; 8–12 y, >30 kg: 2 mg PO tid Caution: [C, –] Not for acute D caused by *Salmonella, Shigella,* or *C. difficile*; w/ HIV may cause toxic megacolon CI: Pseudomembranous colitis, bloody D, Abd pain w/o D, <2 y Disp: Caps 2 mg; tabs 2 mg; liq 1 mg/5 mL, 1 mg/7.5 mL (OTC) SE: Constipation, sedation, dizziness, Abd cramp, N

**Lopinavir/Ritonavir (Kaletra)** Uses: *HIV Infxn* Action: Protease inhibitor Dose: Adults. TX naïve: 800/200 mg PO daily or 400/100 mg PO bid; TX experienced pt: 400/100 mg PO bid (↑ dose if w/ amprenavir, efavirenz, fosamprenavir, nelfinavir, nevirapine); do not use q day dosing w/ concomitant therapy. Peds 7–15 kg: 12/3 mg/kg PO bid. 15–40 kg: 10/2.5 mg/kg PO bid. >40 kg: adult dose; w/ food Caution: [C, ?/–] Numerous interactions, w/ hepatic impair CI: w/ Drugs dependent on CYP3A/CYP2D6 (Table 11), statins, St. John’s wort, fluconazole Disp: (mg lopinavir/ritonavir) Tab 100/25 mg, 200/50 mg, soln 400/100/5 mL SE: Avoid disulfiram (soln has EtOH), metronidazole; GI upset, asthenia, ↑ cholesterol/triglycerides, pancreatitis; protease metabolic syndrome

**Loratadine (Claritin, Alavert)** Uses: *Allergic rhinitis, chronic idiopathic urticaria* Action: Nonsedating antihistamine Dose: Adults. 10 mg/d PO. Peds 2–5 y: 5 mg PO daily. >6 y: adult dose; on empty stomach; ↓ in hepatic Insuff; q other day dose w/ CrCl <30 mL/min Caution: [B, +/–] CI: Component allergy Disp: Tabs 10 mg (OTC); rapidly disintegrating RediTabs 10 mg; chew
tabs 5 mg; syrup 1 mg/mL  
SE: HA, somnolence, xerostomia, hyperkinesis in peds

**Lorazepam (Ativan, others) [C-IV]**  
**Uses:** *Anxiety & anxiety w/ depression; sedation; control status epilepticus*; EtOH withdrawal; antiemetic  
**Action:** Benzodiazepine; antianxiety agent; works via postsynaptic GABA receptors  
**Dose:** **Adults.** Anxiety: 1–10 mg/d PO in 2–3 ÷ doses. **Pre-op:** 0.05 mg/kg to 4 mg max IM 2 h before or 0.044 mg/kg-2mg dose max IV 15–20 min before surgery. **Insomnia:** 2–4 mg PO hs. **Status epilepticus:** 4 mg/dose slow over 2–5 min IV PRN q10–15min; usual total dose 8 mg. **Antiemetic:** 0.5–2 mg IV or PO q4–6h PRN. **EtOH withdrawal:** 2–5 mg or 1–2 mg PO initial depending on severity; titrate. **Peds.** **Status epilepticus:** 0.05–0.1 mg/kg/dose IV over 2–5 min, repeat at 1–20-min intervals × 2 PRN. **Antiemetic,** 2–15 y: 0.05 mg/kg (to 2 mg/dose) prechemotherapy; ↓ in elderly; do not administer IV >2 mg/min or 0.05 mg/kg/min  
**Caution:** [D, ?/–] w/ Hepatic impair, other CNS depression, COPD; ↓ dose by 50% w/ valproic acid and probenecid  
**CI:** Severe pain, severe ↓ BP, sleep apnea, NAG, allergy to propylene glycol or benzyl alcohol  
**Disp:** Tabs 0.5, 1, 2 mg; soln, PO conc 2 mg/mL; Inj 2, 4 mg/mL  
**SE:** Sedation, memory impair, EPS, dizziness, ataxia, tachycardia, ↓ BP constipation, resp depression  
**Notes:** ~ 10 min for effect if IV; IV Inf requires inline filter

**Losartan (Cozaar)**  
**WARNING:** Can cause fatal injury and death if used in 2nd & 3rd trimesters. D/C therapy if PRG detected  
**Uses:** *HTN, DN, prevent CVA in HTN and LVH*  
**Action:** Angiotensin II receptor antagonist  
**Dose:** **Adults.** 25–50 mg PO daily-bid, max 100 mg; ↓ in elderly/hepatic impair. **Peds ≥6 y:** **HTN:** Initial 0.7 mg/kg q day, ↑ to 50 mg/d PRN; 1.4 mg/kg/d or 100 mg/d max  
**Caution:** [C (1st tri, D 2nd & 3rd tri), ?/–] w/ NSAIDs; w/ K+-sparing diuretics, supl may cause ↑ K+; w/ RAS, hepatic impair  
**CI:** PRG, component sensitivity  
**Disp:** Tabs 25, 50, 100 mg  
**SE:** ↓ BP in pts on diuretics; ↑ K+; GI upset, facial/angioedema, dizziness, cough, weakness, ↓ renal fxn

**Lovastatin (Mevacor, Altoprev)**  
**Uses:** *Hypercholesterolemia to ↓ risk of MI, angina*  
**Action:** HMG-CoA reductase inhibitor  
**Dose:** **Adults.** 20 mg/d PO w/ P.M. meal; may ↑ at 4-wk intervals to 80 mg/d max or 60 mg ER tab; take w/ meals. **Peds 10–17 y (at least 1-y postmenarchal):** Familial ↑ cholesterol: 10 mg PO q day, ↑ q4wk PRN to 40 mg/d max (immediate release w/ P.M. meal)  
**Caution:** [X, –] Avoid w/ grapefruit juice, gemfibrozil; dose escalation w/ renal impair  
**CI:** Active liver Dz, PRG, lactation  
**Disp:** Tabs 10, 20, 40 mg; ER tabs 20, 40, 60 mg  
**SE:** HA & GI intolerance common; promptly report any unexplained muscle pain, tenderness, or weakness (myopathy)  
**Notes:** Maintain cholesterol-lowering diet; LFTs q12wk × 1 y, then q6mo; may alter TFT

**Lubiprostone (Amitiza)**  
**Uses:** *Chronic idiopathic constipation in adults, IBS w/ constipation in females >18 y*  
**Action:** Selective Cl– channel activator; ↑ intestinal motility  
**Dose:** **Adults.** **Constipation:** 24 mcg PO bid w/ food. **IBS:** 8 mcg bid; w/ food  
**CI:** Mechanical GI obst  
**Caution:** [C, ?/–] Severe D,
severe renal or mod–severe hepatic impair Disp: Gelcaps 8, 24 mcg SE: N/D, HA, GI distention, Abd pain Notes: Not approved in males; requires (–) PRG test before; use contraception; periodically reassess drug need; not for chronic use; may experience severe dyspnea w/in 1 h of dose, usually resolves w/in 3 h

**Lutropin Alfa (Luveris)** Uses: *Infertility w/ profound LH deficiency* Action: Recombinant LH Dose: 75 units SQ w/ 75–150 units FSH, 2 separate Inj max 14 d Caution: [X, ?/M] Potential for arterial thromboembolism CI: Primary ovarian failure, uncontrolled thyroid/adrenal dysfunction, intracranial lesion, AUB, hormone-dependent GU tumor, ovarian cyst, PRG Disp: Inj 75 units SE: HA, N, ovarian hyperstimulation syndrome, ovarian torsion, Abd pain due to ovarian enlargement, breast pain, ovarian cysts; ↑ risk of multiple births Notes: Rotate Inj sites; do not exceed 14 d duration unless signs of imminent follicular development; monitor ovarian ultrasound and serum estradiol; specific pt information packets given

**Lymphocyte Immune Globulin [Antithymocyte Globulin, ATG] (Atgam)** WARNING: Should only be used by physician experienced in immunosuppressive TX or management of solid-organ and/or bone marrow transplant pts. Adequate lab and supportive medical resources must be readily available in the facility for pt management Uses: *Allograft rejection in renal transplant pts; aplastic anemia if not candidates for BMT,* prevent rejection of other solid-organ transplants, GVHD after BMT Action: ↓ Circulating T lymphocytes, human, & equine product Dose: Adults. Prevent rejection: 15 mg/kg/d IV × 14 d, then q other day × 14 d; initial dose w/in 24 h before/after transplant. Rx rejection: Same except use 10–15 mg/kg/d; max 21 doses in 28 d. Aplastic anemia: 10–20 mg/kg/d × 8–14 d, then q other day × 7 doses for total 21 doses in 28 d. Peds. Prevent rejection: 5–25 mg/kg/d IV Caution: [C, –] CI: Hx Rxn to other equine γ-globulin preparation, leukopenia, thrombocytopenia Disp: Inj 50 mg/mL SE: D/C w/ severe thrombocytopenia/leukopenia; rash, fever, chills, ↓ BP, HA, ↑ K+, CP, edema, N/V/D, lightheadedness Notes: Test dose: 0.1 mL 1:1000 dilution in NS, a systemic Rxn precludes use; give via central line; consider pretreatment w/ antipyretic, antihistamine, and/or corticosteroids

**Magaldrate (Riopan-Plus) [OTC]** Uses: *Hyperacidity associated w/ peptic ulcer, gastritis, & hiatal hernia* Action: Low-Na antacid Dose: 5–10 mL PO between meals & hs, on empty stomach Caution: [C, ?+] CI: Ulcerative colitis, diverticulitis, appendicitis, ileostomy/colostomy, renal Insuff (Mg content) Disp: Susp magaldrate/simethicone 540/20 mg & 1080/40 mg/5 mL (OTC) SE: ↑ Mg2+, ↓ PO4, white flecked feces, constipation, N/V/D Notes: <0.3 mg Na/tab or tsp

**Magnesium Citrate (Citroma, others) [OTC]** Uses: *Vigorous bowel preparation*; constipation Action: Cathartic laxative Dose: Adults. 120–300 mL PO PRN. Peds. 0.5 mL/kg/dose, q4–6h to 200 mL PO max; w/ a beverage Caution: [B, +] w/ Neuromuscular Dz CI: Severe renal Dz, heart block, N/V, rectal bleeding intestinal obst/perforation/impaction, colostomy, ileostomy, ulcerative volitis,
diverticulitis Disp: soln 290 mg/5 mL (300 mL); 100 mg tabs SE: Abd cramps, gas, ↓ BP, ↑ Mg, resp depression Notes: Only for occasional use w/ constipation

**Magnesium Hydroxide (Milk of Magnesia) [OTC]**

**Uses:**
- Constipation, * hyperacidity, Mg replacement

**Action:** NS laxative

**Dose:**
- **Adults.** Antacid: 5–15 mL (400 mg/5 mL) or 2–4 (311 mg) tabs PO PRN qid. Mg^2+ replacement: 2–4 (500 mg) tabs PO qhs or ↓ doses. Laxative: 30–60 mL (400 mg/5 mL) or 15–30 mL (800 mg/5 mL) or 8 (311 mg) tabs PO qhs or ↓ doses. **Peds.** Antacid and Mg^2+ replacement: <12 y not ok. Laxative: <2 y not ok. 2–5 y: 5–15 mL (400 mg/5 mL) or 7.5–15 mL (800 mg/5 mL) or 3–5 y: 2 (311-mg) tabs PO qhs or ↓ doses. 6–11 y: 4 (311-mg) tabs PO qhs or ↓ doses

**Caution:** [B, +] w/ Neuromuscular Dz & renal impair, w/ bisphosphonates, calcitriol, CCBs, neuromuscular blockers, tetracyclines, quinolones

**CI:**
- Ulcerative colitis, diverticulitis, ileostomy/colostomy

**Disp:** Chew tabs 311, 500 mg; liq 400, 800 mg/5 mL (OTC) SE: D, Abd cramps

**Notes:** For occasional use in constipation

**Magnesium Oxide (Mag-Ox 400, others) [OTC]**

**Uses:**
- Replace low Mg levels

**Action:** Mg supl

**Dose:**
- **Adults.** 400–800 mg/d or ↓ w/ food in full glass of H_2O; ↓ w/ renal impair **Caution:** [B, +] w/ Neuromuscular Dz & renal impair, w/ bisphosphonates, calcitriol, CCBs, neuromuscular blockers, tetracyclines, quinolones

**CI:**
- Ulcerative colitis, diverticulitis, ileostomy/colostomy, heart block

**Disp:** Caps 140 250, 500, 600 mg; tabs 400 mg (OTC) SE: D, N

**Magnesium Sulfate (various)**

**Uses:**
- Replace low Mg^2+; preeclampsia, eclampsia, & premature labor, cardiac arrest, AMI arrhythmias, cerebral edema, barium poisoning, Szs, pediatric acute nephritis; refractory ↓ K^+ & ↓ Ca^2+ **Action:** Mg^2+ supl, bowel evacuation, ↓ acetylcholine in nerve terminals, ↓ rate of sinoatrial node firing

**Dose:**
- **Adults.** 3 g PO q6h × 4 PRN; **Supl:** 1–2 g IM or IV; repeat PRN. **Preeclampsia/premature labor:** 4-g load then 1–4 g/h IV Inf. **Cardiac arrest:** 1–2 g IV push (2–4 mL 50% soln) in 10 mL D_5W. **AMI:** Load 1–2 g in 50–100 mL D_5W over 5–60 min IV; then 0.5–1.0 g/h IV up to 24 h (ECC 2005).

**Peds.** 25–50 mg/kg/dose IM, IV, IO q4–6h for 3–4 doses; repeat PRN; q8–12h in neonates; max 2 g single dose; ↓ dose w/ low urinary output or renal Insuff **Caution:** [A/C (manufacturer specific), +] w/ Neuromuscular Dz; interactions see Magnesium Oxide and aminoglycosides

**CI:**
- Heart block, renal failure

**Disp:** Premix Inj: 10, 20, 40, 80 mg/mL; Inj 125, 500 mg/mL; oral/topical powder 227, 454, 480, 1810, 1920, 2721 g

**SE:** CNS depression, D, flushing, heart block, ↓ BP, vasodilation

**Notes:** different formulation may contain Al^3+

**Mannitol (various)**

**Uses:**
- Cerebral edema, ↑ intraocular pressure, renal impair, poisonings, GU irrigation

**Action:** Osmotic diuretic

**Dose:**
- Test dose: 0.2 g/kg/dose IV over 3–5 min; if no diuresis w/in 2 h, D/C. **Oliguria:** 50–100 g IV over 90 min; ↑ IOP: 0.5–2 g/kg IV over 30 min. **Cerebral edema:** 0.25–1.5 g/kg/dose IV >30 min **Caution:** [C, ??/M] w/ CHF or vol overload, w/ nephrotoxic drugs & lithium

**CI:**
- Anuria, dehydration, heart failure

**Disp:** Inj 5, 10, 15, 20, 25%; GU soln 5% SE: May exacerbate CHF, N/V/D, ↓↑ BP, ↑ HR

**Notes:** Monitor for vol depletion
Maraviroc (Selzentry)  
**WARNING:** Possible drug-induced hepatotoxicity

**Uses:** *Tx of CCR5-tropic HIV Infxn*

**Action:** Antiretroviral, CCR5 coreceptor antagonist

**Dose:** 300 mg bid

**Caution:** [B, –] w/ Concomitant CYP3A inducers/inhibitors

**CI:** None

**Disp:** Tab 150, 300 mg

**SE:** Fever, URI, cough, rash

Measles, Mumps, Rubella, & Varicella Virus Vaccine Live (MMRV) (ProQuad)  
**Uses:** *Vaccination against measles, mumps, rubella, & varicella 12 mo–12 y or for 2nd dose of measles, mumps, & rubella (MMR)*

**Action:** Active immunization, live attenuated viruses

**Dose:** 1 (0.5 mL) vial SQ Inj

**Caution:** [C, ?/M] Hx of cerebral injury or Szs (febrile Rxn), w/ ↓ plt

**CI:** Hx anaphylaxis to neomycin, blood dyscrasias, lymphoma, leukemia, malignant neoplasias affecting BM, w/ immunosuppression, febrile illness, untreated TB, temp >101.3°F, PRG

**Disp:** Inj

**SE:** Fever, Inj site Rxn, rash

**Notes:** Per FDA, CDC ↑ of febrile Sz in combo vaccine vs. MMR and varicella separately; preferable to use 2 separate vaccines; allow 1 mo between Inj & any other measles vaccine or 3 mo between any other varicella vaccine; limited avail of MMRV; substitute MMR II or Varivax; avoid those who have not been exposed to varicella for 6 wk post-Inj; may contain albumin or trace egg antigen; avoid salicylates

Mecasermin (Increlex, Iplex)  
**Uses:** *Growth failure in severe primary IGF-1 deficiency or human growth hormone (HGH) antibodies*

**Action:** Human IGF-1 (recombinant DNA origin)

**Dose:** Peds.

0.04–0.08 mg/kg SQ bid; may ↑ by 0.04 mg/kg per dose to 0.12 mg/kg bid; take w/in 20 min of meal due to insulin-like hypoglycemic effect

**Caution:** [C, ?/M] Contains benzyl alcohol

**CI:** Closed epiphysis, neoplasia, not for IV

**Disp:** Vial 40 mg

**SE:** Tonsillar hypertrophy, ↑ AST, ↑ LDH, HA, Inj site Rxn, V, hypoglycemia

**Notes:** Rapid dose ↑ may cause hypoglycemia; initial funduscopic exam and during treatment; consider monitoring glucose until dose stable; limited distribution; rotate Inj site

Mechlorethamine (Mustargen)  
**WARNING:** Highly toxic, handle w/ care, limit use to experienced physicians; avoid exposure during PRG; vesicant

**Uses:** *Hodgkin Dz (stages III, IV), cutaneous T-cell lymphoma (mycosis fungoides), lung CA, CML, malignant pleural effusions, CLL, polycythemia vera, psoriasis*

**Action:** Alkylating agent, nitrogen analog of sulfur mustard

**Dose:** Per protocol; 0.4 mg/kg single dose or 0.1 mg/kg/d for 4 d, repeat at 4–6-wk intervals; 6 mg/m² IV on days 1 & 8 of 28-d cycle; Intracavitary: 0.2–0.4 mg/kg × 1, may repeat PRN; Topical: 0.01–0.02% soln, lotion, oint

**Caution:** [D, ?/–] CI: PRG, known infect Dz, severe myelosuppression

**Disp:** Inj 10 mg; topical soln, lotion, oint

**SE:** ↓ BM, thrombosis, thrombophlebitis at site; tissue damage w/ extrav (Na thiosulfate used topically to Rx); N/V/D, skin rash/allergic dermatitis w/ contact, amenorrhea, sterility (especially in men), secondary leukemia if treated for Hodgkin Dz, chromosomal alterations, hepatotox, peripheral neuropathy

**Notes:** Highly volatile and emetogenic; give w/in 30–60 min of preparation

Meclizine (Antivert) (Bonine, Dramamine [OTC])  
**Uses:** *Motion sickness, vertigo*

**Action:** Antiemetic, anticholinergic, & antihistaminic properties
Dose: Adults & Peds >12 y: Motion Sickness: 12.5–25 mg PO 1 h before travel, repeat PRN q12–24h. Vertigo: 25–100 mg/d ÷ doses Caution: [B, ?/–] NAG, BPH, BOO, elderly, asthma Disp: Tabs 12.5, 25, 50 mg; chew tabs 25 mg; caps 25, 30 mg (OTC) SE: Drowsiness, xerostomia, blurred vision, thickens bronchial secretions

**Medroxyprogesterone (Provera, Depo Provera, Depo-Sub Q Provera)**  
**WARNING:** Do not use in the prevention of CV Dz or dementia; ↑ risk MI, stroke, breast CA, PE, & DVT in postmenopausal women (50–79 y). ↑ Dementia risk in postmenopausal women (≥65 y). Risk of significant bone loss Uses: *Contraception; secondary amenorrhea; endometrial CA; ↓ endometrial hyperplasia* AUB caused by hormonal imbalance Action: Progestin supl Dose: Contraception: 150 mg IM q3mo depo or 104 mg SQ q3mo (depo SQ). Secondary amenorrhea: 5–10 mg/d PO for 5–10 d. AUB: 5–10 mg/d PO for 5–10 d beginning on the 16th or 21st d of menstrual cycle. Endometrial CA: 400–1000 mg/wk IM. Endometrial hyperplasia: 5–10 mg/d × 12–14 d on day 1 or 16 of cycle; ↓ in hepatic Insuff Caution: Provera [X, –] Depo Provera [X, +] CI: Thrombophlebitis/embolic disorders, cerebral apoplexy, ↑ LFTs, CA breast/genital organs, undiagnosed Vag bleeding, missed abortion, PRG, as a diagnostic test for PRG Disp: Provera tabs 2.5, 5, 10 mg; depot Inj 150, 400 mg/mL; depo SQ Inj 104 mg/10.65 mL SE: Breakthrough bleeding, spotting, altered menstrual flow, breast tenderness, galactorrhea, depression, insomnia, jaundice, N, wgt gain, acne, hirsutism, vision changes Notes: Perform breast exam & Pap smear before contraceptive therapy; obtain PRG test if last Inj >3 mo

**Megestrol Acetate (Megace, Megace-ES)**  
Uses: *Breast/endometrial CAs; appetite stimulant in cachexia (CA & HIV)* Action: Hormone; antileuteinizing; progesterone analog Dose: CA: 40–320 mg/d PO in ÷ doses. Appetite: 800 mg/d PO ÷ dose or Megace ES 625 mg/d Caution: [X, –] Thromboembolism: handle w/ care CI: PRG Disp: Tabs 20, 40 mg; susp 40 mg/mL, Megace ES 125 mg/mL SE: DVT, edema, menstrual bleeding, photosensitivity, N/V/D, HA, mastodynia, ↑ CA, ↑ glucose, insomnia, rash, ↓ BM, ↑ BP, CP, palpitations, Notes: Do not D/C abruptly; Megace ES not equivalent to others mg/mg; Megace ES approved only for anorexia

**Meloxicam (Mobic)**  
**WARNING:** May ↑ risk of cardiovascular events & GI bleeding; CI in post-op CABG Uses: *Osteoarthritis, RA, JRA* Action: NSAID w/ ↑ COX-2 activity Dose: Adults. 7.5–15 mg/d PO. Peds >2 y: 0.125 mg/kg/d, max 7.5 mg; ↓ in renal Insuff; take w/ food Caution: [C, D (3rd tri) ?/–] w/ Severe renal Insuff, CHF, ACE inhibitor, diuretics, Li2+, MTX, warfarin CI: Peptic ulcer, NSAID, or ASA sensitivity, PRG, post-op coronary artery bypass graft Disp: Tabs 7.5, 15 mg; susp. 7.5 mg/5 mL SE: HA, dizziness, GI upset, GI bleeding, edema, ↑ BP, renal impair, rash (Stevens-Johnson syndrome), ↑ LFTs

**Melphalan [L-PAM] (Alkeran)**  
**WARNING:** Administer under the supervision of a qualified physician experienced in the use of chemotherapy; severe BM depression, leukemogenic, & mutagenic Uses: *Multiple myeloma,
ovarian CAs,* breast & testicular CA, melanoma; allogenic & ABMT (high dose),
neuroblastoma, rhabdomyosarcoma Action: Alkylating agent, nitrogen mustard
Dose: Adults. Multiple myeloma: 16 mg/m² IV q2wk × 4 doses then at 4-wk intervals after tox resolves; w/ renal impair ↓ IV dose 50% or 6 mg PO q day × 2–3 wk, then D/C up to 4 wk, follow counts then 2 mg q day. Ovarian CA: 0.2 mg/kg q day × 5 d, repeat q4–5wk based on counts. Peds. Off-label rhabdomyosarcoma: 10–35 mg/m²/dose IV q21–28d. w/ BMT for Neuroblastoma: 100–220 mg/m²/dose IV × 1 or ÷ 2–5 daily doses; Inf over 60 min; ↓ in renal Insuff Caution: [D, ?/–] w/ Cisplatin, digitalis, live vaccines CI: Allergy or resistance Disp: Tabs 2 mg; Inj 50 mg SE: N/V, secondary malignancy, a-fib, ↓ LVEF, ↓ BM, secondary leukemia, alopecia, dermatitis, stomatitis, pulm fibrosis; rare allergic Rxs Notes: Take PO on empty stomach, false (+) direct Coombs test

Memantine (Namenda) Uses: *Mod/severe Alzheimer Dz,* mild–mod vascular dementia, mild cognitive impair Action: N-methyl-D-aspartate receptor antagonist Dose: Target 20 mg/d, start 5 mg/d, ↑ 5 mg/d to 20 mg/d, wait >1 wk before ↑ dose; use ÷ doses if >5 mg/d. Vascular dementia: 10 mg PO bid; ↓ w/ severe renal impair Caution: [B, ?/–] Hepatic/mild–mod renal impair; Sx disorders Disp: Tabs 5, 10 mg, combo pak: 5 mg × 28 + 10 mg × 21; soln 2 mg/mL SE: Dizziness, confusion, HA, V, constipation, coughing, ↑ BP, pain, somnolence, hallucinations Notes: Renal clearance ↓ by alkaline urine (↓ 80% at pH 8)

Meningococcal conjugate vaccine (Menactra, MCV4) Uses: *Immunize against Neisseria meningitidis (meningococcus) 2–55 y* Action: Active immunization; diphtheria toxoid conjugate of N. meningitidis A, C, Y, W-135 Dose: Adults 18–55 y & Peds ≥2 y: 0.5 mL IM × 1 Caution: [C, ?/–] w/ Immunosuppression CI: Allergy to class/compound/latex; Guillain-Barré Disp: Inj SE: Local Inj site Rxns, HA, N/V, anorexia, fatigue, arthralgia, Guillain-Barré Notes: IM only; keep epi available for Rxns; use polysaccharide vaccine if >55 y; do not confuse w/ Menomune (MPSV4); ACIP recommends MCV4 for 2–55 y, but 2–10 may have ↑ Rxn compared to Menomune; peds 2–10 previously vaccinated w/ MPSV4 remain at ↑ risk for meningococcal Dz; ACIP recommends vaccinate w/ MCV4 3–5 y after MPSV4

Meningococcal Polysaccharide Vaccine [MPSV4] (Menomune A/C/Y/ W-135) Uses: *Immunize against Neisseria meningitidis (meningococcus)* Action: Active immunization Dose: Adults & Peds >2 y: 0.5 mL SQ (not IM, intradermally, IV); may repeat 3–5 y if high risk Caution: [C, ?/–] w/ Immunocompromised CI: Thimerosal/latex/sensitivity; w/ pertussis or typhoid vaccine, <2 y Disp: Inj SE: SQ only; local Inj site Rxns, HA Notes: Keep epi (1:1000) available for Rxns. OK in 2–10 y, but considered alternative to MCV4 in 11–54 y. Preferred in >55 y; active against serotypes A, C, Y, & W-135 but not group B; high risk need revaccination q3–5y (use MCV4)

Meperidine (Demerol, Meperitab) [C-II] Uses: *Mod–severe pain,* postoperative shivering, rigors form amphotericin B Action: Narcotic analgesic
**Dose:** Adults. 50–150 mg PO or IV/IM/SQ q3–4h PRN. **Peds.** 1–1.5 mg/kg/dose PO or IM/SQ q3–4h PRN, up to 100 mg/dose; ↓ in elderly/hepatic impair, avoid in renal impair **Caution:** [C/D (prolonged use or high dose at term), +] ↓ Sz threshold, adrenal Insuff, head injury, ↑ ICP, hepatic impair, not ok in sickle cell Dz **CI:** w/ MAOIs, renal failure, PRG **Disp:** Tabs 50, 100 mg; syrup/soln 50 mg/5 mL; Inj 10, 25, 50, 75, 100 mg/mL **SE:** Resp/CNS depression, Szs, sedation, constipation, ↓ BP, rash N/V, biliary and urethral spasms, dyspnea **Notes:** Analgesic effects potentiated w/ hydroxyzine; 75 mg IM = 10 mg morphine IM; not best in elderly; do not use oral for acute pain; not ok for repetitive use in ICU setting

**Meprobamate (various) [C-IV]** **Uses:** *Short-term relief of anxiety* muscle spasm, TMJ relief **Action:** Mild tranquilizer; antianxiety **Dose:** Adults. 400 mg PO tid-qid, max 2400 mg/d. **Peds 6–12 y:** 100–200 mg PO bid-tid; ↓ in renal/liver impair **Caution:** [D, +/−] Elderly, Sz Dz **CI:** NAG, porphyria, PRG **Disp:** Tabs 200, 400 mg **SE:** Drowsiness, syncope, tachycardia, edema, rash (Stevens-Johnson syndrome), N/V/D, ↓ WBC, agranulocytosis **Notes:** Do not abruptly D/C

**Mercaptopurine [6-MP] (Purinethol)** **Uses:** *ALL* 2nd-line Rx for CML & NHL, maint ALL in children, immunosuppressant w/ autoimmune Dzs (Crohn Dz, ulcerative colitis) **Action:** Antimetabolite, mimics hypoxanthine **Dose:** Adults. **ALL induction:** 1.5–2.5 mg/kg/d; maint 80–100 mg/m²/d or 2.5–5 mg/kg/d; w/ allopurinol use 67–75% ↓ dose of 6-MP (interference w/ xanthine oxidase metabolism). **Peds. ALL induction:** 2.5–5 mg/kg/d PO or 70–100 mg/m²/d; maint 1.5–2.5 mg/kg/d PO or 50–75 mg/m²/d q day; ↓ w/ renal/hepatic Insuff; take on empty stomach **Caution:** [D, ?] w/ Allopurinol, immunosuppression, TMP-SMX, warfarin, salicylates **CI:** Prior resistance, severe hepatic Dz, BM suppression, PRG **Disp:** Tabs 50 mg **SE:** Mild hematotox, mucositis, stomatitis, D rash, fever, eosinophilia, jaundice, hep, hyperuricemia, hyperpigmentation, alopecia **Notes:** Handle properly; limit use to experienced physicians; ensure adequate hydration; for ALL, evening dosing may ↓ risk of relapse; low emetogenicity

**Meropenem (Merrem)** **Uses:** *Intra-Abd Infxns, bacterial meningitis, skin Infxn* **Action:** Carbapenem; ↓ cell wall synth. **Spectrum:** Excellent gram(+) (except MRSA, methicillin-resistant *S. epidermidis* [MRSE] & *E. faecium*); excellent gram(−) including extended-spectrum β-lactamase producers; good anaerobic **Dose:** Adults. **Abd Infxn:** 1 to 2 g IV q8h. **Skin Infxn:** 50 mg IV q8h. **Meningitis:** 2 g IV q8h. **Peds ≥3 mo, <50 kg:** **Abd Infxn:** 20 mg/kg IV q8h. **Skin Infxn:** 20 mg/kg IV q8h. **Meningitis:** 40 mg/kg IV q8h; **Peds >50 kg:** Use adult dose; max 2 g IV q8h; ↓ in renal Insuff (see insert) **Caution:** [B, ?] w/ Probenecid, VPA **CI:** β-Lactam sensitivity **Disp:** Inj 1 g, 500 mg SE: Less Sz potential than imipenem; *C. difficile entero-colitis, D, ↓ plt **Notes:** Overuse ↑ bacterial resistance

**Mesalamine (Asacol, Canasa, Lialda, Pentasa, Rowasa)** **Uses:** *Rectal: mild–mod distal ulcerative colitis, proctosigmoiditis, proctitis; oral:
treat/maint of mild-mod ulcerative colitis*. **Action:** 5-ASA derivative, may inhibit prostaglandins, may ↓ leukotrienes and TNF-α. **Dose:** Rectal: 60 mL qhs, retain 8 h (enema), 500 mg bid-tid or 1000 mg qhs (supp) **PO:** Caps: 1 g PO qid; tab: 1.6–2.4 g/d ↓ doses (tid-qid); DR 2.4–4.8 g PO daily 8 wk max, do not cut/crush/chew w/food; ↓ initial dose in elderly  

**Caution:** [B, M] w/ Digitalis, PUD, pyloric stenosis, renal Insuff, elderly  

**CI:** Salicylate sensitivity  

**Disp:** Tabs ER (Asacol) 400, 800 mg; ER caps (Pentasa) 250, 500 mg; DR tab (Lialda) 1.2 g; supp 500, (Canasa) 1000 mg; (Rowasa) rectal susp 4 g/60 mL  

**SE:** Yellow-brown urine, HA, malaise, Abd pain, flatulence, rash, pancreatitis, pericarditis, dizziness, rectal pain, hair loss, intolerance syndrome (bloody D)  

**Notes:** retain rectally 1–3 h; ✔ CBC, Cr, BUN; Sx may ↑ when starting  

**Mesna (Mesnex)**  

**Uses:** *Prevent hemorrhagic cystitis due to ifosfamide or cyclophosphamide*  

**Action:** Antidote, reacts with acrolein and other metabolites to form stable compounds  

**Dose:** Per protocol; dose as % of ifosfamide or cyclophosphamide dose. **IV bolus:** 20% (eg, 10–12 mg/kg) IV at 0, 4, & 8 h, then 40% at 0, 1, 4, & 7 h; **IV Inf:** 20% prechemotherapy, 50–100% w/ chemotherapy, then 25–50% for 12 h following chemotherapy; **Oral:** 100% ifosfamide dose given as 20% IV at hour 0 then 40% PO at hours 4 & 8; if PO dose vomited repeat or give dose IV; mix PO w/ juice  

**Caution:** [B; ?/–]  

**CI:** Thiol sensitivity  

**Disp:** Inj 100 mg/mL; tabs 400 mg  

**SE:** ↓ BP, ↓ plt, ↑ HR, ↑ RR allergic Rxns, HA, GI upset, taste perversion  

**Notes:** Hydration helps ↓ hemorrhagic cystitis; higher dose for BMT; IV contains benzyl alcohol  

**Metaproterenol (Alupent, Metaprel)**  

**Uses:** *Asthma & reversible bronchospasm, COPD*  

**Action:** Sympathomimetic bronchodilator  

**Dose:** Adults. **Nebulized:** 5% 2.5 mL q4–6h or PRN. **MDI:** 1–3 Inh q3–4h, 12 Inh max/24 h; wait 2 min between Inh. **PO:** 20 mg q6–8h. **Peds ≥12 y:** **MDI:** 2–3 Inh q3–4h, 12 Inh/d max. **Nebulizer:** 2.5 mL (soln 0.4%, 0.6%) tid-qid, up to q4h. **Peds >9 y or >60 lbs:** 20 mg PO tid-qid; 6–9 y or <60 lbs: 10 mg PO tid-qid; ↓ in elderly  

**Caution:** [C, ?/–] w/ MAOI, TCA, sympathomimetics; avoid w/ β-blockers  

**CI:** Tachycardia, other arrhythmias  

**Disp:** Aerosol 0.65 mg/Inh; soln for Inh 0.4%, 0.6%; tabs 10, 20 mg; syrup 10 mg/5 mL  

**SE:** Nervousness, tremor, tachycardia, HTN, ↑ glucose, ↓ K+, ↑ IOP  

**Notes:** Fewer β₁ effects than isoproterenol & longer acting, but not a 1st-line β-agonist. Use w/ face mask <4 y; oral ↑ ADR  

**Metaxalone (Skelaxin)**  

**Uses:** *Painful musculoskeletal conditions*  

**Action:** Centrally acting skeletal muscle relaxant  

**Dose:** 800 mg PO tid-qid  

**Caution:** [C, ?/–] w/ Elderly, EtOH & CNS depression anemia  

**CI:** Severe hepatic/renal impair; drug-induced, hemolytic, or other anemias  

**Disp:** Tabs 800 mg  

**SE:** N/V, HA, drowsiness, hep  

**Metformin (Glucophage, Glucophage XR)**  

**WARNING:** Associated w/ lactic acidosis  

**Uses:** *Type 2 DM,* polycystic ovary syndrome (PCOS) HIV lipodystrophy  

**Action:** Biguanide; ↓ hepatic glucose production & intestinal absorption of glucose; ↑ insulin sensitivity  

**Dose:** Adults. Initial: 500 mg PO bid;
or 850 mg daily, titrate 1–2-wk intervals may ↑ to 2550 mg/d max; take w/ A.M. & P.M. meals; can convert total daily dose to daily dose of XR. **Peds 10–16 y:** 500 mg PO bid, ↑ 500 mg/wk to 2000 mg/d max in ÷ doses; do not use XR formulation in peds Caution: [B, +/–] Avoid EtOH; hold dose before & 48 h after ionic contrast; hepatic impair, elderly CI: SCr >1.4 in females or >1.5 in males; hypoxemic conditions (eg, acute CHF/sepsis); metabolic acidosis **Disp:** Tabs 500, 850, 1000 mg; XR tabs 500, 750, 1000 mg; soln 100 mg/mL **SE:** Anorexia, N/V/D, flatulence, weakness, myalgia, rash

**Methadone (Dolophine, Methadose) [C-II]** WARNING: Deaths reported during initiation and conversion of pain pts to methadone Rx from Rx w/other opioids. Resp depression and QT prolongation, arrhythmias observed. Only dispensed by certified opioid treatment programs for addiction. Analgesic use must outweigh risks **Use:** *Severe pain not responsive to nonnarcotics; detox w/ maint of narcotic addiction* **Action:** Narcotic analgesic **Dose:** Adults. 2.5–10 mg IM/IV/SQ q8–12h or 5–15 mg PO q8h; titrate as needed; see insert for conversion from other opioids. **Peds:** (Not FDA approved) 0.1 mg/kg q4–12h IV; ↑ slowly to avoid resp depression; ↓ in renal impair Caution: [C, –] Avoid w/ severe liver Dz **CI:** Resp depression, acute asthma, ileus **Disp:** Tabs 5, 10 mg; tab dispersible 40 mg; PO soln 5, 10 mg/5 mL; PO conc 10 mg/mL; Inj 10 mg/mL **SE:** Resp depression, sedation, constipation, urinary retention, ↑ QT interval, arrhythmias, ↓ HR, syncope, ↓ K⁺, ↓ Mg²⁺ **Notes:** Parenteral:oral 1:2; Equianalgesic w/ parenteral morphine; longer half-life; resp depression occurs later an lasts longer than analgesic effect, use w/caution to avoid iatrogenic OD

**Methenamine Hippurate (Hiprex, Urex) Methenamine Mandelate (UROQUID-Acid No. 2)** **Uses:** *Suppress recurrent UTI long-term. Use only after infxn cleared by antibiotics* **Action:** Converted to formaldehyde & ammonia in acidic urine; nonspecific bactericidal action **Dose:** Adults. Hippurate: 1 g PO bid. Mandelate: initial 1 g qid PO pc & hs, maint 1–2 g/d. **Peds 6–12 y:** Hippurate: 0.5–1 g PO bid PO ÷ bid. >2 y: Mandelate: 50–75 mg/kg/d PO ÷ qid; take w/ food, ascorbic acid w/hydration **Caution:** [C, +] CI: Renal Insuff, severe hepatic Dz, & severe dehydration **Disp:** Methenamine hippurate (Hiprex, Urex): Tabs 1 g. Methenamine mandelate: 500 mg, 1 g EC tabs SE: Rash, GI upset, dysuria, ↑ LFTs, superinfection w/ prolonged use, *Clostridium difficile*-associated diarrhea. **Notes:** Use w/ sulfonamides may precipitate in urine. Hippurate not indicated in peds <6 y. Not for pts w/ indwelling catheters as dwell time required for action

**Methimazole (Tapazole)** **Uses:** *Hyperthyroidism, thyrotoxicosis,* preparation for thyroid surgery or radiation **Action:** Blocks T₃ & T₄ formation, but does not inactivate circulating T₃, T₄ **Dose:** Adults. Initial based on severity: 15–60 mg/d PO q8h. Maint: 5–15 mg PO daily. **Peds:** Initial: 0.4–0.7 mg/kg/24 h PO q8h. Maint: 1/3–2/3 of initial dose PO daily; take w/ food **Caution:** [D, –] w/ Other meds CI: Breast-feeding **Disp:** Tabs 5, 10, 20 mg SE: GI upset, dizziness,
blood dyscrasias, dermatitis, fever, hepatic Rxns, lupus-like syndrome. Notes: Follow clinically & w/TFT, CBC w/diff

**Methocarbamol (Robaxin)**

**Uses:** Relief of discomfort associated w/painful musculoskeletal conditions

**Action:** Centrally acting skeletal muscle relaxant

**Dose:**
- **Adults & Peds >16 y:** 1.5 g PO qid for 2–3 d, then 1-g PO qid maint.
- **Tetanus:** 1–2 g IV q6h × 3 d, then use PO. **<16 y:** 15 mg/kg/dose or 500 mg/m² IV, may repeat PRN (tetanus only), max 1.8 g/m²/d × 3 d

**Caution:** Sz disorders [C, +]

**CI:** MyG, renal impair w/IV

**Disp:** Tabs 500, 750 mg; Inj 100 mg/mL

**SE:** Can discolor urine, lightheadedness, drowsiness, GI upset, ↓HR, ↓BP

**Note:** Tabs can be crushed and added to NG, do not operate heavy machinery

**Methotrexate (Rheumatrex Dose Pack, Trexall)**

**WARNING:**

Administration only by experienced physician; do not use in women of childbearing age unless absolutely necessary (teratogenic); impaired elimination w/impaired renal Fxn, ascites, pleural effusion; severe ↓BM w/NSAIDs; hepatotoxic, occasionally fatal; can induce life-threatening pneumonitis; D and ulcerative stomatitis require D/C; lymphoma risk; may cause tumor lysis syndrome; can cause severe skin Rxn, opportunistic Infxns; w/RT can ↑tissue necrosis risk. Preservatives make this agent unsuitable for intrathecal or higher dose use

**Uses:** ALL, AML, leukemic meningitis, trophoblastic tumors (choriocarcinoma, hydatidiform mole), breast, lung, head, & neck CAs, Burkitt lymphoma, mycosis fungoides, osteosarcoma, Hodgkin Dz & NHL, psoriasis; RA, JRA,* chronic Dz

**Action:** ↓Dihydrofolate reductase-mediated prod of tetrahydrofolate, causes ↓DNA synth

**Dose:**
- **Adults. CA:** Per protocol. RA: 7.5 mg/wk PO 1/wk 1 or 2.5 mg q12h PO for 3 doses/wk. Psoriasis: 2.5–5 mg PO q12h × 3d/wk or 10–25 mg PO/IM q wk.
- **Chronic:** 15–25 mg IM/SQ q wk, then 15 mg/wk. **Peds.** 10 mg/m² PO/IM q wk, then 5–14 mg/m² × 1 or as 3 ÷ divided doses 12 h apart; ↓elderly, w/renal/hepatic impair

**Caution:** [D, –] w/ Other nephro-/hepatoxic meds, multiple interactions, w/Sz, profound ↓BM other than CA related CI: Severe renal/hepatic impair, PRG/lactation

**Disp:** Dose pack 2.5 mg in 8, 12, 16, 20, or 24 doses; tabs 2.5, 5, 7.5, 10, 15 mg; Inj 25 mg/mL; Inj powder 20 mg, 1 g

**SE:** ↓BM, N/V/D, anorexia, mucositis, hepatotox (transient & reversible; may progress to atrophy, necrosis, fibrosis, cirrhosis), rashes, dizziness, malaise, blurred vision, alopecia, photosensitivity, renal failure, pneumonitis; rare pulm fibrosis; chemical arachnoiditis & HA w/IT delivery

**Notes:** Monitor CBC, LFTs, Cr, MTX levels & chest x-ray (CXR); “high dose” >500 mg/m² requires leucovorin rescue to ↓tox; w/ intrathecal, use preservative-/alcohol-free soln; systemic levels: Therapeutic: >0.01 micromole; Toxic >10 micromoles over 24 h

**Methyldopa (Aldomet)**

**Uses:** *HTN* **Action:** Centrally acting antihypertensive, ↓sympathetic outflow

**Dose:** **Adults.** 250–500 mg PO bid-tid (max 2–3 g/d) or 250 mg–1 g IV q6–8h.

**Peds Neonates:** 2.5–5 mg/kg PO/IV q8h.

**Other peds:** 10 mg/kg/24 h PO in 2–3 ÷ doses or 5–10 mg/kg/dose IV q6–8h to max 65 mg/kg/24 h; ↓in renal Insuff/elderly

**Caution:** [B(PO), C(IV), +] CI: Liver Dz,
Methylergonovine

Uses: *Postpartum bleeding (atony, hemorrhage)*
Action: Ergotamine derivative, rapid and sustained uterotonic effect
Dose: 0.2 mg IM after anterior shoulder delivery or puerperium, may repeat in 2–4-h intervals or 0.2–0.4 mg PO q6–12h for 2–7 d
Caution: [C, ?] w/ Sepsis, obliterative vascular Dz, hepatic/renal impair, w/ CYP3A4 inhibitors (Table 11)
CI: HTN, PRG, toxemia
Disp: Inj 0.2 mg/mL; tabs 0.2 mg SE: HTN, N/V, CP, ↓ BP, Sz
Notes: Give IV only if absolutely necessary over ≥1 min w/ BP monitoring

Methylnaltrexone bromide (Relistor)
Uses: *Opioid-induced constipation in pt w/ advanced illness such as CA*
Action: Peripheral opioid antagonist
Dose: Adults. Wgt-based <38 kg/>38 kg: 0.15 mg/kg SQ; 38–61 kg: 8 mg SQ; 62–114 kg: 12 mg SQ, dose q other day PRN, max 1 dose q24h
Caution: [B, NR] w/ CrCl <30 mL/min ↓ dose 50% Disp: Inj 12 mg/0.6 mL SE: N/D, Abd pain, dizziness
Notes: Does not effect opioid analgesic effects or induce withdrawal

Methylphenidate, oral (Concerta, Metadate CD, Methylin Ritalin, Ritalin LA, Ritalin SR, others) [CII]
WARNING: w/ Hx of drug or alcohol dependence, avoid abrupt D/C; chronic use can lead to dependence or psychotic behavior; observe closely during withdrawal of drug
Uses: *ADHD, narcolepsy,* depression
Action: CNS stimulant, blocks reuptake of norepinephrine and DA
Dose: Adults. Narcolepsy: 10 mg PO 2–3×/d, 60 mg/d max. Depression: 2.5 mg q . A.M.; ↑ slowly, 20 mg/d max, ↓ bid 7 A.M. & 12 P.M.; use regular release only. Adults and Peds >6 y: ADHD: IR: 5 mg PO bid, ↑ 5–10 mg/d to 60 mg/d, max (2 mg/kg/d), ER/SR use total IR dose q day. CD/LA 20 mg PO q day, ↑ 10–20 mg q wk to 60 mg/d max. Concerta: 18 mg PO q . A.M. Rx naive or already on 20 mg/d, 36 mg PO q A.M. if on 40 mg/d or 54 mg PO q A.M. if on 60 mg/d
Caution: [C, +/–] w/ Hx EtOH/drug abuse, CV Dz, HTN, bipolar Dz, Sz; separate from MAOIs by 14 d
Disp: Chew tabs 2.5, 5, 10 mg; tabs scored IR (Ritalin) 5, 10, 20 mg; Caps ER (Ritalin LA) 10, 20, 30, 40 mg. Caps ER (Metadate CD) 10, 20, 30, 40, 50, 60 mg (Methyl ER) 10, 20 mg. Tabs SR (Ritalin SR) 20 mg; ER tabs (Concerta) 18, 27, 36, 54 mg. Oral soln 5, 10 mg/5 mL SE: CV/CNS stimulation, growth retard, GI upset, pancytopenia, ↑ LFTs
CI: Marked anxiety, tension, agitation, NAG, motor tics, family Hx or diagnosis of Tourette syndrome, severe HTN, angina, arrhythmias, CHF, recent MI, ↑ thyroid; w/ or w/in 14 d of MAOI
Notes: See also transdermal form; titrate dose; take 30–45 min ac; do not chew or crush; Concerta “ghost tablet” in stool, avoid w/ GI narrowing; Metadate contains sucrose, avoid w/ lactose/galactose problems. Do not use these meds w/ halogenated anesthetics; abuse and diversion concerns; AHA recommends all ADHD peds need Cv assessment and consideration for ECG before Rx

Methylphenidate, transdermal (Daytrana) [CII] WARNING: w/ Hx of drug or alcohol dependence; chronic use can lead to dependence or
psychotic behavior; observe closely during withdrawal of drug Uses: *ADHD in children 6–12 y*  Action: CNS stimulant, blocks reuptake of norepinephrine and DA  

Dose: Adults & Peds >6 y: Apply to hip in A.M. (2 h before desired effect), remove 9 h later; titrate 1st wk 10 mg/9 h, 2nd wk 15 mg/9 h, 3rd wk 20 mg/9 h, 4th wk 30 mg/9 h  

Caution: [C, +/-] See methylphenidate, oral sensitization may preclude subsequent use of oral forms; abuse and diversion concerns Disp: Patches  

10, 15, 20, 30 mg SE: Local Rxsns, N/V, nasopharyngitis, ↓ wgt, ↓ appetite, lability, insomnia, tic Notes: Titrate dose weekly; effects last hours after removal; evaluate BP, HR at baseline and periodically; avoid heat exposure to patch, may cause OD, AHA recommends all ADHD peds need CV assessment and consideration for ECG before Rx

**Methylprednisolone (Solu-Medrol) [See Steroids page 214 and Table 3]**

**Metoclopramide (Reglan, Clopra, Octamide)**  
Uses: *Diabetic gastroparesis, symptomatic GERD; chemotherapy & post-op N/V, facilitate small-bowel intubation & upper GI radiologic evaluation,* stimulate gut in prolonged post-op ileus  

Action: ↑ Upper GI motility; blocks dopamine in chemoreceptor trigger zone, sensitized tissues to ACH  

Dose: Adults. Gastroparesis: 10 mg PO 30 min ac & hs for 2–8 wk PRN, or same dose IM/IV for 10 d, then PO. Reflux: 10–15 mg PO 30 min ac & hs. Chemotherapy Antiemetic: 1–3 mg/kg/dose IV 30 min before chemotherapy, then q2h × 2 doses, then q3h × 3 doses. Post-op: 10–20 mg IV/IM q4–6h PRN. Adults & Peds >14 y: Intestinal intubation: 10 mg IV × 1 over 1–2 min. Peds. Reflux: 0.1 mg/kg/dose PO 30 min ac & hs, max 0.3–0.75 mg/kg/d × 2 wk-6 mo. Chemotherapy Antiemetic: 1–2 mg/kg/dose IV as adults. Post-op: 0.25 mg/kg IV q6–8h PRN. Peds intestinal intubation: 6–14 y: 2.5–5 mg IV × 1 over 1–2 min; <6 y: use 0.1 mg/kg IV × 1  

Caution: [B, –] Drugs w/ extrapyramidal ADRs, MAOIs, TCAs, sympathomimetics CI: EPS meds, GI bleeding, pheochromocytoma, Sz disorders, GI obst Disp: Tabs 5, 10 mg; syrup 5 mg/5 mL; Inj 5 mg/mL SE: Dystonic Rxsns common w/ high doses (Rx w/IV diphenhydramine), fluid retention, restlessness, D, drowsiness

**Metolazone (Zaroxolyn)**  
Uses: *Mild–mod essential HTN & edema of renal Dz or cardiac failure*  

Action: Thiazide-like diuretic; ↓ distal tubule Na reabsorption  

Dose: HTN: 2.5–5 mg/d PO maint 5–20 mg PO q day Edema: 2.5–20 mg/d PO. Caution: [D, +] Avoid w/ Li, gout, digitalis, SLE, many interactions CI: Anuria, hepatic coma or precoma. Disp: Tabs 2.5, 5, 10 mg SE: Monitor fluid/lytes; dizziness, ↓ BP, ↓ K⁺, ↑ HR, ↑ uric acid, CP, photosensitivity

**Metoprolol Tartrate (Lopressor)**  

**Metoprolol Succinate (Toprol XL)**  

**WARNING:** Do not acutely stop therapy as marked worsening of angina can result; taper over 1–2 wk  

Uses: *HTN, angina, AMI, CHF (XL form)*  

Action: β₁-Adrenergic receptor blocker  

Dose: Adults. Angina: 50–200 mg PO bid max 400 mg/d; ER form dose q day. HTN: 50–200 mg PO bid max 450 mg/d, ER form dose q day. AMI: 5 mg IV q2min × 3 doses, then 50 mg PO q6h × 48 h,
then 100 mg PO bid. CHF: (XL form preferred) 12.5–25 mg/d PO × 2 wk, ↑ 2-wk intervals, 200 mg/max, use low dose w/ greatest severity; 5 mg slow IV q5min, total 15 mg (ECC 2005). Peds 1–17 y: HTN IR form 1–2 mg/kg/d PO, max 6 mg/kg/d (200 mg/d). ≥6 y: HTN ER form 1 mg/kg/d PO, initial max 50 mg/d, ↑ 2-wk intervals, 200 mg/max, use low dose w/ greatest severity; 5 mg slow IV q5min, total 15 mg (ECC 2005).

Peds 1–17 y: HTN IR form 1–2 mg/kg/d PO, max 6 mg/kg/d (200 mg/d). ≥6 y: HTN ER form 1 mg/kg/d PO, initial max 50 mg/d, ↑ 2-wk intervals, 200 mg/max, use low dose w/ greatest severity; 5 mg slow IV q5min, total 15 mg (ECC 2005).

Caution: [C, +] Uncompensated CHF, bradycardia, heart block, hepatic impair, MyG, PVD, Raynaud, thyrotoxicosis. CI: For HTN/angina SSS (unless paced), severe PVD, pheochromocytoma. For MI sinus brady <45 BPM, 1st-degree block (PR >0.24 s), 2nd-, 3rd-degree block, SBP <100 mm Hg, severe CHF, cardiogenic shock Disp: Tabs 25, 50, 100 mg; ER tabs 25, 50, 100, 200 mg; Inj 1 mg/mL SE: Drowsiness, insomnia, ED, brady- cardia, bronchospasm.

Notes: IR: ER 1:1 daily dose but ER/XL is q day. OK to split XL tab but do not crush/chew.

Metronidazole (Flagyl, MetroGel) WARNING: Carcinogenic in rats

Uses: *Bone/joint, endocarditis, intra-Abd, meningitis, & skin Infxns; amebiasis and amebic liver abscess; trichomoniasis in pt and partner; bacterial vaginosis; PID; giardiasis; antibiotic associated pseudomembranous colitis (C. difficile), eradicate H. pylori w/ combo therapy, rosacea, prophylactic in post-op colorectal surgery.*


Dose: Adults. Anaerobic Infxns: 500 mg IV q6–8h. Amebic dysentery: 500–750 mg/d PO q8h × 5–10 d. Trichomonas: 250 mg PO tid for 7 d or 2 g PO × 1 (Rx partner). C. difficile: 500 mg PO or IV q8h for 7–10 d (PO preferred; IV only if pt NPO), if no response, change to PO vancomycin. Vaginosis: 1 applicator intravag q day or bid × 5 d, or 500 mg PO bid × 7 d or 750 mg PO q day × 7 d. Acne rosacea/skin: Apply bid. Giardia: 500 mg PO bid × 5–7 d. H. pylori: 250–500 mg PO w/ meals & hs × 14 d, combine w/ other antibiotic & a proton pump inhibitor or H2 antagonist. Peds. 30 mg/kg PO/IV/d divided q6H, 4 g/d max +. Amebic dysentery: 35–50 mg/kg/24 h PO in 3 ÷ doses for 5–10 d; Rx 7–10 d for C. difficile. Trichomonas: 15–30 mg/kg/d PO ÷ q8h × 7 d. C. difficile: 20 mg/kg/d PO ÷ q6h × 10 d, max 2 g/d; ↓ w/ severe hepatic/renal impair Caution: [B, +/-] Avoid EtOH, w/ warfarin, CYP3A4 substrates (Table 11), ↑ Li levels. CI: First tri of PRG Disp: Tabs 250, 500 mg; XR tabs 750 mg; caps 375 mg; IV 500 mg/100 mL; lotion 0.75%; gel 0.75, 1%; intravag gel 0.75% (5 g/applicator 37.5 mg in 70-g tube), cream 0.75,1% SE: Disulfiram-like Rxn; dizziness, HA, GI upset, anorexia, urine discoloration, flushing, metallic taste. Notes: For trichomoniasis, Rx pt’s partner; no aerobic bacteria activity; use in combo w/ serious mixed Infxns; wait 24 h after 1st dose to breast-feed or 48 h if extended therapy, take ER on empty stomach.

Mexiletine (Mexitil) WARNING: Mortality risks noted for flecainide and/or encainide (type 1 antiarrhythmics). Reserve for use in pts with life-threatening ventricular arrhythmias.

Uses: *Suppress symptomatic vent arrhythmias.* DN Action: Class IB antiarrhythmic (Table 10) Dose: Adults. 200–300 mg PO q8h. Initial 200 mg q8h, can load w/ 400 mg if needed, ↑ q2–3d, 1200 mg/d max. Caution: [C, +] CHF, may worsen severe arrhythmias; interacts w/ hepatic inducers.
Mifepristone

& suppressors CI: Cardiogenic shock or 2nd-/3rd-degree AV block w/o pacemaker
Disp: Caps 150, 200, 250 mg SE: Light-headedness, dizziness, anxiety, incoordination, GI upset, ataxia, hepatic damage, blood dyscrasias, PVCs, N/V, tremor
Notes: ✓ LFTs, CBC, false (+) ANA

Miconazole (Monistat 1 Combo, Monistat 3, Monistat 7)[OTC] (Monistat-Derm) Uses: *Candidal Infxns, dermatomycoses (tinea pedis/tinea cruris/tinea corporis/tinea versicolor/Candidiasis)* Action: Azole antifungal, alters fungal membrane permeability Dose: Intravag: 100 mg supp or 2% cream intravag qhs × 7 d or 200 mg supp or 4% cream intravag qhs × 3 d. Derm: Apply bid, a.m./p.m.. Tinea versicolor: Apply q day. Treat tinea pedis for 1 mo and other Infxns for 2 wk. Peds ≥12 y: 100 mg supp or 2% cream intravag qhs × 7 d or 200 mg supp or 4% cream intravag qhs × 3 d. Caution: [C, ?] Azole sensitivity Disp: Monistat-Derm: (Rx) cream 2%; Monistat 1 Combo: 2% cream w/ 1200 mg supp, Monistat 3: Vag cream 4%, supp 200 mg; Monistat 7: cream 2%, supp 100 mg; lotion 2%; powder 2%; effervescent tab 2%, oint 2%, spray 2%; Vag supp 100, 200, 1200 mg; Vag cream 2%, 4%; [OTC] SE: Vag burning; on skin contact dermatitis, irritation, burning Notes: May interfere w/ condom and diaphragm, do not use w/ tampons

Miconazole/zinc oxide/petrolatum (Vusion) Uses: *Candidal diaper rash* Action: Combo antifungal Dose: Peds >4 wk: Apply at each diaper change × 7 d Caution: [C, ?] CI: None Disp: Miconazole/zinc oxide/petrolatum oint 0.25/15/81.35%, 50-, 90- g tube SE: None Notes: Keep diaper dry, not for prevention

Midazolam (various) [C-IV] WARNING: Associated w/ resp depression and resp arrest especially when used for sedation in noncritical care settings. Reports of airway obst, desaturation, hypoxia, and apnea w/ other CNS depressants. Cont monitoring required Uses: *Pre-op sedation, conscious sedation for short procedures & mechanically ventilated pts, induction of general anesthesia* Action: Short-acting benzodiazepine Dose: Adults. 1–5 mg IV or IM or 0.02–0.35 mg/kg based on indication; titrate to effect. Peds. Pre-op: >6 mo: 0.25–1 mg/kg PO, 20 mg max. Conscious sedation: 0.08 mg/kg × 1. >6 mo: 0.1–0.15 mg/kg IM × 1 max 10 mg. General anesthesia: 0.025–0.1 mg/kg IV q2min for 1–3 doses PRN to induce anesthesia (↓ in elderly, w/ narcotics or CNS depressants) Caution: [D, +/-] w/ CYP3A4 substrate (Table 11), multiple drug interactions CI: NAG; w/ amprenavir, atazanavir, nelfinavir, ritonavir Disp: Inj 1, 5 mg/mL; syrup 2 mg/mL SE: Resp depression; ↓ BP w/ conscious sedation, N Notes: Reversal w/ flumazenil; monitor for resp depression; not for epidural/intrathecal use

Mifepristone [RU 486] (Mifeprex) WARNING: Pt counseling & information required; associated w/ fatal Infxns & bleeding Uses: *Terminate intrauterine pregnancies of <49 d* Action: Antiprogestin; ↑ prostaglandins, results in uterine contraction Dose: Administered w/ 3 office visits: Day 1: 600 mg PO × 1; day 3, unless abortion confirmed, 400 mcg PO of misoprostol (Cytotec); about day 14,
**Miglitol (Glyset)**  
**Uses:** *Type 2 DM*  
**Action:** α-Glucosidase inhibitor; delays carbohydrate digestion of  
**Dose:** Initial 25 mg PO tid; maint 50–100 mg tid  
**(w/ 1st bite of each meal), titrate over 4–8 wk**  
**Caution:** [B, –] w/ Digitalis & digestive enzymes  
**CI:** DKA, obstructive/inflammatory GI disorders; SCr >2  
**Disp:** Tabs 25, 50, 100 mg  
**SE:** Flatulence, D, Abd pain  
**Notes:** Use alone or w/ sulfonylureas

**Milrinone (Primacor)**  
**Uses:** *CHF acutely decompensated,* calcium antagonist intoxication  
**Action:** Phosphodiesterase inhibitor, + inotrope & vasodilator; little chronotropic activity  
**Dose:** 50 mcg/kg, IV over 10 min then 0.375–0.75 mcg/kg/min IV Inf; ↓ w/ renal impair  
**Caution:** [C, ?]  
**CI:** Allergy to drug; w/ inamrinone  
**Disp:** Inj 200 mcg/mL  
**SE:** Arrhythmias, ↓ BP, HA  
**Notes:** Monitor fluids, lytes, CBC, Mg²⁺, BP, HR; not for long-term use

**Mineral Oil [OTC]**  
**Uses:** *Constipation, bowel irritation, fecal impaction*  
**Action:** Lubricant laxative  
**Dose:** Adults. Constipation: 15–45 mL PO/d PRN.  
**Fecal impaction or after barium:** 118 mL rectally × 1. **Peds >6 y:** Constipation: 5–25 mL PO q day. **2–12 y:** Fecal impaction: 118 mL rectally × 1. **Caution:** [C, ?] w/ N/V, difficulty swallowing, bedridden pts; may ↓ absorption of Vit A, D, E, K, warfarin  
**CI:** Colostomy/ileostomy, appendicitis, diverticulitis, ulcerative colitis  
**Disp:** All [OTC] liq PO 13.5 mL/15 mL, PO microemulsion 2.5 mL/5 mL, rectal enema 118 mL  
**SE:** Lipid pneumonia (aspiration of PO), N/V, temporary anal incontinence  
**Notes:** Take PO upright, do not use PO in peds <6 y

**Mineral Oil-Pramoxine HCl-Zinc Oxide (Tucks Ointment, [OTC])**  
**Uses:** *Temporary relief of anorectal disorders (itching, etc)*  
**Action:** Topical anesthetic  
**Dose:** Adults & Peds ≥12 y: Cleanse, rinse, & dry, apply externally or into anal canal w/ tip 5×/d × 7 d max. **Caution:** [?] Do not place into rectum  
**CI:** None  
**Disp:** Oint 30-g tube  
**SE:** Local irritation  
**Notes:** D/C w/ or if rectal bleeding occurs or if condition worsens or does not improve within 7 d

**Minocycline (Dynacin, Minocin, Solodyn)**  
**Uses:** *Mod–severe nonnodular acne (Solodyn), anthrax, rickettsiae, gonococcus, skin Infxn, URI, UTI, nongonococcal urethritis, amebic dysentery, asymptomatic meningococcal carrier, Mycobacterium marinum*  
**Action:** Tetracycline, bacteriostatic, ↓ protein synth  
**Dose:** Adults & Peds >12 y: **Usual:** 200 mg, then 100 mg q12h or 100–200 mg, then 50 mg qid. **Gonococcal urethritis, men:** 100 mg q12h × 5 d. **Syphilis:** usual dose × 10–15 d. **Meningococcal carrier:** 100 mg q12h × 5 d. **M. marinum:** 100 mg q12h × 6–8 wk. **Uncomp urethral, endocervical, or rectal infection:** 100 mg
q12h × 7 d minimum. **Adults & Peds > 12 y:** Acne: (Solodyn) 1 mg/kg PO q day × 12 wk. >8 y: 4 mg/kg initially then 2 mg/kg q12h w/ food to ↓ irritation, hydrate well, ↓ dose or extend interval w/ renal impair. **Caution:** [D, –] Associated w/ pseudomembranous colitis, w/ renal impair, may ↓ OCP, or w/ warfarin may ↑ INR **CI:** Allergy, women of childbearing potential **Disp:** Tabs 50, 75, 100 mg; tabs ER (Solodyn) 45, 90, 135 mg, caps (Minocin) 50, 100 mg, susp 50 mg/mL **SE:** D, HA, fever, rash, joint pain, fatigue, dizziness, photosensitivity, hyperpigmentation, SLE syndrome, pseudotumor cerebri **Notes:** Do not cut/crush/chew; keep away from children, tooth discoloration in <8 y or w/ use last half of PRG

**Minoxidil, oral** **WARNING:** May cause pericardial effusion, occasional tamponade, and angina pectoris may be exacerbated. Only for nonresponders to max doses of 2 other antihypertensives and a diuretic. Administer under supervision with a β-blocker and diuretic. Monitor for ↓ BP in those receiving guanethidine with malignant HTN **Uses:** *Severe HTN* **Action:** Peripheral vasodilator **Dose:** **Adults & Peds >12 y:** 5 mg PO ÷ daily, titrate q3d, 10 mg/d max. **Peds:** 0.2–1 mg/kg/24 h ÷ PO q12–24h, titrate q3d, max 50 mg/d; ↓ w/ elderly, renal insuff **Caution:** [C, +] **CI:** Pheochromocytoma, component allergy, CHF, renal impair **Disp:** Tabs 2.5, 10 mg **SE:** Pericardial effusion & vol overload w/ PO use; hypertrichosis w/ chronic use, edema, ECG changes, wgt gain **Note:** Avoid for 1 mo after MI

**Minoxidil, topical** (Theroxidil, Rogaine) [OTC] **Uses:** *Male & female pattern baldness* **Action:** Stimulates vertex hair growth **Dose:** Apply 1 mL bid to area, D/C if no growth in 4 mo. **Caution:** [?, ?] **CI:** Component allergy **Disp:** Soln & aerosol foam 5% **SE:** Changes in hair color/texture **Note:** requires chronic use to maintain hair

**Mirtazapine (Remeron, Remeron SolTab)** **WARNING:** ↑ Risk of suicidal thinking and behavior in children, adolescents, and young adults with major depression and other psychological disorders. Not for peds **Uses:** *Depression* **Action:** α₂-Antagonist antidepressant, ↑ norepinephrine & 5-HT **Dose:** 15 mg PO hs, up to 45 mg/d hs **Caution:** [C, ?] Has anticholesterol effects, w/ Sz, clonidine, CNS depressant use, CYP1A2, CYP3A4 inducers/inhibitors **CI:** MAOIs w/in 14 d **Disp:** Tabs 15, 30, 45 mg; rapid dispersion tabs (SolTab) 15, 30, 45 mg **SE:** Somnolence, ↑ cholesterol, constipation, xerostomia, wgt gain, agranulocytosis, ↓ BP, edema, musculoskeletal pain **Notes:** Do not ↑ dose < q1–2wk; handle rapid tabs with dry hands, do not cut or chew

**Misoprostol (Cytotec)** **WARNING:** Use in pregnancy can cause abortion, premature birth, or birth defects; do not use to decrease ulcer risk in women of childbearing age; must comply w/ birth control measures **Uses:** *Prevent NSAID-induced gastric ulcers; medical termination of PRG <49 d w/ mifepristone*; induce labor (cervical ripening); incomplete & therapeutic abortion **Action:** Prostaglandin (PGE-1), antisecretory & mucosal protection; induces uterine contractions **Dose:** **Ulcer prevention:** 200 mcg PO qid w/ meals; in females, start 2nd/3rd d of next nl period. **Induction of labor (term):** 25–50 mcg intravag. **PRG termination:** 400 mcg PO on day 3 of
mifepristone; take w/ food Caution: [X, –] CI: PRG, component allergy Disp: Tabs 100, 200 mcg SE: Miscarriage w/ severe bleeding; HA, D, Abd pain, constipation. Note: Not induction of labor w/ previous C-section or major uterine surgery

Mitomycin (Mutamycin) WARNING: Administer only by physician experienced in chemotherapy; myelosuppressive; can induce hemolytic uremic syndrome with irreversible renal failure Uses: *Stomach, pancreas,* breast, colon CA; squamous cell carcinoma of the anus; non–small-cell lung, head & neck, cervical; bladder CA (intravesically) Action: Alkylating agent; generates oxygen-free radicals w/ DNA strand breaks Dose: (Per protocol) 20 mg/m² q6–8wk IV or 10 mg/m² combo w/ other myelosuppressive drugs q6–8wk. Bladder CA: 20–40 mg in 40 mL NS via a urethral catheter once/wk × 8 wk, followed by monthly × 12 mo for 1 y; ↓ in renal/hepatic impair Caution: [D, –] CI: ↓ Plt, ↓ WBC, coagulation disorders, Cr >1.7 mg/dL, ↑ cardiac tox w/ vinca alkaloids/doxorubicin Disp: Inj 5, 20, 40 mg SE: ↓ BM (persists for 3–8 wk, may be cumulative; minimize w/ lifetime dose <50–60 mg/m²), N/V, anorexia, stomatitis, renal tox, microangiopathic hemolytic anemia w/ renal failure (hemolytic–uremic syndrome), venoocclusive liver Dz, interstitial pneumonia, alopecia, extrav Rxns, contact dermatitis; CHF

Mitoxantrone (Novantrone) WARNING: Administer only by physician experienced in chemotherapy; except for acute leukemia, do not use w/ ANC count of <1500 cells/mm³; severe neutropenia can result in Infxn, follow CBC; cardiotoxic (CHF), secondary AML reported Uses: *AML (w/ cytarabine), ALL, CML, PCA, MS, Lung CA* breast CA, & NHL Action: DNA-intercalating agent; ↓ DNA synth by interacting with topoisomerase II Dose: Per protocol; ↓ w/ hepatic impair Caution: [D, –] Reports of secondary AML, w/ MS ↑ CV risk, do not treat MS pt w/ low LVEF CI: PRG, sig ↓ in LVEF Disp: Inj 2 mg/mL SE: ↓ BM, N/V, stomatitis, alopecia (infrequent), cardiotox, urine discoloration, secretions & scleras may be blue-green Notes: Maintain hydration; baseline CV evaluate w/ ECG & LVEF; cardiac monitoring prior to each dose; not for intrathecal use

Modafinil (Provigil) [C-IV] Uses: *Improve wakefulness in pts w/ excess daytime sleepiness (narcolepsy, sleep apnea, shift work sleep disorder)* Action: Alters dopamine & norepinephrine release, ↓ GABA-mediated neurotransmission Dose: 200 mg PO q a.m.; ↓ dose 50% w/ elderly/hepatic impair Caution: [C, ?–] CV Dz; ↑ effects of warfarin, diazepam, phenytoin; ↓ OCP, cyclosporine, & theophylline effects CI: Component allergy Disp: Tabs 100, 200 mg SE: Serious rash including Stevens-Johnson syndrome, HA, D, paresthesias, rhinitis, agitation, psychological Sx Notes: cv assessment ok before using

Moexipril (Univasc) WARNING: ACE inhibitors can cause fatal injury/death in 2nd/3rd tri; D/C w/ PRG Uses: *HTN, post-MI,* DN Action: ACE inhibitor Dose: 7.5–30 mg in 1–2 × doses 1 h ac ↓ in renal impair Caution: [C (1st tri, D 2nd & 3rd tri), ?] CI: ACE inhibitor sensitivity Disp: Tabs 7.5, 15 mg; SE: ↓ BP, edema, angioedema, HA, dizziness, cough, ↑ K⁺
Molindone (Moban)  Uses: *Schizophrenia*  Action: Piperazine phenothiazine  

**Dose:** Adults.  
50–75 mg/d PO, ↑ to max 225 mg/d q3–4d PRN.  
Peds 3–5 y: 1–2.5 mg/d PO in 4 † doses.  
5–12 y: 0.5–1.0 mg/kg/d in 4 † doses  
**Caution:** [C, ?] 
NAG CI: Drug/ETOH CNS depression, coma  
Disp: Tabs 5, 10, 25, 50 mg scored; SE: Drowsiness, depression, ↓ BP, tachycardia, arrhythmias, EPS, neuroleptic malignant syndrome, Szs, constipation, xerostomia, blurred vision.  
**Notes:** ✓ lipid profile, fasting glucose, HgA1c; may ↑ prolactin

Montelukast (Singulair)  Uses: *Prevent/chronic Rx asthma ≥12 mo; seasonal allergic rhinitis ≥2 y; perennial allergic rhinitis ≥6 mo; prevent exercise bronchoconstriction (EIB) ≥15 y; prophylaxis & Rx of chronic asthma, seasonal allergic rhinitis*  

**Action:** Leukotriene receptor antagonist  
**Dose:** Asthma:  
Adults & Peds >15 y: 10 mg/d PO in p.m..  
6–23 mo: 4-mg pack granules q day.  
2–5 y: 4 mg/d PO q p.m..  
6–14 y: 5 mg/d PO q p.m.  
**Caution:** [B, M] CI: Component allergy  
Disp: Tabs 10 mg; chew tabs 4, 5 mg; granules 4 mg/pack  
SE: HA, dizziness, fatigue, rash, GI upset, Churg-strauss syndrome, flu, cough  
**Notes:** Not for acute asthma; do not dose w/in 24 h of previous; recent concern over ↑ suicidal behavior

Morphine (Avinza XR, Astramorph/PF, Duramorph, Infumorph, MS Contin, Kadian SR, Oramorph SR, Roxanol)  

**WARNING:** Do not crush/chew SR/CR forms  
Uses: *Rx severe pain* AMI  
**Action:** Narcotic analgesic; SR/CR forms for chronic use  
**Dose:** Adults.  
Short-term use PO: 5–30 mg q4h PRN; IV/IM: 2.5–15 mg q2–6h; supp: 10–30 mg q4h.  
SR formulations 15–60 mg q8–12h (do not chew/crush).  
IT/epidural (Duramorph, Infumorph, Astramorph/PF): Per protocol in Inf device.  
Peds >6 mo: 0.1–0.2 mg/kg/dose IM/IV q2–4h PRN to 15 mg/dose max; 0.2–0.5 mg/kg PO q4–6h PRN; 0.3–0.6 mg/kg SR tabs PO q12h; 2–4 mg IV (over 1–5 min) q5–30 min (ECC 2005)  
**Caution:** [C, +/–] Severe resp depression possible, w/ head injury  
CI: Severe asthma, resp depression, GI obst  
Disp: IR tabs 15, 30 mg; soln 10, 20, 100 mg/5 mL; supp 5, 10, 20, 30 mg; Inj 2, 4, 5, 8, 10, 15, 25, 50 mg/mL; MS Contin CR tabs 15, 30, 60, 100, 200 mg; Oramorph SR tabs 15, 30, 60, 100 mg; Kadian SR caps 10, 20, 30, 50, 60, 80, 100 mg; Avinza XR caps 30, 60, 90, 120 mg; Duramorph/Astramorph PF Inj 0.5, 1 mg/mL; Infumorph 10, 25 mg/mL, SE: Narcotic SE (resp depression, sedation, constipation, N/V, pruritus, diaphoresis, urinary retention, biliary colic), granulomas w/ IT  
**Notes:** May require scheduled dosing to relieve severe chronic pain

Morphine liposomal (DepoDur)  Uses: *Long-lasting epidural analgesia*  
**Action:** ER morphine analgesia  
**Dose:** 10–20 mg lumbar epidural Inj (C-section 10 mg after cord clamped)  
**Caution:** [C, +/–] Elderly, biliary Dz (sphincter of Oddi spasm)  
CI: Ileus, resp depression, asthma, obstructed airway, suspected/known head injury ↑ ICP, allergy to morphine  
Disp: Inj 10 mg/mL  
SE: Hypoxia, resp depression, ↓ BP, retention, N/V, constipation, flatulence, pruritus, pyrexia, anemia, HA, dizziness, tachycardia, insomnia, ileus  
**Notes:** Effect = 48 h; not for IT/IV/IM
Moxifloxacin (Avelox)  **WARNING:** Increase risk of tendon rupture and tendonitis.

**Uses:** *Acute sinusitis & bronchitis, skin/soft-tissue/intra-Abd Infxns, conjunctivitis, CAP*

**Action:** 4th-gen quinolone; ↓ DNA gyrase.

**Spectrum:** Excellent gram(+) except MRSA & *E. faecium*; good gram(−) except *P. aeruginosa, Stenotrophomonas maltophilia,* & *Acinetobacter* sp; good anaerobic

**Dose:** 400 mg/d PO/IV; avoid cation products, antacids. tid

**Caution:** [C, ?/–] Quinolone sensitivity; interactions w/ Mg−, CA−, Al−, Fe-containing products, & class IA & III antiarrhythmic agents

**CI:** Quinolone/component sensitivity

**Disp:** Tabs 400 mg, ABC Pak 5 tabs, Inj

**SE:** Dizziness, N, QT prolongation, Szs, photosensitivity, tendon rupture

**Moxifloxacin ophthalmic (Vigamox ophthalmic)**

**Uses:** *Bacterial conjunctivitis*

**Action:** See Moxifloxacin

**Dose:** 1 gtt tid × 7 d

**Caution:** [C, ?/–]

**CI:** Quinolone/component sensitivity

**Disp:** 4 mL ophthal 0.5%

**SE:** ↓ Visual acuity, ocular pain, itching, tearing, conjunctivitis

Multivitamins, oral [OTC] (Table 13, page 268)

Mupirocin (Bactroban, Bactroban Nasal)  **Uses:** *Impetigo (oint); skin lesion infect w/ *S. aureus or S. pyogenes*; eradicate MRSA in nasal carriers*

**Action:** ↓ Bacterial protein synth

**Dose:** Topical: Apply small amount 3×/d × 5–14 d

**Nasal:** Apply 1/2 single-use tube bid in nostrils × 5 d

**Caution:** [B, ?] CI: Do not use w/ other nasal products

**Disp:** Oint 2%; cream 2%; nasal oint 2% 1-g single-use tubes

**SE:** Local irritation, rash

Notes: Pt to contact health-care provider if no improvement in 3–5 d.

Muromonab-CD3 (Orthoclone OKT3)  **WARNING:** Can cause anaphylaxis; monitor fluid status; cytokine release syndrome

**Uses:** *Acute rejection following organ transplantation*

**Action:** Murine Ab, blocks T-cell Fxn

**Dose:** Per protocol

**Adults.** 5 mg/d IV for 10–14 d.

**Peds <30 kg:** 2.5 mg/d. >30 kg: 5 mg/d IV for 10–14 d

**Caution:** [C, ?/–] w/ Hx of Szs, PRG, uncontrolled HTN

**CI:** Murine sensitivity, fluid overload

**Disp:** Inj 5 mg/5 mL

**SE:** Anaphylaxis, pulm edema, fever/chills w/ 1st dose (premedicate w/ steroid/APAP/antihistamine); cytokine release syndrome (↓ BP, fever, rigors)

**Notes:** Monitor during Inf; use 0.22-micron filter

Mycophenolic Acid (Myfortic)  **WARNING:** ↑ Risk of Infxns, lymphoma, other CA’s, progressive multifocal leukoencephalopathy PML, risk of PRG loss and malformation, female of childbearing potential must use contraception

**Uses:** Prevent rejection after renal transplant

**Action:** Cytostatic to lymphocytes

**Dose:** **Adults.** 720 mg PO bid. **Peds.** BSA 1.19–1.58 m²: 540 mg bid. BSA >1.8 m²: adult dose; used w/ steroids & cyclosporine ↓ w/ renal Insuff/neutropenia; take on empty stomach

**Caution:** [D, ?/–] CI: Component allergy

**Disp:** Delayed release tabs 180, 360 mg

**SE:** N/V/D, pain, fever, HA, Infxn, HTN, anemia, leukopenia, edema

Mycophenolate Mofetil (CellCept)  **WARNING:** ↑ Risk of Infxns, lymphoma, other CAs, progressive multifocal leukoencephalopathy (PML); risk of PRG
loss and malformation; female of childbearing potential must use contraception

Uses: *Prevent organ rejection after transplant*  
Action: Cytostatic to lymphocytes  
Dose: Adults. 1 g PO bid. Peds. BSA 1.2–1.5 m²: 750 mg PO bid. BSA >1.5 m²: 1 g PO bid; may taper up to 600 mg/m² PO bid; used w/ steroids & cyclosporine; ↓ in renal Insuff or neutropenia. IV: Infuse over >2 h. PO: Take on empty stomach, do not open caps  
Caution: [D, ?/–] CI: Component allergy; IV use in polysorbate 80 allergy  
Disp: Caps 250, 500 mg; susp 200 mg/mL, Inj 500 mg  
SE: N/V/D, pain, fever, HA, Infxn, HTN, anemia, leukopenia, edema

Nabilone (Cesamet) [CII]  
WARNING: Psychotomimetic Rxns, may persist for 72 h following D/C; caregivers should be present during initial use or dosage modification; pts should not operate heavy machinery; avoid alcohol, sedatives, hypnotics, other psychoactive substances  
Uses: *Refractory chemotherapy-induced emesis*  
Action: Synthetic cannabinoid  
Dose: Adults. 1–2 mg PO bid 1–3 h before chemotherapy, 6 mg/d max; may continue for 48 h beyond final chemotherapy dose  
Caution: [C, ?/–] Elderly, HTN, heart failure, w/ psychological illness, substance abuse; high protein binding w/ 1st-pass metabolism may lead to drug interactions  
Disp: Caps 1 mg  
SE: Drowsiness, vertigo, xerostomia, euphoria, ataxia, HA, difficulty concentrating, tachycardia, ↓ BP

Notes: May require initial dose evening before chemotherapy; Rx only quantity for single cycle

Nabumetone (Relafen)  
WARNING: May ↑ risk of cv events & GI bleeding, perforation, CI w/ post-op coronary artery bypass graft  
Uses: *OA and RA,* pain  
Action: NSAID; ↓ prostaglandins  
Dose: 1000–2000 mg/d ÷ daily-bid w/ food  
Caution: [C, –] Severe hepatic Dz  
Disp: Tabs 500, 750 mg  
SE: Dizziness, rash, GI upset, edema, peptic ulcer, ↑ BP

Nadolol (Corgard)  
Uses: *HTN & angina* migraine prophylaxis  
Action: Competitively blocks β-adrenergic receptors (β₁, β₂)  
Dose: 40–80 mg/d; ↑ to 240 mg/d (angina) or 320 mg/d (HTN) at 3–7-d intervals; ↓ in renal Insuff & elderly  
Caution: [C (1st tri; D if 2nd or 3rd tri), +] CI: Uncompensated CHF, shock, heart block, asthma  
Disp: Tabs 20, 40, 80, 120, 160 mg  
SE: Nightmares, paresthesias, ↓ BP, bradycardia, fatigue

Nafcillin (Nallpen, Unipen)  
Uses: *Infxns due to susceptible strains of Staphylococcus & Streptococcus*  
Action: Bactericidal; β-lactamase-resistant PCN; ↓ cell wall synth  
Spectrum: Good gram(+) except MRSA & enterococcus, no gram(–)  
Dose: Adults. 1–2 g IV q4–6h. Peds. 50–200 mg/kg/d ÷ q4–6h  
Caution: [B, ?] PCN allergy CI: PCN allergy  
Disp: Inj powder 1, 2 g  
SE: Interstitial nephritis, N/D, fever, rash, allergic Rxn  
Notes: No adjustment for renal Fxn

Naftifine (Naftin)  
Uses: *Tinea pedis, cruris, & corporis*  
Action: Allylamine antifungal, ↓ cell membrane ergosterol synth  
Dose: Apply daily (cream) or bid (gel)  
Caution: [B, ?] CI: Component sensitivity  
Disp: 1% cream; gel  
SE: Local irritation
Nalbuphine (Nubain)  Uses: *Mod–severe pain; pre-op & obstetric analgesia*  
Action: Narcotic agonist–antagonist; ↓ ascending pain pathways  
Dose:  
Adults. Pain: 10 mg/70 kg IV/IM/SQ q3–6h; adjust PRN; 20 mg/dose or 160 mg/d max.  
Anesthesia: Induction: 0.3–3 mg/kg IV over 10–15 min; maint 0.25–0.5 mg/kg IV.  
Peds. 0.2 mg/kg IV or IM, 20 mg max; ↓ w/ renal/in hepatic impair  
Caution: [B, M] w/ Opiate use  
CI: Component sensitivity  
Disp: Inj 10, 20 mg/mL SE: CNS depression, drowsiness; caution, ↓ BP  

Naloxone  Uses: *Opioid addiction (diagnosis) & OD*  
Action: Competitive narcotic antagonist  
Dose:  
Adults. 0.4–2 mg IV, IM, or SQ q2–3 min; total dose 10 mg max.  
Peds. 0.01–0.1 mg/kg/dose IV, IM, or SQ; repeat IV q3min × 3 doses PRN  
Caution: [B, ?] May precipitate acute withdrawal in addicts  
Disp: Tabs 50 mg; Inj 2 mg/mL SE: ↓ BP, tachycardia, irritability, GI upset, pulm edema  
Notes: If no response after 10 mg, suspect nonnarcotic cause  

Naltrexone (Depade, ReVia, Vivitrol)  WARNING: Can cause hepatic injury, CI w/ active liver Dz  
Uses: *EtOH & narcotic addiction*  
Action: Antagonizes opioid receptors  
Dose: EtOH/narcotic addiction: 50 mg/d PO; must be opioid-free for 7–10 d; EtOH dependence: 380 mg IM q4wk (Vivitrol)  
Caution: [C, M] CI: Acute hep, liver failure, opioid use  
Disp: Tabs 50 mg; Inj 380 mg (Vivitrol) SE: Hepatotox; insomonia, GI upset, joint pain, HA, fatigue  

Naphazoline (Albalon, Naphcon, others), Naphazoline & Pheniramine Acetate (Naphcon A, Visine A)  
Uses: *Relieve ocular redness & itching caused by allergy*  
Action: Sympathomimetic (α-adrenergic vasoconstrictor) & antihistamine (pheniramine)  
Dose: 1–2 gtt up to qid, 3 d max  
Caution: [C, +] CI: NAG, in children, w/ contact lenses, component allergy  
SE: CV stimulation, dizziness, local irritation  
Disp: Ophthal 0.012, 0.025, 0.1%/15 mL; naphazoline & pheniramine 0.025%/0.3% soln  

Naproxen (Aleve [OTC], Naprosyn, Anaprox)  WARNING: May ↑ risk of cardiovascular events & GI bleeding  
Uses: *Arthritis & pain*  
Action: NSAID; ↓ prostaglandins  
Dose: Adults & Peds >12 y: 200–500 mg bid-tid to 1500 mg/d max. >2 y: JRA 5 mg/kg/dose bid; ↓ in hepatic impair  
Caution: [C, (D 3rd tri), +] CI: NSAID or ASA triad sensitivity, peptic ulcer, post-coronary artery bypass graft pain, 3rd tri PRG  
Disp: Tabs: 220, 250, 375, 500 mg; DR: 375 mg, 500 mg; CR: 375 mg, 550 mg; susp 125 mL/5 mL. SE: Dizziness, pruritus, GI upset, peptic ulcer, edema  
Note: Take w/ food to ↓ GI upset  

Naratriptan (Amerge)  Uses: *Acute migraine*  
Action: Serotonin 5-HT1 receptor agonist  
Dose: 1–2.5 mg PO once; repeat PRN in 4 h; 5 mg/24 h max; ↓ in mild renal/hepatic Insuff, take w/ fluids  
Caution: [C, M] CI: Severe renal/hepatic impair, avoid w/ angina, ischemic heart Dz, uncontrolled HTN, cerebrovascular syndromes, & ergot use  
Disp: Tabs 1, 2.5 mg SE: Dizziness, sedation, GI upset, paresthesias, ECG changes, coronary vasospasm, arrhythmias  

Natalizumab (Tysabri)  WARNING: PML reported  
Uses: *Relapsing MS to delay disability and ↓ recurrences, Crohn Dz*  
Action: Integrin receptor
antagonist **Dose:** *Adults.* 300 mg IV q4wk; 2nd-line Tx only **Caution:** [C, ?/–] Baseline MRI to rule out PML **Disp:** Vial 300 mg **SE:** Infxn, immunosuppression; Inf Rxn precluding subsequent use; HA, fatigue, arthralgia **Notes:** Give slowly to ↓ Rxns; limited distribution (TOUCH Prescribing program); D/C immediately w/ signs of PML (weakness, paralysis, vision loss, impaired speech, cognitive ↓); evaluate at 3 and 6 mo, then q6mo thereafter

**Nateglinide (Starlix)** **Uses:** *Type 2 DM* **Action:** ↑ Pancreatic insulin release **Dose:** *Adults.* 120 mg PO tid 1–30 min ac; ↓ to 60 mg tid if near target HbA1c **Caution:** [C, –] w/ CYP2C9 metabolized drug (Table 11) **CI:** DKA, type 1 DM **Disp:** Tabs 60, 120 mg **SE:** Infxn, immunosuppression; Inf Rxn precluding subsequent use; HA, fatigue, arthralgia **Notes:** Limited distribution (TOUCH Prescribing program); D/C immediately if PML; baseline MRI to rule out PML; immune compromise or w/ immunosuppressant **Notes:** Give slowly to ↓ Rxns; limited distribution (TOUCH Prescribing program); D/C immediately w/ signs of PML (weakness, paralysis, vision loss, impaired speech, cognitive ↓); evaluate at 3 and 6 mo, then q6mo thereafter

**Nebivolol (Bystolic)** **Uses:** *HTN* **Action:** β₁-Selective blocker **Dose:** *Adults.* 5 mg PO daily, ↑ q2wk to 40 mg/d max, ↓ w/ CrCl <30 mL/min **Caution:** [D, ?/–] w/ Bronchospastic Dz, DM, heart failure, pheochromocytoma, w/ CYP2D6 inhibitors **CI:** Bradycardia, cardiogenic shock, decompensated CHF, severe hepatic impair **Disp:** Tabs 5, 10 mg **SE:** HA, fatigue, dizziness

**Nelarabine (Arranon)** **WARNING:** Fatal neurotox possible **Uses:** *T-cell ALL or T-cell lymphoblastic lymphoma unresponsive >2 other regimens* **Action:** Nucleoside (deoxyguanosine) analog **Dose:** *Adults.* 1500 mg/m² IV over 2 h days 1, 3, 5 of 21-d cycle. **Peds.** 650 mg/m² IV over 1 h days 1–5 of 21-d cycle **Caution:** [D, ?/–] **Disp:** Vial 250 mg **SE:** Neuropathy, ataxia, Szs, coma, hematologic tox, GI upset, HA, blurred vision **Notes:** Prehydration, urinary alkalination, allopurinol before dose; monitor CBC

**Nelfinavir (Viracept)** **Uses:** *HIV Infxn, other agents* **Action:** Protease inhibitor causes immature, noninfectious virion production **Dose:** *Adults.* 750 mg PO tid or 1250 mg PO bid. **Peds.** 25–35 mg/kg PO tid or 45–55 mg/kg bid; take w/ food **Caution:** [B, –] Many drug interactions **CI:** Phenylketonuria, w/ triazolam/midazolam use or drug dependent on CYP3A4 (Table 11) **Disp:** Tabs 250, 625 mg; powder 50 mg/g; **SE:** Food ↑ absorption; interacts w/ St. John’s wort; dyslipidemia, lipodystrophy, D, rash **Notes:** Pregnancy registry; tabs can be dissolved in water

**Neomycin, Bacitracin, & Polymyxin B (Neosporin Ointment)** *(See Bacitracin, Neomycin, & Polymyxin B Topical, page 51)*
Neomycin, Colistin, & Hydrocortisone (Cortisporin-TC Otic Drops); Neomycin, Colistin, Hydrocortisone, & Thonzonium (Cortisporin-TC Otic Susp)

**Uses:** *Otitis externa,* Infxns of mastoid/ fenestration cavities  
**Action:** Antibiotic w/ anti-inflammatory  
**Dose:** *Adults.* 5 gtt in ear(s) tid-qid. *Peds.* 3–4 gtt in ear(s) tid-qid  
**CI:** component allergy; HSV, vaccinia, varicella  
**Caution:** [B, ?]  
**Disp:** Otic gtt & susp  
**SE:** Local irritation, rash  
**Notes:** Shake well, limit use to 10 d to minimize hearing loss

Neomycin & Dexamethasone (AK-Neo-Dex Ophthalmic, NeoDecadron Ophthalmic)

**Uses:** *Steroid-responsive inflammatory conditions of the cornea, conjunctiva, lid, & anterior segment*  
**Action:** Antibiotic w/ anti-inflammatory corticosteroid  
**Dose:** 1–2 gtt in eye(s) q3–4h or thin coat tid-qid until response, then ↓ to daily  
**Caution:** [C, ?]  
**Disp:** Cream neomycin 0.5%/dexamethasone 0.1%; oint neomycin 0.35%/dexamethasone 0.05%; soln neomycin 0.35%/dexamethasone 0.1%  
**SE:** Local irritation  
**Notes:** Use under ophthalmologist’s supervision

Neomycin & Polymyxin B (Neosporin Cream) [OTC]

**Uses:** *Infxn in minor cuts, scrapes, & burns*  
**Action:** Bactericidal  
**Dose:** Apply bid-qid  
**Caution:** [C, ?]  
**Disp:** Cream neomycin 3.5 mg/polymyxin B 10,000 units/g  
**SE:** Local irritation  
**Notes:** Different from Neosporin oint

Neomycin, Polymyxin B, & Dexamethasone (Maxitrol)

**Uses:** *Steroid-responsive ocular conditions w/ bacterial Infxn*  
**Action:** Antibiotic w/ anti-inflammatory corticosteroid  
**Dose:** 1–2 gtt in eye(s) q3–4h; apply oint in eye(s) tid-qid  
**CI:** Component allergy  
**Disp:** Oint neomycin sulfate 3.5 mg/polymyxin B sulfate 10,000 units/dexamethasone 0.1%/g; susp identical/5 mL  
**SE:** Local irritation  
**Notes:** Use under supervision of ophthalmologist

Neomycin-Polymyxin Bladder Irrigant [Neosporin GU Irrigant]

**Uses:** *Cont irrigant prevent bacteriuria & gram(–) bacteremia associated w/ indwelling catheter*  
**Action:** Bactericidal; not for *Serratia* sp or streptococci  
**Dose:** 1 mL irrigant in 1 L of 0.9% NaCl; cont bladder irrigation w/ 1 L of soln/24 h  
**max Caution:** [D]  
**CI:** Component allergy  
**Disp:** Soln neomycin sulfate 40 mg & polymyxin B 200,000 units/mL; amp 1, 20 mL  
**SE:** Rash, neomycin ototox or nephrotox (rare)  
**Notes:** Potential for bacterial/fungal super-Infxn; not for Inj; use only 3-way catheter for irrigation

Neomycin, Polymyxin, & Hydrocortisone ophthalmic (generic)

**Uses:** *Ocular bacterial Infxns*  
**Action:** Antibiotic w/ anti-inflammatory  
**Dose:** Apply a thin layer to the eye(s) or 1 gtt daily-qid  
**Caution:** [C, ?]  
**Disp:** Ophthal soln; ophthal oint  
**SE:** Local irritation

Neomycin, Polymyxin, & Hydrocortisone otic (Cortisporin Otic solution, generic susp)

**Uses:** *Otitis externa and infected mastoidectomy and fenestration cavities*  
**Action:** Antibiotic & anti-inflammatory
Dose: **Adults.** 3–4 gtt in the ear(s) tid-qid **Peds.** >2 y: 3 gtt in the ear(s) tid-qid  
**CI:** Viral Infxn, hypersensitivity to components **Caution:** [C, ?]  
**Disp:** Otic susp (generic); otic soln (Cortisporin)  
**SE:** Local irritation  
**Notes:** Use under supervision of ophthalmologist

**Neomycin, Polymyxin B, & Prednisolone (Poly-Pred Ophthalmic)**  
**Uses:** *Steroid-responsive ocular conditions w/ bacterial Infxn*  
**Action:** Antibiotic & anti-inflammatory **Dose:** 1–2 gtt in eye(s) q4–6h; apply oint in eye(s) tid-qid **Caution:** [C, ?]  
**Disp:** Susp neomycin/polymyxin B/prednisolone 0.5%/mL  
**SE:** Irritation  
**Notes:** Do not use parenterally (↑ tox); part of the Condon bowel preparation; also topical form

**Neomycin Sulfate (Neo-Fradin, generic)**  
**WARNING:** Systemic absorption of oral route may cause neuro-/oto-/nephrotox; resp paralysis possible with any route of administration  
**Uses:** *Hepatic coma, bowel preparation*  
**Action:** Aminoglycoside, poorly absorbed PO; ↓ GI bacterial flora **Dose:** **Adults.** 3–12 g/24 h PO in 3–4 ÷ doses. **Peds.** 50–100 mg/kg/24 h PO in 3–4 ÷ doses **Caution:** [C, ?/–] Renal failure, neuromuscular disorders, hearing impair **CI:** Intestinal obst  
**Disp:** Tabs 500 mg; PO soln 125 mg/5 mL  
**SE:** Hearing loss w/ long-term use; rash, N/V  
**Notes:** Do not use parenterally (↑ tox); part of the Condon bowel preparation

**Nepafenac (Nevanac)**  
**Uses:** *Inflammation postcataract surgery*  
**Action:** NSAID **Dose:** 1 gtt in eye(s) tid 1 d before, and continue 14 d after surgery  
**CI:** NSAID/aspirin sensitivity **Caution:** [C, ?/–] May ↑ bleeding time, delay healing, cause keratitis **Disp:** Susp 3 mL  
**SE:** Capsular opacity, visual changes, foreign-body sensation, ↑ IOP  
**Notes:** Prolonged use ↑ risk of corneal damage; shake well before use; separate from other drops by >5 min

**Nesiritide (Natrecor)**  
**Uses:** *Acutely decompensated CHF*  
**Action:** Human B-type natriuretic peptide **Dose:** 2 mcg/kg IV bolus, then 0.01 mcg/kg/min IV  
**Caution:** [C, ?/–] When vasodilators are not appropriate **CI:** SBP <90, cardiogenic shock  
**Disp:** Vials 1.5 mg  
**SE:** ↓ BP, HA, GI upset, arrhythmias, ↑ Cr  
**Notes:** Requires cont BP monitoring; some studies indicate ↑ in mortality

**Nevirapine (Viramune)**  
**WARNING:** Reports of fatal hepatotox even w/ short-term use; severe life-threatening skin Rxns (Stevens-Johnson syndrome, toxic epidermal necrolysis, & allergic Rxns); monitor closely during 1st 8 wk of Rx  
**Uses:** *HIV Infxn*  
**Action:** Nonnucleoside RT inhibitor **Dose:** **Adults.** Initial 200 mg/d PO × 14 d, then 200 mg bid. **Peds 2 mo–8 y:** 4 mg/kg/d × 14 d, then 7 mg/kg bid. >8 y: 4 mg/kg/d × 14 d, then 4 mg/kg bid max 200 mg/dose for peds (w/o regard to food) **Caution:** [B, –] OCP **Disp:** Tabs 200 mg; susp 50 mg/5 mL  
**SE:** Life-threatening rash; HA, fever, D, neutropenia, hep  
**Notes:** HIV resistance when used as monotherapy; use in combo w/ at least 2 additional antiretroviral agents. Not recommended in women if CD4 >250 or men >400 unless benefit > risk of hepatotox

**Niacin (Nicotinic acid) (Niaspan, Slo-Niacin, Niacor, Nicolar) [some OTC forms]**  
**Uses:** *Sig hyperlipidemia/hypercholesteremia, nutritional supl*  
**Action:** Vit B3; ↓ lipolysis; ↓ esterification of triglycerides; ↑ lipoprotein lipase **Dose:** Hypercholesterolemia: Start 500 mg PO qhs, ↑ 500 mg q4wk,
Niacin and Lovastatin

Maint 1–2 g/d; 2 g/d max; qhs w/ low fat snack; do not crush/chew; niacin supl 1 ER tab PO q day or 100 mg PO q day; Pellagra: Up to 500 mg/d. **Caution:** [(C), +] CI: Liver Dz, peptic ulcer, arterial hemorrhage. **Disp:** ER tabs (Niaspan) 500, 750, 1000 mg & (Slo-Niacin) 250, 500, 750 mg; tab 500 mg (Niacor); many OTC: tab 50, 100, 250, 500 mg, ER caps 125, 250, 400 mg, ER tab 250, 500, elixir 50 mg/5 mL. **SE:** Upper body/facial flushing & warmth; hepatox, GI upset, flatulence, exacerbate peptic ulcer, HA, paresthesias, liver damage, gout, altered glucose control in DM. **Notes:** ASA/NSAID 30–60 min prior to ↓ flushing; ✔ cholesterol, LFTs, if on statins (eg, Lipitor, etc) ✔ CPK and K+. **RDA adults:** male 16 mg/d, female 14 mg/d.

**Niacin & Lovastatin (Advicor)** Uses: *Hypercholesterolemia* **Action:** Combo antilipemic agent, w/ HMG-CoA reductase inhibitor. **Dose:** Adults. Niacin 500 mg/lovastatin 20 mg, titrate q4wk, max niacin 2000 mg/lovastatin 40 mg. **Caution:** [X, –] See individual agents, D/C w/ LFTs >3× ULN. **CI:** PRG. **Disp:** Niacin/lovastatin: 500/20, 750/20, 1000/20, 1000/40 tabs. **SE:** Flushing, myopathy/rhabdomyolysis, nausea, Abd pain. **Notes:** ↓ Flushing by taking ASA or NSAID 30 min before.

**Niacin & Simvastatin (Simcor)** Uses: *Hypercholesterolemia* **Action:** Combo antilipemic agent w/ HMG-CoA reductase inhibitor. **Dose:** Adults Niacin 500 mg/simvastatin 20 mg, titrate q4wk not to exceed niacin 2000 mg/simvastatin 40 mg. **Caution:** [X, –] See individual agents, discontinue therapy if LFTs >3× nl. **CI:** PRG. **Disp:** Niacin/simvastatin: 500/20, 750/20, 1000/20 tabs. **SE:** Flushing, myopathy/rhabdomyolysis, nausea, Abd pain. **Notes:** ↓ Flushing by taking ASA or NSAID 30 min before.

**Nicardipine (Cardene)** Uses: *Chronic stable angina & HTN*; prophylaxis of migraine. **Action:** CCB. **Dose:** Adults. PO: 20–40 mg PO tid. SR: 30–60 mg PO bid. IV: 5 mg/h IV cont Inf; ↑ by 2.5 mg/h q15min to max 15 mg/h. **Peds.** (Not established) PO: 20–30 mg PO q8h. IV: 0.5–5 mcg/kg/min; ↓ in renal/hepatic impair. **Caution:** [C, ?/–] Heart block, CAD. **CI:** Cardiogenic shock, aortic stenosis. **Disp:** Caps 20, 30 mg; SR caps 30, 45, 60 mg; Inj 2.5 mg/mL. **SE:** Flushing, tachycardia, ↓ BP, edema, HA. **Notes:** PO-to-IV conversion: 20 mg tid = 0.5 mg/h, 30 mg tid = 1.2 mg/h, 40 mg tid = 2.2 mg/h; take w/ food (not high fat).

**Nicotine Gum (Nicorette, others) [OTC]** Uses: *Aid to smoking cessation, relieve nicotine withdrawal* **Action:** Systemic delivery of nicotine. **Dose:** Wk 1–6 one piece q1–2h PRN; wk 7–9 one piece q2–4h PRN; wk 10–12 one piece q4–8h PRN; max 24 pieces/d. **Caution:** [C, ?] CI: Life-threatening arrhythmias, unstable angina. **Disp:** 2 mg, 4 mg, piece; mint, orange, original flavors. **SE:** Tachycardia, HA, GI upset, hiccups. **Notes:** Must stop smoking & perform behavior modification for max effect; use at least 9 pieces first 6 wk; >25 cigarettes/d use 4 mg; <25 cigarettes/d use 2 mg.

**Nicotine Nasal Spray (Nicotrol NS)** Uses: *Aid to smoking cessation, relieve nicotine withdrawal* **Action:** Systemic delivery of nicotine. **Dose:** 0.5 mg/actuation; 1–2 doses/h, 5 doses/h max; 40 doses/d max. **Caution:** [D, M] CI:
Life-threatening arrhythmias, unstable angina **Disp:** Nasal inhaler 10 mg/mL **SE:** Local irritation, tachycardia, HA, taste perversion **Notes:** Must stop smoking & perform behavior modification for max effect; 1 dose = 1 spray each nostril = 1 mg

**Nicotine Transdermal (Habitrol, Nicoderm CQ [OTC], others)**

**Uses:** *Aid to smoking cessation; relief of nicotine withdrawal*

**Action:** Systemic delivery of nicotine

**Dose:** Individualized; 1 patch (14–21 mg/d) & taper over 6 wk

**Caution:** [D, M] **CI:** Life-threatening arrhythmias, unstable angina **Disp:** Habitrol & Nicoderm CQ 7, 14, 21 mg of nicotine/24 h

**SE:** Insomnia, pruritus, erythema, local site Rxn, tachycardia, vivid dreams **Notes:** Wear patch 16–24 h; must stop smoking & perform behavior modification for max effect; >10 cigarettes/d start w/ 2-mg patch; <10 cigarettes/d 1-mg patch

**Nifedipine (Procardia, Procardia XL, Adalat CC)**

**Uses:** *Vaso-spastic or chronic stable angina & HTN*; tocolytic

**Action:** CCB

**Dose:** Adults. SR tabs 30–90 mg/d. **Tocolysis:** per local protocol. **Peds.** 0.25–0.9 mg/kg/24 h ÷ tid-qid

**Caution:** [C, +] Heart block, aortic stenosis

**Dil:** Caps 10, 20 mg; SR tabs 30, 60, 90 mg **SE:** HA common on initial Rx; reflex tachycardia may occur w/ regular-release dosage forms; peripheral edema, ↓ BP, flushing, dizziness **Notes:** Adalat CC & Procardia XL not interchangeable; SL administration not OK

**Nilotinib (Tasigna)**

**WARNING:** May ↑ QT interval; sudden deaths reported, use w/ caution in hepatic failure; administer on empty stomach **Uses:** *Ph+ CML* 

**Action:** TKI

**Dose:** Adults. 400 mg bid, on empty stomach 1 h prior or 2 h post meal. **Caution:** [D, ?/–] Avoid w/ CYP3A4 inhibitors/inducers (Table 11), adjust w/ hepatic impair, heme tox, QT ↑, avoid QT-prolonging agents **CI:** Bilirubin >3× ULN, AST/ALT >5× ULN, resume at 400 mg/d once levels return to normal

**Disp:** 200 mg caps **SE:** ↓ WBC, ↓ plt, anemia, N/V/D, rash, edema **Notes:** Use chemotherapy precautions when handling

**Nilutamide (Nilandron)**

**WARNING:** Interstitial pneumonitis possible; most cases in 1st 3 mo; check CXR before and during Rx **Uses:** *Combo w/ surgical castration for metastatic PCa*

**Action:** Nonsteroidal antiandrogen

**Dose:** 300 mg/d PO in ÷ doses × 30 d, then 150 mg/d **Caution:** [Not used in females] **CI:** Severe hepatic impair, resp Insuff **Disp:** Tabs 150 mg **SE:** Interstitial pneumonitis, hot flashes, ↓ libido, impotence, N/V/D, gynecomastia, hepatic dysfunction **Notes:** May cause Rxn when taken w/ EtOH, follow LFTs

**Nimodipine (Nimotop)**

**WARNING:** Do not give IV or by other parenteral routes can cause death **Uses:** *Prevent vasospasm following subarachnoid hemorrhage* 

**Action:** CCB

**Dose:** 60 mg PO q4h for 21 d; ↓ in hepatic failure **Caution:** [C, ?] **CI:** Component allergy **Disp:** Caps 30 mg **SE:** ↓ BP, HA, constipation **Notes:** Give via NG tube if caps cannot be swallowed whole

**Nisoldipine (Sular)**

**Uses:** *HTN* 

**Action:** CCB 

**Dose:** 8.5–34 mg/d PO; take on empty stomach; ↓ start doses w/ elderly or hepatic impair **Caution:** [C, –] **Disp:** ER tabs 8.5, 17, 25.5, 34 mg **SE:** Edema, HA, flushing, ↓ BP
**Nitazoxanide (Alinia)**  
**Uses:** *Cryptosporidium or Giardia lamblia*-induced D*  
**Action:** Antiprotozoal interferes w/ pyruvate ferredoxin oxidoreductase.  
**Spectrum:** Cryptosporidium, Giardia  
**Dose:**  
**Adults.** 500 mg PO q12h × 3 d.  
**Peds 1–3 y:** 100 mg PO q12h × 3 d.  
**4–11 y:** 200 mg PO q12h × 3 d.  
**>12 y:** 500 mg q12h × 3 d; take w/ food  
**Caution:** [B, ?] Not effective in HIV or immunocompromised  
**Disp:** 100 mg/5 mL PO susp, 500 tab  
**SE:** Abd pain  
**Notes:** Susp contains sucrose, interacts w/ highly protein-bound drugs

**Nitrofurantoin (Furadantin, Macrodantin, Macrobid)**  
**WARNING:** Pulm fibrosis possible  
**Uses:** *Prophylaxis & Rx UTI*  
**Action:** Bacteriocidal; interferes w/ carbohydrate metabolism.  
**Spectrum:** Some gram(+) & (–) bacteria; Pseudomonas, Serratia, & most Proteus resistant  
**Dose:**  
**Adults.**  
**Prophylaxis:** 50–100 mg/d PO.  
**Rx:** 50–100 mg PO qid × 7 d; *Macrobid* 100 mg PO bid × 7 d.  
**Peds.**  
**Prophylaxis:** 1–2 mg/kg/d ÷ 1–2 doses, max 100 mg/d.  
**Rx:** 5–7 mg/kg/24 h in 4 ÷ doses (w/ food/milk/antacid)  
**Caution:** [B, +/not OK if child <1 mo]  
**Avoid w/ CrCl <60 mL/min**  
**CI:** Renal failure, infants <1 mo, pregnancy at term  
**Disp:** Caps 25, 50, 100 mg; susp 25 mg/5 mL  
**SE:** GI effects, dyspnea, various acute/chronic pulm Rxns, peripheral neuropathy, hemolytic anemia w/ G6PD deficiency, rare aplastic anemia  
**Notes:** Macrocrystals (Macrodantin) < N than other forms; not for comp UTI; may turn urine brown

**Nitroglycerin (Nitrostat, Nitrolingual, Nitro-Bid Ointment, Nitro-Bid IV, Nitrodisc, Transderm-Nitro, NitroMist, others)**  
**Uses:** *Angina pectoris, acute & prophylactic therapy, CHF, BP control*  
**Action:** Relaxes vascular smooth muscle, dilates coronary arteries  
**Dose:**  
**Adults.**  
**SL:** 1 tab q5min SL PRN for 3 doses.  
**Translingual:** 1–2 metered-doses sprayed onto PO mucosa q3–5min, max 3 doses.  
**PO:** 2.5–9 mg tid.  
**IV:** 5–20 mcg/min, titrated to effect.  
**Topical:** Apply 1/2 inch of oint to chest wall tid, wipe off at night.  
**Transdermal:** 0.2–0.4 mg/h/patch daily; aerosol 1 spray at 5-min intervals, max 3 doses (*ECC 2005*).  
**Peds.** 0.25–0.5 mcg/kg/min IV, titrate  
**Caution:** [B, ?] Restrictive cardiomyopathy  
**CI:** W/ Sildenafil, tadalafil, vardenafil, head trauma, NAG, pericardial tamponade, constrictive pericarditis.  
**Disp:**  
**SL tabs 0.3, 0.4, 0.6 mg; translingual spray 0.4 mg/dose; SR caps 2.5, 6.5, 9 mg; Inj 0.1, 0.2, 0.4 mg/mL (premixed); 5 mg/mL Inj soln; oint 2%; transdermal patches 0.1, 0.2, 0.4, 0.6 mg/h; aerosol (*NitroMist*) 0.4 mg/spray  
**SE:** HA, ↓ BP, light-headedness, GI upset  
**Notes:** Nitrate tolerance w/ chronic use after 1–2 wk; minimize by providing 10–12 h nitrate-free period daily, using shorter-acting nitrates tid, & removing LA patches & oint before sleep to ↓ tolerance

**Nitroprusside (Nipride, Nitropress)**  
**Uses:** *Hypertensive crisis, CHF, controlled ↓ BP perioperation (↓ bleeding),* aortic dissection, pulm edema  
**Action:** ↓ Systemic vascular resistance  
**Dose:**  
**Adults & Peds.** 0.5–10 mcg/kg/min IV Inf, titrate; usual dose 3 mcg/kg/min  
**Caution:** [C, ?] ↓ Cerebral perfusion  
**CI:** High output failure, compensatory HTN  
**Disp:** Inj 25 mg/mL  
**SE:** Excessive hypotensive effects, palpitations, HA  
**Notes:** Thiocyanate (metabolite w/ renal
excretion) w/ tox at 5–10 mg/dL, more likely if used for >2–3 d; w/ aortic dissection use w/ β-blocker

**Nizatidine (Axid, Axid AR [OTC])**  
*Uses:* Duodenal ulcers, GERD, heartburn*  
*Action:* H₂-receptor antagonist  
*Dose:*  
**Adults.** Active ulcer: 150 mg PO bid or 300 mg PO hs; maint 150 mg PO hs.  
**GERD:** 150 mg PO bid.  
**Heartburn:** 75 mg PO bid.  
**Peds.**  
**GERD:** 10 mg/kg PO bid in ‒ doses, 150 mg PO bid max; ↓ in renal impair  
*Caution:* [B, ?]  
*CI:* H₂-receptor antagonist sensitivity  
*Disp:* Tab 75 mg [OTC]; caps 150, 300 mg; soln 15 mg/mL  
*SE:* Dizziness, HA, constipation, D

**Norepinephrine (Levophed)**  
*Uses:* Acute ↓ BP, cardiac arrest (adjunct)*  
*Action:* Peripheral vasoconstrictor of arterial/venous beds  
*Dose:*  
**Adults.** 8–30 mcg/min IV, titrate.  
**Peds.** 0.05–0.1 mcg/kg/min IV, titrate  
*Caution:* [C, ?]  
*CI:* ↓ BP due to hypovolemia, vascular thrombosis, do not use w/ cyclopropane/halothane anesthetics  
*Disp:* Inj 1 mg/mL  
*SE:* Bradycardia, arrhythmia  
*Notes:* Correct vol depletion as much as possible before vasopressors; interaction w/ TCAs leads to severe HTN; use large vein to avoid extrav; phentolamine 5–10 mg/10 mL NS injected locally for extrav

**Norethindrone acetate/ethinyl estradiol tablets (Femhrt)**  
*(See estradiol/norethindrone acetate)*

**Norfloxacin (Noroxin, Chibroxin ophthal)**  
**WARNING:** Use associated with tendon rupture and tendonitis (pending)  
*Uses:* Comp & uncomp UTI due to gram(–) bacteria, prostatitis, gonorrhea,* infectious D, conjunctivitis  
*Action:* Quinolone, ↓ DNA gyrase, bactericidal  
*Spectrum:* Broad gram(+) and (–) E. faecalis, E. coli, K. pneumoniae, P. mirabilis, P. aeruginosa, S. epidermidis, S. saprophyticus  
*Dose:*  
**Uncomp UTI (E. coli, K. pneumoniae, P. mirabilis):** 400 mg PO bid × 3 d; other uncomp UTI Rx × 7–10 d.  
**Comp UTI:** 400 mg q12h for 10–21 d PO bid.  
**Gonorrhea:** 800 mg × 1 dose.  
**Prostatitis:** 400 mg PO bid × 28 d.  
**Gastroenteritis, traveler’s D:** 400 mg PO × 1–3 d; take 1 h ac or 2 h pc.  
**Adults & Peds**  
>1 y: Ophthal: 1 gtt each eye qid for 7 d; CrCl <30 mL/min use 400 mg q day  
*Caution:* [C, –] Quinolone sensitivity, w/ some antiarrhythmics  
*CI:* Hx allergy or tendon problems  
*Disp:* Tabs 400 mg; ophthal 3 mg/mL  
*SE:* Photosensitivity, HA, dizziness, asthenia, GI upset, pseudomembranous colitis; ocular burning w/ ophthal  
*Notes:* Interactions w/ antacids, theophylline, caffeine; good conc in the kidney & urine, poor blood levels; not for urosepsis; CDC suggests do not use for GC

**Nortriptyline (Pamelor)**  
**WARNING:** ↑ Suicide risk in pts <24 y w/ major depressive/other psychological disorders especially during 1st month of Tx; risk ↓ pts >65 y; observe all pts for clinical Sxs; not for ped use  
*Uses:* *Endogenous depression*  
*Action:* TCA; ↑ synaptic CNS levels of serotonin &/or norepinephrine  
*Dose:*  
**Adults.** 25 mg PO tid-qid; >150 mg/d not OK.  
**Elderly:** 10–25 mg hs.  
**Peds 6–7 y:** 10 mg/d.  
**8–11 y:** 10–20 mg/d.  
**>11 y:** 25–35 mg/d, ↓ w/ hepatic Insuff  
*Caution:* [D, –] NAG, CV Dz  
*CI:* TCA allergy, use w/ MAOI  
*Disp:* Caps 10, 25, 50, 75 mg; soln 10 mg/5 mL  
*SE:* Anticholinergic (blurred vision, retention, xerostomia, sedation)  
*Notes:* Max effect may take >2–3 wk
Nystatin (Mycostatin)  Uses: *Mucocutaneous Candida Infxns (oral, skin, vaginal)*  
**Action:** Alters membrane permeability.  
**Spectrum:** Susceptible Candida sp  
**Dose:** Adults & Peds. PO: 400,000–600,000 units PO “swish & swallow” qid. Vaginal: 1 tab vaginally hs × 2 wk.  
**Topical:** Apply bid-tid to area.  
**Peds Infants:** 200,000 units PO q6h.  
**Caution:** [B (C PO), +]  
**Disp:** PO susp 100,000 units/mL; PO tabs 500,000 units; troches 200,000 units; Vag tabs 100,000 units; topical cream/oint 100,000 units/g; powder 100,000 units/g  
**SE:** GI upset, Stevens-Johnson syndrome  
**Notes:** Not absorbed PO; not for systemic Infxns

Octreotide (Sandostatin, Sandostatin LAR)  Uses: *↓ Severe D associated w/ carcinoid & neuroendocrine GI tumors (eg, vasoactive intestinal peptide-secreting tumor (VIPoma), ZE syndrome), acromegaly*; bleeding esophageal varices  
**Action:** LA peptide; mimics natural somatostatin  
**Dose:** Adults. 100–600 mcg/d SQ/IV in 2–4 ÷ doses; start 50 mcg daily-bid.  
**Sandostatin LAR (depot):** 10–30 mg IM q4wk.  
**Peds.** 1–10 mcg/kg/24 h SQ in 2–4 ÷ doses  
**Caution:** [B, +] Hepatic/renal impair  
**Disp:** Inj 0.05, 0.1, 0.2, 0.5, 1 mg/mL; 10, 20, 30 mg/5 mL LAR depot  
**SE:** N/V , Abd discomfort, flushing, edema, fatigue, cholelithiasis, hyper-/hypoglycemia, hep, hypothyroidism  
**Notes:** Stabilize for at least 2 wk before changing to LAR form

Ofloxacin (Floxin)  
**WARNING:** Use associated with tendon rupture and tendinitis (pending)  
**Uses:** *Lower resp tract, skin & skin structure, & UTI, prostatitis, uncomp gonorrhea, & Chlamydia Infxns*  
**Action:** Bactericidal; ↓ DNA gyrase.  
**Broad spectrum** gram(+) & (–): S. pneumoniae, S. aureus, S. pyogenes, H. influenzae, P. mirabilis, N. gonorrhoeae, C. trachomatis, E. coli  
**Dose:** Adults. 200–400 mg PO bid or IV q12h.  
**Adults & Peds >1 y:** Ophthal: 1–2 gtt in eye(s) q2–4h for 2 d, then qid × 5 more d.  
**Adults & Peds >12 y:** Otic: 10 gtt in ear(s) bid for 10 d.  
**Peds 1–12 y:** Otic: 5 gtt in ear(s) for 10 d; ↓ in renal impair, take on empty stomach  
**Caution:** [C, –] ↓ Absorption w/ antacids, sucralfate, Al–, Ca–, Mg–, Fe–, Zn-containing drugs  
**CI:** Quinolone allergy  
**Disp:** Tabs 200, 300, 400 mg; Inj 20, 40 mg/mL; ophthal & otic 0.3%  
**SE:** N/V/D, photosensitivity, insomnia, HA, local irritation  
**Notes:** Ophthal form OK in ears

Ofloxacin, ophthalmic (Ocuflox Ophthalmic)  
**Uses:** *Bacterial conjunctivitis, corneal ulcer*  
**Action:** See Ofloxacin  
**Dose:** Adults & Peds >1 y: 1–2 gtt in eye(s) q2–4h × 2 d, then qid × 5 more d  
**Caution:** [C, +/–]  
**CI:** Quinolone allergy  
**Disp:** Ophthal 0.3% soln  
**SE:** Burning, hyperemia, bitter taste, chemosis, photophobia  
**Notes:** Ophthalmic OK w/ tubes

Ofloxacin, otic (generic)  
**Uses:** *Otitis externa; chronic suppurative otitis media w/ perf drums; otitis media in peds w/ tubes*  
**Action:** See Ofloxacin  
**Dose:** Adults & Peds >13 y: Otitis externa: 10 gtt in ear(s) × 7–14 d.  
**Peds 1–12 y:** Otitis media 5 gtt in ear(s) bid × 10 d  
**Caution:** [C, –]  
**CI:** Quinolone allergy  
**Disp:** Otic 0.3% soln  
**SE:** Local irritation  
**Notes:** OK with tubes/perforated drums; 10 gtt = 0.5 mL
**Olanzapine (Zyprexa, Zyprexa Zydis)**

**WARNING:** ↑ Mortality in elderly w/ dementia-related psychosis

**Uses:** *Bipolar mania, schizophrenia,*

**psychotic disorders, acute agitation in schizophrenia**

**Action:** Dopamine & serotonin antagonist.

**Dose:** *Bipolar/schizophrenia:* 5–10 mg/d, weekly PRN, 20 mg/d max.

**Agitation:** 5–10 mg IM q2–4h PRN, 30 mg d/max

**Caution:** [C, –]

**Disp:** Tabs 2.5, 5, 7.5, 10, 15, 20 mg; PO disintegrating tabs (Zyprexa Zydis) 5, 10, 15, 20 mg; Inj 10 mg SE: HA, somnolence, orthostatic ↓ BP, tachycardia, dystonia, xerostomia, constipation, hyperglycemia

**Notes:** Takes wk to titrate dose; smoking ↓ levels; may be confused w/ Zyrtec

**Olopatadine, nasal (Patanase)**

**Uses:** *Seasonal allergic rhinitis*

**Action:** H₁-receptor antagonist

**Dose:** 2 sprays each nostril bid

**Caution:** [C, ?]

**Disp:** 0.6% 240-Spray bottle

**SE:** Epistaxis, bitter taste somnolence, HA, rhinitis

**Olopatadine ophthalmic (Patanol, Pataday)**

**Uses:** *Allergic conjunctivitis*

**Action:** H₁-receptor antagonist

**Dose:** *Patanol:* 1–2 gtt in eye(s) bid; *Pataday:* 1 gtt in eye(s) q day

**Caution:** [C, ?]

**Disp:** Patanol: Soln 0.1% 5 mL

**Pataday:** 0.2% 2.5 mL

**SE:** Local irritation, HA, rhinitis

**Notes:** Wait 10 min after to insert contacts

**Olsalazine (Dipentum)**

**Uses:** *Maintain remission in UC*

**Action:** Topical anti-inflammatory

**Dose:** 500 mg PO bid (w/ food)

**Caution:** [C, –] CI: Salicylate sensitivity

**Disp:** Caps 250 mg

**SE:** D, HA, blood dyscrasias, hep

**Omalizumab (Xolair)**

**WARNING:** Reports of anaphylaxis 2–24 h after administration, even in previously treated pts

**Uses:** *Mod–severe asthma in ≥12 y w/ reactivity to an allergen & when Sxs inadequately controlled w/ inhaled steroids*

**Action:** Anti-IgE Ab

**Dose:** 150–375 mg SQ q2–4wk (dose/frequency based on serum IgE level & body wgt; see package insert)

**Caution:** [B, ?/–] CI: Component allergy, acute bronchospasm

**Disp:** 150-mg single-use 5-mL vial

**SE:** Site Rxn, sinusitis, HA, anaphylaxis reported in 3 pts

**Notes:** Continue other asthma meds as indicated

**Omega-3 fatty acid [fish oil] (Lovaza)**

**Uses:** *Rx hypertriglyceridemia*

**Action:** Omega-3 acid ethyl esters, ↓ thrombus inflammation & triglycerides

**Dose:** *Hypertriglyceridemia:* 4 g/d ÷ in 1–2 doses

**Caution:** Fish hypersensitivity; PRG risk factor [C, –], w/ anticoagulant use, w/ bleeding risk

**CI:** Hypersensitivity to components

**Disp:** 1000-mg gel caps

**SE:** Dyspepsia, N, GI pain, rash, flu-like syndrome

**Notes:** Only FDA-approved fish oil supl; not for exogenous hypertriglyceridemia (type 1 hyperchylomicronemia); many OTC products (page 242). D/C after 2 mo if triglyceride levels do not ↓; previously called “Omacor”

**Omeprazole (Prilosec, Prilosec OTC, Zegerid)**

**Uses:** *Duodenal/gastric ulcers, prevent NSAID ulcers, esophagitis, ZE syndrome, GERD.*

**H. pylori Infxns**

**Action:** Proton pump inhibitor; *Zegerid* w/ sodium bicarb

**Dose:** *Adults.* 20–40 mg PO daily-bid × 4–8 wk; *H. pylori* 20 mg PO bid × 10 d w/ amoxicillin & clarithromycin; 80 mg/d max.

**Peds 2–16 y <20 kg:** 10 mg PO q day. >20 kg: 20 mg PO q day; 40 mg/d max

**Caution:** [C, –/+]

**Disp:** OTC DR tabs 20 mg; DR caps 20, 40 mg.
Zegerid (omeprazole mg/sodium bicarb mg) caps 20/1100, 40/1100; powder packet for oral susp 20/1680, 40/1680 SE: HA, D Notes: Combo w/ antibiotic Rx for H. pylori, take Zegerid 1 h ac; Zegerid powder mix in small cup w/ 2 tbsp H₂O (not food or other liq) refill and drink; do not open Zegerid caps

Ondansetron (Zofran, Zofran ODT) Uses: *Prevent chemotherapy-associated & post-op N/V* Action: Serotonin receptor (5-HT₃) antagonist Dose: Adults & Peds. Chemotherapy: 0.15 mg/kg/dose IV prior to chemotherapy, then 4 & 8 h after 1st dose or 4–8 mg PO tid; 1st dose 30 min prior to chemotherapy & give on schedule, not PRN. Adults. Postoperation: 4 mg IV immediately preanesthesia or postoperation. Peds. Postoperation: <40 kg: 0.1 mg/kg. >40 kg: 4 mg IV; ↓ w/ hepatic impair Caution: [B, +/-] Disp: Tabs 4, 8, 24 mg, soln 4 mg/5 mL, Inj 2 mg/mL, 32 mg/50 mL; Zofran ODT tabs 4, 8 mg SE: D, HA, constipation, dizziness

Oprelvekin (Neumega) WARNING: Allergic Rxn w/ anaphylaxis reported; D/C w/ any allergic Rxn Uses: *Prevent ↓ plt w/ chemotherapy* Action: ↑ Proliferation & maturation of megakaryocytes (IL-11) Dose: Adults. 50 mcg/kg/d SQ for 10–21 d. Peds >12 y: 75–100 mcg/kg/d SQ for 10–21 d. <12 y: Use only in clinical trials; ↓ w/ CrCt <30 mL/min 25 mcg/kg. Caution: [B, ?/–] Disp: 5 mg powder for Inj SE: Tachycardia, palpitations, arrhythmias, edema, HA, dizziness, visual disturbances, papilledema, insomnia, fatigue, fever, N, anemia, dyspnea, allergic Rxns including anaphylaxis

Oral Contraceptives, Biphasic, Monophasic, Triphasic, Progestin Only (Table 6) WARNING: Cigarette smoking ↑ risk of serious CV side effects; ↑ risk w/ >15 cigarettes/d, >35 y; strongly advise women on OCP to not smoke. Patients should be counseled that these products do not protect against HIV and other STD Uses: *Birth control; regulation of anovulatory bleeding; dysmenorrhea; endometriosis; polycystic ovaries; acne* (Note: FDA approvals vary widely, see insert) Action: Birth control: Suppresses LH surge, prevents ovulation; progestins thicken cervical mucus; ↓ fallopian tubule cilia, ↓ endometrial thickness to ↓ chances of fertilization. Anovulatory bleeding: Cyclic hormones mimic body’s natural cycle & regulate endometrial lining, results in regular bleeding q28d; may ↓ uterine bleeding & dysmenorrhea Dose: Start day 1 menstrual cycle or 1st Sunday after onset of menses; 28-d cycle pills take daily; 21-d cycle pills take daily, no pills during last 7 d of cycle (during menses); some available as transdermal patch Caution: [X, +] Migraine, HTN, DM, sickle cell Dz, gallbladder Dz; monitor for breast Dz, ✓ K⁺ if taking drugs with ↑ K⁺ risk CI: AUB, PRG, estrogen-dependent malignancy, ↑ hypercoagulation/liver Dz, hemiplegic migraine, smokers >35 y Disp: 28-d cycle pills (21 active pills + 7 placebo or Fe supl); 21-d cycle pills (21 active pills) SE: Intramenstrual bleeding, oligomenorrhea, amenorrhea, ↑ appetite/wgt gain, ↓ libido, fatigue, depression, mood swings, mastalgia, HA, melasma, ↑ Vag discharge, acne/greasy skin, corneal edema, N Notes: Taken correctly, 99.9% effective for contraception;
no STDs prevention, use additional barrier contraceptive; long-term, can ↓ risk of ectopic PRG, benign breast Dz, ovarian & uterine CA.

- **Rx menstrual cycle control:** Start w/ monophasic × 3 mo before switching to another brand; w/ continued bleeding change to pill w/ ↑ estrogen
- **Rx birth control:** Choose pill w/ lowest SE profile for particular pt; SEs numerous; due to estrogenic excess or progesterone deficiency; each pill’s SE profile can be unique (see insert); newer extended-cycle combos have shorter/fewer hormone-free intervals, ? ↓ PRG risk; OCP troubleshooting SE w/ suggested OCP.
- **Absent menstrual flow:** ↑ Estrogen, ↓ progestin: Brevicon, Necon 1/35, Norinyl 1/35, Modicon, Necon 1/50, Norinyl 1/50, Ortho-Cyclen, Ortho-Novum 1/50, Ortho-Novum 1/35, Ovcon 35
- **Acne:** Use ↑ estrogen, ↓ androgenic: Brevicon, Ortho-Cyclen, Demulen 1/50, Ortho Tri-Cyclen, Mircette, Modicon, Necon, Ortho Evra, Yasmin, Yaz
- **Break-through bleed:** ↑ Estrogen, ↑ progestin, ↓ androgenic: Demulen 1/50, Desogen, Estrostep, Loestrin 1/20, Ortho-Bept, Ovcon 50, Yasmin, Zovia 1/50E
- **Breast tenderness or ↑ wgt:** ↓ Estrogen, ↓ progestin: Use ↓ estrogen pill rather than current; Alesse, Levlite, Loestrin 1/20 Fe, Ortho Evra, Yasmin, Yaz
- **Depression:** ↓ Progestin: Alesse, Brevicon, Levlite, Modicon, Necon, Ortho Evra, Ovcon 35, Ortho-Cyclen, Ortho Tri-Cyclen Tri-Levlen, Triphasil, Trivora
- **Endometriosis:** ↓ Estrogen, ↑ progestin: Demulen 1/35, Loestrin 1.5/30, Loestrin 1/20 Fe, Lo Ovral, Levlen, Levora, Nordette, Zovia 1/35; cont w/o placebo pills or w/ 4 d of placebo pills
- **HA:** ↓ Estrogen, ↓ progestin: Alesse, Levlite, Ortho Evra
- **Moodiness &/or irritability:** ↓ Progestin: Alesse, Brevicon, Levlite, Modicon, Necon 1/35, Ortho Evra, Ortho-Cyclen, Ortho Tri-Cyclen, Ovcon 35, Tri-Levlen, Triphasil, Trivora
- **Severe menstrual cramping:** ↑ Progestin: Demulen 1/50, Desogen, Loestrin 1.5/30, Mircette, Ortho-Bept, Yasmin, Yaz, Zovia 1/50E, Zovia 1/35E

**Orlistat (Xenical, Alli [OTC]).** *Uses:* *Manage obesity w/ body mass index ≥30 kg/m² or ≥27 kg/m² w/ other risk factors; type 2 DM, dyslipidemia*  
*Action:* Reversible inhibitor of gastric & pancreatic lipases. *Dose:* 120 mg PO tid w/ a fat-containing meal; Alli (OTC) 60 mg PO tid w/ fat-containing meals  
*Caution:* [B, ?] May ↓ cyclosporine & warfarin dose requirements  
*CI:* Cholestasis, malabsorption, organ transplant  
*Disp:* Capsules 120 mg; Alli OTC 60 mg caps  
*SE:* Abd pain/discomfort, fatty stools, fecal urgency  
*Notes:* Do not use if meal contains no fat; GI effects ↑ w/ higher-fat meals; supl w/ fat-soluble vits

**Orphenadrine (Norflex)** *Uses:* *Discomfort associated w/ painful musculoskeletal conditions*  
*Action:* Central atropine-like effect; indirect skeletal muscle relaxation, euphoria, analgesia  
*Dose:* 100 mg PO bid, 60 mg IM/IV q12h  
*Caution:* [C, +/-]  
*CI:* NAG, GI or bladder obst, cardiospasm, MyG  
*Disp:* SR tabs 100 mg; Inj 30 mg/mL  
*SE:* Drowsiness, dizziness, blurred vision, flushing, tachycardia, constipation
Oseltamivir (Tamiflu)  Uses: *Prevention & Rx influenza A & B*  
**Action:** ↓ Viral neuraminidase  
**Dose:**  
- **Adults.** Tx: 75 mg PO bid for 5 d; **Prophylaxis:** 75 mg PO daily × 10 D. 
- **Peds.** Tx: PO bid; dosing: <15 kg: 30 mg, 15–23 kg: 45 mg, 23–40 kg: 60 mg, >40 kg: adult dose. **Prophylaxis:** same dosing but q day; ↓ w/ renal impair  
**Caution:** [C, ?/–] CI: Component allergy  
**Disp:** Caps 75 mg, powder 12 mg/mL  
**SE:** N/V, insomnia, reports of neuropsychological events in children (self-injury, confusion, delirium)  
**Notes:** Initiate w/in 48 h of Sx onset or exposure

Oxacillin (Prostaphlin)  Uses: *Infxns due to susceptible S. aureus & Streptococcus*  
**Action:** Bactericidal; ↓ cell wall synth. **Spectrum:** Excellent gram(+), poor gram(–)  
**Dose:**  
- **Adults.** 250–500 mg (2 g severe) IM/IV q4–6h.  
- **Peds.** 150–200 mg/kg/d IV ÷ q4–6h  
**Caution:** [B, M] CI: PCN sensitivity  
**Disp:** Powder for Inj 500 mg, 1, 2, 10 g

Oxaliplatin (El oxatin)  **WARNING:** Administer w/ supervision of physician experienced in chemotherapy. Appropriate management is possible only w/ adequate diagnostic & Rx facilities. Anaphylactic-like Rxns reported  
**Uses:** *Adjuvant Rx stage-III colon CA (primary resected) & metastatic colon CA w/ 5-FU*  
**Action:** Metabolized to platinum derivatives, crosslinks DNA  
**Dose:** Per protocol; see insert. **Premedicate:** Antiemetic w/ or w/o dexamethasone  
**Caution:** [D, –] See Warning CI: Allergy to components or platinum  
**Disp:** Inj 50, 100 mg

Oxaprozin (Daypro, Daypro ALTA)  **WARNING:** May ↑ risk of cardiovascular events & GI bleeding  
**Uses:** *Arthritis & pain*  
**Action:** NSAID; ↓ prostaglandin synth  
**Dose:**  
- **Adults.** 600–1200 mg/daily (÷ dose helps GI tolerance); ↓ w/ renal/hepatic impair  
- **Peds.** JRA (Daypro): 22–31 kg: 600 mg/d, 32–54 kg: 900 mg/d  
**Caution:** [C (D in 3rd tri), ?] Peptic ulcer, bleeding disorders CI: ASA/NSAID sensitivity perioperative pain w/ coronary artery bypass graft  
**Disp:** Daypro ALTA tab 600 mg; caplets 600 mg SE: CNS inhibition, sleep disturbance, rash, GI upset, peptic ulcer, edema, renal failure, anaphylactoid Rxn w/ ASA triad (asthmatic w/ rhinitis, nasal polyps and bronchospasm w/ NSAID use)

Oxazepam [C-IV]  **Uses:** *Anxiety, acute EtOH withdrawal,* anxiety w/ depressive Sxs  
**Action:** Benzodiazepine; diazepam metabolite  
**Dose:**  
- **Adults.** 10–15 mg PO tid-qid; severe anxiety & EtOH withdrawal may require up to 30 mg qid.  
- **Peds.** 1 mg/kg/d ÷ doses  
**Caution:** [D, ?/–] CI: Component allergy, NAG  
**Disp:** Caps 10, 15, 30 mg; tabs 15 mg SE: Sedation, ataxia, dizziness, rash, blood dyscrasias, dependence  
**Notes:** Avoid abrupt D/C

Oxcarbazepine (Trileptal)  **Uses:** *Partial Szs,* bipolar disorders  
**Action:** Blocks voltage-sensitive Na+ channels, stabilization of hyperexcited neural membranes  
**Dose:** **Adults.** 300 mg PO bid, ↑ weekly to target maint 1200–2400 mg/d.
**Oxiconazole (Oxistat)**

**Uses:** *Tinea cruris, tinea corporis, tinea pedis, tinea versicolor*  
**Action:** ? \( \downarrow \) Ergosterols in fungal cell membrane.  
**Spectrum:** Most *Epidermophyton floccosum, Trichophyton mentagrophytes, Trichophyton rubrum, Malassezia furfur*  
**Dose:** Apply thin layer daily-bid  
**Caution:** [B, M]  
**CI:** Component allergy  
**Disp:** Cream, lotion 1%  
**SE:** Local irritation

**Oxybutynin (Ditropan, Ditropan XL)**

**Uses:** *Symptomatic relief of urgency, nocturia, incontinence w/ neurogenic or reflex neurogenic bladder*  
**Action:** Anticholinergic, relaxes bladder smooth muscle, \( \uparrow \) bladder capacity  
**Dose:**  
- **Adults.** 5 mg bid-tid, 5 mg qid max. XL 5–10 mg/d, 30 mg/d max.  
- **Peds >5 y:** 5 mg PO bid-tid; 15 mg/d max.  
- **Peds 1–5 y:** 0.2 mg/kg/dose bid-qid (syrup 5 mg/5 mL); 15 mg/d max; \( \downarrow \) in elderly; periodic drug holidays OK  
**Caution:** [B, ?]  
**CI:** NAG, MyG, GI/GU obst, ulcerative colitis, megacolon  
**Disp:** Tabs 5 mg; XL tabs 5, 10, 15 mg; syrup 5 mg/5 mL  
**SE:** Anticholinergic (drowsiness, xerostomia, constipation, tachycardia), ER form shell expelled in stool

**Oxybutynin Transdermal System (Oxytrol)**

**Uses:** *Rx OAB*  
**Action:** Anticholinergic, relaxes bladder smooth muscle, \( \uparrow \) bladder capacity  
**Dose:** One 3.9 mg/d system apply 2×/wk (q3–4d) to abdomen, hip, or buttck  
**Caution:** [B, ?–]  
**CI:** GI/GU obst, ulcerative colitis, megacolon  
**Disp:** 3.9 mg/d transdermal patch  
**SE:** Anticholinergic, itching/redness at site  
**Notes:** Do not apply to same site w/in 7 d

**Oxycodone [Dihydrohydroxycodeinone] (OxyContin, OxyIR, Roxicodone) [C-II]**  
**WARNING:** High abuse potential; controlled release only for extended chronic pain, not for PRN use; 60-, 80-, 160-mg tab for opioid-tolerant pts  
**Uses:** *Mod–severe pain, usually in combo w/ nonnarcotic analgesics*  
**Action:** Narcotic analgesic  
**Dose:**  
- **Adults.** 5 mg PO q6h PRN (IR).  
- **Mod–severe chronic pain:** 10–160 mg PO q12h (ER).  
- **Peds 6–12 y:** 2.5 mg q6h PRN; \( \downarrow \) w/ severe liver/renal Dz, elderly; w/ food  
**Caution:** [B (D if prolonged use/near term), M]  
**CI:** Allergy, resp depression, acute asthma, ileus w/ microsomal morphine  
**Disp:** IR caps (OxyIR) 5 mg; CR Roxicodone tabs 15, 30 mg; ER (OxyContin) 10, 15, 20, 30, 40, 60, 80 mg; liq 5 mg/5 mL; soln conc 20 mg/mL  
**SE:** ↓ BP, sedation, resp depression, dizziness, GI upset, constipation, risk of abuse  
**Notes:** OxyContin for chronic CA pain; do not crush/chew/cut ER product; sought after as drug of abuse

**Oxycodone & Acetaminophen (Percocet, Tylox) [C-II]**  
**Uses:** *Mod–severe pain*  
**Action:** Narcotic analgesic  
**Dose:**  
- **Adults.** 1–2 tabs/caps PO q4–6h PRN (acetaminophen max dose 4 g/d).  
- **Peds.** Oxycodone 0.05–0.15 mg/kg/dose q 4–6h PRN, 5 mg/dose max  
**Caution:** [C (D prolonged use or near
Oxycodone & Aspirin (Percodan) [C-II] Uses: *Mod–severe pain* Action: Narcotic analgesic w/ NSAID Dose: Adults. 1–2 tabs/caps PO q4–6h PRN. Peds. Oxycodone 0.05–0.15 mg/kg/dose q 4–6h PRN, up to 5 mg/dose; ↓ in severe hepatic failure Caution: [D, –] Peptic ulcer CI: Component allergy, children (<16 y) with viral Infxn, resp depression, ileus Disp: Generics: 4.83 mg oxycodone hydrochloride, 325 mg ASA; Percodan 4.83 mg oxycodone hydrochloride, 325 mg ASA SE: Sedation, dizziness, GI upset/ulcer, constipation, allergy

Oxycodone/Ibuprofen (Combunox) [C-II] WARNING: May ↑ risk of serious CV events; CI in perioperative coronary artery bypass graft pain; ↑ risk of GI events such as bleeding Uses: *Short-term (not >7 d) management of acute mod–severe pain* Action: Narcotic w/ NSAID Dose: 1 tab q6h PRN 4 tab max/24 h; 7 d max Caution: [C, –] w/ Impaired renal/hepatic Fxn; COPD, CNS depression, avoid in PRG CI: Paralytic ileus, 3rd tri PRG, allergy to ASA or NSAIDs, where opioids are CI Disp: Tabs 5 mg oxycodone/400 mg ibuprofen SE: N/V, somnolence, dizziness, sweating, flatulence, ↑ LFTs Notes: ✓ renal Fxn; abuse potential w/ oxycodone

Oxymorphone (Opana, Opana ER) [C-II] WARNING: (Opana ER) Abuse potential, controlled release only for chronic pain; do not consume EtOH-containing beverages, may cause fatal OD Uses: *Mod/severe pain, sedative* Action: Narcotic analgesic Dose: 10–20 mg PO q4–6h PRN if opioid-naïve or 1–1.5 mg SQ/IM q4–6h PRN or 0.5 mg IV q4–6h PRN; start 20 mg/dose max PO; Chronic pain: ER 5 mg PO q12h; if opioid-naïve ↑ PRN 5–10 mg PO q12h q3–7d; take 1 h pc or 2 h ac; ↓ dose w/ elderly, renal/hepatic impair Caution: [B, ?] CI: ↑ ICP, severe resp depression, w/ EtOH or liposomal morphine, severe hepatic impair Disp: Tabs 5, 10 mg; ER 5, 10, 20, 40 mg SE: ↓ BP, sedation, GI upset, constipation, histamine release Notes: Related to hydromorphone

Oxytocin (Pitocin) Uses: *Induce labor, control postpartum hemorrhage* Action: Stimulate muscular contractions of the uterus Dose: 0.0005–0.001 units/min IV Inf; titrate 0.001–0.002 units/min q30–60min Caution: [Uncategorized, +/–] CI: Where Vag delivery not favorable, fetal distress Disp: Inj 10 units/mL SE: Uterine rupture, fetal death; arrhythmias, anaphylaxis, H2O intoxication Notes: Monitor vital signs; nasal form for breast-feeding only

Paclitaxel (Taxol, Abraxane) WARNING: Administration only by physician experienced in chemotherapy; fatal anaphylaxis and hypersensitivity possible; severe myelosuppression possible Uses: *Ovarian & breast CA, PCa,* Kaposi sarcoma, NSCLC Action: Mitotic spindle poison; promotes microtubule assembly & stabilization against depolymerization Dose: Per protocols; use glass
or polyolefin containers (eg, nitroglycerin tubing set); PVC sets leach plasticizer; ↓ in hepatic failure **Caution:** [D, –] **CI:** Neutropenia <1500 WBC/mm³; solid tumors, component allergy **Disp:** Inj 6 mg/mL, 5 mg/mL albumin bound (Abraxane) **SE:** ↓ BM, peripheral neuropathy, transient ileus, myalgia, bradycardia, ↓ BP, mucositis, N/V/D, fever, rash, HA, phlebitis; hematologic tox schedule-dependent; leukopenia dose-limiting by 24-h Inf; neurotox limited w/ short (1–3 h) Inf; allergic Rxns (dyspnea, ↓ BP, urticaria, rash) **Notes:** Maintain hydration; allergic Rxn usually w/in 10 min of Inf; minimize w/ corticosteroid, antihistamine pretreatment

**Palivizumab (Synagis)** **Uses:** *Prevent RSV Infxn* **Action:** MoAb **Disp:** Vials 50, 100 mg **SE:** hypersensitivity Rxn, URI, rhinitis, cough, ↑ LFTs, local irritation

**Palifermin (Kepivance)** **Uses:** *Oral mucositis w/ BMT* **Action:** Synthetic keratinocyte GF **Disp:** Inj 6.25 mg **SE:** Unusual mouth sensations, tongue thickening, rash, ↑ amylase & lipase **Notes:** E. coli derived; separate phases by 4 d; safety unknown w/ nonhematologic malignancies

**Paliperidone (Invega)** **WARNING:** Not for dementia-related psychosis **Uses:** *Schizophrenia* **Action:** Risperidone metabolite, antagonizes dopamine, and serotonin receptors **Disp:** ER tabs 3, 6, 9 mg **SE:** Impaired temperature regulation, ↑ QT & HR, HA, anxiety, dizziness, N, dry mouth, fatigue, EPS **Notes:** Do not chew/cut/crush pill

**Palonosetron (Aloxi)** **WARNING:** May ↑ QTc interval **Uses:** *Prevention acute & delayed N/V w/ emetogenic chemotherapy; prevent postoperative N/V* **Action:** 5-HT3-receptor antagonist **Disp:** Vials 50, 100 mg SE: hypersensitivity Rxn, URI, rhinitis, cough, ↑ LFTs, local irritation

**Pamidronate (Aredia)** **Uses:** *Hypercalcemia of malignancy, Paget Dz, palliate symptomatic bone metastases* **Action:** Bisphosphonate; ↓ nl & abnormal bone resorption **Disp:** Hypercalcemia: 60–90 mg IV over 2–24 h or 90 mg IV over 24 h if severe; may repeat in 7 d. **Disp:** Paget Dz: 30 mg/d IV slow Inf over 4 h × 3 d. **Disp:** Osteolytic bone mets in myeloma: 90 mg IV over 4 h q mo. Osteolytic bone mets breast CA: 90 mg IV over 2 h q3–4wk; 90 mg/max single dose. **Caution:** [D, ?/–] Avoid invasive dental procedures w/ use **Disp:** Inf 30, 60, 90 mg SE: Fever, malaise, convulsions, Inj site Rxn, uveitis, fluid overload, HTN, Abd pain, N/V, constipation, UTI, bone pain, ↓ K⁺, ↓ Ca²⁺, ↓ Mg²⁺, hypophosphatemia; jaw osteonecrosis, renal tox **Notes:** Perform
**Pantoprazole (Protonix)**

*Uses:* *GERD,* erosive gastritis,* ZE syndrome,* PUD

*Action:* Proton pump inhibitor

*Dose:* 40 mg/d PO; do not crush/chew tabs; 40 mg IV/d (not >3 mg/min, use Protonix filter)

*Caution:* [B, ?/–]  

*Disp:* Tabs, DR 20, 40 mg; 40 mg powder for oral susp (mix in applesauce or juice, give immediately); Inj 40 mg

*SE:* Chest pain, anxiety, GI upset, ↑ LFTs

**Paregoric [Camphorated Tincture of Opium] [C-III]**

*Uses:* *D,* pain & neonatal opiate withdrawal syndrome

*Action:* Narcotic

*Dose:* Adults. 5–10 mL PO daily–qid PRN. Peds. 0.25–0.5 mL/kg daily–qid.  

*Neonatal withdrawal:* 3–6 gtt PO q3–6h PRN to relieve Sxs × 3–5 d, then taper over 2–4 wk

*Caution:* [B (D w/ prolonged use/high dose near term, +)]  

*CI:* Toxic D; convulsive disorder,
morphine sensitivity  Disp:  Liq 2 mg morphine = 20 mg opium/5 mL  SE:  ↓ BP, sedation, constipation  Notes:  Contains anhydrous morphine from opium; short-term use only

**Paroxetine (Paxil, Paxil CR, Pexeva)**  WARNING: Closely monitor for worsening depression or emergence of suicidality, particularly in children, adolescents, and young adults; not for use in peds  Uses:  *Depression, obsessive-compulsive disorder, panic disorder, social anxiety disorder,*  PMDD  Action:  SSRI  Dose:  10–60 mg PO single daily dose in A.M.;  CR 25 mg/d PO;  ↑ 12.5 mg/wk (max range 26–62.5 mg/d)  Caution:  [D, ?/]  ↑ Bleeding risk  CI:  w/ MAOI, thioridazine, pimozide  Disp:  Tabs 10, 20, 30, 40 mg; susp 10 mg/5 mL;  CR 12.5, 25, 37.5 mg  SE:  HA, somnolence, dizziness, GI upset, N/D, ↓ appetite, sweating, xerostomia, tachycardia, ↓ libido

**Pegfilgrastim (Neulasta)**  Uses:  *↓ Frequency of Infxn in pts w/ non-myeloid malignancies receiving myelosuppressive anti-CA drugs that cause febrile neutropenia*  Action:  Granulocyte- and macrophage-stimulating factor  Dose:  Adults. 6 mg SQ × 1/chemotherapy cycle.  Caution:  [C, M] w/ Sickle cell  CI:  Allergy to E. coli-derived proteins or filgrastim  Disp:  Syringes:  6 mg/0.6 mL  SE:  Splenic rupture, HA, fever, weakness, fatigue, dizziness, insomnia, edema, N/V/D, stomatitis, anorexia, constipation, taste perversion, dyspepsia, Abd pain, granulocytopenia, neutropenic fever, ↑ LFTs & uric acid, arthralgia, myalgia, bone pain, ARDS, alopecia, worsen sickle cell Dz  Notes:  Never give between 14 d before & 24 h after dose of cytotoxic chemotherapy

**Peginterferon Alfa-2a (Pegasys)**  WARNING: Can cause or aggravate fatal or life-threatening neuropsychological, autoimmune, ischemic, and infectious disorders. Monitor pts closely  Uses:  *Chronic hep C w/ compensated liver Dz*  Action:  Immune modulator  Dose:  180 mcg (1 mL) SQ q wk × 48 wk;  ↓ in renal impair  Caution:  [C, ?/–]  CI:  Autoimmune hep, decompensated liver  Dz  Disp:  180 mcg/mL Inj  SE:  Depression, insomnia, suicidal behavior, GI upset, ↓ WBC and plt, alopecia, pruritus

**Peginterferon Alfa-2b (PEG-Intron)**  WARNING: Can cause or aggravate fatal or life-threatening neuropsychological, autoimmune, ischemic, and infectious disorders; monitor pts closely  Uses:  *Rx hep C*  Action:  Immune modulator  Dose:  1 mcg/kg/wk SQ;  1.5 mcg/kg/wk combo w/ ribavirin; w/ depression  Caution:  [C, ?/–] w/ Psychological disorder Hx  CI:  Autoimmune hep, decompensated liver Dz, hemoglobinopathy  Disp:  Vials 50, 80, 120, 150 mcg/0.5 mL; Redipen 50, 80, 120, 150 mcg/5 mL; reconstitute w/ 0.7 mL w/ sterile water  SE:  Depression, insomnia, suicidal behavior, GI upset, neutropenia, thrombocytopenia, alopecia, pruritus  Notes:  Give hs or w/ APAP to ↓ flu-like Sxs; monitor CBC/platelets; use immediately or store in refrigerator × 24 h; do not freeze

**Pemetrexed (Alimta)**  Uses:  *w/ Cisplatin in nonresectable mesothelioma,*  NSCLC  Action:  Antifolate antineoplastic  Dose:  500 mg/m² IV over 10 min q3wk; hold if CrCl <45 mL/min; give w/ vit B₁₂ (1000 mcg IM q9wk) & folic acid
(350–1000 mcg PO daily); start 1 wk before; dexamethasone 4 mg PO bid × 3, start 1 d before each Rx Caution: [D, –] w/ Renal/hepatic/BM impair CI: Component sensitivity Disp: 500-mg vial SE: Neutropenia, thrombocytopenia, N/V/D, anorexia, stomatitis, renal failure, neuropathy, fever, fatigue, mood changes, dyspnea, anaphylactic Rxns Notes: Avoid NSAIDs, follow CBC/platelets; ↓ dose w/ grade 3–4 mucositis

**Pemirolast (Alamast)** Uses: *Allergic conjunctivitis* Action: Mast cell stabilizer Dose: 1–2 gtt in each eye qid Caution: [C, ?/–] Disp: 0.1% (1 mg/mL) in 10-mL bottles SE: HA, rhinitis, cold/flu Sxs local irritation Notes: Wait 10 min before inserting contacts

**Penbutolol (Levatol)** Uses: *HTN* Action: β-Adrenergic receptor blocker, β₁, β₂ Dose: 20–40 mg/d; ↓ in hepatic Insuff Caution: [C 1st tri; D if 2nd/3rd tri, M] CI: Asthma, cardiogenic shock, cardiac failure, heart block, bradycardia, COPD, pulm edema Disp: Tabs 20 mg SE: Flushing, ↓ BP, fatigue, hypoglycemia, GI upset, sexual dysfunction, bronchospasm

**Penciclovir (Denavir)** Uses: *Herpes simplex (herpes labialis/cold sores)* Action: Competitive inhibitor of DNA polymerase Dose: Apply at 1st sign of lesions, then q2h while awake × 4 d Caution: [B, ?/–] CI: Allergy, previous Rxn to famciclovir Disp: Cream 1% SE: Erythema, HA Notes: Do not apply to mucous membranes

**Penicillin G, Aqueous (Potassium or Sodium) (Pfizerpen, Pentids)** Uses: *Bacteremia, endocarditis, pericarditis, resp tract Infxns, meningitis, neurosyphilis, skin/skin structure Infxns* Action: Bactericidal; ↓ cell wall synth. Spectrum: Most gram(+) (not staphylococci), streptococci, N. meningitidis, syphilis, clostridia, & anaerobes (not Bacteroides) Dose: Adults. Based on indication range 0.6–24 million units/d in ÷ doses q4h. **Peds Newborns <1 wk**: 25,000–50,000 units/kg/dose IV q12h. **Infants 1 wk–<1 mo**: 25,000–50,000 units/kg/dose IV q8h. **Children**: 100,000–300,000 units/kg/24h IV ↓ q4h; ↓ in renal impair Caution: [B, M] CI: Allergy Disp: Powder for Inj SE: Allergic Rxns; interstitial nephritis, D, Szs Notes: Contains 1.7 mEq of K⁺/million units

**Penicillin G Benzathine (Bicillin)** Uses: *Single-dose regimen for streptococcal pharyngitis, rheumatic fever, glomerulonephritis prophylaxis, syphilis* Action: Bactericidal; ↓ cell wall synth. Spectrum: See Penicillin G Dose: Adults. 1.2–2.4 million units deep IM Inj q2–4wk. **Peds**: 50,000 units/kg/dose, 2.4 million units/dose max; deep IM Inj q2–4 wk Caution: [B, M] CI: Allergy Disp: Inj 300,000, 600,000 units/mL; Bicillin L-A benzathine salt only; Bicillin C-R combo of benzathine & procaine (300,000 units procaine w/ 300,000 units benzathine/mL or 900,000 units benzathine w/ 300,000 units procaine/2 mL) SE: Inj site pain, acute interstitial nephritis, anaphylaxis Notes: IM use only; sustained action, w/ levels up to 4 wk; drug of choice for noncongenital syphilis

**Penicillin G Procaine (Wycillin, others)** Uses: *Infxns of resp tract, skin/soft tissue, scarlet fever, syphilis* Action: Bactericidal; ↓ cell wall synth. Spectrum: PCN G-sensitive organisms that respond to low, persistent serum
levels **Dose:** *Adults.* 0.6–4.8 million units/d in ÷ doses q12–24h; give probenecid at least 30 min prior to PCN to prolong action. **Peds.** 25,000–50,000 units/kg/d IM ÷ doses q12–24h; give probenecid at least 30 min prior to PCN to prolong action. **Caution:** [B, M] CI: Allergy **Disp:** Inj 300,000, 500,000, 600,000 units/mL **SE:** Pain at Inj site, interstitial nephritis, anaphylaxis **Notes:** LA parenteral PCN; levels up to 15 h

**Penicillin V (Pen-Vee K, Veetids, others)**  
**Uses:** Susceptible streptococcal Infxns, otitis media, URIs, skin/soft-tissue Infxns (PCN-sensitive staphylococci) **Action:** Bactericidal; ↓ cell wall synth. **Spectrum:** Most gram(+) bacteria, including streptococci **Dose:** *Adults.* 250–500 mg PO q6h, q8h, q12h. **Peds.** 25–50 mg/kg/24h PO in 4 doses; ↓ in renal impair; take on empty stomach **Caution:** [B, M] CI: Allergy **Disp:** Tabs 125, 250, 500 mg; susp 125, 250 mg/5 mL **SE:** GI upset, interstitial nephritis, anaphylaxis, convulsions **Notes:** Well-tolerated PO PCN; 250 mg = 400,000 units of PCN G

**Pentamidine (Pentam 300, NebuPent)**  
**Uses:** *Rx & prevention of PCP* **Action:** ↓ DNA, RNA, phospholipid, & protein synth **Dose:** *Rx:* *Adults & Peds.* 4 mg/kg/24h IV daily × 14–21 d. **Prevention:** *Adults & Peds.* >5 y: 300 mg once q4wk, give via Respirgard II nebulizer; ↓ IV w/ renal impair **Caution:** [C, ?] CI: Component allergy, use w/ didanosine **Disp:** Inj 300 mg/vial; aerosol 300 mg **SE:** Pancreatic cell necrosis w/ hyperglycemia; pancreatitis, CP, fatigue, dizziness, rash, GI upset, renal impair, blood dyscrasias (leukopenia, thrombocytopenia) **Notes:** Follow CBC, glucose, pancreatic Fxn monthly for 1st 3 mo; monitor for ↓ BP following IV dose; prolonged use may ↑ Infxn risk

**Pentazocine (Talwin, Talwin Compound, Talwin NX) [C-IV]**  
**WARNING:** Oral use only; severe and potentially lethal Rxns from misuse by Inj **Uses:** *Mod–severe pain* **Action:** Partial narcotic agonist–antagonist **Dose:** *Adults.* 30 mg IM or IV; 50–100 mg PO q3–4h PRN. **Peds 5–8 y:** 15 mg IM q4h PRN. **Peds 8–14 y:** 30 mg IM q4h PRN; ↓ in renal/hepatic impair **Caution:** [C (1st tri, D w/ prolonged use/high dose near term), +/−] CI: Allergy, ↑ ICP (unless ventilated) **Disp:** *Talwin Compound* tab 12.5 mg + 325 mg ASA; *Talwin NX* 50 mg + 0.5 mg naloxone; Inj 30 mg/mL **SE:** Considerable dysphoria; drowsiness, GI upset, xerostomia, Szs **Notes:** 30–60 mg IM = 10 mg of morphine IM; Talwin NX has naloxone to curb abuse by nonoral route

**Pentobarbital (Nembutal, others) [C-II]**  
**Uses:** *Insomnia (short-term), convulsions,* sedation, induce coma w/ severe head injury **Action:** Barbiturate **Dose:** *Adults.* Sedative: 150–200 mg IM × 1100 mg IV, repeat PRN to 500 mg/max. **Hypnotic:** 100–200 mg PO or PR hs PRN. **Induced coma:** Load 5–10 mg/kg IV, w/ maint 1–3 mg/kg/h IV. **Peds. Induced coma:** As adult **Caution:** [D, +/−] Severe hepatic impair **CI:** Allergy **Disp:** Caps 50, 100 mg; elixir 18.2 mg/5 mL (= 20 mg pentobarbital); supp 30, 60, 120, 200 mg; Inj 50 mg/mL **SE:** Resp depression, ↓ BP w/ aggressive IV use for cerebral edema; bradycardia, ↓ BP, sedation, lethargy, resp ↓, hangover, rash, Stevens-Johnson syndrome, blood dyscrasias **Notes:** Tolerance to sedative–hypnotic effect w/in 1–2 wk
Pentosan Polysulfate Sodium (Elmiron)  Uses:  *Relieve pain/discomfort w/ interstitial cystitis*  Action:  Bladder wall buffer  Dose:  100 mg PO tid; on empty stomach w/ H2O 1 h ac or 2 h pc  Caution:  [B, ?/–]  CI:  Allergy  Disp:  Caps 100 mg  SE:  Alopecia, N/D, HA, ↑ LFTs, anticoagulant effects, ↓ plts, rectal bleeding  Notes:  Reassess after 3 mo

Pentoxifylline (Trental)  Uses:  *Rx Sxs of peripheral vascular Dz*  Action:  ↓ Blood cell viscosity, restores RBC flexibility  Dose:  Adults. 400 mg PO tid pc; Rx min 8 wk for effect; ↓ to bid w/ GI/CNS SEs  Caution:  [C, +/–]  CI:  Cerebral/retinal hemorrhage, methylxanthine (caffeine) intolerance  Disp:  Tabs CR 400 mg; Tabs ER 400 mg  SE:  Dizziness, HA, GI upset

Perindopril Erbumine (Aceon)  WARING:  ACE inhibitors can cause death to developing fetus; D/C immediately w/ pregnancy  Uses:  *HTN,* CHF, DN, post-MI  Action:  ACE inhibitor  Dose:  4–8 mg/d ÷ dose; 16 mg/d max; avoid w/ food; ↓ w/ elderly/renal impair  Caution:  [C (1st tri, D 2nd & 3rd tri), ?/–]  ACE inhibitor-induced angioedema  CI:  Bilateral RAS, primary hyperaldosteronism  Disp:  Tabs 2, 4, 8 mg  SE:  Weakness, HA, ↓ BP, dizziness, GI upset, cough  Notes:  OK w/ diuretics

Permethrin (Nix, Elimite)  [OTC]  Uses:  *Rx lice/scabies*  Action:  Pediculicide  Dose:  Adults & Peds.  Lice:  Saturate hair & scalp; allow 10 min before rinsing.  Scabies:  Apply cream head to toe; leave for 8–14 h, wash w/H2O  Caution:  [B, ?/–]  CI:  Allergy  Disp:  Topical lotion 1%; cream 5%  SE:  Local irritation  Notes:  Sprays available (Rid, A200, Nix) to disinfect clothing, bedding, combs, & brushes; lotion not OK in peds <2 y; may repeat after 7 d

Perphenazine (Trilafon)  Uses:  *Psychotic disorders, severe N,* intractable hiccups  Action:  Phenothiazine, blocks brain dopaminergic receptors  Dose:  Adults. Antipsychotic:  4–16 mg PO tid; max 64 mg/d.  Hiccups:  5 mg IM q6h PRN or 1 mg IV at intervals not <1–2 mg/min, 5 mg max.  Peds 1–6 y:  4–6 mg/d PO in ÷ doses.  6–12 y:  6 mg/d PO in ÷ doses. >12 y:  4–16 mg PO bid-qid; ↓ in hepatic Insuff  Caution:  [C, ?/–]  NAG, severe ↑/↓ BP  CI:  Phenothiazine sensitivity, BM depression, severe liver or cardiac Dz  Disp:  Tabs 2, 4, 8, 16 mg; PO conc 16 mg/5 mL; Inj 5 mg/mL  SE:  ↓ BP, tachycardia, bradycardia, EPS, drowsiness, Szs, photosensitivity, skin discoloration, blood dyscrasias, constipation

Phenazopyridine (Pyridium, Azo-Standard, Urogesic, many others)  Uses:  *Lower urinary tract irritation*  Action:  Anesthetic on urinary tract mucosa  Dose:  Adults. 100–200 mg PO tid; 2 d max w/ antibiotics for UTI; ↓ w/ renal Insuff  Caution:  [B, ?]  Hepatic Dz  CI:  Renal failure  Disp:  Tabs 100, 200 mg  SE:  GI disturbances, red-orange urine color (can stain clothing, contacts), HA, dizziness, acute renal failure, methemoglobinemia, tingling of sclera/skin  Notes:  Take w/ food

Phenelzine (Nardil)  WARING:  Antidepressants increase the risk of suicidal thinking and behavior in children and adolescents w/ major depressive disorder and other psychological disorders; not for peds use  Uses:  *Depression,*
bulimia **Action:** MAOI **Dose:** Adults. 15 mg PO tid, ↑ to 60–90 mg/d ÷ doses. Elderly: 15–60 mg/d ÷ doses **Caution:** [C, –] Interacts w/ SSRI, ergots, triptans **CI:** CHF, Hx liver Dz, pheochromocytoma **Disp:** Tabs 15 mg **SE:** Postural ↓ BP; edema, dizziness, sedation, rash, sexual dysfunction, xerostomia, constipation, urinary retention **Notes:** 2–4 wk for effect; avoid tyramine-containing foods (eg, cheeses)

**Phenobarbital [C-IV]** Uses: *Sz disorders,* insomnia, anxiety **Action:** Barbiturate **Dose:** Adults. Sedative–hypnotic: 30–120 mg/d PO or IM PRN. **Anticonvulsant:** Load 10–12 mg/kg in 3 ÷ doses, then 1–3 mg/kg/24 h PO, IM, or IV. **Peds.** Sedative–hypnotic: 2–3 mg/kg/24 h PO or IM hs PRN. **Anticonvulsant:** Load 15–20 mg/kg ÷ in 2 equal doses 4 h apart, then 3–5 mg/kg/24h PO ÷ in 2–3 doses; ↓ w/ CrCl <10 **Caution:** [D, M] CI: Porphyria, hepatic impair, dyspnea, airway obst **Disp:** Tabs 15, 16, 30, 32, 60, 65, 100 mg; elixir 15, 20 mg/5 mL; Inj 30, 60, 65, 130 mg/mL **SE:** Bradycardia, ↓ BP, hangover, Stevens-Johnson syndrome, blood dyscrasias, resp depression **Notes:** Tolerance develops to sedation; paradoxical hyperactivity seen in ped pts; long half-life allows single daily dosing. Levels: **Trough:** Just before next dose. **Therapeutic:** Trough: 15–40 mcg/mL; **Toxic** Trough: >40 mcg/mL. **Half-life:** 40–120 h

**Phenylephrine, nasal (Neo-Synephrine Nasal) (OTC)** **WARNING:** Not for use in Peds <2 y **Uses:** *Nasal congestion* **Action:** α-Adrenergic agonist **Dose:** Adults. 1–2 sprays/nostril q4h (usual 0.25%) PRN. **Peds.** 2–6 y: 0.125% 1 drop/nostril q2–4h. 6–12 y: 1–2 sprays/nostril q4h 0.25% 2–3 drops **Caution:** [C, +/-] HTN, acute pancreatitis, hep, coronary Dz, NAG, hyperthyroidism **CI:** Bradycardia, arrhythmias **Disp:** Nasol soln 0.125, 0.25, 0.5, 1%; liq 7.5 mg/5 mL; drops 2.5 mg/mL **SE:** Arrhythmias, HTN, nasal irritation, dryness, sneezing, rebound congestion w/ prolonged use, HA **Notes:** Do not use >3 d

**Phenylephrine, ophthalmic (Neo-Synephrine Ophthalmic, AK-Dilate, Zincfrin [OTC])** **Uses:** *Mydriasis, ocular redness [OTC], perioperative mydriasis, posterior synechiae, uveitis w/ posterior synechiae* **Action:** α-Adrenergic agonist **Dose:** Adults. **Redness:** 1 gtt 0.12% q3–4h PRN. **Exam mydriasis:** 1 gtt 2.5% (15 min–1 h for effect). **Pre-op:** 1 gtt 2.5–10% 30–60 min pre-op. **Ocular disorders:** 1 gtt 2.5–10% daily-tid **Peds.** As adult, only use 2.5% for exam, pre-op, and ocular conditions **Caution:** [C, May cause late-term fetal anoxia/bradycardia, +/-] HTN, w/ elderly w/ CAD **CI:** NAG **Disp:** Ophthal soln 0.12% (Zincfrin OTC), 2.5, 10% **SE:** Tearing, HA, irritation, eye pain, photophobia, arrhythmia, tremor

**Phenylephrine, oral (Sudafed PE, SudoGest PE, Nasop, Lusonal, AH-chew D, Sudafed PE quick dissolve) (OTC)** **WARNING:** Not for use in peds <2 y **Uses:** *Nasal congestion* **Action:** α-Adrenergic agonist **Dose:** Adults. 10–20 mg PO q4h PRN, max 60 mg/d. **Peds.** 5 mg PO q4h PRN, max 60 mg/d **Caution:** [C, +/-] HTN, acute pancreatitis, hep, coronary Dz, NAG, hyperthyroidism **CI:** MAOI w/in 14 d, NAG, severe ↑ BP or...
CAD, urinary retention **Disp**: Liq 7.5 mg/5 mL; drops 2.5 mg/mL; tabs 5, 10 mg; chew tabs 10 mg; tabs once daily 10 mg; strips 10 mg. **SE**: Arrhythmias, HTN, HA, agitation, anxiety, tremor, palpitations

**Phenylephrine, systemic** *(Neo-Synephrine)*  **WARNING**: Prescribers should be aware of full prescribing information before use  
**Uses**: *Vascular failure in shock, allergy, or drug-induced ↓ BP*  
**Action**: α-Adrenergic agonist  
**Dose**: **Adults.** Mild–mod ↓ BP: 2–5 mg IM or SQ ↑ BP for 2 h; 0.1–0.5 mg IV elevates BP for 15 min. **Severe ↓ BP/shock**: Cont Inf at 100–180 mcg/min; after BP stable, maint 40–60 mcg/min. **Peds. ↓ BP**: 5–20 mcg/kg/dose IV q10–15min or 0.1–0.5 mcg/kg/min IV Inf, titrate to effect **Caution**: [C, +/−] HTN, acute pancreatitis, hep, coronary Dz, NAG, hyperthyroidism  
**CI**: Bradycardia, arrhythmias  
**Disp**: Inj 10 mg/mL **SE**: Arrhythmias, HTN, peripheral vasoconstriction ↑ w/ oxytocin, MAOIs, & TCAs; HA, weakness, necrosis, ↓ renal perfusion  
**Notes**: Restore blood vol if loss has occurred; use large veins to avoid extrav; phentolamine 10 mg in 10–15 mL of NS for local Inf to Rx extrav

**Phenytoin (Dilantin)**  
**Uses**: *Sz disorders*  
**Action**: ↓ Sz spread in the motor cortex  
**Dose**: **Adults & Peds.** Load: 15–20 mg/kg IV, 50 mg/min max or PO in 400-mg doses at 4-h intervals; **Adults. Maint**: Initial 200 mg PO or IV bid or 300 mg hs then follow levels. →; alternatively 5–7 mg/kg/d based on ideal body weight ÷ daily-tid, **Peds. Maint**: 4–7 mg/kg/24h PO or IV ÷ daily-bid; avoid PO susp (erratic absorption) **Caution**: [D, +]  
**CI**: Heart block, sinus bradycardia  
**Disp**: Dilantin Infatab: chew 50 mg; Dilantin/Phenytek: caps 100 mg; caps, ER 30, 100, 200, 300 mg; susp 125 mg/5 mL; Inj 50 mg/mL **SE**: Nystagmus/ataxia early signs of tox; gum hyperplasia w/ long-term use. **IV**: ↓ BP, bradycardia, arrhythmias, phlebitis; peripheral neuropathy, rash, blood dyscrasias, Stevens-Johnson syndrome  
**Notes**: Levels: **Trough**: just before next dose. **Therapeutic**: 10–20 mcg/mL. **Toxic**: >20 mcg/mL. Phenytoin albumin bound, levels = bound & free phenytoin; w/ ↓ albumin & azotemia, low levels may be therapeutic (nl free levels); do not change dosage at intervals <7–10 d; hold tube feeds 1 h before and after dose if using oral susp; avoid large dose ↑

**Physostigmine (Antilirium)**  
**Uses**: *Antidote for TCA, atropine, & scopolamine OD; glaucoma*  
**Action**: Reversible cholinesterase inhibitor  
**Dose**: **Adults.** 0.5–2 mg IV or IM q20min **Peds.** 0.01–0.03 mg/kg/dose IV q5–10min up to 2 mg total PRN **Caution**: [C, ?]  
**CI**: GI/GU obst, CV Dz, asthma  
**Disp**: Inj 1 mg/mL **SE**: Rapid IV administration associated w/ Szs; cholinergic SEs; sweating, salivation, lacrimation, GI upset, asystole, changes in HR  
**Notes**: Excessive readministration can result in cholinergic crisis; crisis reversed w/ atropine

**Phytonadione [Vitamin K] (AquaMEPHYTON, others)**  
**Uses**: *Coagulation disorders due to faulty formation of factors II, VII, IX, X*; hyperalimentation  
**Action**: Cofactor for production of factors II, VII, IX, & X  
**Dose**: **Adults & Peds.** Anticoagulant-induced prothrombin deficiency: 1–10 mg PO or IV slowly. **Hyperalimentation**: 10 mg IM or IV q wk. **Infants.** 0.5–1 mg/dose IM, SQ, or PO
Pipracil (Pipracil) **Uses:** *Infections of skin, bone, respiratory & urinary tract, abdomen, sepsis*  
**Action:** 4th-Gen PCN; bactericidal; ↓ cell wall synthesis. **Spectrum:** Primarily gram(+), better *Enterococcus, H. influenzae,* not staphylococci; gram(−) *E. coli, Proteus, Shigella, Pseudomonas,* not β-lactamase producing. **Dose:** Adults: 2–4 g IV q4–6h. Peds: 200–300 mg/kg/d IV ⊕ q4–6h; ↓ in renal failure. **Caution:** [B, M] CI: PCN/β-lactam sensitivity. **Disp:** Powder for Infusion: 2, 3, 4, 40 g SE. **Notes:** Often used w/ aminoglycoside

Piperacillin–Tazobactam (Zosyn) **Uses:** *Infections of skin, bone, respiratory & urinary tract, abdomen, sepsis*  
**Action:** 4th-Gen PCN plus β-lactamase inhibitor; bactericidal; ↓ cell wall synthesis. **Spectrum:** Good gram(+), excellent gram(−); anaerobes & β-lactamase producers. **Dose:** Adults: 3.375–4.5 g IV q6h; ↓ in renal Insuff. **Caution:** [B, M] CI: PCN or β-lactam sensitivity. **Disp:** Powder for Infusion: 2, 3, 4, 40 g SE. **Notes:** Often used w/ aminoglycoside

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Pieriset (Actos) **Uses:** *Type 2 DM*  
**Action:** ↑ Insulin sensitivity. **Dose:** 15–45 mg/d PO. **Caution:** [C, −] CI: CHF, hepatic impairment. **Disp:** Tabs 15, 30, 45 mg SE. **Notes:** Follow LFTs; ↑ fracture risk in women receiving pioglitazone

Pioglitazone/Metformin (ACTOplus Met) **Uses:** *Type 2 DM as adjunct to diet and exercise*  
**Action:** Combined ↑ insulin sensitivity w/ ↓ hepatic glucose release. **Dose:** Initial 1 tab PO daily or bid, titrate; max daily pioglitazone 45 mg & metformin 2550 mg; give w/ meals. **Caution:** [C, −] Stop w/ radiologic contrast agents CI: CHF, renal impairment, acidosis. **Disp:** Tabs pioglitazone mg/metformin mg: 15/500, 15/850 SE: Lactic acidosis, CHF, ↓ glucose, edema, weight gain, myalgia, URI, HA, hypoglycemia, edema, ↑ fracture risk in women receiving pioglitazone

Pioglitazone (Actos) **Uses:** *Type 2 DM*  
**Action:** ↑ Insulin sensitivity. **Dose:** 15–45 mg/d PO. **Caution:** [C, −] CI: CHF, hepatic impairment. **Disp:** Tabs 15, 30, 45 mg SE. **Notes:** Follow LFTs; ↑ fracture risk in women receiving pioglitazone

Pindolol (Visken) **Uses:** *HTN*  
**Action:** β-Adrenergic receptor blocker, β1, β2, ISA. **Dose:** Adults & Peds >2 y: 5–10 mg bid; use at least 1 wk following resolution. **Caution:** [B (1st tri; D if 2nd or 3rd tri), +/−] CI: Uncompensated CHF, cardiogenic shock, bradycardia, heart block, asthma, COPD. **Disp:** Tabs 5, 10 mg SE. **Notes:** Insomnia, dizziness, fatigue, edema, GI upset, dyspnea; fluid retention may exacerbate CHF

Pimecrolimus (Elidel) **WARNING:** Associated with rare skin malignancies & lymphoma, limit to area, not for age <2 y. **Uses:** *Atopic dermatitis* refractory, severe perianal itching. **Action:** Inhibits T-lymphocytes. **Dose:** Adults & Peds >2 y: Apply bid; use at least 1 wk following resolution. **Caution:** [C, ?/−] w/ Local Infxn, lymphadenopathy; immunocompromise; avoid in pts <2 y. **Disp:** Cream 1% SE: Phototoxic, local irritation/burning, flu-like Sxs, may ↑ malignancy. **Notes:** Use on dry skin only; wash hands after; 2nd-line/short-term use only

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**Action:** ↑ Insulin sensitivity. **Dose:** 15–45 mg/d PO. **Caution:** [C, −] CI: CHF, hepatic impairment. **Disp:** Tabs 15, 30, 45 mg SE. **Notes:** Follow LFTs; ↑ fracture risk in women receiving pioglitazone

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**Action:** Combined ↑ insulin sensitivity w/ ↓ hepatic glucose release. **Dose:** Initial 1 tab PO daily or bid, titrate; max daily pioglitazone 45 mg & metformin 2550 mg; give w/ meals. **Caution:** [C, −] Stop w/ radiologic contrast agents CI: CHF, renal impairment, acidosis. **Disp:** Tabs pioglitazone mg/metformin mg: 15/500, 15/850 SE: Lactic acidosis, CHF, ↓ glucose, edema, weight gain, myalgia, URI, HA, hypoglycemia, edema, ↑ fracture risk in women receiving pioglitazone

Piperacillin–Tazobactam (Zosyn) **Uses:** *Infections of skin, bone, respiratory & urinary tract, abdomen, sepsis*  
**Action:** 4th-Gen PCN plus β-lactamase inhibitor; bactericidal; ↓ cell wall synthesis. **Spectrum:** Good gram(+), excellent gram(−); anaerobes & β-lactamase producers. **Dose:** Adults: 3.375–4.5 g IV q6h; ↓ in renal Insuff. **Caution:** [B, M] CI: PCN or β-lactam sensitivity. **Disp:** Powder for Infusion: 2, 3, 4, 40 g SE. **Notes:** Often used w/ aminoglycoside

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**Action:** 4th-Gen PCN; bactericidal; ↓ cell wall synthesis. **Spectrum:** Primarily gram(+), better *Enterococcus, H. influenzae,* not staphylococci; gram(−) *E. coli, Proteus, Shigella, Pseudomonas,* not β-lactamase producing. **Dose:** Adults: 2–4 g IV q4–6h. Peds: 200–300 mg/kg/d IV ⊕ q4–6h; ↓ in renal failure. **Caution:** [B, M] CI: PCN/β-lactam sensitivity. **Disp:** Powder for Infusion: 2, 3, 4, 40 g SE. **Notes:** Often used w/ aminoglycoside

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**Action:** 4th-Gen PCN plus β-lactamase inhibitor; bactericidal; ↓ cell wall synthesis. **Spectrum:** Good gram(+), excellent gram(−); anaerobes & β-lactamase producers. **Dose:** Adults: 3.375–4.5 g IV q6h; ↓ in renal Insuff. **Caution:** [B, M] CI: PCN or β-lactam sensitivity. **Disp:** Powder for Infusion: 2, 3, 4, 40 g SE.
**Inj:** Frozen, premix Inj 3.25, 3.375, 4.5 g  
**SE:** D, HA, insomnia, GI upset, serum sickness-like Rxn, pseudomembranous colitis  
**Notes:** Often used in combo w/ aminoglycoside

**Pirbuterol (Maxair)**  
**Uses:** *Prevention & Rx reversible bronchospasm*  
**Action:** β₂-Adrenergic agonist  
**Dose:** 2 Inh q4–6h; max 12 Inh/d  
**Caution:** [C, ?/–]  
**Disp:** Aerosol 0.2 mg/actuation  
**SE:** Nervousness, restlessness, trembling, HA, taste changes, tachycardia  
**Note:** Teach patient proper inhaler technique

**Piroxicam (Feldene)**  
**WARNING:** May ↑ risk of cardiovascular events & GI bleeding  
**Uses:** *Arthritis & pain*  
**Action:** NSAID; ↓ prostaglandins  
**Dose:** 10–20 mg/d  
**Caution:** [B (1st tri; D if 3rd tri or near term), +] GI bleeding  
**CI:** ASA/NSAID sensitivity  
**Disp:** Caps 10, 20 mg  
**SE:** Dizziness, rash, GI upset, edema, acute renal failure, peptic ulcer

**Plasma Protein Fraction (Plasmanate, others)**  
**Uses:** *Shock & ↓ BP*  
**Action:** Plasma vol expander  
**Dose:** Adults. Initial: 250–500 mL IV (not >10 mL/min); subsequent Inf based on response. Peds. 10–15 mL/kg/dose IV; subsequent Inf based on response  
**Caution:** [C, +] CI: Renal Insuff, CHF, cardiopulmonary bypass  
**Disp:** Inj 5%  
**SE:** ↓ BP w/ rapid Inf; hypocoagulability, metabolic acidosis, PE  
**Notes:** 130–160 mEq Na/L; not substitute for RBC

**Pneumococcal 7-Valent Conjugate Vaccine (Prevnar)**  
**Uses:** *Immunization against pneumococcal Infxns in infants & children*  
**Action:** Active immunization  
**Dose:** 0.5 mL IM/dose; series of 3 doses; 1st dose age 2 mo; then doses q2mo, 4th dose at age 12–15 mo  
**Caution:** [C, +] CI: Thrombocytopenia  
**Disp:** Inj SE: Local Rxn, arthralgia, fever, myalgia

**Pneumococcal Vaccine, Polyvalent (Pneumovax-23)**  
**Uses:** *Immunization against pneumococcal Infxns in pts at high risk (eg, all pts = 65 y)*  
**Action:** Active immunization  
**Dose:** 0.5 mL IM.  
**Caution:** [C, ?] CI: Do not vaccinate during immunosuppressive therapy  
**Disp:** Inj 0.5 mL SE: Fever, Inj site Rxn, hemolytic anemia, thrombocytopenia, anaphylaxis

**Podophyllin (Podocon-25, Condylox Gel 0.5%, Condylox)**  
**Uses:** *Topical therapy of benign growths (genital & perianal warts [condylomata acuminata],* papillomas, fibromas)  
**Action:** Direct antimitotic effect; exact mechanism unknown  
**Dose:** Condylox gel & Condylox  
**Disp:** Podocon-25 (w/ benzoin) 15-mL bottles; Condylox gel 0.5% 35-g clear gel; Condylox soln 0.5% 35-g clear SE: Local Rxns, sig absorption; anemias, tachycardia, paresthesias, GI upset, renal/hepatic damage  
**Notes:** Podocon-25 applied by the clinician; do not dispense directly to patient

**Polyethylene Glycol [PEG]-Electrolyte Soln (GoLYTELY, CoLyte)**  
**Uses:** *Bowel preparation prior to examination or surgery*  
**Action:** Osmotic cathartic  
**Dose:** Adults. Following 3–4-h fast, drink 240 mL of soln q10min
until 4 L consumed or until BMs are clear. **Peds.** 25–40 mL/kg/h for 4–10 h **Caution:** [C, ?] **CI:** GI obst, bowel perforation, megacolon, ulcerative colitis **Disp:** Powder for recons to 4 L **SE:** Cramping or N, bloating **Notes:** 1st BM should occur in approximately 1 h; chilled soln more palatable

**Polyethylene Glycol [PEG] 3350 (MiraLAX)**

**Uses:** *Occasional constipation*  
**Action:** Osmotic laxative  
**Dose:** 17-g powder (1 heaping Tbsp) in 8 oz (1 cup) of H₂O & drink; max 14 d **Caution:** [C, ?] Rule out bowel obst before use  
**CI:** GI obst, allergy to PEG  
**Disp:** Powder for reconstitution; bottle cap holds 17 g  
**SE:** Upset stomach, bloating, cramping, gas, severe D, hives **Notes:** Can add to H₂O, juice, soda, coffee, or tea

**Polymyxin B & Hydrocortisone (Otobiotic Otic)**

**Uses:** *Superficial bacterial Infxns of external ear canal*  
**Action:** Antibiotic/anti-inflammatory combo  
**Dose:** 4 gtt in ear(s) tid-qid **Caution:** [B, ?]  
**Disp:** Soln polymyxin B 10,000 units/hydrocortisone 0.5%/mL  
**SE:** Local irritation **Notes:** Useful in neomycin allergy

**Posaconazole (Noxafil)**

**Uses:** *Prevent Aspergillus and Candida Infxns in severely immunocompromised; Rx oropharyngeal candida*  
**Action:** ↓ Cell membrane ergosterol synth  
**Dose:** Adults. **Invasive fungal prophylaxis:** 200 mg PO tid. **Oropharyngeal candidiasis:** 100 mg PO daily × 13 d, if refractory 40 mg PO bid  
**Peds >13 y:** 200 mg PO tid; take w/ meal **Caution:** [C; ?] Multiple drug interactions; ↑ QT, cardiac Dzs, severe renal/liver impair  
**CI:** Component hypersensitivity; w/ many drugs including alfuzosin, astemizole, alprazolam, phenothiazines, terfenadine, triazolam, others  
**Disp:** Soln 40 mg/mL  
**SE:** ↑ QT, ↑ LFTs, hepatic failure, fever, N/V/D, HA, Abd pain, anemia, ↓ plt, ↓ K⁺ rash, dyspnea, cough, anorexia, fatigue **Notes:** Monitor LFTs, CBC, lytes

**Potassium Citrate (Urocit-K)**

**Uses:** *Alkalinize urine, prevention of urinary stones (uric acid, calcium stones if hypocitraturic)*  
**Action:** Urinary alkalinizer  
**Dose:** 1 packet dissolved in H₂O or 15–30 mL pc & hs 10–20 mEq PO tid w/ meals, max 100 mEq/d **Caution:** [A, +]  
**SE:** GI upset, ↓ Ca²⁺, ↑ K⁺, metabolic alkalosis **Notes:** Tabs 540 mg = 5 mEq, 1080 mg = 10 mEq

**Potassium Citrate & Citric Acid (Polycitra-K)**

**Uses:** *Alkalinize urine, prevent urinary stones (uric acid, CA stones if hypocitraturic)*  
**Action:** Urinary alkalinizer  
**Dose:** 10–20 mEq PO tid w/ meals, max 100 mEq/d **Caution:** [A, +]  
**CI:** Severe renal impair, dehydration, ↑ K⁺, peptic ulcer; w/ use of K⁺-sparring diuretics or salt substitutes **Disp:** Soln 10 mEq/5 mL; powder 30 mEq/packet  
**SE:** GI upset, ↓ Ca²⁺, ↑ K⁺, metabolic alkalosis

**Potassium Iodide [Lugol Soln] (SSKI, Thyro-Block, ThyroSafe, ThyroShield)**

**Uses:** *Thyroid storm,* ↓ vascularity before thyroid surgery, block thyroid uptake of radioactive iodine, thin bronchial secretions **Action:** Iodine supl  
**Dose:** Adults & Peds >2 y: **Pre-op thyroidectomy:** 50–250 mg PO tid (2–6 gtt strong iodine soln); give 10 d pre-op. **Protection:** 130 mg/d. **Peds. Protection:** <1 y:
Potassium Supplements

Potassium Supplements (Kaon, Kaochlor, K-Lor, Slow-K, Micro-K, Klorvess, others) Uses: *Prevention or Rx of ↓ K⁺ (eg, diuretic use)* Action: K⁺ supl Dose: Adults. 20–100 mEq/d PO ÷ daily-bid; IV 10–20 mEq/h, max 40 mEq/h & 150 mEq/d (monitor K⁺ levels frequently and in presence of continuous ECG monitoring w/ high-dose IV). Peds. Calculate K⁺ deficit; 1–3 mEq/kg/d PO ÷ daily-qid; IV max dose 0.5–1 mEq/kg/h Caution: [A, +] Renal Insuff, use w/ NSAIDs & ACE inhibitors CI: ↑ K⁺ Disp: PO forms (Table 7); Inj SE: GI irritation; bradycardia, ↑ K⁺, heart block Notes: Mix powder & liq w/ beverage (unsalted tomato juice, etc); follow K⁺; Cl⁻ salt OK w/ alkalosis; w/ acidosis use acetate, bicarbonate, citrate, or gluconate salt

Pramipexole (Mirapex) Uses: *Parkinson Dz, restless leg syndrome* Action: Dopamine agonist Dose: Adults. 1.5–4.5 mg/d PO, initial 0.375 mg/d in 3 ÷ doses; titrate slowly Caution: [C, ?–] ↓ Renal impair CI: Component allergy Disp: Tabs 0.125, 0.25, 0.5, 1, 1.5 mg SE: Postural ↓ BP, asthenia, somnolence, abnormal dreams, GI upset, EPS, hallucinations (elderly)

Pramoxine (Anusol Ointment, ProctoFoam-NS, others) Uses: *Relief of pain & itching from hemorrhoids, anorectal surgery*; topical for burns & dermatosis Action: Topical anesthetic Dose: Apply freely to anal area q3h Caution: [C, ?] Disp: [OTC] All 1%; foam (ProctoFoam-NS), cream, oint, lotion, gel, pads, spray SE: Contact dermatitis, mucosal thinning w/ chronic use

Pramoxine + Hydrocortisone (Enzone, ProctoFoam-HC) Uses: *Relief of pain & itching from hemorrhoids* Action: Topical anesthetic, anti-inflammatory Dose: Apply freely to anal area tid-qid Caution: [C, ?–] Disp: Cream pramoxine 1% acetate 0.5/1%; foam pramoxine 1% hydrocortisone 1%; lotion pramoxine 1% hydrocortisone 0.25/1.25%, pramoxine 2.5% & hydrocortisone 1% SE: Contact dermatitis, mucosal thinning with chronic use

Pravastatin (Pravachol) Uses: *↓ Cholesterol* Action: HMG-CoA reductase inhibitor Dose: 10–80 mg PO hs; ↓ in sig renal/hepatic impair Caution: [X, –] w/ Gemfibrozil CI: Liver Dz or persistent LFTs ↑ Disp: Tabs 10, 20, 40, 80 mg SE: Use caution w/ concurrent gemfibrozil; HA, GI upset, hep, myopathy, renal failure

Prazosin (Minipress) Uses: *HTN* Action: Peripherally acting α-adrenergic blocker Dose: Adults. 1 mg PO tid; can ↑ to 20 mg/d max PRN. Peds. 0.05–0.1 mg/kg/d in 3 ÷ doses; max 0.5 mg/kg/d Caution: [C, ?] CI: Component allergy, concurrent use of PDE5 inhibitors Disp: Caps 1, 2, 5 mg; tabs ER 2.5,
5 mg SE: Dizziness, edema, palpitations, fatigue, GI upset Notes: Can cause orthostatic ↓ BP, take the 1st dose hs; tolerance develops to this effect; tachyphylaxis may result

Prednisolone [See Steroids page 214 and Table 3, page 251] Prednisone [See Steroids page 214 and Table 3, page 251]

Pregabalin (Lyrica) WARNING: Increased risk of suicidal behavior ideation Uses: *DM peripheral neuropathy pain; postherpetic neuralgia; fibromyalgia; adjunct w/ adult partial onset Szs* Action: Nerve transmission modulator, antinociceptive, antiseizure effect; mechanism?; related to gabapentin Dose: Neuropathic pain: 50 mg PO tid, ↑ to 300 mg/d w/in 1 wk based on response, 300 mg/d max. Postherpetic neuralgia: 75–150 mg bid, or 50–100 mg tid; start 75 mg bid or 50 mg tid; ↑ to 300 mg/d w/in 1 wk PRN; if pain persists after 2–4 wk, ↑ to 600 mg/d. Epilepsy: Start 150 mg/d (75 mg bid or 50 mg tid) may ↑ to max 600 mg/d; ↓ w/ renal Insuff; w/ or w/o food Caution: [C, –] w/ Sig renal impair (see insert), w/ elderly & severe CHF avoid abrupt D/C CI: PRG Disp: Caps 25, 50, 75, 100, 150, 200, 225, 300 mg SE: Dizziness, drowsiness, xerostomia, blurred vision, wgt gain, difficulty concentrating Notes: w/ D/C, taper over at least 1 wk

Probenecid (Benemid, others) Uses: *Prevent gout & hyperuricemia; prolongs levels of PCNs & cephalosporins* Action: Uricosuric, renal tubular blocker of organic anions Dose: Adults. Gout: 250 mg bid × 1 wk, then 0.5 g PO bid; can ↑ by 500 mg/mo up to 2–3 g/d. Antibiotic effect: 1–2 g PO 30 min before dose. Peds >2 y: 25 mg/kg, then 40 mg/kg/d PO ÷ qid Caution: [B, ?] CI: High-dose ASA, mod–severe renal impair, age <2 y Disp: Tabs 500 mg SE: HA, GI upset, rash, pruritus, dizziness, blood dyscrasias Notes: Do not use during acute gout attack

Procainamide (Pronestyl, Pronestyl SR, Procanbid) WARNING: Positive antinuclear antibody titer or SLE w/ prolonged use; only use in life-treating arrhythmias; hematologic tox can be severe, follow CBC

Uses: *Supraventricular/ventricular arrhythmias* Action: Class 1A antiarrhythmic (Table 10) Dose: Adults. Recurrent VF/VT: 20 mg/min IV (total 17 mg/kg max). Maint: 1–4 mg/min. Stable wide-complex tachycardia of unknown origin, AF w/ rapid rate in WPW: 20 mg/min IV until arrhythmia suppression, ↓ BP, or QRS widens >50%, then 1–4 mg/min. Chronic dosing: 50 mg/kg/d PO in ÷ doses q4–6h. Recurrent VF/VT: 20–50 mg/min IV; max total 17 mg/kg. Others: 20 mg/min IV until one these: arrhythmia stopped, hypotension, QRS widens >50%, total 17 mg/kg; then 1–4 mg/min (ECC 2005). Peds. Chronic maint: 15–50 mg/kg/24 h PO ÷ q3–6h; ↓ in renal/hepatic impair Caution: [C, +] CI: Complete heart block, 2nd- or 3rd-degree heart block w/o pacemaker, torsade de pointes, SLE Disp: Tabs & caps 250, 500 mg; SR tabs 500, 750, 1000 mg; Inj 100, 500 mg/mL SE: ↓ BP, lupus-like syndrome, GI upset, taste perversion, arrhythmias, tachycardia, heart block, angioneurotic edema, blood dyscrasias Notes: Levels: Trough:
Procarbazine (Matulane)  **WARNING:** Highly toxic; handle w/ care

**Uses:** *Hodgkin Dz,* NHL, brain & lung tumors  **Action:** Alkylating agent; ↓ DNA & RNA synth  **Dose:** Per protocol  **Caution:** [D, ?] w/ EtOH ingestion  **CI:** Inadequate BM reserve  **Disp:** Caps 50 mg  **SE:** ↓ BM, hemolytic Rxns (w/ G6PD deficiency), N/V/D; disulfiram-like Rxn; cutaneous & constitutional Sxs, myalgia, arthralgia, CNS effects, azoospermia, cessation of menses

Prochlorperazine (Compazine)  **Uses:** *N/V, agitation, & psychotic disorders*  **Action:** Phenothiazine; blocks postsynaptic dopaminergic CNS receptors  **Dose:**  **Adults.** 5–10 mg PO tid-qid or 25 mg PR bid or 5–10 mg deep IM q4–6h.  **Antipsychotic:** 10–20 mg IM acutely or 5–10 mg PO tid-qid for maint; ↑ doses may be required for antipsychotic effect.  **Peds.** 0.1–0.15 mg/kg/dose IM q4–6h or 0.4 mg/kg/24 h PO ↓ tid-qid  **Caution:** [C, +/–] NAG, severe liver/cardiac Dz  **CI:** Phenothiazine sensitivity, BM suppression; age <2 y or wt <9 kg  **Disp:** Tabs 5, 10, 25 mg; SR caps 10, 15 mg; syrup 5 mg/5 mL; supp 2.5, 5, 25 mg; Inj 5 mg/mL  **SE:** EPS common; Rx w/ diphenhydramine or benztropine

Promethazine (Phenergan)  **Uses:** *N/V, motion sickness*  **Action:** Phenothiazine; blocks CNS postsynaptic mesolimbic dopaminergic receptors  **Dose:**  **Adults.** 12.5–50 mg PO, PR, or IM bid-qid PRN.  **Peds.** 0.1–0.5 mg/kg/dose PO or IM q2–6h PRN  **Caution:** [C, +/–] Use w/ agents w/ resp depressant effects  **CI:** Component allergy, NAG, age <2 y  **Disp:** Tabs 12.5, 25, 50 mg; syrup 6.25 mg/5 mL, 25 mg/5 mL; supp 12.5, 25, 50 mg; Inj 25, 50 mg/mL  **SE:** Drowsiness, tardive dyskinesia, EPS, lowered Sz threshold, ↓ BP, GI upset, blood dyscrasias, photosensitivity, resp depression in children

Propafenone (Rythmol)  **WARNING:** Excess mortality or nonfatal cardiac arrest rate possible; avoid use in asymptomatic and symptomatic non–life-threatening ventricular arrhythmias  **Uses:** *Life-threatening ventricular arrhythmias, AF*  **Action:** Class IC antiarrhythmic (Table 10)  **Dose:**  **Adults.** 150–300 mg PO q8h.  **Peds.** 8–10 mg/kg/d ÷ in 3–4 doses; may ↑ 2 mg/kg/d, 20 mg/kg/d max  **Caution:** [C, ?] w/ Amprenavir, ritonavir, MI w/in 2 y, w/ liver/renal impair  **CI:** Uncontrolled CHF, bronchospasm, cardiogenic shock, AV block w/o pacer  **Disp:** Tabs 150, 225, 300 mg; ER caps 225, 325, 425 mg  **SE:** Dizziness, unusual taste, 1st-degree heart block, arrhythmias, prolongs QRS & QT intervals; fatigue, GI upset, blood dyscrasias

Propantheline (Pro-Banthine)  **Uses:** *PUD,* symptomatic Rx of small intestine hypermotility, spastic colon, ureteral spasm, bladder spasm, pylorospasm  **Action:** Antimuscarinic  **Dose:**  **Adults.** 15 mg PO ac & 30 mg PO hs; ↓ in elderly.  **Peds.** 2–3 mg/kg/24 h PO ↓ tid-qid  **Caution:** [C, ?]  **CI:** NAG, ulcerative colitis, toxic megacolon, GI/GU obst  **Disp:** Tabs 7.5, 15 mg  **SE:** Anticholinergic (eg, xerostomia, blurred vision)
Propofol (Diprivan)  Uses: *Induction & maint of anesthesia; sedation in intubated pts*  Action: Sedative–hypnotic; mechanism unknown; acts in 40 s  Dose: Adults. Anesthesia: 2–2.5 mg/kg (also ECC 2005), then 0.1–0.2 mg/kg/min Inf. ICU sedation: 5 mcg/kg/min IV × 5 min, ↑ PRN 5–10 mcg/kg/min q5–10min, 5–50 mcg/kg/min cont Inf. Peds. Anesthesia: 2.5–3.5 mg/kg induction; then 125–300 mcg/kg/min; ↓ in elderly, debilitated, ASA II/IV pts  Caution: [B, +] CI: If general anesthesia CI, sensitivity to egg, egg products, soybeans, soybean products  Disp: Inj 10 mg/mL  SE: May ↑ triglycerides w/ extended dosing; ↓ BP, pain at site, apnea, anaphylaxis Notes: 1 mL has 0.1 g fat

Propoxyphene (Darvon); Propoxyphene & Acetaminophen (Darvocet); Propoxyphene & Aspirin (Darvon Compound-65, Darvon-N + Aspirin) [C-IV]  WARNING: Excessive doses alone or in combo w/ other CNS depressants can be cause of death; use w/ caution in depressed or suicidal pts  Uses: *Mild–mod pain*  Action: Narcotic analgesic  Dose: 1–2 PO q4h PRN; ↓ in hepatic impair, elderly  Caution: [C (D if prolonged use), M] Hepatic impair (APAP), peptic ulcer (ASA); severe renal impair, Hx EtOH abuse  CI: Allergy, suicide risk, Hx drug abuse  Disp: Darvon: Propoxyphene HCl caps 65 mg. Darvon-N: Propoxyphene napsylate 100-mg tabs. Darvocet-N: Propoxyphene napsylate 50 mg/APAP 325 mg. Darvocet-N 100: Propoxyphene napsylate 100 mg/APAP 650 mg. Darvon Compound-65: Propoxyphene HCl caps 65-mg/ASA 389 mg/caffeine 32 mg. Darvon-N w/ ASA: Propoxyphene napsylate 100 mg/ASA 325 mg  SE: OD can be lethal; ↓ BP, dizziness, sedation, GI upset, ↑ LFTs

Propranolol (Inderal)  Uses: *HTN, angina, MI, hyperthyroidism, essential tremor, hypertrophic subaortic stenosis, pheochromocytoma; prevents migraines & atrial arrhythmias*  Action: β-Adrenergic receptor blocker, β₁, β₂; only β-blocker to block conversion of T₄ to T₃  Dose: Adults. Angina: 80–320 mg/d PO ÷ bid-qid or 80–160 mg/d SR. Arrhythmia: 10–80 mg PO tid-qid or 1 mg IV slowly, repeat q5min, 5 mg max. HTN: 40 mg PO bid or 60–80 mg/d SR, ↑ weekly to max 640 mg/d. Hypertrophic subaortic stenosis: 20–40 mg PO tid-qid. MI: 180–240 mg PO ÷ tid-qid. Migraine prophylaxis: 80 mg/d ÷ qid-tid, ↑ weekly 160–240 mg/d ÷ tid-qid max; wean if no response in 6 wk. Pheochromocytoma: 30–60 mg/d ÷ tid-qid. Thio- toxicosis: 1–3 mg IV × 1; 10–40 mg PO q6h. Tremor: 40 mg PO bid, ↑ PRN 320 mg/d max; 0.1 mg/kg slow IV push, divided 3 equal doses q2–3min, max 1 mg/min; repeat in 2 min PRN (ECC 2005). Peds. Arrhythmia: 0.5–1.0 mg/kg/d ÷ tid-qid, ↑ PRN q3–7d to 60 mg/d max; 0.01–0.1 mg/kg IV over 10 min, 1 mg max. HTN: 0.5–1.0 mg/kg ÷ bid-qid, ↑ PRN q3–7d to 2 mg/kg/d max; ↓ in renal impair  Caution: [C (1st tri, D if 2nd or 3rd tri), +] CI: Uncompensated CHF, cardiogenic shock, bradycardia, heart block, PE, severe resp Dz  Disp: Tabs 10, 20, 40, 80 mg; SR caps 60, 80, 120, 160 mg; oral soln 4, 8, mg/mL; Inj 1 mg/mL  SE: Bradycardia, ↓ BP, fatigue, GI upset, ED
Propylthiouracil [PTU]  Uses: *Hyperthyroidism*  Action: ↓ Production of T₃ & T₄ & conversion of T₄ to T₃  Dose: Adults. Initial: 100 mg PO q8h (may need up to 1200 mg/d); after pt euthyroid (6–8 wk), taper dose by 1/2 q4–6wk to maint, 50–150 mg/24 h; can usually D/C in 2–3 y; ↓ in elderly.  Peds. Initial: 5–7 mg/kg/24 h PO ÷ q8h. Maint: 1/3–2/3 of initial dose  Caution: [D, –]  CI: Allergy  Disp: Tabs 50 mg  SE: Fever, rash, leukopenia, dizziness, GI upset, taste perversion, SLE-like syndrome  Notes: Monitor pt clinically, ✓ TFT

Protamine (generic)  Uses: *Reverse heparin effect*  Action: Neutralize heparin by forming a stable complex  Dose: Based on degree of heparin reversal; give IV slowly; 1 mg reverses ~ 100 units of heparin given in the preceding 3–4 h, 50 mg max  Caution: [C, ?]  CI: Allergy  Disp: Inj 10 mg/mL  SE: Follow coagulants; anticoagulant effect if given w/o heparin; ↓ BP, bradycardia, dyspnea, hemorrhage  Notes: ✓ aPTT ~ 15 min after use to assess response

Pseudoephedrine (Sudafed, Novafed, Afrinol, others) [OTC]  WARNING: Not for use in peds <2 y  Uses: *Decongestant*  Action: Stimulates α-adrenergic receptors w/ vasoconstriction  Dose: Adults. 30–60 mg PO q6–8h. Peds 2–5 y: 15 mg q 4–6h. 60 mg/24h max. 6–12 y: 30 mg q4–6h. 120 mg/24 h max; ↓ w/ renal Insuff  Caution: [C, +]  CI: Poorly controlled HTN or CAD, w/ MAOIs  Disp: Tabs 30, 60 mg; caps 60 mg; SR tabs 120, 240 mg; liq 7.5 mg/0.8 mL, 15, 30 mg/5 mL  SE: HTN, insomnia, tachycardia, arrhythmias, nervousness, tremor  Notes: Found in many OTC cough/cold preparations; OTC restricted distribution

Psyllium (Metamucil, Serutan, Effer-Syllium)  Uses: *Constipation & colonic diverticular Dz*  Action: Bulk laxative  Dose: 1 tsp (7 g) in glass of H₂O PO daily–tid  Caution: [B, ?]  CI: Suspected bowel obst  Disp: Granules 4, 25 g/tsp; powder 3.5 g/packet, caps 0.52g (3 g/6 caps), wafers 3.4 g/dose  SE: D, Abd cramps, bowel obst, constipation, bronchospasm

Pyrazinamide (generic)  Uses: *Active TB in combo w/ other agents*  Action: Bacteriostatic; unknown mechanism  Dose: Adults. 15–30 mg/kg/24 h PO ÷ tid-qid; max 2 g/d; dosing based on lean body wgt; ↓ dose in renal/hepatic impair. Peds. 15–30 mg/kg/d PO ÷ daily-bid; ↓ w/ renal/hepatic impair  Caution: [C, +/–]  CI: Severe hepatic damage, acute gout  Disp: Tabs 500 mg  SE: Hepatotoxic, malaise, GI upset, arthralgia, myalgia, gout, photosensitivity  Notes: Use in combo w/ other anti-TB drugs; consult MMWR for latest TB recommendations; dosage regimen differs for “directly observed” therapy

Pyridoxine [Vitamin B₆]  Uses: *Rx & prevention of vit B₆ deficiency*  Action: Vit B₆ supl  Dose: Adults. Deficiency: 10–20 mg/d PO. Drug-induced neuritis: 100–200 mg/d; 25–100 mg/d prophylaxis. Peds. 5–25 mg/d × 3 wk  Caution: [A (C if doses exceed RDA), +]  CI: Component allergy  Disp: Tabs 25, 50, 100 mg; Inj 100 mg/mL  SE: Allergic Rxns, HA, N
**Quetiapine (Seroquel, Seroquel XR)**  
**WARNING:** Closely monitor pts for worsening depression or emergence of suicidality, particularly in ped pts; not for use in ped pts; ↑ mortality in elderly with dementia-related psychosis  
**Uses:** *Acute exacerbations of schizophrenia*  
**Action:** Serotonin & dopamine antagonism  
**Dose:** 150–750 mg/d; initiate at 25–100 mg bid-tid; slowly ↑ dose; XR: 400–800 mg PO q P.M.; start 300 mg/d, ↑ 300 mg/d, 800 mg d max ↓ dose w/ hepatic & geriatric pts  
**Caution:** [C, –] CI: Component allergy  
**Disp:** Tabs 25, 50, 100, 200, 300, 400 mg; 200, 300, 400 XR  
**SE:** Confusion w/ nefazodone; HA, somnolence, ↑ wgt, ↓ BP, dizziness, cataracts, neuroleptic malignant syndrome, tardive dyskinesia, ↑ QT internal  

**Quinapril (Accupril)**  
**WARNING:** ACE inhibitors used during PRG can cause fetal injury & death  
**Uses:** *HTN, CHF, DN, post-MI*  
**Action:** ACE inhibitor  
**Dose:** 10–80 mg PO daily; ↓ in renal impair  
**Caution:** [D, +] w/ RAS, vol depletion  
**CI:** ACE inhibitor sensitivity, angioedema, PRG  
**Disp:** Tabs 5, 10, 20, 40 mg  
**SE:** Dizziness, HA, ↓ BP, impaired renal Fxn, angioedema, taste perversion, cough  

**Quinidine (Quinidex, Quinaglute)**  
**WARNING:** Mortality rates increased when used to treat non-life threatening arrhythmias  
**Uses:** *Prevention of tachyarrhythmias, malaria*  
**Action:** Class 1A antiarrhythmic  
**Dose:** Adults. AF/flutter conversion: After digitalization, 200 mg q2–3h × 8 doses; ↑ daily to 3–4 g max or nl rhythm. **Peds.** 15–60 mg/kg/24 h PO in 4–5 ÷ doses; ↓ in renal impair  
**Caution:** [C, +] w/ Ritonavir CI: Digitalis tox & AV block; conduction disorders  
**Disp:** Sulfate: Tabs 200, 300 mg; SR tabs 300 mg. Gluconate: SR tabs 324 mg; Inj 80 mg/mL  
**SE:** Extreme ↓ BP w/ IV use; syncope, QT prolongation, GI upset, arrhythmias, fatigue, cinchonism (tinnitus, hearing loss, delirium, visual changes), fever, hemolytic anemia, thrombocytopenia, rash  
**Notes:** Levels: Trough: just before next dose. Therapeutic: 2–5 mcg/mL. Toxic: >10 mcg/mL. Half-life: 6–8h; sulfate salt 83% quinidine; gluconate salt 62% quinidine; use w/ drug that slows AV conduction (eg, digoxin, diltiazem, β-blocker)  

**Quinupristin–Dalfopristin (Synercid)**  
**Uses:** *Vancomycin-resistant Infxns due to E. faecium & other gram(+)*  
**Action:** ↓ Ribosomal protein synth.  
**Spectrum:** Vancomycin-resistant E. faecium, methicillin-susceptible S. aureus, S. pyogenes; not against E. faecalis  
**Dose:** Adults & Peds. 7.5 mg/kg IV q8–12h (central line preferred); incompatible w/ NS or heparin; flush IV w/ dextrose; ↓ w/ hepatic failure  
**Caution:** [B, M] Multiple drug interactions w/ drugs metabolized by CYP3A4 (eg, cyclosporine) CI: Component allergy  
**Disp:** Inj 500 mg (150 mg quinupristin/350 mg dalfopristin) 600 mg (180 quinupristin/420 mg dalfopristin)  
**SE:** Hyperbilirubinemia, Inf site Rxns & pain, arthralgia, myalgia  

**Rabeprazole (AcipHex)**  
**Uses:** *PUD, GERD, ZE* H. pylori  
**Action:** Proton pump inhibitor  
**Dose:** 20 mg/d; may ↑ to 60 mg/d; H. pylori 20 mg PO bid × 7 d (w/ amoxicillin and clarithromycin); do not crush/chew tabs  
**Caution:** [B, ?/–]  
**Disp:** Tabs 20 mg ER  
**SE:** HA, fatigue, GI upset  

**Raloxifene (Evista)**  
**WARNING:** Increased risk of venous thromboembolism and death from stroke  
**Uses:** *Prevent osteoporosis, breast CA prevention*
Action: Partial antagonist of estrogen, behaves like estrogen **Dose:** 60 mg/d **Caution:** [X, –] **CI:** Thromboembolism, PRG **Disp:** Tabs 60 mg **SE:** Chest pain, insomnia, rash, hot flashes, GI upset, hepatic dysfunction, leg cramps **Raltegravir (Isentress)** **Uses:** *HIV in combo w/ other agents* **Action:** HIV-integrase strand transfer inhibitor **Dose:** 100 mg PO bid **Caution:** [C, –] **CI:** None **Disp:** tabs 400 mg **SE:** N/D, HA, fever **Ramipril (Altace)** **WARNING:** ACE inhibitors used during PRG can cause fetal injury & death **Uses:** *HTN, CHF, DN, post-MI* **Action:** ACE inhibitor **Dose:** 2.5–20 mg/d PO ÷ daily-bid; ↓ in renal failure **Caution:** [D, +] **CI:** ACE inhibitor-induced angioedema **Disp:** Caps 1.25, 2.5, 5, 10 mg **SE:** Cough, HA, dizziness, ↓ BP, renal impair, angioedema **Notes:** OK in combo w/ diuretics **Ranibizumab (Lucentis)** **Uses:** *Neovascular “wet” macular degeneration* **Action:** Vascular endothelial growth factor inhibitor **Dose:** 0.5 mg intravitreal Inj q mo **Caution:** [C; ?] Hx thromboembolism **CI:** periorcular Infxn **Disp:** Inj **SE:** Endophthalmitis, retinal detachment/hemorrhage, cataract, intraocular inflammation, conjunctival hemorrhage, eye pain, floaters **Ranitidine Hydrochloride (Zantac)** **Uses:** *Duodenal ulcer, active benign ulcers, hyperecretory conditions, & GERD* **Action:** H2-receptor antagonist **Dose:** **Adults.** Ulcer: 150 mg PO bid, 300 mg PO hs, or 50 mg IV q6–8h; or 400 mg IV/d cont Inf, then maint of 150 mg PO hs. Hypersecretion: 150 mg PO bid, up to 600 mg/d. **GERD:** 300 mg PO bid; maint 300 mg PO hs. **Dyspepsia:** 75 mg PO daily-bid. **Peds.** 0.75–1.5 mg/kg/dose IV q6–8h or 1.25–2.5 mg/kg/dose PO q12h; ↓ in renal Insuff/failure **Caution:** [B, +] **CI:** Component allergy **Disp:** Tabs 75 [OTC], 150, 300 mg; caps 150, 300 mg; effervescent tabs 150 mg; syrup 15 mg/mL; Inj 25 mg/mL **SE:** Dizziness, sedation, rash, GI upset **Notes:** PO & parenteral doses differ **Ranolazine (Ranexa)** **Uses:** *Chronic angina* **Action:** ↓ Ischemia-related Na+ entry into myocardium **Dose:** **Adults.** Early Dz: 1 mg PO daily, start 0.5 mg PO daily w/ levodopa; ↓ w/ CYP1A2 inhibitors or hepatic impair **CI:** MAOIs, sympathomimetic amines, meperidine, methadone, tramadol, propoxyphene, dextromethorphan, mirtazapine, cyclobenzaprine, St. John’s wort, sympathomimetic vasoconstrictors, general anesthetics, SSRIs **Caution:** [C, ?] HTN may develop w/ renal impair **Disp:** SR tabs 500 mg **SE:** Dizziness, HA, constipation, arrhythmias **Notes:** Not first line; use w/ amlodipine, nitrates, β-blockers **Rasagiline mesylate (Azilect)** **Uses:** *Early Parkinson Dz monotherapy; levodopa adjunct w/ advanced Dz* **Action:** MAO B inhibitor **Dose:** **Adults.** Early Dz: 1 mg PO daily, start 0.5 mg PO daily w/ levodopa; ↓ w/ CYP1A2 inhibitors or hepatic impair **CI:** MAOIs, sympathomimetic amines, meperidine, methadone, tramadol, propoxyphene, dextromethorphan, mirtazapine, cyclobenzaprine, St. John’s wort, sympathomimetic vasoconstrictors, general anesthetics, SSRIs **Caution:** [C, ?] Avoid tyramine-containing foods; mod/severe hepatic impair **Disp:** Tabs 0.5, 1 mg **SE:** Arthralgia, indigestion, dyskinesia, hallucinations, ↓ wgt, postural ↓ BP, N, V, constipation, xerostomia, rash, sedation, CV conduction disturbances **Notes:** Rare melanoma reported; do periodic skin exams; D/C 14 d prior to elective surgery; initial ↓ levodopa dose ok
**Rasburicase (Elitek)**  Uses: *Reduce ↑ uric acid due to tumor lysis (peds)*  
*Action:* Catalyzes uric acid  
*Dose:* Peds. 0.15 or 0.20 mg/kg IV over 30 min, daily × 5  
*Caution:* [C, ?/–] Falsely ↓ uric acid values  
*CI:* Anaphylaxis, screen for G6PD deficiency to avoid hemolysis, methemoglobinemia  
*Disp:* 1.5 mg Inj  
*SE:* Fever, neutropenia, GI upset, HA, rash  
*Note:* Place blood test tube for uric acid level on ice to stop enzymatic Rxn; removed by dialysis  

**Repaglinide (Prandin)**  Uses: *Type 2 DM*  
*Action:* ↑ Pancreatic insulin release  
*Dose:* 0.5–4 mg ac, PO start 1–2 mg, ↑ to 16 mg/d max; take pc  
*Caution:* [C, ?/–]  
*CI:* DKA, type 1 DM  
*Disp:* Tabs 0.5, 1, 2 mg  
*SE:* HA, hyper-/hypoglycemia, GI upset  

**Retapamulin (Altabax)**  Uses: *Topical Rx impetigo in pts >9 mo*  
*Action:* Pleuromutilin antibiotic, bacteriostatic, ↓ bacteria protein synth; Spectrum: S. aureus (not MRSA), S. pyogenes  
*Dose:* Apply bid × 5 d  
*Caution:* [B; ?]  
*Disp:* 10 mg/1 g SE: Local irritation  

**Reteplase (Retavase)**  Uses: *Post-AMI*  
*Action:* Thrombolytic  
*Dose:* 10 units IV over 2 min, 2nd dose in 30 min, 10 units IV over 2 min; 10 units IV bolus over 2 min; 30 min later, 10 units IV bolus over 2 min NS flush before and after each dose  
*(ECC 2005)*  
*Caution:* [C, ?/–]  
*CI:* Internal bleeding, spinal surgery/trauma, Hx CNS AVM/CVA, bleeding diathesis, severe uncontrolled ↑ BP, sensitivity to thrombolytics  
*Disp:* Inj 10.8 units/2 mL  
*SE:* Bleeding including CNS, allergic Rxns  

**Ribavirin (Virazole, Copegus)**  **WARNING:** Monotherapy for chronic hep C ineffective; hemolytic anemia possible, teratogenic and embryocidal; use 2 forms of birth control for up to 6 mo after D/C drug; decrease in resp fxn when used in infants as Inh  
*Uses:* *RSV Infxn in infants [Virazole]; hep C (in combo w/ interferon alfa-2b [Copegus])*  
*Action:* Unknown  
*Disp:* Powder for aerosol  
*SE:* Fatigue, HA, GI upset, anemia, myalgia, alopecia, bronchospasm, ↓ HCT  
*Notes:* Virazole aerosolized by a SPAG, monitor resp Fxn closely; ✓ Hgb/Hct; PRG test monthly; hep C viral genotyping may modify dose  

**Rifabutin (Mycobutin)**  *Prevent MAC Infxn in AIDS pts w/ CD4 count <100*  
*Action:* ↓ DNA-dependent RNA polymerase activity  
*Dose:* Adults. 150–300 mg/d PO. Peds 1 y: 15–25 mg/kg/d PO. 2–10 y: 4.4–18.8 mg/kg/d PO. 14–16 y: 2.8–5.4 mg/kg/d PO  
*Caution:* [B; ?/–] WBC <1000/mm³ or platelets <50,000/mm³; ritonavir  
*CI:* Allergy  
*Disp:* Caps 150 mg SE: Discolored urine, rash, neutropenia, leukopenia, myalgia, ↑ LFTs  
*Notes:* SE/interactions similar to rifampin  

**Rifampin (Rifadin)**  *TB & Rx & prophylaxis of N. meningitidis, H. influenzae, or S. aureus carriers*; adjunct w/ severe S. aureus  
*Action:*
DNA-dependent RNA polymerase

**Dose:**

- **Adults:** N. meningitidis & H. influenzae carrier: 600 mg/d PO for 4 d. TB: 600 mg PO or IV daily or 2×/wk w/ combo regimen.
- **Peds.** 10–20 mg/kg/dose PO or IV daily-bid; ↓ in hepatic failure

**Caution:** [C, +] Amprenavir, multiple drug interactions

**CI:** Allergy, active N. meningitidis Infxn, w/ saquinavir/ritonavir

**Disp:** Caps 150, 300 mg; Inj 600 mg

**SE:** Red-orange–colored bodily fluids, ↑ LFTs, flushing, HA

**Notes:** Never use as single agent w/ active TB

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**Rifapentine (Priftin)**

**Uses:** *Pulm TB*

**Action:** ↓ DNA-dependent RNA polymerase.

**Spectrum:** Mycobacterium tuberculosis

**Dose:**

- **Intensive phase:** 600 mg PO 2×/wk for 2 mo; separate doses by >3 d.
- **Continuation phase:** 600 mg/wk for 4 mo; part of 3–4 drug regimen

**Caution:** [C, red-orange breast milk] Strong CYP450 inducer, ↓ protease inhibitor efficacy, antiepileptics, β-blockers, CCBs

**CI:** Rifamycins allergy

**Disp:** 150-mg tabs

**SE:** Neutropenia, hyperuricemia, HTN, HA, dizziness, rash, GI upset, blood dyscrasias, ↑ LFTs, hematuria, discolored secretions

**Notes:** Monitor LFTs

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**Rifaximin (Xifaxan)**

**Uses:** *Traveler’s D (noninvasive strains of E. coli)* in pts >12 y

**Action:** Not absorbed, derivative of rifamycin.

**Spectrum:** E. coli

**Dose:** 1 tab PO daily × 3 d

**Caution:** [C, ?/–] Hx allergy; pseudomembranous colitis

**CI:** Component & amantadine allergy

**Disp:** Tabs 200 mg

**SE:** Flatulence, HA, Abd pain, GI distress, fever

**Notes:** D/C if Sx worsen or persist >24–48 h, or w/ fever or blood in stool

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**Rimantadine (Flumadine)**

**Uses:** *Prophylaxis & Rx of influenza A viral Infxns*

**Action:** Antiviral

**Dose:**

- **Adults & Peds >9 y:** 100 mg PO bid.
- **Peds 1–9 y:** 5 mg/kg/d PO, 150 mg/d max; daily w/ severe renal/hepatic impair & elderly; initiate w/in 48 h of Sx onset

**Caution:** [C, –] w/ Cimetidine; avoid w/ PRG, breast-feeding

**CI:** Component & amantadine allergy

**Disp:** Tabs 100 mg; syrup 50 mg/5 mL

**SE:** Orthostatic ↓ BP, edema, dizziness, GI upset, ↓ Sz threshold

**Note:** See CDC (MMWR) for current Influenza A guidelines

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**Rimexolone (Vexol Ophthalmic)**

**Uses:** *Post-op inflammation & uveitis*

**Action:** Steroid

**Dose:**

- **Adults & Peds >2 y:** Uveitis:
  - 1–2 gtt/h daytime & q2h at night, taper to 1 gtt q4h.
  - Post-op: 1–2 gtt qid = 2 wk

**Caution:** [C, ?/–] Ocular Infxns

**Disp:** Susp 1% SE: Blurred vision, local irritation

**Notes:** Taper dose

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**Risedronate (Actonel, Actonel w/ calcium)**

**Uses:** *Paget Dz; Rx/prevention glucocorticoid-induced/postmenopausal osteoporosis; ↑ bone mass in osteoporotic men; w/ calcium only FDA approved for female osteoporosis*

**Action:** Bisphosphonate; ↓ osteoclast-mediated bone resorption

**Dose:**

- **Paget Dz:** 30 mg/d PO for 2 mo.
- **Osteoporosis Rx/prevention:** 5 mg daily or 35 mg q wk; 30 min before 1st food/drink of the d; stay upright for at least 30 min after taking

**Caution:** [C, ?/–] CA supls & antacids ↓ absorption

**CI:** Component allergy, ↓ Ca$^{2+}$, esophageal abnormalities, unable to stand/sit for 30 min, CrCl <30 mL/min

**Disp:** Tabs 5, 30, 35, 75 mg; Risedronate 35 mg (4 tabs)/calcium carbonate 1250 mg (24 tabs)

**SE:** HA, D, Abd pain, arthralgia; flu-like Sxs, rash, esophagitis, bone
pain Notes: Monitor LFTs, Ca²⁺, PO₃⁺, K⁺; severe bone, joint muscle pain may have black box warning added

**Risperidone, oral (Risperdal, Risperdal M-Tab)**  
**WARNING:**  
Mortality in elderly with dementia-related psychosis  
**Uses:** *Psychotic disorders (schizophrenia),* dementia of the elderly, bipolar disorder, mania, Tourette disorder, autism  
**Action:** Benzisoxazole antipsychotic  
**Dose:**  
*Adults:* 0.5–6 mg PO bid;  
*M-Tab:* 1–6 mg/d start 1–2 mg/d, titrate q3–7d.  
*Peds.* 0.25 mg PO bid, ↑ q5–7d;  
↓ start dose w/ elderly, renal/hepatic impair  
**Caution:** [C, –], ↑ BP w/ antihypertensives, clozapine  
**CI:** Component allergy  
**Disp:** Tabs 0.25, 0.5, 1, 2, 3, 4 mg; soln 1 mg/mL, M-Tab (orally disintegrating) tabs 0.5, 1, 2, 3, 4 mg  
**SE:** Orthostatic ↓ BP, EPS w/ high dose, tachycardia, arrhythmias, sedation, dystonias, neuroleptic malignant syndrome, sexual dysfunction, constipation, xerostomia, blood dyscrasias, cholestatic jaundice  
**Notes:** Several wk for effect

**Risperidone, parenteral (Risperdal Consta)**  
**WARNING:** Not approved for dementia-related psychosis; ↑ mortality risk in elderly dementia pts on atypical antipsychotics; most deaths due to CV or infectious events  
**Uses:** Schizophrenia  
**Action:** Benzisoxazole antipsychotic  
**Dose:**  
25 mg q2wk IM may ↑ to max 50 mg q2wk; w/ renal/hepatic impair start PO Risperdal 0.5 mg PO bid × 1 wk titrate weekly  
**Caution:** [C, –], ↑ BP w/ antihypertensives, clozapine  
**CI:** Component allergy  
**Disp:** Inj 25, 37.5, 50 mg/vial  
**SE:** See risperidone oral  
**Note:** Long-acting Inj

**Ritonavir (Norvir)**  
**WARNING:** Life-threatening adverse events when used with certain nonsedating antihistamines, sedative hypnotics, antiarrhythmics, or ergot alkaloids due to inhibited drug metabolism  
**Uses:** *HIV*  
**Actions:** Protease inhibitor; ↓ maturation of immature noninfectious virions to mature infectious virus  
**Dose:**  
*Adults.* Initial 300 mg PO bid, titrate over 1 wk to 600 mg PO bid (titration will ↓ GI SE).  
*Peds >1 mo:* 250 mg/m² titrate to 400 mg bid (adjust w/ amrinavir, indinavir, nelfinavir, & saquinavir); take w/ food  
**Caution:** [B, +] w/ Ergotamine, amiodarone, bepridil, flecainide, propafenone, quinidine, pimozide, midazolam, triazolam  
**CI:** Component allergy  
**Disp:** Caps 100 mg; soln 80 mg/mL  
**SE:** ↑ Triglycerides, ↑ LFTs, N/V/D/C, Abd pain, taste perversion, anemia, weakness, HA, fever, malaise, rash, paresthesias  
**Notes:** Refrigerate

**Rivastigmine (Exelon)**  
**Uses:** *Mild–mod dementia in Alzheimer Dz*  
**Action:** Enhances cholinergic activity  
**Dose:** 1.5 mg bid; ↑ to 6 mg bid, w/ ↑ at 2-wk intervals (take w/ food)  
**Caution:** [B, ?] w/ β-Blockers, CCBs, smoking, neuromuscular blockade, digoxin  
**CI:** Rivastigmine or carbamate allergy  
**Disp:** Caps 1.5, 3, 4.5, 6 mg; soln 2 mg/mL  
**SE:** Dose-related GI effects, N/V/D, dizziness, insomnia, fatigue, tremor, diaphoresis, HA, wgt loss (in 18–26%)  
**Notes:** Swallow caps whole, do not break/chew/crush; avoid EtOH

**Rivastigmine transdermal (Exelon Patch)**  
**Uses:** *Mild/mod Alzheimer and Parkinson Dz dementia*  
**Action:** Acetylcholinesterase inhibitor  
**Dose:** Initial: 4.6-mg patch/d applied to back, chest, upper arm, ↑ 9.5 mg after
4 wk if tolerated **Caution:** [?; ?] Sick sinus syndrome, conduction defects, asthma, COPD, urinary obst, Szs **CI:** Hypersensitivity to rivastigmine, other carba-mates **Disp:** Transdermal patch 5 cm² (4.6 mg/24 h), 10 cm² (9.5 mg/24 h) **SE:** N/V/D

**Rizatriptan (Maxalt, Maxalt MLT)** **Uses:** *Rx acute migraine* **Action:** Vascular serotonin receptor agonist **Dose:** 5–10 mg PO, repeat in 2 h, PRN, 30 mg/d max **Caution:** [C, M] **CI:** Angina, ischemic heart Dz, ischemic bowel Dz, hemiplegic/basilar migraine, uncontrolled HTN, ergot or serotonin 5-HT, agonist use w/in 24 h, MAOI use w/in 14 d **Disp:** Tab 5, 10 mg; *Maxalt MLT:* OD tabs 5, 10 mg. **SE:** Chest pain, palpitations, nausea, vomiting, asthenia, dizziness, somnolence, fatigue

**Rocuronium (Zemuron)** **Uses:** *Skeletal muscle relaxation during rapid-sequence intubation, surgery, or mechanical ventilation* **Action:** Nondepolarizing neuromuscular blocker **Dose:** *Rapid sequence intubation:* 0.6–1.2 mg/kg IV. *Continuous Inf:* 5–12.5 mcg/kg/min IV; adjust/titrate based on monitoring; ↓ in hepatic impair **Caution:** [C, ?] **CI:** Component or pancuronium allergy **Disp:** Inj preservative-free 10 mg/mL **SE:** BP changes, tachycardia

**Ropinirole (Requip)** **Uses:** *Rx of Parkinson Dz, restless leg syndrome* **Action:** Dopamine agonist **Dose:** Initial 0.25 mg PO tid, weekly ↑ 0.25 mg/dose, to 3 mg max, max 4 mg for restless leg syndrome **Caution:** [C, ?–] Severe CV, renal, or hepatic impair **CI:** Component allergy **Disp:** Tabs 0.25, 0.5, 1, 2, 3, 4, 5 mg **SE:** Syncope, postural ↓ BP, N/V, HA, somnolence, dosed-related hallucinations, dyskinesias, dizziness **Notes:** D/C w/ 7-d taper

**Rosiglitazone (Avandia)** **WARNING:** May cause or worsen CHF; may increase myocardial ischemia **Uses:** *Type 2 DM* **Action:** Thiazolidinedione; ↑ insulin sensitivity **Dose:** 4–8 mg/d PO or in 2 ÷ doses (w/o regard to meals) **Caution:** [C, –] w/ ESRD, CHF, edema, **CI:** DKA, severe CHF (NYHA class III), ALT >2.5 ULN **Disp:** Tabs 2, 4, 8 mg **SE:** May ↑ CV, CHF & ? CA risk; wgt gain, hyperlipidemia, HA, edema, fluid retention, worsen CHF, hyper-/hypoglycemia, hepatic damage w/ ↑ LFTs **Notes:** Not ok in class III, IV heart Dz

**Rosuvastatin (Crestor)** **Uses:** *Rx primary hypercholesterolemia & mixed dyslipidemia* **Action:** HMG-CoA reductase inhibitor **Dose:** 5–40 mg PO daily; max 5 mg/d w/ cyclosporine, 10 mg/d w/ gemfibrozil or CrCl <30 mL/min (avoid Al-/Mg-based antacids for 2 h after) **Caution:** [X, ?–] **CI:** Active liver Dz, unexplained ↑ LFTs **Disp:** Tabs 5, 10, 20, 40 mg **SE:** Myalgia, constipation, asthenia, Abd pain, N, myopathy, rarely rhabdomyolysis **Notes:** May ↑ warfarin effect; monitor LFTs at baseline, 12 wk, then q6mo; ↓ dose in Asian pts

**Rotavirus vaccine, live, oral, attenuated (Rotarix)** **Uses:** *Prevent rotavirus gastroenteritis in peds* **Action:** Vaccine w/ live attenuated rotavirus **Dose:** *Peds 6–24 wk:* 1st dose PO at 6 wk of age, wait at least 4 wk then a second dose by 24 wk of age. **Caution:** [C, ?] **CI:** Uncorrected congenital GI
malformation
Disp: single dose vial
SE: Fussiness/irritability, cough, runny nose, fever, ↓ appetite, V

**Rotavirus vaccine, live, oral, pentavalent (RotaTeq)**
*Uses:* *Prevent rotavirus gastroenteritis*
*Action:* Active immunization
*Dose:* Peds. Single dose PO at 2, 4, and 6 mo
*Caution:* [? , ?] 
*Disp:* Oral susp 2-mL single-use tubes
*SE:* D, V
*Notes:* Begin series by age 12 wk and conclude by age 32 wk

**Salmeterol (Serevent Diskus)**
*WARNING:* Long-acting β₂-agonists, such as salmeterol, may ↑ the risk of asthma-related death. Should not be used alone, only as additional therapy for pts not controlled on other asthma meds
*Uses:* *Asthma, exercise-induced asthma, COPD*
*Action:* Sympathomimetic bronchodilator, β₂-agonist
*Dose:* Adults & Peds >12 y: 1 Diskus-dose inhaled bid
*Caution:* [C, ?/–]
*CI:* Acute asthma; w/in 14 d of MAOI
*Disp:* 50 mcg/dose, dry powder discus, metered-dose inhaler, 21 mcg/activation
*SE:* HA, pharyngitis, tachycardia, arrhythmias, nervousness, GI upset, tremors
*Notes:* Not for acute attacks; also prescribe short-acting β₂-agonist

**Saquinavir (Fortovase, Invirase)**
*WARNING:* Invirase and Fortovase not bioequivalent/interchangeable; must use Invirase in combo w/ ritonavir, which provides saquinavir plasma levels = to those w/ Fortovase
*Uses:* *HIV Infxn*
*Action:* HIV protease inhibitor
*Dose:* 1200 mg PO tid w/in 2 h pc (dose adjust w/ ritonavir, delavirdine, lopinavir, & nelfinavir)
*Caution:* [B, +] w/ Ketoconazole, statins, sildenafil
*CI:* w/ Rifampin, severe hepatic impair, allergy, sun exposure w/o sunscreen/clothing, triazolam, midazolam, ergots
*Disp:* Caps 200, tabs 500 mg
*SE:* Dyslipidemia, lipodystrophy, rash, hyperglycemia, GI upset, weakness
*Notes:* Take 2 h after meal, avoid direct sunlight

**Sargramostim [GM-CSF] (Leukine)**
*Uses:* *Myeloid recovery following BMT or chemotherapy*
*Action:* Recombinant GF, activates mature granulocytes & macrophages
*Dose:* Adults & Peds. 250 mcg/m²/d IV for 21 d (BMT)
*Caution:* [C, ?/–] Lithium, corticosteroids
*CI:* >10% blasts, allergy to yeast, concurrent chemotherapy/RT
*Disp:* Inj 250, 500 mcg
*SE:* Bone pain, fever, ↓ BP, tachycardia, flushing, GI upset, myalgia
*Notes:* Rotate Inj sites; use APAP PRN for pain

**Scopolamine, Scopolamine transdermal & ophthalmic (Scopace, Transderm-Scop)**
*Uses:* *Prevent N/V associated w/ motion sickness, anesthesia, opiates; mydriatic, cycloplegic, Rx uveitis & iridocyclitis*
*Action:* Anticholinergic, inhibits iris & ciliary bodies, antiemetic
*Dose:* 1 mg/72 h, 1 patch behind ear q3d; apply >4 h before exposure; cycloplegic 1–2 gtt 1 h preprocedure, uveitis 1–2 gtt up to qid max; ↓ in elderly
*Caution:* [C, +] w/APAP, levodopa, ketoconazole, digitals, KCl
*CI:* NAG, GI or GU obst, thyrotoxicosis, paralytic ileus
*Disp:* Patch 1.5 mg, (releases 1 mg over 72 h), ophthal 0.25%
*SE:* Xerostomia, drowsiness, blurred vision, tachycardia, constipation
*Notes:* Do not blink excessively after dose, wait 5 min before dosing other eye; antiemetic activity w/ patch requires several hours
Secobarbital (Seconal) [C-III]  Uses: *Insomnia, short-term use,* pre-anesthetic agent  Action: Rapid-acting barbiturate  Dose: Adults. 100–200 mg hs, 100–300 mg pre-op.  Peds. 2–6 mg/kg/dose, 100 mg/max, ↓ in elderly  Caution: [D, +] CYP2C9, 3A3/4, 3A5/7 inducer (Table 11); ↑ tox w/ other CNS depressants  CI: Porphyria, w/ voriconazole, PRG  Disp: Caps 50, 100 mg  SE: Tolerance in 1–2 wk; resp depression, CNS depression, porphyria, photosensitivity

Selegiline, oral (Eldepryl, Zelapar)  WARNING: Closely monitor pts for worsening depression or emergence of suicidality, particularly in ped pts  Uses: *Parkinson Dz*  Action: MAOI  Dose: 5 mg PO bid; 1.25–2.5 once daily tabs PO q a.m. (before breakfast w/o liq) 2.5 mg/d max; ↓ in elderly  Caution: [C, ?] w/ Drugs that induce CYP3A4 (Table 11) (eg, phenytoin, carbamazepine, nafcillin, phenobarbital, & rifampin); avoid w/ antidepressants  CI: w/ Meperidine, MAOI, dextromethorphan, general anesthesia w/in 10 d, pheochromocytoma  Disp: Tabs/caps 5 mg; once-daily tabs 1.25 mg SE: N, dizziness, orthostatic ↓ BP, arrhythmias, tachycardia, edema, confusion, xerostomia  Notes: ↓ Carbidopa/levodopa if used in combo; see transdermal form

Selegiline, transdermal (Emsam)  WARNING: May ↑ risk of suicidal thinking and behavior in children and adolescents with major depression disorder  Uses: *Depression*  Action: MAOI  Dose: Adults. Apply patch daily to upper torso, upper thigh, or outer upper arm  CI: Tyramine-containing foods w/ 9- or 12-mg doses; serotonin-sparing agents  Caution: [C, –] ↑ Carbamazepine and oxcarbazepine levels  Disp: ER Patches 6, 9, 12 mg  SE: Local Rxns requiring topical steroids; HA, insomnia, orthostatic, ↓ BP, serotonin syndrome, suicide risk  Notes: Rotate site; see oral form

Selenium Sulfide (Exsel Shampoo, Selsun Blue Shampoo, Selsun Shampoo)  Uses: *Scalp seborrheic dermatitis,* scalp itching & flaking due to *dandruff*; tinea versicolor  Action: Antiseborrheic  Dose: Dandruff, seborrhea: Massage 5–10 mL into wet scalp, leave on 2–3 min, rinse, repeat; use 2× wk, then once q1–4wk PRN.  Tinea versicolor: Apply 2.5% daily on area & lather w/ small amounts of water; leave on 10 min, then rinse  Caution: [C, ?] CI: Open wounds  Disp: Shampoo [OTC]; 2.5% lotion  SE: Dry or oily scalp, lethargy, hair discoloration, local irritation  Notes: Do not use more than 2×/wk

Sertaconazole (Ertaczo)  Uses: *Topical Rx interdigital tinea pedis*  Action: Imidazole antifungal. Spectrum: Trichophyton rubrum, Trichophyton mentagrophytes, Epidermophyton floccosum  Dose: Adults & Peds  >12: Apply between toes & immediate surrounding healthy skin bid × 4 wk  Caution: [C, ?] CI: Component allergy  Disp: 2% Cream  SE: Contact dermatitis, dry/burning skin, tenderness  Notes: Use in immunocompetent pts; not for oral, intravag, ophthal use

Sertraline (Zoloft)  WARNING: Closely monitor pts for worsening depression or emergence of suicidality, particularly in ped pts  Uses: *Depression, panic disorders, OCD, posttraumatic stress disorder (PTSD),* social anxiety
disorder, eating disorders, premenstrual disorders Action: ↓ Neuronal uptake of serotonin Dose: Adults. Depression: 50–200 mg/d PO. PTSD: 25 mg PO daily × 1 wk, then 50 mg PO daily. 200 mg/d max. Peds 6–12 y: 25 mg PO daily. 13–17 y: 50 mg PO daily. Caution: [C, ?/–] w/ Haloperidol (serotonin syndrome), sumatriptan, linezolid, hepatic impair CI: MAOI use w/in 14 d; concomitant pimozide Disp: Tabs 25, 50, 100, 150, 200 mg; 20 mg/mL oral SE: Activate manic/hypomanic state, ↓ wgt, insomnia, somnolence, fatigue, tremor, xerostomia, N/D, dyspepsia, ejaculatory dysfunction, ↓ libido, hepatotox

Sevelamer carbonate (Renvela) Uses: *Control ↑ PO₄⁻³ in ESRD* Action: Phosphate binder Dose: Initial: PO₄⁻³ >5.5 and <7.5 mg/dL: 800 mg PO; ≥7.5 mg/dL: 1600 mg PO tid. Switching from Sevelamer HCl: g-per-g basis; titrate ↑/↓ 1 tab/meal 2-wk intervals PRN; take w/ food Caution: [C, ?] w/ Swallow disorders, bowel problems, may ↓ absorption of Vits D, E, K, ↓ ciprofloxacin & other medicine levels CI: ↓ PO₄, bowl obst Disp: Tab 800 mg SE: N/V/D, dyspepsia, Abd pain, flatulence, constipation Notes: Separate other meds 1 h before or 3 h after

Sevelamer HCl (Renagel) Uses: *↓ PO₄⁻³ in ESRD* Action: Binds intestinal PO₄⁻³ Dose: 2–4 caps PO tid w/ meals; adjust based on PO₄⁻³; max 4 g/dose Caution: [C, ?] May ↓ absorption of Vits D, E, K, ↓ ciprofloxacin & other medicine levels CI: ↓ PO₄⁻³, bowl obst Disp: Tab 400, 800 mg SE: BP changes, N/V/D, dyspepsia, thrombosis Notes: Do not open/chew caps; separate other meds 1 h before or 3 h after; 800 mg sevelamer = 667 mg Ca acetate

Sibutramine (Meridia) [C-IV] Uses: *Obesity* Action: Blocks uptake of norepinephrine, serotonin, dopamine Dose: 10 mg/d PO, may ↑ to 15 mg/d after 4 wk Caution: [C, –] w/ SSRIs, lithium, dextromethorphan, opioids CI: MAOI w/ in 14 d, uncontrolled HTN, arrhythmias Disp: Caps 5, 10, 15 mg SE: HA, insomnia, xerostomia, constipation, rhinitis, tachycardia, HTN Notes: Use w/ low-calorie diet, monitor BP & HR; only for BMI >30 kg/m² or >27 kg/m² w/ CV risk factors

Sildenafil (Viagra, Revatio) Uses: Viagra: *Erectile dysfunction*; Revatio: *Pulm artery HTN* Action: ↓ Phosphodiesterase type 5 (responsible for cyclic guanosine monophosphate [cGMP] breakdown); ↑ cGMP activity to relax smooth muscles & ↑ flow to corpus cavernosum and pulm vasculature; ? antiproliferative on pulm artery smooth muscle Dose: ED: 25–100 mg PO 1 h before sexual activity, max 1/d; ↓ if >65 y; avoid fatty foods w/ dose; Revatio: Pulm HTN: 20 mg PO tid Caution: [B, ?] w/ CYP3A4 inhibitors (Table 11), ↓ dose w/ ritonavir; retinitis pigmentosa; hepatic/severe renal impair; w/ sig hypo-/hypertension CI: w/ Nitrates or if sex not advised Disp: Tabs Viagra 25, 50, 100 mg, tabs Revatio 20 mg SE: HA; flushing; dizziness; blue haze visual change, hearing loss, priapism Notes: Cardiac events in absence of nitrates debatable; transient global amnesia reports

Silodosin (Rapaflo) Uses: *BPH* Action: Antagonist of prostatic α₁ receptors (mostly α₁A) Dose: 8 mg/d; 4 mg/d w/ CrCl 30–50 mL/min; take w/ food
Caution: [B, ?], not for use in females; do not use w/other α-blockers or w/cyclosporine; R/O PCa before use; IFIS possible w/cataract surgery; avoid CI: Severe hepatic/renal impair (CrCl <30 mL/min), w/CYP3A4 inhibitors (eg, ketoconazole, clarithromycin, itraconazole, ritonavir) Disp: Caps 4, 8 mg SE: Retrograde ejaculation, dizziness, D, syncope, somnolence, orthostatic ↓ BP, nasopharyngitis, nasal congestion Notes: Not for use as antihypertensive; no effect on QT interval

Silver Nitrate (Dey-Drop, others) Uses: *Removal of granulation tissue & warts; prophylaxis in burns* Action: Caustic antiseptic & astringent Dose: Adults & Peds. Apply to moist surface 2–3× wk for several wk or until effect Caution: [C, ?] CI: Do not use on broken skin Disp: Topical impregnated applicator sticks, soln 0.5, 10, 25, 50%; ophthal 1% amp; topical ointment 10% SE: May stain tissue black, usually resolves; local irritation, methemoglobinemia Notes: D/C if redness or irritation develop; no longer used in US for newborn prevention of gonococcus conjunctivitis

Silver Sulfadiazine (Silvadene, others) Uses: *Prevention & Rx of Infxn in 2nd- & 3rd-degree burns* Action: Bactericidal Dose: Adults & Peds. Aseptically cover the area w/ 1/16-inch coating bid Caution: [B unless near term, ?/–] CI: Infants <2 mo, PRG near term Disp: Cream 1% SE: Itching, rash, skin discoloration, blood dyscrasias, hep, allergy Notes: Systemic absorption w/ extensive application

Simethicone (Mylicon, others) [OTC] Uses: Flatulence Action: Defoaming, alters gas bubble surface tension action Dose: Adult & Peds >12 y: 40–125 mg PO pc & hs PRN; 500 mg/d max. Peds <2 y: 20 mg PO qid PRN. 2–12 y: 40 mg PO qid PRN Caution: [C, ?] CI: GI Intestinal perforation or obst Disp: [OTC] Tabs 80, 125 mg; caps 125 mg; softgels 125, 166, 180 mg; susp 40 mg/0.6 mL; chew tabs 80, 125 mg SE: N/D Notes: Available in combo products OTC

Simvastatin (Zocor) Uses: ↓ Cholesterol Action: HMG-CoA reductase inhibitor Dose: Adults. 5–80 mg PO; w/meals; ↓ in renal Insuff. Peds 10–17 y: 10 mg, 40 mg/d max Caution: [X, –] Avoid concurrent use of gemfibrozil CI: PRG, liver Dz Disp: Tabs 5, 10, 20, 40, 80 mg SE: HA, GI upset, myalgia, myopathy (muscle pain, tenderness or weakness with creatine kinase 10× ULN), hep Notes: Combo with ezetimibe/simvastatin; follow LFTs

Sirolimus [Rapamycin] (Rapamune) WARNING: Use only by physicians experienced in immunosuppression; immunosuppression associated w/lymphoma, ↑ Infxn risk; do not use in lung transplant (fatal bronchial anastomotic dehiscence) Uses: *Prophylaxis of organ rejection in new Tx pts* Action: ↓ T-lymphocyte activation Dose: Adults >40 kg: 6 mg PO on day 1, then 2 mg/d PO. Peds: <40 kg & >13 y: 3 mg/m² load, then 1 mg/m²/d (in H₂O/orange juice; no grapefruit juice w/sirolimus); take 4 h after cyclosporine; ↓ in hepatic impair Caution: [C, ?/–] Grapefruit juice, ketoconazole CI: Component allergy Disp: Soln 1 mg/mL, tab 1, 2 mg SE: HTN, edema, CP, fever, HA, insomnia, acne, rash, ↑ cholesterol, GI upset, ↑↓ K⁺, Infxns, blood dyscrasias, arthralgia, tachycardia,
renal impair, hepatic artery thrombosis, graft loss & death in de novo liver transplant (↑ hepatic artery thrombosis), delayed wound healing

**Notes:** Levels:

- **Trough:** 4–20 ng/mL; can vary based on assay and use of other immunosuppression agents

**Sitagliptin (Januvia)**

**Uses:** *Type 2 DM*  
**Action:** Dipeptidyl peptidase-4 (DDP-4) inhibitor, ↑ insulin synth/release  
**Dose:** 100 mg PO daily; ↓ w/ renal impair  
**Caution:** [B; ?] w/ Sulfonylurea may ↑ hypoglycemic risk  
**Cl:** DKA, type 1 DM  
**Disp:** Tabs 25, 50, 100 SE  

**Sitagliptin/Metformin (Janumet)**

**Warning:** Associated w/ lactic acidosis  
**Uses:** *Adjunct to diet and exercise in type 2 DM*  
**Action:** See individual agents  
**Dose:** 1 tab PO bid, titrate; 100 mg sitagliptin & 2000 mg metformin/d max; take w/ meals  
**Caution:** [B, ?/–] Cl: Type 1 DM, DKA, male Cr >15; female Cr >1.4 mg/dL  
**Disp:** Tabs 50/500, 50 mg/1000 mg SE: Nasopharyngitis, N/V/D, flatulence, Abd discomfort, dyspepsia, asthenia, HA  
**Notes:** Hold w/ contrast study; ✓ Cr, CBC

**Smallpox Vaccine (Dryvax)**

**Warning:** Acute myocarditis and other infectious complications possible; Cl in immunocompromised, eczema or exfoliative skin conditions, infants <1 y  
**Uses:** Immunization against smallpox (variola virus)  
**Action:** Active immunization (live attenuated cowpox virus)  
**Dose:** Adults (routine nonemergency) or all ages (emergency): 2–3 Punctures w/ bifurcated needle dipped in vaccine into deltoid, posterior triceps muscle; ✓ site for Rxn in 6–8 d; if major Rxn, site scabs, & heals, leaving scar; if mild/equivocal Rxn, repeat w/ 15 punctures  
**Caution:** [X, N/A] Cl: Nonemergency use, febrile illness, immunosuppression, Hx eczema & their household contacts.  
**Emergency:** No absolute Cl  
**Disp:** Vial for reconstitution: 100 million pock-forming units/mL  
**Se:** Malaise, fever, regional lymphadenopathy, encephalopathy, rashes, spread of inoculation to other sites administered; Stevens-Johnson syndrome, eczema vaccinatum w/ severe disability  
**Notes:** Avoid infant contact for 14 d; intradermal use only; restricted distribution

**Sodium Bicarbonate** [NaHCO₃]

**Uses:** *Alkalinization of urine,* RTA, *metabolic acidosis, ↑ K⁺, TCA OD*  
**Action:** Alkalining agent  
**Dose:** Adults.  
**Cardiac arrest:** Initiate ventilation, 1 mEq/kg IV bolus; repeat 1/2 dose q10min PRN (ECC 2005).  
**Metabolic acidosis:** 2–5 mEq/kg IV over 8 h & PRN based on acid–base status.  
**Hyperkalemia:** 1 mg/kg IV over 5 min.  
**Alkalize urine:** 4 g (48 mEq) PO, then 1–2 g q4h; adjust based on urine pH; 2 amp (100 mEq/L D₅W at 100–250 mL/h IV, monitor urine pH & serum bicarbonate.  
**Chronic renal failure:** 1–3 mEq/kg/d.  
**Distal RTA:** 1 mEq/kg/d PO.  
**Proximal RTA:** 5–10 mEq/kg/d; titrate based on serum bicarbonate.  

**Urine alkalinization:** 84–840 mg/kg/d (1–10 mEq/kg/d) in ÷ doses; adjust based on urine pH
Caution: [C, ?] CI: Alkalosis, ↑ Na+, severe pulm edema, ↓ Ca2+ Disp: Powder, tabs; 300 mg = 3.6 mEq; 325 mg = 3.8 mEq; 520 mg = 6.3 mEq; 600 mg = 7.3 mEq; 650 mg = 7.6 mEq; Inj 1 mEq/1 mL, 4.2% (5 mEq/10 mL), 7.5% (8.92 mEq/mL), 8.4% (10 mEq/10 mL) vial or amp SE: Belching, edema, flatulence, ↑ Na+, metabolic alkalosis Notes: 1 g Neutralizes 12 mEq of acid; 50 mEq bicarb = 50 mEq Na; can make 3 amps in 1 L D5W to = D5NS w/ 150 mEq bicarbonate

Sodium Citrate/Citric Acid (Bicitra, Oracit) Uses: *Chronic metabolic acidosis, alkalinize urine; dissolve uric acid & cysteine stones* Action: Urinary alkalinizer Dose: Adults. 10–30 mL in 1–3 oz H2O pc & hs. Peds. 5–15 mL in 1–3 oz H2O pc & hs; best after meals Caution: [C, +] CI: Al-based antacids; severe renal impair or Na-restricted diets Disp: 15- or 30-mL unit dose: 16 (473 mL) or 4 (118 mL) fl oz SE: Tetany, metabolic alkalosis, ↑ K+, GI upset; avoid use of multiple 50-mL amps; can cause ↑ Na+/hyperosmolality Notes: 1 mL = 1 mEq Na & 1 mEq bicarbonate

Sodium Oxybate (Xyrem) [C-III] WARNING: Known drug of abuse even at recommended doses; confusion, depression, resp depression may occur Uses: *Narcolepsy-associated cataplexy* Action: Inhibitory neurotransmitter Dose: Adults & Peds >16 y: 2.25 g PO qhs, 2nd dose 2.5–4 h later; may ↑ 9 g/d max Caution: [B, ?/–] CI: Succinic semialdehyde dehydrogenase deficiency; potentiates EtOH Disp: 500 mg/mL (180-mL) PO soln SE: Confusion, depression, ↓ level of consciousness, incontinence, sig V, resp depression, psychological Sxs Notes: May lead to dependence; synonym for γ-hydroxybutyrate (GHB), abused as a “date rape drug”; controlled distribution (prescriber & pt registration); must be administered when pt in bed

Sodium Phosphate (Visicol) Uses: *Bowel preparation prior to colonoscopy,* short-term constipation Action: Hyperosmotic laxative Dose: 3 Tabs PO w/ at least 8 oz clear liq q15min (20 tabs total night before procedure; 3–5 h before colonoscopy, repeat) Caution: [C, ?] Renal impair, electrolyte disturbances CI: Megacolon, bowel obst, CHF, ascites, unstable angina, gastric retention, bowel perforation, colitis, hypomotility Disp: Tabs 0.398, 1.102 g PO or PR q6h based on serum K+. Peds. 1 g/kg/dose PO or PR q6h based on serum K+ (given w/ agent, eg, sorbitol, to promote movement through the bowel) Caution: [C, M] CI: ↑ Na+ Disp: Powder; susp 15 g/60 mL sorbitol SE: ↑ Na+, ↓ K+, Na retention, GI upset, fecal impaction Notes: Enema acts more quickly than PO; PO most effective, onset action >2 h

Sodium Polystyrene Sulfonate (Kayexalate) Uses: *Rx of ↑ K** Action: Na+/K+ ion-exchange resin Dose: Adults. 15–60 g PO or 30–60 g PR q6h based on serum K+. Peds. 1 g/kg/dose PO or PR q6h based on serum K+ (given w/ agent, eg, sorbitol, to promote movement through the bowel) Caution: [C, M] CI: ↑ Na+ Disp: Powder; susp 15 g/60 mL sorbitol SE: ↑ Na+, ↓ K+, Na retention, GI upset, fecal impaction Notes: Enema acts more quickly than PO; PO most effective, onset action >2 h

Solifenacin (Vesicare) Uses: *OAB* Action: Antimuscarinic, ↓ detrusor contractions Dose: 5 mg PO daily, 10 mg/d max; ↓ w/ renal/hepatic impair Caution: [C, ?/–] BOO or GI obst, ulcerative colitis, MyG, renal/hepatic impair, QT prolongation risk CI: NAG, urinary/gastric retention Disp: Tabs 5, 10 mg
SE: Constipation, xerostomia, dyspepsia, blurred vision, drowsiness Notes: CYP3A4 substrate; azole antifungals ↑ levels; recent concern over cognitive effects

**Sorafenib (Nexavar)**  
**Uses:** *Advanced RCC* metastatic liver cancer  
**Action:** Kinase inhibitor  
**Dose:** *Adults.* 400 mg PO bid on empty stomach  
**Caution:** [D, –] w/ Irinotecan, doxorubicin, warfarin; avoid conception (male/female)  
**Disp:** Tabs 200 mg  
**SE:** Hand–foot syndrome; Tx-emergent hypertension; bleeding, ↑ INR, cardiac infarction/ischemia; ↑ pancreatic enzymes, hypophosphatemia, lymphopenia, anemia, fatigue, alopecia, pruritus, D, GI upset, HA, neuropathy Notes: Monitor BP 1st 6 wk; may require ↓ dose (daily or q other day); impaired metabolism in pt of Asian descent; unknown effect on wound healing, D/C before major surgery

**Sorbitol (generic)**  
**Uses:** *Constipation*  
**Action:** Laxative  
**Dose:** 30–60 mL PO of a 20–70% soln PRN  
**Caution:** [B, +] CI: Anuria  
**Disp:** Liq 70%  
**SE:** Edema, electrolyte loss, lactic acidosis, GI upset, xerostomia Notes: May be vehicle for many liq formulations (eg, zinc, Kayexalate)

**Sotalol (Betapace)**  
**WARNING:** To minimize risk of induced arrhythmia, pts initiated/reinitiated on Betapace AF should be placed for a minimum of 3 d (on their maint) in a facility that can provide cardiac resuscitation, cont ECG monitoring, & calculations of CrCl. Betapace should not be substituted for Betapace AF because of labeling  
**Uses:** *Ventricular arrhythmias, AF*  
**Action:** β-Adrenergic-blocking agent  
**Dose:** *Adults.*  
- $\text{CrCl} >60 \text{ mL/min}$: 80 mg PO bid, may ↑ to 240–320 mg/d.  
- 30–60 mL/min: 80 mg q24h.  
- 10–30 mL/min: 80 mg q36–48h  
**Peds Neonates:** 9 mg/m² tid.  
- 1–19 mo: 20.4 mg/m² tid.  
- 20–23 mo: 29.1 mg/m² tid.  
- ≥2 y: 30 mg/m² tid; to max dose of 90 mg/m² tid; ↓ w/ renal impair  
**Caution:** [B (1st tri) (D if 2nd or 3rd tri), +] CI: Asthma, COPD, bradycardia, ↑ prolonged QT interval, 2nd-/3rd-degree heart block w/o pacemaker, cardiogenic shock, uncontrolled CHF  
**Disp:** Tabs 80, 120, 160 mg  
**SE:** Bradycardia, CP, palpitations, fatigue, dizziness, weakness, dyspnea Notes: Betapace should not be substituted for Betapace AF because of differences in labeling

**Sotalol (Betapace AF)**  
**WARNING:** See sotalol (Betapace)  
**Uses:** *Maintain sinus rhythm for symptomatic A fibrillation/flutter*  
**Action:** β-Adrenergic-blocking agent  
**Dose:** *Adults.*  
- $\text{CrCl} >60 \text{ mL/min}$: 80 mg PO q12h.  
- 40–60 mL/min: 80 mg PO q24h; ↑ to 120 mg during hospitalization; monitor QT interval 2–4 h after each dose, dose reduction or D/C if QT interval ≥500 msec.  
- $\text{Peds Neonates}$: 9 mg/m² tid.  
- 1–19 mo: 20 mg/m² tid.  
- 20–23 mo: 29.1 mg/m² tid.  
- ≥2 y: 30 mg/m² tid; can double all doses as max daily dose; allow ≈36 h between changes  
**Caution:** [B (1st tri; D if 2nd or 3rd tri), +] If converting from previous antiarrhythmic CI: Asthma, bradycardia, ↑ QT interval, 2nd- or 3rd-degree heart block w/o pacemaker, cardiogenic shock, uncontrolled CHF, CrCl <40 mL/min  
**Disp:** Tabs 80, 120, 160 mg SE: Bradycardia, CP, palpitations, fatigue, dizziness, weakness, dyspnea Notes: Follow renal Fxn & QT interval; Betapace should not be substituted for Betapace AF because of differences in labeling
Spironolactone (Aldactone)  Uses: *Hyperaldosteronism, HTN, ascites from cirrhosis*
Action: Aldosterone antagonist; K⁺-sparing diuretic
Dose: Adults. CHF (NYHA class III–IV) 12.5–25 mg/d (w/ ACE and loop diuretic); HTN 25–50 mg/d Peds. 1–3.3 mg/kg/24 h PO ÷ bid-qid. Neonates: 0.5–1 mg/kg/dose q8h; take w/ food
Caution: [D, +] CI: ↑ K⁺, acute renal failure, anuria
Disp: Tabs 25, 50, 100 mg SE: ↑ K⁺ & gynecomastia, arrhythmia, sexual dysfunction, confusion, dizziness, D/N/V, abnormal menstruation

Starch, topical, rectal (Tucks Suppositories [OTC])  Uses: *Temporary relief of anorectal disorders (itching, etc)*
Action: Topical protectant
Dose: Adults & Peds ≥12 y: Cleanse, rinse and dry, insert 1 sup rectally 6×/d × 7 d max.
Caution: [?, ?] CI: None
Disp: Supp SE: D/C w/ or if rectal bleeding occurs or if condition worsens or does not improve within 7 d

Stavudine (Zerit)  WARNING: Lactic acidosis & severe hepatomegaly w/ steatosis & pancreatitis reported
Uses: *HIV in combo w/ other antiretrovirals*
Action: Reverse transcriptase inhibitor
Dose: Adults >60 kg: 40 mg bid. <60 kg: 30 mg bid. Peds Birth–13 d: 0.5 mg/kg q12h. >14 d & <30 kg: 1 mg/kg q12h. ≥30 kg: Adult dose; ↓ w/ renal Insuff
Caution: [C, +] CI: Allergy
Disp: Caps 15, 20, 30, 40 mg; soln 1 mg/mL SE: Peripheral neuropathy, HA, chills, fever, malaise, rash, GI upset, anemias, lactic acidosis, ↑ LFTs, pancreatitis
Notes: Take w/ plenty of H₂O

Steroids, Systemic (see also Table 3) The following relates only to the commonly used systemic glucocorticoids
Uses: *Endocrine disorders* (adrenal Insuff), *rheumatoid disorders, collagen–vascular Dzs, derm Dzs, allergic states, cerebral edema,* nephritis, nephrotic syndrome, immunosuppression for transplantation, ↑ Ca²⁺, malignancies (breast, lymphomas), pre-op (in any pt who has been on steroids in the previous year, known hypoadrenalism, pre-op for adrenalectomy); Inj into joints/tissue
Action: Glucocorticoid
Dose: Varies w/ use & institutional protocols.
- **Adrenal Insuff, acute:** Adults. Hydrocortisone: 100 mg IV; then 300 mg/d ÷ q6h; convert to 50 mg PO q8h × 6 doses, taper to 30–50 mg/d ÷ bid. Peds. Hydrocortisone: 1–2 mg/kg IV, then 150–250 mg/d ÷ tid.
- **Adrenal Insuff, chronic (physiologic replacement):** May need mineralocorticoid suppl such as Florinef. Adults. Hydrocortisone 20 mg PO q A.M., 10 mg PO q P.M.; cortisone 0.5–0.75 mg/kg/d ÷ bid; cortisone 0.25–0.35 mg/kg/d IM; dexamethasone 0.03–0.15 mg/kg/d or 0.6–0.75 mg/m²/d ÷ q6–12h PO, IM, IV. Peds. Hydrocortisone 0.5–0.75 mg/kg/d PO tid; hydrocortisone succinate 0.25–0.35 mg/kg/d IM.
- **Asthma, acute:** Adults. Methylprednisolone 60 mg PO/IV q6h or dexamethasone 12 mg IV q6h. Peds. Prednisolone 1–2 mg/kg/d or prednisone 1–2 mg/kg/d ÷ daily-bid for up to 5 d; methylprednisolone 2–4 mg/kg/d IV ÷ tid; dexamethasone 0.1–0.3 mg/kg/d divided q6h.
• **Congenital adrenal hyperplasia:** *Peds.* Initial hydrocortisone 30–36 mg/m²/d PO ÷ 1/3 dose q A.M., 2/3 dose q P.M.; maint 20–25 mg/m²/d ÷ bid.

• **Extubation/airway edema:** *Adults.* Dexamethasone 0.5–1 mg/kg/d IM/IV ÷ q6h (start 24 h prior to extubation; continue × 4 more doses). *Peds.* Dexamethasone 0.1–0.3 mg/kg/d ÷ q6h × 3–5 d (start 48–72 h before extubation).

• **Immunosuppressive/anti-inflammatory:** *Adults & Older Peds.* Hydrocortisone 15–240 mg PO, IM, IV q12h; methylprednisolone 4–48 mg/d PO, taper to lowest effective dose; methylprednisolone Na succinate 10–80 mg/d IM. *Adults.* Prednisone or prednisolone 5–60 mg/d PO ÷ daily-qid. *Infants & Younger Children.* Hydrocortisone 2.5–10 mg/kg/d PO ÷ q6–8h; 1–5 mg/kg/d IM/IV ÷ bid.

• **Nephrotic syndrome:** *Peds.* Prednisolone or prednisone 2 mg/kg/d PO tid-qid until urine is protein-free for 5 d, use up to 28 d; for persistent proteinuria, 4 mg/kg/dose PO q other day max 120 mg/d for an additional 28 d; maint 2 mg/kg/dose q other day for 28 d; taper over 4–6 wk (max 80 mg/d).

• **Septic shock (controversial):** *Adults.* Hydrocortisone 500 mg–1 g IM/IV q2–6h. *Peds.* Hydrocortisone 50 mg/kg IM/IV, repeat q4–24 h PRN.

• **Status asthmaticus:** *Adults & Peds.* Hydrocortisone 1–2 mg/kg/dose IV q6h; then ↓ by 0.5–1 mg/kg q6h.

• **Rheumatic Dz:** *Adults.* Intraarticular: Hydrocortisone acetate 25–37.5 mg large joint, 10–25 mg small joint; methylprednisolone acetate 20–80 mg large joint, 4–10 mg small joint. Intrabursal: Hydrocortisone acetate 25–37.5 mg. Intratangential: Hydrocortisone acetate 25–37.5 mg. Tendon sheath: Hydrocortisone acetate 5–12.5 mg.

• **Perioperative steroid coverage:** Hydrocortisone 100 mg IV night before surgery, 1 h pre-op, intraoperative, & 4, 8, & 12 h post-op; post-op day No. 1 100 mg IV q6h; post-op day No. 2 100 mg IV q8h; post-op day No. 3 100 mg IV q12h; post-op day No. 4 50 mg IV q12h; post-op day No. 5 25 mg IV q12h; resume prior PO dosing if chronic use or D/C if only perioperative coverage required.

• **Cerebral edema:** Dexamethasone 10 mg IV; then 4 mg IV q4–6h Caution: [C, ?–] CI: Active varicella Infxn, serious Infxn except TB, fungal Infxns Disp: Table 3 SE: ↑ Appetite, hyperglycemia, ↓ K⁺, osteoporosis, nervousness, insomnia, “steroid psychosis,” adrenal suppression Notes: Hydrocortisone succinate for systemic, acetate for intraarticular; never abruptly D/C steroids, taper dose

**Streptokinase (Streptase, Kabikinase)** Uses: *Coronary artery thrombosis, acute massive PE, DVT, & some occluded vascular grafts* Action: Activates plasminogen to plasmin that degrades fibrin Dose: *Adults. PE:* Load 250,000 units peripheral IV over 30 min, then 100,000 units/h IV for 24–72 h. *Coronary artery thrombosis:* 1.5 million units IV over 60 min. *DVT or arterial embolism:* Load as w/ PE, then 100,000 units/h for 72 h; 1.5 million Int Units in a 1-h Inf (ECC 2005). *Peds.* 3500–4000 units/kg over 30 min, then 1000–1500 units/kg/h.
Occluded catheter (controversial): 10,000–25,000 units in NS to final vol of catheter (leave in for 1 h, aspirate & flush w/ NS) **Caution:** [C, +] **CI:** Streptococcal Infxn or streptokinase in last 6 mo, active bleeding, CVA, TIA, spinal surgery/trauma in last month, vascular anomalies, severe hepatic/renal Dz, endocarditis, pericarditis, severe uncontrolled HTN **Disp:** Powder for Inj 250,000, 750,000, 1,500,000 units **SE:** Bleeding, ↓ BP, fever, bruising, rash, GI upset, hemorrhage, anaphylaxis **Notes:** If Inf inadequate to keep clotting time 2–5× control, see package for adjustments; antibodies remain 3–6 mo following dose

**Streptomycin** **WARNING:** Neuro-/oto-/renal tox possible; neuromuscular blockage w/ resp paralysis possible **Uses:** *TB combo therapy* streptococcal or enterococcal endocarditis **Action:** Aminoglycoside; ↓ protein synth **Dose:** **Adults. Endocarditis:** 1 g q12h 1–2 wk, then 500 mg q12h 1–4 wk; **TB:** 15 mg/kg/d (up to 1 g), directly observed therapy (DOT) 2× wk 20–30 mg/kg/dose (max 1.5 g), DOT 3× wk 25–30 mg/kg/dose (max 1 g). **Peds.** 15 mg/kg/d; DOT 2× wk 20–40 mg/kg/dose (max 1 g); DOT 3× wk 25–30 mg/kg/dose (max 1 g); ↓ w/ renal Insuff, either IM or IV over 30–60 min **Caution:** [D, +] **CI:** PRG **Disp:** Inj 400 mg/mL (1-g vial) **SE:** ↑ Incidence of vestibular & auditory tox, ↑ neurotox risk in pts w/ impaired renal fxn **Notes:** Monitor levels: Peak: 20–30 mcg/mL, Trough: <5 mcg/mL; Toxic peak: >50, Trough: >10; IV over 30–60 min

**Streptozocin (Zanosar)** **Uses:** *Pancreatic islet cell tumors* & carcinoid tumors **Action:** DNA–DNA (interstrand) cross-linking; DNA, RNA, & protein synth inhibitor **Dose:** Per protocol; ↓ in renal failure **Caution:** w/ Renal failure [D, ?/–] **CI:** w/ Rotavirus vaccine, PRG **Disp:** Inj 1 g SE: N/V/D, duodenal ulcers, depression, ↓ BM rare (20%) & mild; nephrotox (proteinuria & azotemia dose related), hypophosphatemia dose limiting; hypo-/hyperglycemia; Inj site Rxns **Notes:** Monitor Cr

**Succimer (Chemet)** **Uses:** *Lead poisoning (levels >45 mcg/mL)* **Action:** Heavy metal-chelating agent **Dose:** **Adults & Peds.** 10 mg/kg/dose q8h × 5 d, then 10 mg/kg/dose q12h for 14 d; ↓ in renal Insuff **Caution:** [C, ?] **CI:** Allergy **Disp:** Caps 100 mg SE: Rash, fever, GI upset, hemorrhoids, metallic taste, drowsiness, ↑ LFTs **Notes:** Monitor lead levels, maintain hydration, may open caps

**Succinylcholine (Anectine, Quelicin, Sucostrin, others)** **WARNING:** Risk of cardiac arrest from hyperkalemic rhabdomyolysis **Uses:** *Adjunct to general anesthesia, facilitates ET intubation; induce skeletal muscle relaxation during surgery or mechanical ventilation* **Action:** Depolarizing neuromuscular blocker; rapid onset, short duration (3–5 min) **Dose:** **Adults.** Rapid sequence intubation 1–2 mg/kg IV over 10–30 s or 2–4 mg/kg IM (ECC 2005). **Peds.** 1–2 mg/kg/dose IV, then by 0.3–0.6 mg/kg/dose q5min; ↓ w/ severe renal/hepatic impair **Caution:** See warning [C, M] **CI:** w/ Malignant hyperthermia risk, myopathy, recent major burn, multiple trauma, extensive skeletal muscle denervation, NAG, pseudocholinesterase deficiency **Disp:** Inj 20, 50, 100 mg/mL
SE: Fasciculations, ↑ intraocular, intragastric, & intracranial pressure, salivation, myoglobinuria, malignant hyperthermia, resp depression, or prolonged apnea; multiple drugs potentiate; CV effects (arrhythmias, ↓ BP, brady/tachycardia) Notes: May be given IV push/Inf/IM deltoid; hyperkalemic rhabdomyolysis in children with undiagnosed myopathy such as Duchenne muscular dystrophy

**Sucralfate (Carafate)**

Uses: *Duodenal ulcers,* gastric ulcers, stomatitis, GERD, preventing stress ulcers, esophagitis

Action: Forms ulcer-adherent complex that protects against acid, pepsin, & bile acid

Dose: **Adults.** 1 g PO qid, 1 h prior to meals & hs. **Peds.** 40–80 mg/kg/d ÷ q6h; continue 4–8 wk unless healing demonstrated by x-ray or endoscopy; separate from other drugs by 2 h; take on empty stomach Caution: [B, +] CI: Component allergy Disp: Tabs 1 g; susp 1 g/10 mL SE: Constipation; D, dizziness, xerostomia Notes: Al may accumulate in renal failure

**Sulfacetamide (Bleph-10, Cetamide, Sodium Sulamyd)**

Uses: *Conjunctival Infxns* Action: Sulfonamide antibiotic Dose: 10% oint apply qid & hs; soln for keratitis apply q2–3h based on severity Caution: [C, M] CI: Sulfonamide sensitivity; age <2 mo Disp: Oint 10%; soln 10, 15, 30%; topical cream 10%; foam, gel, lotion, pad all 10% SE: Irritation, burning, blurred vision, brow ache, Stevens-Johnson syndrome, photosensitivity

**Sulfacetamide & Prednisolone (Blephamide, others)**

Uses: *Steroid-responsive inflammatory ocular conditions w/ Infxn or a risk of Infxn* Action: Antibiotic & anti-inflammatory Dose: **Adults & Peds >2 y:** Apply oint lower conjunctival sac daily-qid; soln 1–3 gtt 2–3 h while awake Caution: [C, ?/–] Sulfonamide sensitivity; age <2 mo Disp: Oint: sulfacetamide 10%/prednisolone 0.5%, sulfacetamide 10%/prednisolone 0.2%, sulfacetamide 10%/prednisolone 0.25%. Susp: sulfacetamide 10%/prednisolone 0.25%, sulfacetamide 10%/prednisolone 0.5%, sulfacetamide 10%/prednisolone 0.2% SE: Irritation, burning, blurred vision, brow ache, Stevens-Johnson syndrome, photosensitivity Notes: OK ophthalmic susp use as otic agent

**Sulfasalazine (Azulfidine, Azulfidine EN)**

Uses: *Ulcerative colitis, RA, juvenile RA,* active Crohn Dz, ankylosing spondylitis, psoriasis

Action: Sulfonamide; actions unclear

Dose: **Adults.** Ulcerative colitis: Initial, 1 g PO tid-qid; ↑ to a max of 8 g/d in 3–4 ÷ doses; maint 500 mg PO qid. RA: (EC tab) 0.5–1 g/d, ↑ weekly to maint 2 g/ ÷ bid. **Peds. Ulcerative colitis:** Initial: 40–60 mg/kg/24 h PO ÷ q4–6h; maint: 20–30 mg/kg/24 h PO ÷ q6h. RA >6 y: 30–50 mg/kg/d in 2 doses, start w/ 1/4–1/3 maint dose, ↑ weekly until dose reached at 1 mo, 2 g/d max; ↓ w/ renal Insuff Caution: [B (D if near term), M] CI: Sulfonamide or salicylate sensitivity, porphyria, GI or GU obst; avoid in hepatic impair Disp: Tabs 500 mg; EC DR tabs 500 mg SE: GI upset; discolors urine; dizziness, HA, photosensitivity, oligospermia, anemias, Stevens-Johnson syndrome Notes: May cause yellow-orange skin/contact lens discoloration; avoid sunlight exposure
**Sulfinpyrazone**  
*Uses:* *Acute & chronic gout*  
*Action:* ↓ Renal tubular absorption of uric acid  
*Dose:* 100–200 mg PO bid for 1 wk, ↑ PRN to maint of 200–400 mg bid; max 800 mg/d; take w/ food or antacids, & plenty of fluids; avoid salicylates  
*Caution:* [C (D if near term), ?/–]  
*CI:* Renal impair, avoid salicylates; peptic ulcer; blood dyscrasias, near term PRG, allergy  
*Disp:* Tabs 100 mg; caps 200 mg  
*SE:* N/V, stomach pain, urolithiasis, leukopenia  
*Notes:* Take w/ plenty of H₂O

**Sulindac (Clinoril)**  
*WARNING:* May ↑ risk of cardiovascular events & GI bleeding  
*Uses:* *Arthritis & pain*  
*Action:* NSAID; ↓ prostaglandins  
*Dose:* 150–200 mg bid, 400 mg/d max; w/ food  
*Caution:* [B (D if 3rd tri or near term), ?]  
*CI:* NSAID or ASA sensitivity, w/ ketorolac, ulcer, GI bleeding, post-op pain in coronary artery bypass graft  
*Disp:* Tabs 150, 200 mg  
*SE:* Dizziness, rash, GI upset, pruritus, edema, ↓ renal blood flow, renal failure (? fewer renal effects than other NSAIDs), peptic ulcer, GI bleeding

**Sumatriptan (Imitrex)**  
*Uses:* *Rx acute migraine*  
*Action:* Vascular serotonin receptor agonist  
*Dose:*  
**Adults. SQ:** 6 mg SQ as a single-dose PRN; repeat PRN in 1 h to a max of 12 mg/24 h.  
**PO:** 25 mg, repeat in 2 h, PRN, 100 mg/d max PO dose; max 300 mg/d.  
**Nasal spray:** 1 spray into 1 nostril, repeat in 2 h to 40 mg/24 h max.  
**Peds. Nasal spray:** 6–9 y: 5–20 mg/d.  
**12–17 y:** 5–20 mg, up to 40 mg/d  
*Caution:* [C, M]  
*CI:* Angina, ischemic heart Dz, uncontrolled HTN, severe hepatic impair, ergot use, MAOI use w/in 14 d  
*Disp:* OD tabs 25, 50, 100 mg; Inj 6, 8, 12 mg/mL; OD tabs 25, 50, 100 mg, orally disintegrating tabs 25, 50, 100 mg; nasal spray 5, 10, 20 mg/spray  
*SE:* Pain & bruising at site; dizziness, hot flashes, paresthesias, CP, weakness, numbness, coronary vasospasm, HTN

**Sumatriptan & Naproxen Sodium (Treximet)**  
*WARNING:* ↑ Risk of serious CV (MI, stroke) serious GI events (bleeding, ulceration, perforation) of the stomach or intestines  
*Uses:* *Prevent migraines*  
*Action:* Anti-inflammatory NSAID w/ 5-HT₁ receptor agonist, constricts CNS vessels  
*Dose:*  
**Adults.**  
1 tab PO; repeat PRN after 2 h; max 2 tabs/24 h, w/ or w/o food  
*Caution:* [C, –]  
*CI:* Significant CV Dz, severe hepatic impair, severe ↑ BP  
*Disp:* Tab naproxen/sumatriptan 500/85mg  
*SE:* Dizziness, somnolence, paresthesia, N, dyspepsia, dry mouth, chest/throat/jaw pain, tightness, pressure  
*Notes:* Do not split/crush/chew

**Sunitinib (Sutent)**  
*Uses:* *Advanced GI stromal tumor (GIST) refractory/intolerant of imatinib; advanced RCC*  
*Action:* Multi-TKI  
*Dose:*  
**Adults.**  
50 mg PO daily × 4 wk, followed by 2 wk holiday = 1 cycle; ↓ to 37.5 mg w/ CYP3A4 inhibitors (Table 11), to ↑ 87.5 mg w/ CYP3A4 inducers  
*CI:* w/ Atazanavir  
*Caution:* [D, –] Multiple interactions require dose modification (eg, St. John’s wort)  
*Disp:* Caps 12.5, 25, 50 mg  
*SE:* ↓ WBC & plt, bleeding, ↑ BP, ↓ ejection fraction, ↑ QT interval, pancreatitis, DVT, Szs, adrenal insufficiency, N/V/D, skin discoloration, oral ulcers, taste perversion, hypothyroidism  
*Notes:* Monitor left ventricular ejection fraction, ECG, CBC/plts, chemistries (K+/Mg²⁺/phosphate), TFT & LFTs periodically; ↓ dose in 12.5-mg increments if not tolerated
**Tacrine (Cognex)**  
**Uses:** *Mild–mod Alzheimer dementia*  
**Action:** Cholinesterase inhibitor  
**Dose:** 10–40 mg PO qid to 160 mg/d; separate doses from food  
**Caution:** [C, ?] CI: Previous tacrine-induced jaundice  
**Disp:** Caps 10, 20, 30, 40 mg  
**SE:** ↑ LFTs, HA, dizziness, GI upset, flushing, confusion, ataxia, myalgia, bradycardia  
**Notes:** Serum conc >20 ng/mL have more SE; monitor LFTs

**Tacrolimus [FK506] (Prograf, Protopic)**  
**WARNING:** ↑ Risk of Infxn and lymphoma  
**Uses:** *Prevent organ rejection,* eczema  
**Action:** Macrolide immunosuppressant  
**Dose:** Adults. IV: 0.05–0.1 mg/kg/d cont Inf. PO: 0.1–0.2 mg/kg/d ÷ 2 doses. Peds. IV: 0.03–0.05 mg/kg/d as cont Inf. PO: 0.15–0.2 mg/kg/d PO ÷ q 12 h.  
**Adults & Peds. Eczema:** Apply bid, continue 1 wk after clearing; take on empty stomach; ↓ w/ hepatic/renal impair  
**Caution:** [C, –] w/ Cyclosporine; avoid topical if <2 y of age CI: Component allergy, castor oil allergy w/ IV form  
**Disp:** Caps 0.5, 1, 5 mg; Inj 5 mg/mL; oint 0.03, 0.1%  
**SE:** Neuro- & nephrotox, HTN, edema, HA, insomnia, fever, pruritus, ↓/↑ K+, hyperglycemia, GI upset, anemia, leukocytosis, tremors, paresthesias, pleural effusion, Szs, lymphoma  
**Notes:** Monitor levels; Trough 5–20 ng/mL based on indication and time since transplant; reports of ↑ cancer risk; topical use for short-term/second-line

**Tadalafil (Cialis)**  
**Uses:** *Erectile dysfunction*  
**Action:** PDE5 inhibitor, ↑ cyclic guanosine monophosphate & NO levels; relaxes smooth muscles, dilates cavernosal arteries  
**Dose:** Adults. PRN: 10 mg PO before sexual activity (5–20 mg max) 1 dose/72 h. Daily dosing: 2.5 mg q day w/o regard to timing of sex, may ↑ to 5 mg q day; w/o regard to meals; ↓ w/ renal/hepatic Insuff  
**Caution:** [B, –] w/ α-Blockers (except tamsulosin); use w/ CYP3A4 inhibitor (Table 11)(eg, ritonavir, ketoconazole,itraconazole) 2.5 mg/daily dose or 5 mg PRN dose; CrCl <30 mL/min/hemodialysis/severe hepatic impair do not use daily dosing  
**CI:** Nitrates, severe hepatic impair  
**Disp:** Tabs 5-, 10-, 20-mg SE: HA, flushing, dyspepsia, back/limb pain, myalgia, nasal congestion, urticaria, Stevens-Johnson syndrome, dermatitis, visual field defect, NIAON, sudden ↓/loss of hearing, tinnitus  
**Notes:** Longest acting of class (36 h); daily dosing may ↑ drug interactions; excessive EtOH may ↑ orthostasis; transient global amnesia reports

**Talc (Sterile Talc Powder)**  
**Uses:** *Recurrence of malignant pleural effusions (pleurodesis)*  
**Action:** Sclerosing agent  
**Dose:** Mix slurry: 50 mL NS w/ 5-g vial, mix, distribute 25 mL into two 60-mL syringes, vol to 50 mL/syringe w/ NS. Infuse each into chest tube, flush w/ 25 mL NS. Keep tube clamped; have pt change positions q15min for 2 h, unclamp tube  
**Caution:** [X, –] CI: Planned further surgery on site  
**Disp:** 5 g powder SE: Pain, Infxn  
**Notes:** May add 10–20 mL 1% lidocaine/syringe; must have chest tube placed, monitor closely while tube clamped (tension pneumothorax), not antineoplastic

**Tamoxifen (generic)**  
**WARNING:** Cancer of the uterus, stroke, and blood clots can occur  
**Uses:** *Breast CA [postmenopausal, estrogen receptor(+)], ↓ risk of breast CA in high-risk, met male breast CA,* ductal carcinoma in situ, mastalgia, pancreatic CA, gynecomastia, ovulation induction  
**Action:** Nonsteroidal
antiestrogen; mixed agonist–antagonist effect **Dose:** 20–40 mg/d; doses >20 mg ÷ bid. **Prevention:** 20 mg PO/d × 5 y **Caution:** [D, –] w/ ↓ WBC, ↓ plt, hyperlipidemia **CI:** PRG, undiagnosed Vag bleeding, Hx thromboembolism **Disp:** Tabs 10, 20 mg; oral soln 10 mg/5 mL **SE:** Uterine malignancy & thrombotic events noted in breast CA prevention trials; menopausal Sxs (hot flashes, N/V) in premenopausal pts; Vag bleeding & menstrual irregularities; skin rash, pruritus vulvae, dizziness, HA, peripheral edema; acute flare of bone metastasis pain & ↑ Ca²⁺; retinopathy reported (high dose) **Notes:** ↑ Risk of PRG in premenopausal women (induces ovulation); brand Nolvadex suspended in US **Tamsulosin (Flomax)** **Uses:** *BPH* **Action:** Antagonist of prostatic α-receptors **Dose:** 0.4 mg/d, may ↑ to 0.8 mg PO daily **Caution:** [B, ?] **CI:** Female gender **Disp:** Caps 0.4 mg **SE:** HA, dizziness, syncope, somnolence, ↓ libido, GI upset, retrograde ejaculation, rhinitis, rash, angioedema, IFIS **Notes:** Not for use as antihypertensive; do not open/crush/chew; approved for use w/ dutasteride for BPH **Tazarotene (Tazorac, Avage)** **Uses:** *Facial acne vulgaris; stable plaque psoriasis up to 20% BSA* **Action:** Keratolytic **Dose:** Adults & Peds >12 y: Acne: Cleanse face, dry, apply thin film qhs lesions. Psoriasis: Apply qhs **Caution:** [X, ?/-] **CI:** Retinoid sensitivity **Disp:** Gel 0.05, 0.1%; cream 0.05, 0.1% **SE:** Burning, erythema, irritation, rash, photosensitivity, desquamation, bleeding, skin discoloration **Notes:** D/C w/ excessive pruritus, burning, skin redness, or peeling until Sxs resolve **Telbivudine (Tyzeka)** **WARNING:** May cause lactic acidosis and severe hepatomegaly w/ steatosis when used alone or with antiretrovirals; D/C of the drug may lead to exacerbations of hep B; monitor LFTs **Uses:** *Rx chronic hep B* **Action:** Nucleoside RT inhibitor **Dose:** CrCl >50 mL/min: 600 mg PO daily; CrCl 30–49 mL/min: 600 mg q 48 h; CrCl <30 mL/min: 600 mg q 72 h; ESRD: 600 mg q96h; dose after hemodialysis **Caution:** [B; ?/-]; may cause myopathy; follow closely w/ other myopathy causing drugs **Disp:** Tabs 600 mg **SE:** Fatigue, Abd pain, N/V/D, HA, URI, nasopharyngitis, ↑ LFTs/creatine phosphokinase, myalgia/myopathy, flu-like Sxs, dizziness, insomnia, dyspepsia **Notes:** Use w/ PEG-interferon may ↑ peripheral neuropathy risk **Telithromycin (Ketek)** **WARNING:** CI in myasthenia gravis **Uses:** *Mild–mod CAP* **Action:** Unique macrolide, blocks ↓ protein synth; bactericidal. **Spectrum:** S. aureus, S. pneumoniae, H. influenzae, M. catarrhalis, C. pneumoniae, M. pneumoniae **Dose:** CAP: 800 mg (2 tabs) PO daily × 7–10 d **Caution:** [C, M] Pseudomembranous colitis, ↑ QTc interval, visual disturbances, hepatic dysfunction; dosing in renal impair unknown **CI:** Macrolide allergy, w/ pimozide, w/ MyG **Disp:** Tabs 300, 400 mg SE: N/V/D, dizziness, blurred vision **Notes:** A CYP450 inhibitor; multiple drug interactions; hold statins due to ↑ risk of myopathy **Telmisartan (Micardis)** **Uses:** *HTN, CHF* **Action:** Angiotensin II receptor antagonist **Dose:** 40–80 mg/d **Caution:** [C (1st tri; D 2nd & 3rd tri), ?/-]
CI: Angiotensin II receptor antagonist sensitivity Disp: Tabs 20, 40, 80 mg SE: Edema, GI upset, HA, angioedema, renal impair, orthostatic ↓ BP

**Temazepam (Restoril) [C-IV]** Uses: *Insomnia,* anxiety, depression, panic attacks Action: Benzodiazepine Dose: 15–30 mg PO hs PRN; ↓ in elderly Caution: [X, ?/–] Potentiates CNS depressive effects of opioids, barbs, EtOH, antihistamines, MAOIs, TCAs CI: NAG Disp: Caps 7.5, 15, 22.5, 30 mg SE: Confusion, dizziness, drowsiness, hangover Notes: Abrupt D/C after >10 d use may cause withdrawal

**Temsirolimus (Torisel)** Uses: *Advanced RCC* Action: Multikinase inhibitor, ↓ mTOR (mammalian target of rapamycin), ↓ hypoxic-induced factors, ↓ VEGF Dose: 25 mg IV 30–60 min 1×/wk. Hold w/ ANC <1000/mm³, plt <75,000/mm³, or National Cancer Institute (NCI) grade 3 tox. Resume when tox grade 2 or less, restart w/ dose ↓ 5 mg/wk not <15 mg/wk. w/ CYP3A4 Inhibitors: ↓ 12.5 mg/wk. w/ CYP3A4 Inducers ↑ 50 mg/wk Caution: [D, –] Avoid live vaccines, ↓ wound healing, avoid perioperatively CI: None Disp: Inj 25 mg/mL w/ 250 mL diltuent SE: Rash, asthenia, mucositis, N, bowel perforation, anorexia, edema, ↑ lipids, ↑ glucose, ↑ triglycerides, ↑ LFTs, ↑ Cr, ↓ WBC, ↓ HCT, ↓ plt, ↓ PO₄ Notes: Premedicate w/ antihistamine; ✓ lipids, CBC, plt, Cr, glucose; w/ sunitinib dose-limiting tox likely; females use w/ contraception

**Tenecteplase (TNKase)** Uses: *Restore perfusion & ↓ mortality w/ AMI* Action: Thrombolytic; TPA Dose: 30–50 mg; see table below Caution: [C, ?], ↑ Bleeding w/ NSAIDs, ticlopidine, clopidogrel, GPIIb/IIIa antagonists CI: Bleeding, CVA, CNS neoplasm, uncontrolled ↑ BP, major surgery (intracranial, intraspinal) or trauma w/in 2 mo Disp: Inj 50 mg, reconstitute w/ 10 mL sterile H₂O only SE: Bleeding, allergy Notes: Do not shake w/ reconstitution; start ASA ASAP, IV heparin ASAP w/ aPTT 50–70 s

### Tenecteplase Dosing

<table>
<thead>
<tr>
<th>Weight (kg)</th>
<th>TNKase (mg)</th>
<th>TNKase Volume (mL)</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;60</td>
<td>30</td>
<td>6</td>
</tr>
<tr>
<td>60–69</td>
<td>35</td>
<td>7</td>
</tr>
<tr>
<td>70–79</td>
<td>40</td>
<td>8</td>
</tr>
<tr>
<td>80–89</td>
<td>45</td>
<td>9</td>
</tr>
<tr>
<td>≥90</td>
<td>50</td>
<td>10</td>
</tr>
</tbody>
</table>

*From one vial of reconstituted TNKase.
**Tenofovir (Viread)**  
**WARNING:** Lactic acidosis & severe hepatomegaly with steatosis, including fatal cases, have been reported with the use of nucleoside analogs alone or in combo w/ other antiretrovirals. Not OK w/ chronic hep; effects in pts coinfected with hep B & HIV unknown  
**Uses:** *HIV Infxn*  
**Action:** Nucleotide RT inhibitor  
**Dose:** 300 mg PO daily Δ to w/ or w/o meal; CrCl Δ ≥50 mL/min Δ q24h, CrCl 30–49 mL/min q48H, CrCl 10–29 mL/min 2x/wk  
**Caution:** [B, ?/–] Didanosine (separate administration times), lopinavir, ritonavir w/ known risk factors for liver Dz  
**CI:** Hypersensitivity  
**Disp:** Tabs 300 mg SE: GI upset, metabolic syndrome, hepatotox; separate didanosine doses by 2 h  
**Notes:** Combo product w/ emtricitabine is Truvada

**Terazosin (Hytrin)**  
**Uses:** *BPH & HTN*  
**Action:** α₁-Blocker (blood vessel & bladder neck/prostate)  
**Dose:** Initial, 1 mg PO hs; ↑ 20 mg/d max; may ↓ w/ diuretic or other BP medicine  
**Caution:** [C, ?] w/ β Blocker, CCB, ACE inhibitor  
**CI:** α-Antagonist sensitivity  
**Disp:** Tabs 1, 2, 5, 10 mg; caps 1, 2, 5, 10 mg  
**SE:** ↓ BP, & syncope following 1st dose; dizziness, weakness, nasal congestion, peripheral edema, palpitations, GI upset  
**Notes:** Caution w/ 1st dose syncope; if for HTN, combine w/ thiazide diuretic

**Terbinafine (Lamisil, Lamisil AT)**  
**Uses:** *Onychomycosis, athlete’s foot, jock itch, ringworm,* cutaneous candidiasis, pityriasis versicolor  
**Action:** ↓ Squalene epoxidase resulting in fungal death  
**Dose:** PO: 250 mg/d PO for 6–12 wk.  
**Topical:** Apply to area tinea pedis bid, tinea cruris & corporus q day-bid, tinea versicolor soln bid; ↓ PO in renal/hepatic impair  
**Caution:** [B, –] PO ↑ effects of drug metabolism by CYP2D6, w/ liver/renal impair  
**CI:** CrCl <50 mL/min, WBC <1000, severe liver Dz  
**Disp:** Tabs 250 mg; Lamisil AT [OTC] cream, gel, soln 1%  
**SE:** HA, dizziness, rash, pruritus, alopecia, GI upset, taste perversion, neutropenia, retinal damage, Stevens-Johnson syndrome, ↑ LFTs  
**Notes:** Effect may take months due to need for new nail growth; topical not for nails; do not use occlusive dressings; PO follow CBC/LFTs

**Terbutaline (Brethine)**  
**Uses:** *Reversible bronchospasm (asthma, COPD); inhibit labor*  
**Action:** Sympathomimetic; tocolytic  
**Dose:** *Adults.* Bronchodilator: 2.5–5 mg PO qid or 0.25 mg SQ; repeat in 15 min PRN; max 0.5 mg in 4 h.  
**Metered-dose inhaler:** 2 Inh q4–6h.  
**Premature labor:** Acutely 2.5–10 mg/min/IV, gradually ↑ as tolerated q10–20min; maint 2.5–5 mg PO q4–6h until term.  
**Peds. PO:** 0.05–0.15 mg/kg/dose PO tid; max 5 mg/24h; ↓ in renal failure  
**Caution:**
[B, +] ↑ Tox w/ MAOIs, TCAs; DM, HTN, hyperthyroidism, CV Dz, DM, convulsive disorders, ↓ K⁺ CI: Component allergy Disp: Tabs 2.5, 5 mg; Inj 1 mg/mL; metered-dose inhaler SE: HTN, hyperthyroidism, β₁-adrenergic effects w/ high dose, nervousness, trembling, tachycardia, HTN, dizziness

Terconazole (Terazol 7) Uses: *Vag fungal Infxns* Action: Topical triazole antifungal Dose: 1 applicator-full or 1 supp intravag hs × 3–7 d Caution: [C, ?] CI: Component allergy Disp: Vag cream 0.4, 0.8%, Vag supp 80 mg SE: Vulvar/Vag burning Notes: Insert high into vagina

Teriparatide (Forteo) WARNING: ↑ Osteosarcoma risk in animals, therefore only use in pts for whom the potential benefits outweigh risks Uses: *Severe/refractory osteoporosis* Action: PTH (recombinant) Dose: 20 mcg SQ daily in thigh or abdomen Caution: [C, ?/–] CI: w/ Paget Dz, prior radiation, bone metastases, ↑ Ca²⁺; caution in urolithiasis Disp: 3-mL Prefilled device (discard after 28 d) SE: Orthostatic ↓ BP on administration, N/D, ↑ Ca²⁺; leg cramps Notes: 2 y Max use; osteosarcoma in animals

Testosterone (AndroGel, Androderm, Striant, Testim) [CIII] Uses: *Male hypogonadism* Action: Testosterone replacement; ↑ lean body mass, libido Dose: All daily AndroGel: 5-g gel. Androderm: Two 2.5-mg or one 5-mg patch daily. Striant: 30-mg Buccal tabs bid. Testim: One 5-g gel tube. Caution: [N/A, N/A] CI: PCA, male breast CA Disp: AndroGel, Testim: 5-g gel (50-mg test); Androderm: 2.5-, 5-mg patches; Striant: 30-mg Buccal tabs SE: Site Rxns, acne, edema, wgt gain, gynecomastia, HTN, ↑ sleep apnea, prostate enlargement Notes: IM testosterone enanthate (Dela TensorFlow; Testro-L.A.) & cypionate (Depo-Testosterone) dose q14–28d with highly variable serum levels; PO agents (methyltestosterone & oxandrolone) associated w/ hep/hepatic tumors; transdermal/mucosal forms preferred

Tetanus Immune Globulin Uses: *Passive tetanus immunization* (suspected contaminated wound w/ unknown immunization status, see also Table 8) Action: Passive immunization Dose: Adults & Peds. 250–500 units IM (higher dose w/ delayed Rx) Caution: [C, ?] CI: Thimerosal sensitivity Disp: Inj 250-unit vial/syringe SE: Pain, tenderness, erythema at site; fever, angioedema, muscle stiffness, anaphylaxis Notes: May begin active immunization series at different Inj site if required

Tetanus Toxoid Uses: *Tetanus prophylaxis* Action: Active immunization Dose: Based on previous immunization, Table 8 Caution: [C, ?] CI: Chloramphenicol use, neurologic Sxs w/ previous use, active Infxn w/ routine primary immunization Disp: Inj tetanus toxoid, fluid, 4–5 Lf units/0.5 mL; tetanus toxoid, adsorbed, 5, 10 Lf units/0.5 mL SE: Local erythema, induration, sterile abscess, chills, fever, neurologic disturbances

**Mycoplasma**

**Dose:** Adults. 250–500 mg PO bid-qid. **Peds >8 y:** 25–50 mg/kg/24 h PO q6–12h; ↓ w/ renal/hepatic impair, w/o food preferred **Caution:** [D, +] **CI:** PRG, antacids, w/ dairy products, children <8 y **Disp:** Caps 100, 250, 500 mg; tabs 250, 500 mg; PO susp 250 mg/5 mL **SE:** Photosensitivity, GI upset, renal failure, pseudotumor cerebri, hepatic impair **Notes:** Can stain tooth enamel & depress bone formation in children

**Thalidomide (Thalomid)**

**WARNING:** Restricted use; use associated w/ severe birth defects and ↑ risk of venous thromboembolism **Uses:** *Erythema nodosum leprosum (ENL),* *GVHD,* *aphthous ulceration in HIV+* **Action:** ↓ Neutrophil chemotaxis, ↓ monocyte phagocytosis **Dose:** **GVHD:** 100–1600 mg PO daily. **Stomatitis:** 200 mg bid for 5 d, then 200 mg daily up to 8 wk. **Erythema nodosum leprosum:** 100–300 mg PO qhs **Cautions:** [X, –] May ↑ HIV viral load; Hx Szs **CI:** PRG; sexually active males not using latex condoms, or females not using 2 forms of contraception **Disp:** 50, 100, 200 mg caps **SE:** Dizziness, drowsiness, rash, fever, orthostasis, Stevens-Johnson syndrome, peripheral neuropathy, Szs **Notes:** MD must register w/ STEPS risk-management program; informed consent necessary; immediately D/C if rash develops

**Theophylline (Theo24, Theochron)**

**Uses:** *Asthma, bronchospasm* **Action:** Relaxes smooth muscle of the bronchi & pulm blood vessels **Dose:** **Adults.** 900 mg PO ÷ q6h; SR products may be ÷ q8–12h (maint). **Peds.** 16–22 mg/kg/24 h PO ÷ q6h; SR products may be ÷ q8–12h (maint); ↓ in hepatic failure **Caution:** [C, +] Multiple interactions (eg, caffeine, smoking, carbamazepine, barbiturates, β-blockers, ciprofloxacin, E-mycin, INH, loop diuretics) **CI:** Arrhythmia, hyperthyroidism, uncontrolled Szs **Disp:** Elixir 80, 15 mL; soln 80 mg/15 mL; syrup 80, 150 mg/15 mL; caps 100, 200, 250 mg; tabs 100, 125, 200, 250, 300 mg; SR caps 100, 125, 200, 250, 260, 300 mg; SR tabs 100, 200, 300, 400, 450, 600 mg **SE:** N/V, tachycardia, Szs, nervousness, arrhythmias **Notes:** Levels IV: Sample 12–24 h after Inf started; **Therapeutic:** 5–15 mcg/mL; **Toxic:** >20 mcg/mL. Levels PO: **Throug:** just before next dose; **Therapeutic:** 5–15 mcg/mL

**Thiamine [Vitamin B1]**

**Uses:** *Thiamine deficiency (beriberi), alcoholic neuritis, Wernicke encephalopathy* **Action:** Dietary supl **Dose:** **Adults.** Deficiency: 100 mg/d IM for 2 wk, then 5–10 mg/d PO for 1 mo. **Wernicke encephalopathy:** 100 mg IV single dose, then 100 mg/d IM for 2 wk. **Peds.** 10–25 mg/d IM for 2 wk, then 5–10 mg/d PO for 1 mo **Caution:** [A (C if doses exceed RDA), +] **CI:** Component allergy **Disp:** Tabs 5, 10, 25, 50, 100, 250, 500 mg; Inj 100, 200 mg/mL **SE:** Angioedema, paresthesias, rash, anaphylaxis w/ rapid IV **Notes:** IV use associated w/ anaphylactic Rxn; give IV slowly

**Thiethylperazine (Torecan)**

**Uses:** *N/V* **Action:** Antidopaminergic antiemetic **Dose:** 10 mg PO, PR, or IM daily-tid; ↓ in hepatic failure **Caution:** [X, ?] **CI:** Phenothiazine & sulfite sensitivity, PRG **Disp:** Tabs 10 mg; supp 10 mg; Inj 5 mg/mL **SE:** EPS, xerostomia, drowsiness, orthostatic ↓ BP, tachycardia, confusion
6-Thioguanine [6-TG] (Tabloid)  
**Uses:** *AML, ALL, CML*  
**Action:** Purine-based antimetabolite (substitutes for natural purines interfering with nucleotide synth)  
**Dose:** 2–3 mg/kg/d; ↓ in severe renal/hepatic impair  
**Caution:** [D, –] CI: Resistance to mercaptopurine  
**Disp:** Tabs 40 mg  
**SE:** ↓ BM (leucopenia/thrombocytopenia), N/V/D, anorexia, stomatitis, rash, hyperuricemia, rare hepatotoxic  

Thioridazine (Mellaril) **WARNING:** Dose-related QT prolongation  
**Uses:** *Schizophrenia,* psychosis  
**Action:** Phenothiazine antipsychotic  
**Dose:** Adults. Initial, 50–100 mg PO tid; maint 200–800 mg/24 h PO in 2–4 × doses. Peds >2 y: 0.5–3 mg/kg/24 h PO in 2–3 × doses  
**Caution:** [C, ?] Phenothiazines, QTc-prolonging agents, Al CI: Phenothiazine sensitivity  
**Disp:** Tabs 10, 15, 25, 50, 100, 150, 200 mg; PO conc 30, 100 mg/mL  
**SE:** Low incidence of EPS; ventricular arrhythmias; ↓ BP, dizziness, drowsiness, neuroleptic malignant syndrome, Sz, skin discoloration, photosensitivity, constipation, sexual dysfunction, blood dyscrasias, pigmentary retinopathy, hepatic impair  
**Notes:** Avoid EtOH, dilute PO conc in 2–4 oz liq  

Thiothixene (Navane) **WARNING:** Not for dementia-related psychosis; increased mortality risk in elderly on antipsychotics  
**Uses:** *Psychosis*  
**Action:** $?; Antagonizes dopamine receptors  
**Dose:** Adults & Peds ≥12 y: Mild–mod psychosis: 2 mg PO tid, up to 20–30 mg/d. Severe psychosis: 5 mg PO bid; ↑ to max of 60 mg/24 h PRN. IM use: 16–20 mg/24 h × bid-qid; max 30 mg/d. Peds <12 y: 0.25 mg/kg/24 h PO × q6–12h  
**Caution:** [C, ?] Avoid with ↑ QT interval or meds that can ↑ QT  
**CI:** Phenothiazine sensitivity  
**Disp:** Caps 1, 2, 5, 10, 20 mg; PO conc 5 mg/mL; Inj 10 mg/mL  
**SE:** Drowsiness, EPS most common; ↓ BP, dizziness, drowsiness, neuroleptic malignant syndrome, Sz, skin discoloration, photosensitivity, constipation, sexual dysfunction, blood dyscrasias, pigmentary retinopathy, hepatic impair  
**Notes:** Dilute PO conc immediately before use  

Tiagabine (Gabitril) **Uses:** *Adjunct in partial Szs,* bipolar disorder  
**Action:** Antiepileptic, enhances activity of GABA  
**Dose:** Adults & Peds ≥12 y: Initial 4 mg/d PO, ↑ by 4 mg during 2nd wk; ↑ PRN by 4–8 mg/d based on response, 56 mg/d max; take w/ food  
**Caution:** [C, M] May ↑ suicidal risk  
**CI:** Component allergy  
**Disp:** Tabs 2, 4, 12, 16, 20 mg  
**SE:** Dizziness, HA, somnolence, memory impair, tremors  
**Notes:** Use gradual withdrawal; used in combo w/ other anticonvulsants  

Ticarcillin/Potassium Clavulanate (Timentin) **Uses:** *Infxns of the skin, bone, resp & urinary tract, abdomen, sepsis*  
**Action:** Carboxy-PCN; bactericidal; ↓ cell wall synth; clavulanic acid blocks β-lactamase. **Spectrum:** Good gram(+), not MRSA; good gram(–) & anaerobes  
**Dose:** Adults. 3.1 g IV q4–6h max 24 g ticarcillin component/d. Peds. 200–300 mg/kg/d IV × q4–6h; ↓ in renal failure  
**Caution:** [B, +/–] PCN sensitivity  
**Disp:** Inj ticarcillin/clavulanate acid 3.1 g/0.1 g vial  
**SE:** Hemolytic anemia, false + proteinuria  
**Notes:** Often used in combo w/ aminoglycosides; penetrates CNS with meningeal irritation
Ticlopidine (Ticlid)  
**WARNING:** Neutropenia/agranulocytosis, TTP, aplastic anemia reported

**Uses:** *↓ Risk of thrombotic stroke,* *protect grafts status post-coronary artery bypass graft, diabetic microangiopathy, ischemic heart Dz, DVT prophylaxis, graft prophylaxis after renal transplant**

**Action:** Plt aggregation inhibitor

**Dose:** 250 mg PO bid w/ food

**Caution:** [B, ?/–], ↑ tox of ASA, anticoagulation, NSAIDs, theophylline

**CI:** Bleeding, hepatic impair, neutropenia, thrombocytopenia

**Disp:** Tabs 250 mg

**SE:** Bleeding, GI upset, rash, ↑ on LFTs

**Notes:** Follow CBC 1st 3 mo

Tigecycline (Tygacil)  
**Uses:** *Rx complicated skin & soft-tissue Infxns, & complicated intra-Abd Infxns*  
**Action:** New class: related to tetracycline; *Spectrum:* Broad gram(+), gram(–), anaerobic, some mycobacterial; *E. coli, E. faecalis* (vancomycin-susceptible isolates), *S. aureus* (methicillin-susceptible/resistant), *Streptococcus* (agalactiae, anginosus grp, pyogenes), *Citrobacter freundii, Enterobacter cloacae, B. fragilis* group, *C. perfringens, Peptostreptococcus***

**Dose:** Adults. 100 mg, then 50 mg q12h IV over 30–60 min q12h

**Caution:** [D, ?] Hepatic impair, monotherapy w/ intestinal perforation, not OK in peds, w/ tetracycline allergy

**CI:** Component sensitivity

**Disp:** Inj 50 mg vial

**SE:** N/V, Inj site Rxn

Timolol (Blocadren)  
**WARNING:** Exacerbation of ischemic heart Dz w/ abrupt D/C

**Uses:** *HTN & MI*  
**Action:** β-Adrenergic receptor blocker, β₁, β₂

**Dose:** *HTN:* 10–20 mg bid, up to 60 mg/d. *MI:* 10 mg bid

**Caution:** [C (1st tri; D if 2nd or 3rd tri), +]  
**CI:** CHF, cardiogenic shock, bradycardia, heart block, COPD, asthma

**Disp:** Tabs 5, 10, 20 mg

**SE:** Sexual dysfunction, arrhythmia, dizziness, fatigue, CHF

Timolol, ophthalmic (Timoptic)  
**Uses:** *Glaucoma*  
**Action:** β-Blocker

**Dose:** 0.25% 1 gt bid; ↓ to daily when controlled; use 0.5% if needed; 1-gtt/d gel

**Caution:** [C (1st tri; D 2nd or 3rd), ?/+]  
**Disp:** Soln 0.25/0.5%; Timoptic XE (0.25, 0.5%) gel-forming soln

**SE:** Local irritation

Tinidazole (Tindamax)  
**WARNING:** Off-label use discouraged (animal carcinogenicity w/ other drugs in class)

**Uses:** *Adults/children >3 y: Trichomoniasis & giardiasis; intestinal amebiasis or amebic liver abscess*  
**Action:** Antiprotozoal nitroimidazole; *Spectrum: Trichomonas vaginalis, Giardia duodenalis, Entamoeba histolytica***

**Dose:** Adults. 2 g PO; Rx partner. *Giardiasis:* 2 g PO

**Amebiasis:** 2 g PO daily × 3 d.  
**Amebic liver abscess:** 2 g PO daily × 3–5 d.

**Peds. Trichomoniasis:** 50 mg/kg PO, 2 g/d max.  
**Giardiasis:** 50 mg/kg PO, 2 g max.

**Amebiasis:** 50 mg/kg PO daily × 3 d, 2 g/d max.  
**Amebic liver abscess:** 50 mg/kg PO daily × 3–5 d, 2 g/d max; take w/ food

**Caution:** [C, D in 1st tri; –]  
**CI:** Metronidazole allergy, 1st tri PRG, w/ EtOH use

**Disp:** Tabs 250, 500 SE: CNS disturbances; blood dyscrasias, taste disturbances, N/V, darkens urine

**Notes:** D/C EtOH during & 3 d after Rx; potentiates warfarin & lithium; clearance ↓ w/ other drugs; crush & disperse in cherry syrup for peds; removed by HD
**Tinzaparin (Innohep)**  
*WARNING:* Risk of spinal/epidural hematomas development w/ spinal anesthesia or lumbar puncture  
*Uses:* *Rx of DVT w/ or w/o PE*  
*Action:* LMW heparin  
*Dose:* 175 units/kg SQ daily at least 6 d until warfarin dose stabilized  
*Caution:* [B, ?] Pork allergy, active bleeding, mild–mod renal impair, morbid obesity  
*CI:* Allergy to sulfites, heparin, benzyl alcohol; HIT  
*Disp:* Inj 20,000 units/mL  
*SE:* Bleeding, bruising, ↓ plts, Inj site pain, ↑ LFTs  
*Notes:* Monitor via anti-Xa levels; no effect on bleeding time, plt Fxn, PT, aPTT

**Tioconazole (Vagistat)**  
*Uses:* *Vag fungal Infxns*  
*Action:* Topical antifungal  
*Dose:* 1 Applicator-full Intravag hs (single dose)  
*Caution:* [C, ?]  
*CI:* Component allergy  
*Disp:* Vag oint 6.5%  
*SE:* Local burning, itching, soreness, polyuria  
*Notes:* Insert high into vagina

**Tiotropium (Spiriva)**  
*Uses:* Bronchospasm w/ COPD, bronchitis, emphysema  
*Action:* Synthetic anticholinergic like atropine  
*Dose:* 1 Caps/d inhaled using HandiHaler, do not use w/ spacer  
*Caution:* [C, ?–] BPH, NAG, MyG, renal impair  
*CI:* Acute bronchospasm  
*Disp:* Inh caps 18 mcg  
*SE:* URI, xerostomia  
*Notes:* Monitor FEV1 or peak flow

**Tirofiban (Aggrastat)**  
*Uses:* *Acute coronary syndrome*  
*Action:* Glycoprotein IIB/IIIa inhibitor  
*Dose:* Initial 0.4 mcg/kg/min for 30 min, followed by 0.1 mcg/kg/min 12–24h; use in combo w/ heparin; *ACS or PCI:* 0.4 mcg/kg/min IV for 30 min, then 0.1 mcg/kg/min (*ECC 2005)*; ↓ in renal Insuff  
*Caution:* [B, ?–]  
*CI:* Bleeding, intracranial neoplasm, vascular malformation, stroke/surgery/trauma w/in last 30 d, severe HTN  
*Disp:* Inj 50, 250 mcg/mL  
*SE:* Bleeding, bradycardia, coronary dissection, pelvic pain, rash

**Tobramycin (Nebcin)**  
*Uses:* *Serious gram(–) Infxns*  
*Action:* Aminoglycoside; ↓ protein synth.  
*Spectrum:* Gram(–) bacteria (including *Pseudomonas*)  
*Dose:* Adults. Conventional dosing: 1–2.5 mg/kg/dose IV q8–12h. *Once-daily dosing:* 5–7 mg/kg/dose q24h. *Peds.* 2.5 mg/kg/dose IV q8h; ↓ w/ renal Insuff  
*Caution:* [C, M]  
*CI:* Aminoglycoside sensitivity  
*Disp:* Inj 10, 40 mg/mL  
*SE:* Nephro- & ototox  
*Notes:* Follow CrCl & levels. Levels: Peak: 30 min after Inf; *Trough* <0.5 h before next dose; *Therapeutic Conventional:* Peak 5-10 mcg/mL, Trough <2 mcg/mL

**Tobramycin Ophthalmic (AKTob, Tobrex)**  
*Uses:* *Ocular bacterial Infxns*  
*Action:* Antibiotic  
*Dose:* 0.3% Oint apply q3–8h or soln 0.3% apply 1–2 gtt q1–4h  
*Caution:* [C, M]  
*CI:* Aminoglycoside sensitivity  
*Disp:* Oint & soln tobramycin 0.3% SE: Ocular irritation

**Tobramycin & Dexamethasone Ophthalmic (TobraDex)**  
*Uses:* *Ocular bacterial Infxns associated w/ sig inflammation*  
*Action:* Antibiotic w/ anti-inflammatory  
*Dose:* 0.3% Oint apply q3–8h or soln 0.3% apply 1–2 gtt q1–4h  
*Caution:* [C, M]  
*CI:* Aminoglycoside sensitivity  
*Disp:* Oint & susp 2.5, 5 & 10 mL tobramycin 0.3% & dexamethasone 0.1% SE: Local irritation/edema  
*Notes:* Use under ophthalmologist’s direction

**Tolazamide (Tolinase)**  
*Uses:* *Type 2 DM*  
*Action:* Sulfonylurea; ↑ pancreatic insulin release; ↑ peripheral insulin sensitivity; ↓ hepatic glucose
output **Dose**: 100–500 mg/d (no benefit >1 g/d) **Caution**: [C, +/−] Elderly, hepatic or renal impair **Disp**: Tabs 100, 250, 500 mg **SE**: HA, dizziness, GI upset, rash, hyperglycemia, photosensitivity, blood dyscrasias

**Tolazoline (Priscoline)**  
Uses: *Peripheral vasospastic disorders, persistent pulm hypertension of newborn*  
**Action**: Competitively blocks α-adrenergic receptors  
**Dose**: Adults. 10–50 mg IM/IV/SQ qid.  
**Neonates**. 1–2 mg/kg IV over 10–15 min, then 1–2 mg/kg/h (adjust w/ ↓ renal Fxn) **Caution**: [C, ?] Avoid alcohol, w/ CAD, renal impair, CVA, PUD, ↓ BP  
**CI**: CAD  
**Disp**: Inj 25 mg/mL  
**SE**: ↓ BP, peripheral vasodilation, tachycardia, arrhythmias, GI upset & bleeding, blood dyscrasias, renal failure

**Tolbutamide (Orinase)**  
Uses: *Type 2 DM*  
**Action**: Sulfonylurea; ↑ pancreatic insulin release; ↑ peripheral insulin sensitivity; ↓ hepatic glucose output  
**Dose**: 500–1000 mg bid; 3 g/d max; ↓ in hepatic failure **Caution**: [C, +] CI: Sulfonylurea sensitivity  
**Disp**: Tabs 250, 500 mg **SE**: HA, dizziness, GI upset, rash, photosensitivity, blood dyscrasias, hypoglycemia, heartburn

**Tolcapone (Tasmar)**  
**WARNING**: Cases of fulminant liver failure resulting in death have occurred  
Uses: *Adjunct to carbidopa/levodopa in Parkinson Dz*  
**Action**: Catechol-O-methyltransferase inhibitor slows levodopa metabolism  
**Dose**: 100 mg PO tid w/ first daily levodopa/carbidopa dose, then dose 6 & 12 h later; ↓ w/ renal Insuff **Caution**: [C, ?] CI: Hepatic impair; w/ nonselective MAOI  
**Disp**: Tabs 100 mg, 200 mg  
**SE**: Constipation, xerostomia, vivid dreams, hallucinations, anorexia, N/D, orthostasis, liver failure, Rhabdomyolysis  
**Notes**: Do not abruptly D/C or ↓ dose; monitor LFTs

**Tolmetin (Tolectin)**  
**WARNING**: May ↑ risk of cardiovascular events & GI bleeding  
Uses: *Arthritis & pain*  
**Action**: NSAID; ↓ prostaglandins  
**Dose**: 200–600 mg PO tid; 2000 mg/d max  
**Caution**: [C (D in 3rd tri or near term), +] CI: NSAID or ASA sensitivity; use for pain post-coronary artery bypass graft  
**Disp**: Tabs 200, 600 mg; caps 400 mg **SE**: Dizziness, rash, GI upset, edema, GI bleeding, renal failure

**Tolnaftate (Tinactin) [OTC]**  
Uses: *Tinea pedis, cruris, corporis, manus, versicolor*  
**Action**: Topical antifungal  
**Dose**: Apply to area bid for 2–4 wk  
**Caution**: [C, ?] CI: Nail & scalp Infxns  
**Disp**: OTC 1% liq; gel; powder; topical cream; ointment, powder, spray soln  
**SE**: Local irritation  
**Notes**: Avoid ocular contact, Infxn should improve in 7–10 d

**Tolterodine (Detrol, Detrol LA)**  
Uses: *OAB (frequency, urgency, incontinence)*  
**Action**: Anticholinergic  
**Dose**: Detrol 1–2 mg PO bid; Detrol LA 2–4 mg/d  
**Caution**: [C, ?/−] w/ CYP2D6 & 3A3/4 inhibitor (Table 11) CI: Urinary retention, gastric retention, or uncontrolled NAG  
**Disp**: Tabs 1, 2 mg; Detrol LA tabs 2, 4 mg  
**SE**: Xerostomia, blurred vision, headache, constipation  
**Notes**: LA form may see “intact” pill in stool

**Topiramate (Topamax)**  
Uses: *Adjunctive Rx for complex partial Szs & tonic–clonic Szs,* bipolar disorder, neuropathic pain, migraine prophylaxis
Action: Anticonvulsant  
Dose: Adults. Seizures: Total dose 400 mg/d; see insert for 8-wk titration schedule. Migraine prophylaxis: titrate 100 m/d total.  
Peds 2–16 y: Initial: 1–3 mg/kg/d PO qhs; titrate per insert to 5–9 mg/kg/d; ↓ w/ renal impair  
Caution: [C, ?/–] CI: Component allergy  
Disp: Tabs 25, 50, 100, 200 mg; caps sprinkles 15, 25, 50 mg  
SE: Wgt loss, memory impair, metabolic acidosis, kidney stones, fatigue, dizziness, psychomotor slowing, paresthesias, GI upset, tremor, nystagmus, acute glaucoma requiring D/C  
Notes: Metabolic acidosis responsive to ↓ dose or D/C; D/C w/ taper  

**Topotecan (Hycamtin)**  
WARNING: Chemotherapy precautions, for use by physicians familiar with chemotherapeutic agents, BM suppression possible  
Uses: *Ovarian CA (cisplatin-refractory), cervical CA, NSCLC,* sarcoma, ped NSCLC  
Action: Topoisomerase I inhibitor; ↓ DNA synth  
Dose: 1.5 mg/m²/d as a 1-h IV Inf × 5 d, repeat q3wk; ↓ w/ renal impair  
Caution: [D, –] CI: PRG, breastfeeding  
Disp: Inj 4-mg vials  
SE: ↓ BM, N/V/D, drug fever, skin rash  

**Torsemide (Demadex)**  
Uses: *Edema, HTN, CHF, & hepatic cirrhosis*  
Action: Loop diuretic; ↓ reabsorption of Na⁺ & Cl⁻ in ascending loop of Henle & distal tubule  
Dose: 5–20 mg/d PO or IV; 200 mg/d max  
Caution: [B, ?] CI: Sulfonylurea sensitivity  
Disp: Tabs 5, 10, 20, 100 mg; Inj 10 mg/mL  
SE: Orthostatic ↓ BP, HA, dizziness, photosensitivity, electrolyte imbalance, blurred vision, renal impair  
Notes: 10–20 mg torsemide = 40 mg furosemide = 1 mg bumetanide  

**Tramadol (Ultram, Ultram ER)**  
Uses: *Mod–severe pain*  
Action: Centrally acting analgesic  
Dose: Adults.  
50–100 mg PO q4–6h PRN, start 25 mg PO q A.M., ↑ q3d to 25 mg PO qid; ↑ 50 mg q3d, 400 mg/d max (300 mg if >75 y); ER 100–300 mg PO daily.  
Peds. 0.5–1 mg/kg PO q4–6h PRN; ↓ w/ renal Insuff  
Caution: [C, ?/–] CI: Opioid dependency; w/ MAOIs; sensitivity to codeine  
Disp: Tabs 50 mg; ER 10, 20, 30 mg  
SE: Dizziness, HA, somnolence, GI upset, resp depression, anaphylaxis  
Notes: ↓ Sz threshold; tolerance/dependence may develop  

**Tramadol/Acetaminophen (Ultracet)**  
Uses: *Short-term Rx acute pain (<5 d)*  
Action: Centrally acting analgesic; nonnarcotic analgesic  
Dose: 2 tabs PO q4–6h PRN; 8 tabs/d max.  
Elderly/renal impair: Lowest possible dose; 2 tabs q12h max if CrCl <30  
Caution: [C, –] Szs, hepatic/renal impair, or Hx addictive tendencies  
Disp: Tab 37.5 mg tramadol/325 mg APAP  
SE: SSRIs, TCAs, opioids, MAOIs ↑ risk of Szs; dizziness, somnolence, tremor, HA, N/V/D, constipation, xerostomia, liver tox, rash, pruritus, ↑ sweating, physical dependence  
Notes: Avoid EtOH  

**Trandolapril (Mavik)**  
WARNING: Use in PRG in 2nd/3rd tri can result in fetal death  
Uses: *HTN,* heart failure, LVD, post-AMI  
Action: ACE inhibitor  
Dose: HTN: 1–4 mg/d. Heart failure/LVD: Start 1 mg/d, titrate to 4 mg/d; ↓ w/ severe renal/hepatic impair  
Caution: [D, +] ACE inhibitor sensitivity, angioedema w/ ACE inhibitors  
Disp: Tabs 1, 2, 4 mg  
SE: ↓ BP, bradycardia, dizziness, ↑ K⁺, GI upset, renal impair, cough, angioedema  
Notes: African Americans minimum dose is 2 mg vs 1 mg in whites
Trastuzumab (Herceptin)  WARNING: Can cause cardiomyopathy and ventricular dysfunction; Inf Rxns and pulm tox reported Uses: *Metastases breast CA that overexpress the HER2/neu protein,* breast CA adjuvant, w/ doxorubicin, cyclophosphamide, and paclitaxel if pt HER2/neu(+) Action: MoAb; binds human epidermal growth factor receptor 2 protein (HER2); mediates cellular cytotoxicity Dose: Per protocol, typical 2 mg/kg/IV/wk Caution: [B, ?] CV dysfunction, allergy/Inf Rxns CI: Live vaccines Disp: Inj form 21 mg/mL SE: Anemia, cardiomyopathy, nephrotic syndrome, pneumonitis Notes: Inf-related Rxns minimized w/ acetaminophen, diphenhydramine, & meperidine

Trazodone (Desyrel)  WARNING: Closely monitor for worsening depression or emergence of suicidality, particularly in pts <24 y Uses: *Depression,* hypnotic, augment other antidepressants Action: Antidepressant; ↓ reuptake of serotonin & norepinephrine Dose: Adults & Adolescents. 50–150 mg PO daily–qid; max 600 mg/d. Sleep: 50 mg PO, qhs, PRN Caution: [C, ?/–] CI: Component allergy Disp: Tabs 50, 100, 150, 300 mg SE: Dizziness, HA, sedation, N, xerostomia, syncope, confusion, tremor, hep, EPS Notes: Takes 1–2 wk for Sx improvement; may interact with CYP3A4 inhibitors to ↑ trazodone concentrations, carbamazepine to ↓ trazodone concentrations

Treprostinil Sodium (Remodulin)  Uses: *NYHA class II–IV pulm arterial HTN* Action: Vasodilation, inhibits plt aggregation Dose: 0.625–1.25 ng/kg/min cont Inf, titrate to effect, limited experience w/ dose >40 mg/min Caution: [B, ?/–] CI: Component allergy Disp: 1, 2.5, 5, 10 mg/mL Inj SE: Additive effects w/ anticoagulants, antihypertensives; Inf site Rxns; D (25%), N (22%), HA (27%), ↓ BP Notes: Initiate in monitored setting; do not D/C or ↓ dose abruptly

Tretinoin, Topical [Retinoic Acid] (Retin-A, Avita, Renova, Retin-A Micro)  Uses: *Acne vulgaris, sun-damaged skin, wrinkles* (photo aging), some skin CAs Action: Exfoliant retinoic acid derivative Dose: Adults & Peds >12 y: Apply daily hs (w/ irritation, ↓ frequency). Photoaging: Start w/ 0.025%, ↑ to 0.1% over several mo (apply only q3d if on neck area; dark skin may require bid use) Caution: [C, ?] CI: Retinoid sensitivity Disp: Cream 0.02, 0.025, 0.05, 0.1%; gel 0.01, 0.025, microformulation gel 0.1, 0.04%; liq 0.05% SE: Avoid sunlight; edema; skin dryness, erythema, scaling, changes in pigmentation, stinging, photosensitivity

Triamcinolone (Azmacort)  Uses: *Chronic asthma* Actions: Topical steroid Dose: 2-Inhs tid-qid or 4 Inh bid Caution: [C, ?] CI: Component allergy Disp: Aerosol, metered inhaler 100-mcg spray SE: Cough, oral candidiasis Notes: Instruct pts to rinse mouth after use; not for acute asthma

Triamcinolone & Nystatin (Mycolog-II)  Uses: *Cutaneous candidiasis* Action: Antifungal & anti-inflammatory Dose: Apply lightly to area bid; max 25 mg/d Caution: [C, ?] CI: Varicella; systemic fungal Infxns Disp: Cream & oint 15, 30, 60, 120 mg SE: Local irritation, hypertrichosis, pigmentation changes Notes: For short-term use (<7 d)
**Triamterene (Dyrenium)**  
**Uses:** *Edema associated w/ CHF, cirrhosis*  
**Action:** K⁺-sparing diuretic  
**Dose:**  
- **Adults.** 100–300 mg/24 h PO ÷ daily-bid.  
- **Peds.**  
  - HTN: 2–4 mg/kg/d in 1–2 ÷ doses; ↓ w/ renal/hepatic impair  
  - Caution: [B (manufacturer; D ed. opinion), ?/–] CI: ↑ K⁺, renal impair; caution w/ other K⁺-sparing diuretics  
**Disp:** Caps 50, 100 mg  
**SE:** ↓ K⁺, blood dyscrasias, liver damage, other Rxns  

**Triazolam (Halcion) [C-IV]**  
**Uses:** *Short-term management of insomnia*  
**Action:** Benzodiazepine  
**Dose:**  
- 0.125–0.25 mg/d PO hs PRN; ↓ in elderly  
- Caution: [X, ?/–] CI: NAG; cirrhosis; concurrent amprenavir, ritonavir, nelfinavir, itraconazole, ketoconazole, nefazodone  
**Disp:** Tabs 0.125, 0.25 mg  
**SE:** Tachycardia, CP, drowsiness, fatigue, memory impair, GI upset  
**Notes:** Additive CNS depression w/ EtOH & other CNS depressants, avoid abrupt D/C, do not prescribe >1 mo supply  

**Triethanolamine (Cerumenex) [OTC]**  
**Uses:** *Cerumen (ear wax) removal*  
**Action:** Ceruminolytic agent  
**Dose:** Fill ear canal & insert cotton plug; irrigate w/ H₂O after 15 min; repeat PRN  
**Caution:** [C, ?] CI: Perforated tympanic membrane, otitis media  
**Disp:** Soln 10, 16, 12 mL  
**SE:** Local dermatitis, pain, erythema, pruritus  

**Triethylenethiophosphoramide (Thio-Tepa, Tespa, TSPA)**  
**Uses:** *Hodgkin Dz & NHLs; leukemia; breast, ovarian CAs, preparative regimens for allogeneic & ABMT w/ high doses, intravesical for bladder CA*  
**Action:** Polyfunctional alkylating agent  
**Dose:**  
- 0.5 mg/kg q1–4wk, 6 mg/m² IM or IV × 4 d q2–4wk, 15–35 mg/m² by cont IV Inf over 48 h; 60 mg into the bladder & retained 2 h q1–4wk; 900–125 mg/m² in ABMT regimens (highest dose w/o ABMT is 180 mg/m²); 1–10 mg/m² (typically 15 mg) IT 1 or 2×/wk; 0.8 mg/kg in 1–2 L of soln may be instilled intraperitoneally; ↓ in renal failure  
- Caution: [D, –] CI: Component allergy  
**Disp:** Inj 15, 30 mg  
**SE:** ↓ BM, N/V, dizziness, HA, allergy, paresthesias, alopecia  
**Notes:** Intravesical use in bladder CA infrequent today  

**Trifluoperazine (Stelazine)**  
**Uses:** *Psychotic disorders*  
**Action:** Phenothiazine; blocks postsynaptic CNS dopaminergic receptors  
**Dose:**  
- **Adults.** 2–10 mg PO bid.  
- **Peds 6–12 y:** 1 mg PO daily-bid initial, gradually ↑ to 15 mg/d; ↓ in elderly/debilitated pts  
- Caution: [C, ?/–] CI: Hx blood dyscrasias; phenothiazine sensitivity  
**Disp:** Tabs 1, 2, 5, 10 mg; PO conc 10 mg/mL; Inj 2 mg/mL  
**SE:** Orthostatic ↓ BP, EPS, dizziness, neuroleptic malignant syndrome, skin discoloration, lowered Sz threshold, photosensitivity, blood dyscrasias  
**Notes:** PO conc must be diluted to 60 mL or more prior to administration; requires several wk for onset of effects  

**Trifluridine Ophthalmic (Viroptic)**  
**Uses:** *Herpes simplex keratitis & conjunctivitis*  
**Action:** Antiviral  
**Dose:** 1 gtt q2h, max 9 gtt/d; ↓ to 1 gtt q4h after healing begins; Rx up to 21 d  
**Caution:** [C, M] CI: Component allergy  
**Disp:** Soln 1% SE: Local burning, stinging
Trihexyphenidyl (Artane) Uses: *Parkinson Dz* Action: Blocks excess acetylcholine at cerebral synapses Dose: 2–5 mg PO daily-qid Caution: [C, +] CI: NAG, GI obst, MyG, bladder obs Dis: Tabs 2, 5 mg; elixir 2 mg/5 mL SE: Dry skin, constipation, xerostomia, photosensitivity, tachycardia, arrhythmias

Trimethobenzamide (Tigan) Uses: *N/V* Action: ↓ Medullary chemoreceptor trigger zone Dose: Adults. 300 mg PO or 200 mg IM tid-qid PRN. Peds. 20 mg/kg/24 h PO in 3–4 ÷ doses Caution: [C, ?] CI: Benzocaine sensitivity Disp: Caps 300 mg; Inj 100 mg/mL SE: Drowsiness, ↓ BP, dizziness; hepatic impairment, blood dyscrasias, Szs, parkinsonian-like syndrome Notes: In the presence of viral Infxns, may mask emesis or mimic CNS effects of Reye syndrome

Trimethoprim (Primsol, Proloprim) Uses: *UTI due to susceptible gram(+) & gram(–) organisms; Rx PCP w/ dapsone* suppression of UTI Action: ↓ Dihydrofolate reductase. Spectrum: Many gram(+) & (–) except Bacteroides, Branhamella, Brucella, Chlamydia, Clostridium, Mycobacterium, Mycoplasma, Nocardia, Neisseria, Pseudomonas, & Treponema Dose: Adults. 100 mg PO bid or 200 mg PO q day; PCP 5 mg/kg tid × 21 d w/ dapsone. Peds. 4 mg/kg/d in 2 ÷ doses; ↓ w/ renal failure Caution: [C, +] CI: Megaloblastic anemia due to folate deficiency Disp: Tabs 100 mg; PO soln 50 mg/5 mL SE: Rash, pruritus, megaloblastic anemia, hepatic impair, blood dyscrasias Notes: Take w/ plenty of H2O

Trimethoprim (TMP)–Sulfamethoxazole (SMX) [Co-Trimoxazole] (Bactrim, Septra) Uses: *UTI Rx & prophylaxis, otitis media, sinusitis, bronchitis* Action: SMX ↓ synth of dihydrofolic acid, TMP ↓ dihydrofolate reductase to impair protein synth. Spectrum: Includes Shigella, PCP, & Nocardia Infxns, Mycoplasma, Enterobacter sp, Staphylococcus, Streptococcus, & more Dose: Adults. 1 DS tab PO bid or 5–20 mg/kg/24 h (based on TMP) IV in 3–4 ÷ doses. PCP: 15–20 mg/kg/d IV or PO (TMP) in 4 ÷ doses. Nocardia: 10–15 mg/kg/d IV or PO (TMP) in 4 ÷ doses. UTI prophylaxis: 1 PO daily. Peds. 8–10 mg/kg/24 h (TMP) PO ÷ into 2 doses or 3–4 doses IV; do not use in newborns; ↓ in renal failure; maintain hydration Caution: [B (D if near term), +] CI: Sulfonamide sensitivity, porphyria, megaloblastic anemia w/ folate deficiency, sig hepatic impair Disp: Regular tabs 80 mg TMP/400 mg SMX; DS tabs 160 mg TMP/800 mg SMX; PO susp 40 mg TMP/200 mg SMX/5 mL; Inj 80 mg TMP/400 mg SMX/5 mL SE: Allergic skin Rxns, photosensitivity, GI upset, Stevens-Johnson syndrome, blood dyscrasias, hep Notes: Synergistic combo, interacts w/ warfarin

Trimetrexate (NeuTrexin) WARNING: Must be used w/ leucovorin to avoid tox Uses: *Mod–severe PCP* Action: ↓ Dihydrofolate reductase Dose: 45 mg/m² IV q24h for 21 d; administer w/ leucovorin 20 mg/m² IV q6h for 24 d; ↓ in hepatic impair Caution: [D, ?/–] CI: MTX sensitivity Disp: Inj 25, 200 mg/vial SE: Sz, fever, rash, GI upset, anemias, ↑ LFTs, peripheral neuropathy, renal impair Notes: Use cytotoxic cautions; Inf over 60 min
**Triptorelin (Trelstar Depot, Trelstar LA)**  Uses: *Palliation of advanced PCa*  Action: LHRH analog; ↓ GNRH w/ cont dosing; transient ↑ in LH, FSH, testosterone, & estradiol 7–10 d after first dose; w/ chronic/cont use (usually 2–4 wk), sustained ↓ LH & FSH w/ ↓ testicular & ovarian steroidogenesis similar to surgical castration  Dose: 3.75 mg IM monthly or 11.25 mg IM q3mo  Caution: [X, N/A]  CI: Not indicated in females  Disp: Inj Depot 3.75 mg; LA 11.25 mg  SE: Dizziness, emotional lability, fatigue, HA, insomnia, HTN, D, V, ED, retention, Uti, pruritus, anemia, Inj site pain, musculoskeletal pain, osteoporosis, allergic Rxns

**Trospium (Sanctura, Sanctura XR)**  Uses: *OAB w/ Sx of urge incontinence, urgency, frequency*  Action: Muscarinic antagonist, ↓ bladder smooth muscle tone  Dose: 20 mg tab PO bid; 60 mg ER caps PO q day A.M., 1 h ac or on empty stomach. ↓ w/ CrCl <30 mL/min and elderly  Caution: [C, +/-] w/ EtOH use, in hot environments, ulcerative colitis, MyG, renal/hepatic impair  CI: Urinary/gastric retention, NAG  Disp: Tab 20 mg; caps ER 60 mg  SE: Dry mouth, constipation, HA, rash

**Urokinase (Abbokinase)**  Uses: *PE, DVT, restore patency to IV catheters*  Action: Converts plasminogen to plasmin; causes clot lysis  Dose: Adults & Peds.  Systemic effect: 4400 units/kg IV over 10 min, then 4400–6000 units/kg/h for 12 h.  Restore catheter patency: Inject 5000 units into catheter & aspirate up to 2 doses  Caution: [B, +]  CI: Do not use w/in 10 d of surgery, delivery, or organ biopsy; bleeding, CVA, vascular malformation  Disp: Powder for Inj, 250,000-unit vial  SE: Bleeding, ↓ BP, dyspnea, bronchospasm, anaphylaxis, cholesterol embolism  NOTES: aPTT should be <2× nl before use and before starting anticoagulants after

**Valacyclovir (Valtrex)**  Uses: *Herpes zoster; genital herpes; herpes labialis*  Action: Prodrug of acyclovir; ↓ viral DNA replication.  Spectrum: Herpes simplex I & II  Dose: Zoster: 1 g PO tid × 7 d. *Genital herpes(initial episode):* 1 g bid × 7–10 d, *recurrent* 500 mg PO bid × 3 d or 1 g PO q day × 5 d.  Herpes prophylaxis: 500–1000 mg/d. *Herpes labialis:* 2 g PO q12h × 1 d ↓ w/ renal failure  Caution: [B, +]  Disp: Caplets 500, 1000 mg SE: HA, GI upset, dizziness, pruritus, photophobia

**Valganciclovir (Valcyte)**  **WARNING:** Granulocytopenia, anemia, and thrombocytopenia reported. Carcinogenic, teratogenic, and may cause aspermogenesis  Uses: *CMV retinitis and CMV prophylaxis in solid-organ transplantation*  Action: Ganciclovir prodrug; ↓ viral DNA synth  Dose:  **CMV Retinitis induction:** 900 mg PO bid w/ food × 21 d, then 900 mg PO daily;  **CMV prevention:** 900 mg PO q day × 100 d posttransplant, ↓ w/ renal dysfunction  Caution: [C, ?/-]  Use w/ imipenem/cilastatin, nephrotoxic drugs  CI: Allergy to acyclovir, ganciclovir, valganciclovir; ANC <500; plt <25 K; Hgb <8 g/dL  Disp: Tabs 450 mg SE: BM suppression, headache, GI upset  Notes: Monitor CBC & Cr
Valproic Acid (Depakene, Depakote) **WARNING:** Fatal hepatic failure, teratogenic effects, and life-threatening pancreatitis reported  
*Rx epilepsy, mania; prophylaxis of migraines,* Alzheimer behavior disorder  
**Action:** Anticonvulsant; ↑ availability of GABA  
**Dose:** Adults & Peds. Szs: 30–60 mg/kg/24 h PO ÷ tid (after initiation of 10–15 mg/kg/24 h). Mania: 750 mg in 3 ÷ doses, ↑ 60 mg/kg/d max. Migraines: 250 mg bid, ↑ 1000 mg/d max; ↓ w/ hepatic impair  
**Caution:** [D, +] CI: Severe hepatic impair  
**Disp:** Caps 250 mg; caps w/ coated particles 125 mg; tabs DR 125, 250, 500 mg; tabs ER 250, 500 mg; syrup 250 mg/5 mL; Inj 100 mg/mL  
**SE:** Somnolence, dizziness, GI upset, diplopia, ataxia, rash, thrombocytopenia, hep, pancreatitis, ↑ bleeding times, alopecia, wgt ↑, hyperammonemic encephalopathy in pts w/ urea cycle disorders  
**Notes:** Monitor LFTs & levels: Trough: Just before next dose; Therapeutic: Peak: 50–100 mcg/mL; Toxic Trough: >100 mcg/mL. Half-life: 5–20 h; phenobarbital & phenytoin may alter levels

Valsartan (Diovan) **WARNING:** Use during 2nd/3rd tri of PRG can cause fetal harm  
**Uses:** HTN, CHF, DN  
**Action:** Angiotensin II receptor antagonist  
**Dose:** 80–160 mg/d, max 320 mg/d  
**Caution:** [D, ?/–] w/ K+-sparing diuretics or K+ supls  
**CI:** Severe hepatic impair, biliary cirrhosis/obst, primary hyperaldosteronism, bilateral RAS  
**Disp:** Tabs 40, 80, 160, 320 mg  
**SE:** ↓ BP, dizziness, HA, viral Infxn, fatigue, Abd pain, D, arthralgia, fatigue, back pain, hyperkalemia, cough, ↑ Cr

Vancomycin (Vancocin, Vancoled) **Uses:** *Serious MRSA Infxns; enterococcal Infxns; PO Rx of S. aureus and C. difficile pseudomembranous colitis*  
**Action:** ↓ Cell wall synth.  
**Spectrum:** Gram(+) bacteria & some anaerobes (includes MRSA, *Staphylococcus, Enterococcus, Streptococcus* sp, *C. difficile*)  
**Dose:** Adults. 1 g IV q12h or 15–20 mg/kg/dose; *C. difficile*: 125–500 mg PO q6h × 7–10 d. Peds. 40–60 mg/kg/d IV in ÷ doses q6–12 h; *C. difficile*: 40–60 mg/kg/d PO × 7–10 d. Neonates. 10–15 mg/kg/dose q12h; ↓ w/ renal Insuff  
**Caution:** [C, M]  
**CI:** Component allergy; avoid in Hx hearing loss  
**Disp:** Caps 125, 250 mg; powder 250 mg/5 mL, 500 mg/6 mL for PO soln; powder for Inj 500 mg, 1000 mg, 10 g/vial  
**SE:** Oto-/nephrotoxic, GI upset (PO), ↓ WBC  
**Notes:** Not absorbed PO, effect in gut only; give IV slowly (over 1–3 h) to prevent “red-man syndrome” (flushing of head/neck/upper torso); IV product PO for colitis. Levels: Peak: 1 h after Inf; Trough: <0.5 h before next dose; Therapeutic: Peak: 20–40 mcg/mL; Trough: 10–20 mcg/mL; Toxic Peak: >50 mcg/mL; Trough: >20 mcg/mL. Half-life: 6–8 h

Vardenafil (Levitra) **Uses:** *ED*  
**Action:** PDE5 inhibitor, increases cyclic guanosine monophosphate (cGMP) and NO levels; relaxes smooth muscles, dilates cavernosal arteries  
**Dose:** 10 mg PO 60 min before sexual activity; titrate; max × 1 = 20 mg; 2.5 mg w/ CYP3A4 inhibitors (Table 11);  
**Caution:** [B, –] w/ CV, hepatic, or renal Dz or if sex activity not advisable  
**CI:** w/ nitrates,  
**Disp:** Tabs 2.5, 5, 10, 20 mg tabs  
**SE:** ↑ QT interval ↓ BP, HA, dyspepsia, priapism, flushing,
rhinitis, sinusitis, flu syndrome, sudden ↓/loss of hearing, tinnitus, NIAON. Notes: Concomitant α-blockers may cause ↓ BP; transient global amnesia reports

**Varenicline (Chantix)**

**Uses:** *Smoking cessation*  
**Action:** Nicotine receptor partial agonist  
**Dose:** Adults. 0.5 mg PO daily × 3 d, 0.5 mg bid × 4 d, then 1 mg PO bid for 12 wk total; after meal w/ glass of water  
**Caution:** [C, ?/–] ↓ Dose w/ renal impair  
**Disp:** Tabs 0.5, 1 mg  
**SE:** Serious psychological disturbances, N, V, insomnia, flatulence, unusual dreams  
**Notes:** Slowly ↑ dose to ↓ N; initiate 1 wk before desired smoking cessation date; monitor for changes in behavior

**Varicella Virus Vaccine (Varivax)**

**Uses:** *Prevent varicella (chickenpox)*  
**Action:** Active immunization; live attenuated virus  
**Dose:** Adults & Peds. 0.5 mL SQ, repeat 4–8 wk  
**Caution:** [C, M] CI: Immunocompromise; neomycin-anaphylactoid Rxn, blood dyscrasias; immunosuppressive drugs; avoid PRG for 3 mo after  
**Disp:** Powder for Inj  
**SE:** Mild varicella Infxn; fever, local Rxns, irritability, GI upset  
**Notes:** OK for all children & adults who have not had chickenpox

**Vasopressin [Antidiuretic Hormone, ADH] (Pitressin)**

**Uses:** *DI; Rx post-op Abd distention*; adjunct Rx of GI bleeding & esophageal varices; asystole and pulseless electrical activity, pulseless VT & VF, adjunct systemic vasopressor (IV drip)  
**Action:** Posterior pituitary hormone, potent GI, and peripheral vasoconstrictor  
**Dose:** Adults & Peds.  
**DI:** 2.5–10 units SQ or IM tid-qid.  
**GI hemorrhage:** 0.2–0.4 units/min; ↓ in cirrhosis; caution in vascular Dz.  
**VT/VF:** 40 units IV push × 1.  
**Vasopressor:** 0.01–0.04 units/min  
**Caution:** [B, +] CI: Allergy  
**Disp:** Inj 20 units/mL  
**SE:** HTN, arrhythmias, fever, vertigo, GI upset, tremor  
**Notes:** Addition of vasopressor to concurrent norepinephrine or epi Infs

**Vecuronium (Norcuron)**

**WARNING:** To be administered only by appropriately trained individuals  
**Uses:** *Skeletal muscle relaxation*  
**Action:** Nondepolarizing neuromuscular blocker; onset 2–3 min  
**Dose:** Adults & Peds.  
**0.1–0.2 mg/kg IV bolus (also rapid intubation (ECC 2005); maint 0.010–0.015 mg/kg after 25–40 min; additional doses q12–15min PRN; ↓ in severe renal/hepatic impair  
**Caution:** [C, ?] Drug interactions cause ↑ effect (eg, aminoglycosides, tetracycline, succinylcholine)  
**Disp:** Powder for Inj  
**SE:** Bradycardia, ↓ BP, itching, rash, tachycardia, CV collapse  
**Notes:** Fewer cardiac effects than succinylcholine

**Venlafaxine (Effexor, Effexor XR)**

**WARNING:** Monitor for worsening depression or emergence of suicidality, particularly in ped pts  
**Uses:** *Depression, generalized anxiety,* social anxiety disorder; panic disorder,* OCD, chronic fatigue syndrome, ADHD, autism  
**Action:** Potentiation of CNS neurotransmitter activity  
**Dose:** 75–225 mg/d ÷ into 2–3 equal doses (IR) or q day (ER); 375 mg IR or 225 mg ER max/d ↓ w/ renal/hepatic impair  
**Caution:** [C, ?/–] CI: MAOIs  
**Disp:** Tabs IR 25, 37.5, 50, 75, 100 mg; ER caps 37.5, 75, 150 mg  
**SE:** HTN, ↑ HR, HA, somnolence, GI upset, sexual dysfunction; actuates mania or Szs  
**Notes:** Avoid EtOH
Verapamil (Calan, Isoptin, Verelan)  
**Uses:** *Angina, HTN, PSVT, AF, atrial flutter,* migraine prophylaxis, hypertrophic cardiomyopathy, bipolar Dz  
**Action:** CCB  
**Dose:** Adults. Arrhythmias: 2nd line for PSVT w/ narrow QRS complex & adequate BP 2.5–5 mg IV over 1–2 min; repeat 5–10 mg in 15–30 min PRN (30 mg max). Angina: 80–120 mg PO tid, ↑ 480 mg/24 h max. HTN: 80–180 mg PO tid or SR tabs 120–240 mg PO daily to 240 mg bid; 2.5–5.0 mg IV over 1–2 min; repeat 5–10 mg, in 5–30 min PRN; or 5-mg bolus q15min (max 30 mg) (ECC 2005). Peds <1 y: 0.1–0.2 mg/kg IV over 2 min (may repeat in 30 min). 1–16 y: 0.1–0.3 mg/kg IV over 2 min (may repeat in 30 min); 5 mg max. PO: 1–5 y: 4–8 mg/kg/d in 3 ÷ doses. >5 y: 80 mg q6–8h; ↓ in renal/hepatic impair  
**Caution:** [C, +] Amiodarone/β-blockers/flecainide can cause bradycardia; statins, midazolam, tacrolimus, theophylline levels may be ↑; w/ elderly pts CI: Conduction disorders, cardiogenic shock; β-blocker/thiazide combo, dofetilide, pimozide, ranolazine  
**Disp:** Tabs 40, 80, 120 mg; tabs ER 120, 180, 240 mg; tabs ER 24-h 180, 240 mg; caps SR 120, 180, 240, 360 mg; caps ER 100, 200, 300 mg; Inj 5 mg/2 mL  
**SE:** Gingival hyperplasia, constipation, ↓ BP, bronchospasm, HR or conduction disturbances

Vinblastine (Velban, Velbe)  
**WARNING:** Chemotherapeutic agent; handle w/ caution  
**Uses:** *Hodgkin Dz & NHLs, mycosis fungoides, CAs (testis, renal cell, breast, NSCLC), AIDS-related Kaposi sarcoma,* choriocarcinoma, histiocytosis  
**Action:** ↓ Microtubule assembly  
**Dose:** 0.1–0.5 mg/kg/wk (4–20 mg/m²); ↓ in hepatic failure  
**Caution:** [D, ?] CI: Intrathecal use  
**Disp:** Inj 1 mg/mL in 10 mg vial  
**SE:** ↓ BM (especially leukopenia), N/V, constipation, neurotox, alopecia, rash, myalgia, tumor pain

Vincristine (Oncovin, Vincasar PFS)  
**WARNING:** Chemotherapeutic agent; handle w/ caution; fatal if administered intrathecally  
**Uses:** *ALL, breast & small-cell lung CA, sarcoma (eg, Ewing tumor, rhabdomyosarcoma), Wilms tumor, Hodgkin Dz & NHLs, neuroblastoma, multiple myeloma*  
**Action:** Promotes disassembly of mitotic spindle, causing metaphase arrest  
**Dose:** 0.4–1.4 mg/m² (single doses 2 mg/max); ↓ in hepatic failure  
**Caution:** [D, ?] CI: Intrathecal use  
**Disp:** Inj 1 mg/mL, 5 mg vial  
**SE:** Neurotox commonly dose limiting, jaw pain (trigeminal neuralgia), fever, fatigue, anorexia, constipation & paralytic ileus, bladder atony; no sig ↓ BM w/ standard doses; tissue necrosis w/ extrav

Vinorelbine (Navelbine)  
**WARNING:** Chemotherapeutic agent; handle w/ caution; Uses: *Breast CA & NSCLC* (alone or w/ cisplatin)  
**Action:** ↓ Polymerization of microtubules, impairing mitotic spindle formation; semisynthetic vinca alkaloid  
**Dose:** 30 mg/m²/wk; ↓ in hepatic failure  
**Caution:** [D, ?] CI: Intrathecal use, granulocytopenia (<1000/mm³)  
**Disp:** Inj 10 mg SE: ↓ BM (leukopenia), mild GI, neurotox (6–29%); constipation/paresthesias (rare); tissue damage from extrav

Vitamin B₁ See Thiamine (page 224)  
Vitamin B₆ See Pyridoxine (page 200)
Vitamin B₁₂ See Cyanocobalamin (page 77)
Vitamin K See Phytonadione (page 192)
Vitamin, multi See Multivitamins (Table 13)

**Voriconazole (VFEND)**

*Uses:* *Invasive aspergillosis, candidemia, serious fungal Infxns*  
*Action:* ↓ Ergosterol synth.  
*Spectrum:* Candida, Aspergillus, Scedosporium, Fusarium sp  
*Dose:* **Adults & Peds >12 y:** IV: 6 mg/kg q12h × 2, then 4 mg/kg bid; may ↓ to 3 mg/kg/dose. **PO:** <40 kg: 100 mg q12h, up to 150 mg; >40 kg: 200 mg q12h, up to 300 mg; ↓ w/ mild–mod hepatic impair; IV w/ renal impair × 1 dose; PO w/o food  
*Cautions:* [D, ?/–]  
*Disp:* Tabs 50, 200 mg; susp 200 mg/5 mL; 200 mg Inj

**Vorinostat (Zolinza)**

*Uses:* *Rx cutaneous manifestations in cutaneous T-cell lymphoma*  
*Action:* Histone deacetylase inhibitor  
*Dose:* 400 mg PO daily w/ food; if intolerant ↓ 300 mg PO d × 5 consecutive days each wk  
*Cautions:* [D; ?/–] w/ Warfarin(↑ INR)  
*Disp:* Caps 100 mg SE: N/V/D, dehydration, fatigue, anorexia, dysgeusia, DVT, PE, ↓ plt, anemia, hyperglycemia, QTc prolongation,  
*Notes:* Monitor CBC, lytes (K, Mg, CA), glucose, & SCr q2wk × 2 mo then monthly; baseline, periodic ECGs; drink 2 L fluid/d

**Warfarin (Coumadin)**

*WARNING:* Can cause major or fatal bleeding  
*Uses:* *Prophylaxis & Rx of PE & DVT, AF w/ embolization,* other post-op indications  
*Action:* ↓ Vit K-dependent clotting factors in order: VII-IX-X-II  
*Dose:* **Adults.** Titrate, INR 2.0–3.0 for most; mechanical valves INR is 2.5–3.5. **American College of Chest Physicians guidelines:** 5 mg initial, may use 7.5–10 mg; ↓ if pt elderly or w/ has other bleeding risk factors; maint 2–10 mg/d PO, follow daily INR initial to adjust dosage (Table 9). **Peds.** 0.05–0.34 mg/kg/24 h PO or IV; follow PT/INR to adjust dosage; monitor vit K intake; ↓ w/ hepatic impair/elderly  
*Cautions:* [X, +] CI: Severe hepatic/renal Dz, bleeding, peptic ulcer, PRG  
*Disp:* Tabs 1, 2, 2.5, 3, 4, 5, 6, 7.5, 10 mg; Inj SE: Bleeding due to over-anticoagulation or injury & therapeutic INR; bleeding, alopecia, skin necrosis, purple toe syndrome  
*Notes:* Monitor vit K intake (↓ effect); INR preferred test; to rapidly correct overanticoagulation: vit K, fresh-frozen plasma, or both; highly teratogenic. Caution pt on taking w/ other meds, especially ASA. Common warfarin interactions: Potentiated by: APAP, EtOH (w/ liver Dz), amiodarone, cimetidine, ciprofloxacin, cotrimoxazole, erythromycin, fluconazole, flu vaccine, isoniazid, itraconazole, metronidazole, omeprazole, phenytoin, propranolol, quinidine, tetracycline. Inhibited by: barbiturates, carbamazepine, chlor Diazepoxide, cholestyramine, dicloxacillin, nafcillin, rifampin, sucral sulfate, high–vit K foods. Consider genotyping for VKORC1 & CYP2C9

**Witch Hazel (Tucks Pads, others [OTC])**

*Uses:* After bowel movement cleansing to decrease local irritation or relieve hemorrhoids; after anorectal surgery, episiotomy, Vag hygiene  
*Dose:* Apply PRN  
*Cautions:* [?, ?] External use only  
*CI: None  
*Supplied:* Presoaked pads SE: Mild itching or burning
Zafirlukast (Accolate) Uses: *Adjunctive Rx of asthma* Action: Selective & competitive inhibitor of leukotrienes Dose: Adults & Peds >12 y: 20 mg bid. Peds 5–11 y: 10 mg PO bid (empty stomach) Caution: [B, –] Interacts w/ warfarin, ↑ INR CI: Component allergy Disp: Tabs 10, 20 mg SE: Hepatic dysfunction, usually reversible on D/C; HA, dizziness, GI upset; Churg-Strauss syndrome Notes: Not for acute asthma

Zaleplon (Sonata) [C-IV] Uses: *Insomnia* Action: A nonbenzodiazepine sedative/hypnotic, a pyrazolopyrimidine Dose: 5–20 mg hs PRN; not w/ high-fat meal; ↓ w/ renal/hepatic Insuff, elderly Caution: [C, ?/–] w/ Mental/psychological conditions CI: Component allergy Disp: Caps 5, 10 mg SE: HA, edema, amnesia, somnolence, photosensitivity Notes: Take immediately before desired onset

Zanamivir (Relenza) Uses: *Influenza A & B w/ Sxs <2 d; prophylaxis for influenza* Action: ↓ Viral neuraminidase Dose: Adults & Peds >7 y: 2 Inh (10 mg) bid × 10 d, initiate w/in 48 h of Sxs. Prophylaxis Household: 10 mg q day × 10 d. Adults & Peds >12 y: Prophylaxis Community: 10 mg q day × 28 d Caution: [C, M] Not ok for pt w/ airway Dz CI: Pulm Dz Disp: Powder for Inh 5 mg SE: Bronchospasm, HA, GI upset, allergic Rxn, abnormal behavior, ear, nose, throat Sx Notes: Uses a Diskhaler for administration; dose same time each day

Ziconotide (Prialt) WARNING: Psychological, cognitive, neurologic impair may develop over several wk; monitor frequently; may necessitate D/C Uses: *IT Rx of severe, refractory, chronic pain* Action: N-type CCB in spinal cord Dose: 2.4 mcg/d IT at 0.1 mcg/h; may ↑ 2.4 mcg/d 2–3×/wk to max 19.2 mcg/d (0.8 mcg/h) by day 21 Caution: [C, ?/–] w/ Neuro-/psychological impair CI: Psychosis Disp: Inj 25, 100 mcg/mL SE: Dizziness, N/V, confusion, psyh disturbances, abnormal vision, meningitis; may require dosage adjustment Notes: May D/C abruptly; uses specific pumps; do not ↑ more frequently than 2–3×/wk

Zidovudine (Retrovir) WARNING: Neutropenia, anemia, lactic acidosis, myopathy & hepatomegaly w/ steatosis Uses: *HIV Infxn, prevent maternal HIV transmission* Action: ↓ RT Dose: Adults. 200 mg PO tid or 300 mg PO bid or 1 mg/kg/dose IV q4h. PRG: 100 mg PO 5×/d until labor; during labor 2 mg/kg IV over 1 h then 1 mg/kg/h until cord clamped. Peds. 160 mg/m²/dose q8h; ↓ in renal failure Caution: [C, ?/–] CI: Allergy Disp: Caps 100 mg; tabs 300 mg; syrup 50 mg/5 mL; Inj 10 mg/mL SE: Hematologic tox, HA, fever, rash, GI upset, malaise, myopathy, fat redistribution

Zidovudine & Lamivudine (Combivir) WARNING: Neutropenia, anemia, lactic acidosis, myopathy & hepatomegaly w/ steatosis Uses: *HIV Infxn* Action: Combo of RT inhibitors Dose: Adults & Peds >12 y: 1 tab PO bid; ↓ in renal failure Caution: [C, ?/–] CI: Component allergy Disp: Tab zidovudine 300 mg/ lamivudine 150 mg SE: Hematologic tox, HA, fever, rash, GI upset, malaise, pancreatitis Notes: Combo product ↓ daily pill burden
Zileuton (Zyflo, Zyflo CR) Uses: *Chronic Rx asthma* Action: Leukotriene inhibitor (↓ 5-lipoxygenase) Dose: Adults & Peds >12 y: 600 mg PO qid; CR 1200 mg bid w/in 1 h of A.M./P.M. meal Caution: [C, ?/–] CI: Hepatic impair Disp: Tabs 600 mg; CR tabs 600 mg SE: Hepatic damage, HA, GI upset, leukopenia Notes: Monitor LFTs q mo × 3, then q2–3mo; take regularly; not for acute asthma; do not chew/crush CR

Ziprasidone (Geodon) WARNING: ↑ Mortality in elderly with dementia-related psychosis Uses: *Schizophrenia, acute agitation* Action: Atypical antipsychotic Dose: 20 mg PO bid, may ↑ in 2-d intervals up to 80 mg bid; agitation 10–20 mg IM PRN up to 40 mg/d; separate 10 mg doses by 2 h & 20 mg doses by 4 h (w/ food) Caution: [C, –] w/ ↓ Mg2+, ↓ K+ CI: QT prolongation, recent MI, uncompensated heart failure, meds that ↑ QT interval Disp: Caps 20, 40, 60, 80 mg; susp 10 mg/mL; Inj 20 mg/mL SE: Bradycardia; rash, somnolence, resp disorder, EPS, wgt gain, orthostatic ↓ BP Notes: ✓ Lytes

Zoledronic Acid (Zometa, Reclast) Uses: *↑ Ca2+ of malignancy (HCM), ↓ skeletal-related events in CAP, multiple myeloma, & metastatic bone lesions (Zometa)*; *postmenopausal osteoporosis, Paget Dz (Reclast)* Action: Bisphosphonate; ↓ osteoclastic bone resorption Dose: Zometa HCM: 4 mg IV over ≥15 min; may retreat in 7 d w/ adequate renal Fxn. Zometa Bone lesions/myeloma: 4 mg IV over >15 min, repeat q3–4wk PRN; extend w/ ↑ Cr. Reclast: 5 mg IV annually Caution: [C, ?/–] Diuretics, aminoglycosides; ASA-sensitive asthmatics; avoid invasive dental procedures CI: Bisphosphonate allergy; urticaria, angioedema, w/ dental procedures Disp: Vial 4 mg, 5 mg SE: All ↑ w/ renal dysfunction; fever, flu-like syndrome, GI upset, insomnia, anemia; electrolyte abnormalities, bone, joint, muscle pain, a-fib, osteonecrosis of jaw Notes: Requires vigorous prehydration; do not exceed recommended doses/Inf duration to ↓ renal dysfunction; follow Cr; effect prolonged w/ Cr ↑; avoid oral surgery; dental exam recommended prior to therapy; ↓ dose w/ renal dysfunction; give CA2+ and vit D supls

Zolmitriptan (Zomig, Zomig XMT, Zomig Nasal) Uses: *Acute Rx migraine* Action: Selective serotonin agonist; causes vasoconstriction Dose: Initial 2.5 mg PO, may repeat after 2 h, 10 mg max in 24 h; nasal 5 mg; if HA returns, repeat after 2 h, 10 mg max 24 h Caution: [C, ?/–] CI: Ischemic heart Dz, Prinzmetal angina, uncontrolled HTN, accessory conduction pathway disorders, ergots, MAOIs Disp: Tabs 2.5, 5 mg; rapid tabs (XMT) 2.5, 5 mg; nasal 5 mg, SE: Dizziness, hot flashes, paresthesias, chest tightness, myalgia, diaphoresis

Zolpidem (Ambien, Ambien CR) [C-IV] Uses: *Short-term Rx of insomnia* Action: Hypnotic agent Dose: 5–10 mg or 12.5 mg CR PO hs PRN; ↓ in elderly (use 6.25 mg CR), hepatic Insuff Caution: [B, –] CI: Breast-feeding Disp: Tabs 5, 10 mg; CR 6.25, 12.5 mg SE: HA, dizziness, drowsiness, N, myalgia Notes: May be habit forming; CR only if able to get 7–8 h sleep

Zonisamide (Zonegran) WARNING: ↑ Risk of suicidal thoughts or behavior Uses: *Adjunct Rx complex partial Szs* Action: Anticonvulsant
**Dose**: Initial 100 mg/d PO; may ↑ to 400 mg/d **Caution**: [C, –] ↑ tox w/ CYP3A4 inhibitor; ↓ levels w/ carbamazepine, phenytoin, phenobarbital, valproic acid

**CI**: Allergy to sulfonamides; oligohydrosis & hypothermia in peds **Disp**: Caps 25, 50, 100 mg

**SE**: Dizziness, drowsiness, confusion, ataxia, memory impair, paresthesia, psychosis, nystagmus, diplopia, tremor, anemia, leukopenia; GI upset, nephrolithiasis, Stevens-Johnson syndrome; monitor for ↓ sweating & ↑ body temperature

**Notes**: Swallow caps whole

**Zoster vaccine, live (Zostavax)**  
**Uses**: *Prevent varicella zoster in adults >60 y*  
**Action**: Active immunization (live vaccine) to herpes zoster  
**Dose**: **Adults**: 0.65 mL SQ × 1  
**CI**: Gelatin, neomycin anaphylaxis; untreated TB, immunocompromise  
**Caution**: [C, ?/–] Not for peds  
**Disp**: SD Vial  
**SE**: Inj site Rxn, HA
The following is a guide to some common herbal products. These may be sold separately or in combo with other products. According to the FDA, “Manufacturers of dietary supplements can make claims about how their products affect the structure or function of the body, but they may not claim to prevent, treat, cure, mitigate, or diagnose a disease without prior FDA approval.”

**Black Cohosh**

*Uses:* Sx of menopause (eg, hot flashes), PMS, hypercholesterolemia, peripheral arterial Dz; has anti-inflammatory & sedative effects  

*Efficacy:* May have short-term benefit on menopausal Sx  

*Dose:* 20–40 mg bid  

*Caution:* May further ↓ lipids &/or BP w/ prescription meds  

*CI:* PRG (miscarriage, prematurity reports); lactation  

*SE:* w/ OD, N/V, dizziness, nervous system & visual changes, bradycardia, & (possibly) Szs, liver damage/failure

**Chamomile**

*Uses:* Antispasmodic, sedative, anti-inflammatory, astringent, antibacterial.  

*Dose:* 10–15 g PO daily (3 g dried flower heads tid-qid between meals; can steep in 250 mL hot H2O)  

*Caution:* w/ Allergy to chrysanthemums, ragweed, asters (family Compositae)  

*SE:* Contact dermatitis; allergy, anaphylaxis  

*Interactions:* w/ Anticoagulants, additive w/ sedatives (benzodiazepines); delayed ↓ gastric absorption of meds if taken together (↓ GI motility)

**Cranberry (Vaccinium macrocarpon)**

*Uses:* Prevention & Rx UTI.  

*Efficacy:* Possibly effective  

*Dose:* 300–400 mg bid in 6 oz. juice qid; tincture 1/2–1 tsp up to 3×/d, tea 2–3 tsps of dried flowers/cup; creams apply topically 2–3×/d PO  

*Caution:* May ↑ kidney stones in some susceptible individuals, V  

*SE:* None known  

*Interactions:* May potentiate warfarin

**Dong Quai (Angelica polymorpha, sinensis)**

*Uses:* Uterine stimulant; anemia, menstrual cramps, irregular menses, & menopausal Sx; anti-inflammatory, vasodilator, CNS stimulant, immunosuppressant, analgesic, antipyretic, antiasthmatic  

*Efficacy:* Possibly effective for menopausal Sx  

*Dose:* 3–15 g daily, 9–12 g PO tab bid  

*Caution:* Avoid in PRG & lactation  

*SE:* D, photosensitivity, skin cancer  

*Interactions:* Anticoagulants (↑ INR w/ warfarin)  

**Echinacea (Echinacea purpurea)**

*Uses:* Immune system stimulant; prevention/Rx URI of colds, flu; supportive care in chronic Infxns of the resp/lower urinary tract  

*Efficacy:* Not established; may ↓ severity & duration of URI

**Dose:** Caps 500 mg, 6–9 mL expressed juice or 2–5 g dried root PO

**Caution:** Do not use w/ progressive systemic or immune Dzs (eg, TB, collagen–vascular disorders, MS); may interfere with immunosuppressive therapy, not OK w/ PRG; do not use >8 consecutive wk; possible immunosuppression; 3 different commercial forms

**SE:** N; rash

**Interactions:** Anabolic steroids, amiodarone, MTX, corticosteroids, cyclosporine

**Ephedra/Ma-Huang**

**Uses:** Stimulant, aid in wgt loss, bronchial dilation.

**Dose:** Not OK due to reported deaths (>100 mg/d can be life-threatening); US sales banned by FDA in 2004; bitter orange w/ similar properties has replaced this compound in most wgt-loss supls

**Caution:** Adverse cardiac events, strokes, death

**SE:** Nervousness, HA, insomnia, palpitations, V, hyperglycemia

**Interactions:** Digoxin, antihypertensives, antidepressants, diabetic meds

**Fish Oil Supplements (omega-3 polyunsaturated fatty acid)**

**Uses:** CAD, hypercholesterolemia, hypertriglyceridemia, type 2 DM, arthritis

**Efficacy:** No definitive data on ↓ cardiac risk in general population; may ↓ lipids and help w/ secondary MI prevention

**Dose:** One FDA approved (see Lovaza, page 179); OTC 1500–3000 mg/d; American Heart Association recommends 1 g/d

**Caution:** Mercury contamination possible, some studies suggest ↑ cardiac events

**SE:** ↑ Bleeding risk, dyspepsia, belching, aftertaste

**Interactions:** Anticoagulants

**Evening Primrose Oil**

**Uses:** PMS, diabetic neuropathy, ADHD

**Efficacy:** Possibly for PMS, not for menopausal Sx

**Dose:** 2–4 g/d PO

**SE:** Indigestion, N, soft stools, HA

**Interactions:** ↑ Phenobarbital metabolism, ↓ Sz threshold

**Feverfew (Tanacetum parthenium)**

**Uses:** Prevent/Rx migraine; fever; menstrual disorders; arthritis; toothache; insect bites

**Efficacy:** Weak for migraine prevention

**Dose:** 125 mg PO of dried leaf (standardized to 0.2% of parthenolide) PO

**Caution:** Do not use in PRG

**SE:** Oral ulcers, gastric disturbance, swollen lips, Abd pain; long-term SE unknown

**Interactions:** ASA, warfarin

**Garlic (Allium sativum)**

**Uses:** Antioxidant; hyperlipidemia, HTN; anti-infective (antibacterial, antifungal); tick repellent (oral)

**Efficacy:** ↓ Cholesterol by 4–6%; soln ↓ BP; possible ↓ GI/CAP risk

**Dose:** 2–5 g, fresh garlic; 0.4–1.2 g of dried powder; 2–5 mg oil; 300–1000 mg extract or other formulations = to 2–5 mg of allicin daily, 400–1200 mg powder (2–5 mg allicin)

**PO Caution:** Do not use in PRG

**SE:** ↑ Insulin levels, ↑ insulin/lipid/cholesterol levels, anemia, oral burning sensation, N/V/D

**Interactions:** Warfarin & ASA (↓ plt aggregation), additive w/ DM agents (↑ hypoglycemia). CYP450 3A4 inducer (may ↑ cyclosporine, HIV antivirals, oral contraceptives)

**Ginger (Zingiber officinale)**

**Uses:** Prevent motion sickness; N/V due to anesthesia

**Efficacy:** Benefit in ↓ N/V w/motion or PRG; weak for post-op or chemotherapy

**Dose:** 1–4 g rhizome or 0.5–2 g powder PO daily

**Caution:** Pt w/ gallstones; excessive dose (↑ depression, & may interfere w/ cardiac Fxn or anticoagulants)

**SE:** Heartburn

**Interactions:** Excessive consumption may interfere with cardiac, DM, or anticoagulant meds (↓ plt aggregation)

**Dose:** Ginger
powder tabs or caps or fresh-cut ginger in doses of 1–4 g daily PO, divided into smaller doses

**Ginkgo Biloba**  
**Uses:** Memory deficits, dementia, anxiety, improvement in peripheral vascular disease, vertigo, tinnitus, asthma/bronchospasm, antioxidant, premenstrual sx (especially breast tenderness), impotence, SSRI-induced sexual dysfunction  
**Dose:** 60–80 mg standardized dry extract PO bid-tid  
**Efficacy:** Small cognition benefit with dementia; no other demonstrated benefit in healthy adults  
**Caution:** ↑ Bleeding risk (antagonism of platelet activating factor), concerning with antiplatelet agents (D/C 3 d pre-op); reports of ↑ Sz risk  
**SE:** GI upset, HA, dizziness, heart palpitations, rash  
**Interactions:** ASA, salicylates, warfarin

**Ginseng**  
**Uses:** “Energy booster” general; also for pt undergoing chemotherapy, stress reduction, enhance brain activity & physical endurance (adaptogenic), antioxidant, aid to control type 2 DM; Panax ginseng being studied for ED  
**Efficacy:** Not established  
**Dose:** 1–2 g of root or 100–300 mg of extract (7% ginsenosides) PO tid  
**Caution:** w/ Cardiac Dz, DM, ↓ BP, HTN, mania, schizophrenia, w/ corticosteroids; avoid in PRG; D/C 7 d pre-op (bleeding risk)  
**SE:** Controversial  
**“ginseng abuse syndrome” w/ high dose (nervousness, excitation, HA, insomnia); palpitations, Vag bleeding, breast nodules, hypoglycemia  
**Interactions:** Warfarin, antidepressants & caffeine (↑ stimulant effect), DM meds (↑ hypoglycemia)

**Glucosamine Sulfate (Chitosamine) and Chondroitin Sulfate**  
**Uses:** Osteoarthritis (glucosamine: rate-limiting step in glycosaminoglycan synth), ↑ cartilage rebuilding; **Chondroitin:** biological polymer, flexible matrix between protein filaments in cartilage; draws fluids/nutrients into joint, “shock absorption”  
**Efficacy:** Controversial  
**Dose:** Glucosamine 500 PO tid, chondroitin 400 mg PO tid  
**Caution:** Many forms come from shellfish, so avoid if have shellfish allergy  
**SE:** ↑ Insulin resistance in DM; concentrated in cartilage, theoretically unlikely to cause toxic/teratogenic effects  
**Interactions:** Glucosamine: None. Chondroitin: Monitor anticoagulant therapy

**Kava Kava (Kava Kava Root Extract, Piper methysticum)**  
**Uses:** Anxiety, stress, restlessness, insomnia  
**Efficacy:** Possible mild anxiolytic  
**Dose:** Standardized extract (70% kavalactones) 100 mg PO bid-tid  
**Caution:** Hepatotoxic risk, banned in Europe/Canada. Not OK in PRG, lactation. D/C 24 h pre-op (may ↑ sedative effect of anesthetics)  
**SE:** Mild GI disturbances; rare allergic skin/rash Reactions, may ↑ cholesterol; ↑ LFTs/jaundice; vision changes, red eyes, puffy face, muscle weakness  
**Interactions:** Avoid w/ sedatives, alcohol, stimulants, barbiturates (may potentiate CNS effect)

**Melatonin**  
**Uses:** Insomnia, jet lag, antioxidant, immunostimulant  
**Efficacy:** Sedation most pronounced w/ elderly pts with ↑ endogenous melatonin levels; some evidence for jet lag  
**Dose:** 1–3 mg 20 min before HS (w/ CR 2 h before hs)  
**Caution:** Use synthetic rather than animal pineal gland, “heavy head,” HA, depression, daytime sedation, dizziness  
**Interactions:** β-Blockers, steroids, NSAIDs, benzodiazepines
Milk Thistle (Silybum marianum)  
**Uses:** Prevent/Rx liver damage (eg, from alcohol, toxins, cirrhosis, chronic hep); preventive w/ chronic toxin exposure (painters, chemical workers, etc)  
**Efficacy:** Use before exposure more effective than use after damage has occurred  
**Dose:** 80–200 mg PO tid  
**SE:** GI intolerance  
**Interactions:** None

Saw Palmetto (Serenoa repens)  
**Uses:** Rx BPH, hair tonic, PCa prevention (weak 5α-reductase inhibitor like finasteride, dutasteride)  
**Efficacy:** Small, no significant benefit for prostatic Sx  
**Dose:** 320 mg daily  
**Caution:** Possible hormonal effects, avoid in PRG, w/ women of childbearing years  
**SE:** Mild GI upset, mild HA, D w/ large amounts  
**Interactions:** ↑ Iron absorption; ↑ estrogen replacement effects

St. John’s wort (Hypericum perforatum)  
**Uses:** Mild–mod depression, anxiety, gastritis, insomnia, vitiligo; anti-inflammatory; immune stimulant/anti-HIV/antiviral  
**Efficacy:** Variable; benefit w/ mild–mod depression in several trials, but not always seen in clinical practice  
**Dose:** 2–4 g of herb or 0.2–1 mg of total hypericin (standardized extract) daily.  
**Common preparations:** 300 mg PO tid (0.3% hypericin)  
**Caution:** Excess doses may potentiate MAOI, cause allergic Rxn, not OK in PRG  
**SE:** Photosensitivity, xerostomia, dizziness, constipation, confusion, fluctuating mood w/ chronic use  
**Interactions:** CYP 3A enzyme inducer; do not use w/ Rx antidepressants (especially MAOI); ↓ cyclosporine efficacy (may cause rejection), digoxin (may ↑ CHF), protease inhibitors, theophylline, OCP; potency varies between products/batches

Valerian (Valeriana officinalis)  
**Uses:** Anxiolytic, sedative, restlessness, dysmenorrhea  
**Efficacy:** Probably effective sedative (reduces sleep latency)  
**Dose:** 2–3 g in extract PO daily-bid added to 2/3 cup boiling H2O, tincture 15–20 drops in H2O, oral 400–900 mg hs (combined w/ OTC sleep product Alluna)  
**Caution:** None known  
**SE:** Sedation, hangover effect, HA, cardiac disturbances, GI upset  
**Interactions:** Caution w/ other sedating agents (eg, alcohol, or prescription sedatives): may cause drowsiness w/ impaired Fxn

Yohimbine (Pausinystalia yohimbe) Yocon, Yohimex  
**Uses:** Improve sexual vigor, Rx ED  
**Efficacy:** Variable  
**Dose:** 1 tab = 5.4 mg PO tid (use w/ physician supervision)  
**Caution:** Do not use w/ renal/hepatic Dz; may exacerbate schizophrenia/mania (if pt predisposed). α2-Adrenergic antagonist (↓ BP, Abd distress, weakness w/ high doses), OD can be fatal; salivation, dilated pupils, arrhythmias  
**SE:** Anxiety, tremors, dizziness, high BP, ↑ HR  
**Interactions:** Do not use w/ antidepressants (eg, MAOIs or similar agents)
## Unsafe Herbs with Known Toxicity

<table>
<thead>
<tr>
<th>Agent</th>
<th>Toxicities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aconite</td>
<td>Salivation, N/V, blurred vision, cardiac arrhythmias</td>
</tr>
<tr>
<td>Aristolochic acid</td>
<td>Nephrotox</td>
</tr>
<tr>
<td>Calamus</td>
<td>Possible carcinogenicity</td>
</tr>
<tr>
<td>Chaparral</td>
<td>Hepatotox, possible carcinogenicity, nephrotox</td>
</tr>
<tr>
<td>“Chinese herbal mixtures”</td>
<td>May contain Ma Huang or other dangerous herbs</td>
</tr>
<tr>
<td>Coltsfoot</td>
<td>Hepatotox, possibly carcinogenic</td>
</tr>
<tr>
<td>Comfrey</td>
<td>Hepatotox, carcinogenic</td>
</tr>
<tr>
<td>Ephedra/Ma Huang</td>
<td>Adverse cardiac events, stroke, Sz</td>
</tr>
<tr>
<td>Juniper</td>
<td>High allergy potential, D, Sz, nephrotox</td>
</tr>
<tr>
<td>Kava kava</td>
<td>Hepatotox</td>
</tr>
<tr>
<td>Licorice</td>
<td>Chronic daily amounts (&gt;30 g/mo) can result in ↓ K⁺, Na/fluid retention w/ HTN, myoglobinuria, hyporeflexia</td>
</tr>
<tr>
<td>Life root</td>
<td>Hepatotox, liver cancer</td>
</tr>
<tr>
<td>Ma Huang/Ephedra</td>
<td>Adverse cardiac events, stroke, Sz</td>
</tr>
<tr>
<td>Pokeweed</td>
<td>GI cramping, N/D/V, labored breathing, ↓ BP, Sz</td>
</tr>
<tr>
<td>Sassafras</td>
<td>V, stupor, hallucinations, dermatitis, abortion, hypothermia, liver cancer</td>
</tr>
<tr>
<td>Usnic acid</td>
<td>Hepatotox</td>
</tr>
<tr>
<td>Yohimbine</td>
<td>Hypotension, Abd distress, CNS stimulation (mania/&amp; psychosis in predisposed individuals)</td>
</tr>
</tbody>
</table>
This page intentionally left blank
<table>
<thead>
<tr>
<th>Age</th>
<th>Original Drops 80 mg/0.8 mL Dropperful</th>
<th>Chewable Tablets 80-mg tablets</th>
<th>Original Elixir 160 mg/5 mL</th>
<th>Junior Chewables</th>
<th>Regular 160-mg Caplets</th>
<th>Extra 325-mg Caplets</th>
<th>Extra 500-mg Caplets</th>
</tr>
</thead>
<tbody>
<tr>
<td>Birth–3 mo/</td>
<td>½ dpprc (0.4 mL)</td>
<td></td>
<td></td>
<td>½ tsp</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>6–11 lb/</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.5–5.4 kg</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>4–11 mo/</td>
<td>1 dpprc (0.8 mL)</td>
<td></td>
<td></td>
<td>¼ tsp</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>12–17 lb/</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>5.5–7.9 kg</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12–23 mo/</td>
<td>1½ dpprc (1.2 mL)</td>
<td></td>
<td></td>
<td>⅔ tsp</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18–23 lb/</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8.0–10.9 kg</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2–3 y/24–35 lb/</td>
<td>2 dpprc (1.6 mL)</td>
<td>2 tab</td>
<td>1 tsp</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11.0–15.9 kg</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4–5 y/36–47 lb/</td>
<td></td>
<td>3 tab</td>
<td>1½ tsp</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16.0–21.9 kg</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age Group</td>
<td>Tablets</td>
<td>Teaspoons</td>
<td>Capsules per Tablet</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-----------</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6–8 y/48–59 lb/22.0–26.9 kg</td>
<td>4</td>
<td>2</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9–10 y/60–71 lb/27.0–31.9 kg</td>
<td>5</td>
<td>2½</td>
<td>2½</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11 y/72–95 lb/32.0–43.9 kg</td>
<td>6</td>
<td>4</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adults &amp; children ≥ 12 y/≥ 96 lb/≥ 44.0 kg</td>
<td>4</td>
<td>1 or 2</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*aDoses should be administered 4 or 5 times daily. Do not exceed 5 doses in 24 h.*

*bNo more than 8 dosage units in any 24-h period. Not to be taken for pain for more than 10 days or for fever for more than 3 days unless directed by a physician.*

*cDroppeful.*
### Table 2
Local Anesthetic Comparison Chart for Commonly Used Injectable Agents

<table>
<thead>
<tr>
<th>Agent</th>
<th>Proprietary Names</th>
<th>Onset</th>
<th>Duration</th>
<th>mg/kg</th>
<th>Volume in 70-kg Adult&lt;sup&gt;a&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bupivacaine</td>
<td>Marcaine</td>
<td>7–30 min</td>
<td>5–7 h</td>
<td>3</td>
<td>70 mL of 0.25% solution</td>
</tr>
<tr>
<td>Lidocaine</td>
<td>Xylocaine, Anestacon</td>
<td>5–30 min</td>
<td>2 h</td>
<td>4</td>
<td>28 mL of 1% solution</td>
</tr>
<tr>
<td>Lidocaine with epinephrine</td>
<td></td>
<td>5–30 min</td>
<td>2–3 h</td>
<td>7</td>
<td>50 mL of 1% solution</td>
</tr>
<tr>
<td>(1:200,000)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mepivacaine</td>
<td>Carbocaine</td>
<td>5–30 min</td>
<td>2–3 h</td>
<td>7</td>
<td>50 mL of 1% solution</td>
</tr>
<tr>
<td>Procaine</td>
<td>Novocaine</td>
<td>Rapid</td>
<td>30 min–1 h</td>
<td>10–15</td>
<td>70–105 mL of 1% solution</td>
</tr>
</tbody>
</table>

<sup>a</sup>To calculate the maximum dose if not a 70-kg adult, use the fact that a 1% solution has 10 mg/ml drug.
<table>
<thead>
<tr>
<th>Drug</th>
<th>Relative Equivalent Dose (mg)</th>
<th>Relative Mineralocorticoid Activity</th>
<th>Duration (h)</th>
<th>Route</th>
</tr>
</thead>
<tbody>
<tr>
<td>Betamethasone</td>
<td>0.75</td>
<td>0</td>
<td>36–72</td>
<td>PO, IM</td>
</tr>
<tr>
<td>Cortisone (Cortone)</td>
<td>25</td>
<td>2</td>
<td>8–12</td>
<td>PO, IM</td>
</tr>
<tr>
<td>Dexamethasone (Decadron)</td>
<td>0.75</td>
<td>0</td>
<td>36–72</td>
<td>PO, IV</td>
</tr>
<tr>
<td>Hydrocortisone (Solu-Cortef, Hydrocortone)</td>
<td>20</td>
<td>2</td>
<td>8–12</td>
<td>PO, IM, IV</td>
</tr>
<tr>
<td>Methylprednisolone acetate (Depo-Medrol)</td>
<td>4</td>
<td>0</td>
<td>36–72</td>
<td>PO, IM, IV</td>
</tr>
<tr>
<td>Methylprednisolone succinate (Solu-Medrol)</td>
<td>4</td>
<td>0</td>
<td>8–12</td>
<td>PO, IM, IV</td>
</tr>
<tr>
<td>Prednisone (Deltasone)</td>
<td>5</td>
<td>1</td>
<td>12–36</td>
<td>PO</td>
</tr>
<tr>
<td>Prednisolone (Delta-Cortef)</td>
<td>5</td>
<td>1</td>
<td>12–36</td>
<td>PO, IM, IV</td>
</tr>
<tr>
<td>Agent</td>
<td>Common Trade Names</td>
<td>Potency</td>
<td>Apply</td>
<td></td>
</tr>
<tr>
<td>------------------------------------------</td>
<td>-------------------------------------------</td>
<td>---------</td>
<td>-------------</td>
<td></td>
</tr>
<tr>
<td>Alclometasone dipropionate</td>
<td>Aclovate cream, oint 0.05%</td>
<td>Low</td>
<td>bid/tid</td>
<td></td>
</tr>
<tr>
<td>Amcinonide</td>
<td>Cyclocort cream, lotion, oint 0.1%</td>
<td>High</td>
<td>bid/tid</td>
<td></td>
</tr>
<tr>
<td>Betamethasone</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Betamethasone valerate</td>
<td>Valisone cream, lotion 0.01%</td>
<td>Low</td>
<td>qd/bid</td>
<td></td>
</tr>
<tr>
<td>Betamethasone valerate</td>
<td>Valisone cream 0.01, 0.1%, oint, lotion 0.1%</td>
<td>Intermediate</td>
<td>qd/bid</td>
<td></td>
</tr>
<tr>
<td>Betamethasone dipropionate</td>
<td>Diprosone cream 0.05%</td>
<td>High</td>
<td>qd/bid</td>
<td></td>
</tr>
<tr>
<td>Betamethasone dipropionate, augmented</td>
<td>Diprosone aerosol 0.1%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Betamethasone dipropionate</td>
<td>Diproleene oint, gel 0.05%</td>
<td>Ultrahigh</td>
<td>qd/bid</td>
<td></td>
</tr>
<tr>
<td>Clobetasol propionate</td>
<td>Temovate cream, gel, oint, scalp, soln 0.05%</td>
<td>Ultrahigh</td>
<td>bid (2 wk max)</td>
<td></td>
</tr>
<tr>
<td>Clocortolone pivalate</td>
<td>Cloderm cream 0.1%</td>
<td>Intermediate</td>
<td>qd–qid</td>
<td></td>
</tr>
<tr>
<td>Desonide</td>
<td>DesOwen cream, oint, lotion 0.05%</td>
<td>Low</td>
<td>bid–qid</td>
<td></td>
</tr>
<tr>
<td>Desoximetasone</td>
<td>Topicort LP cream, gel 0.05%</td>
<td>Intermediate</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Desoximetasone 0.05%</td>
<td>Topicort cream, oint</td>
<td>High</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Desoximetasone 0.25%</td>
<td></td>
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<tr>
<td>Dexamethasone base</td>
<td>Aeroseb-Dex aerosol 0.01%</td>
<td>Low</td>
<td>bid–qid</td>
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</tr>
<tr>
<td>Decadron cream 0.1%</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Diflorasone diacetate</td>
<td>Psorcon cream, oint 0.05%</td>
<td>Ultrahigh</td>
<td>bid/qid</td>
<td></td>
</tr>
<tr>
<td>Fluocinolone</td>
<td>Synalar cream, soln 0.01%</td>
<td>Low</td>
<td>bid/tid</td>
<td></td>
</tr>
<tr>
<td>Fluocinolone acetonide 0.01%</td>
<td>Synalar oint, cream 0.025%</td>
<td>Intermediate</td>
<td>bid/tid</td>
<td></td>
</tr>
<tr>
<td>Drug</td>
<td>Formulation</td>
<td>Strength</td>
<td>Frequency</td>
<td></td>
</tr>
<tr>
<td>-------------------------------</td>
<td>--------------------------------------------------</td>
<td>----------</td>
<td>-----------</td>
<td></td>
</tr>
<tr>
<td>Fluocinolone acetonide 0.2%</td>
<td>Synalar-HP cream 0.2%</td>
<td>High</td>
<td>bid/tid</td>
<td></td>
</tr>
<tr>
<td>Fluocinonide 0.05%</td>
<td>Lidex anhydrous cream, gel, soln 0.05%</td>
<td>High</td>
<td>bid/tid oint</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lidex-E aqueous cream 0.05%</td>
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<td></td>
</tr>
<tr>
<td><strong>Flurandrenolide</strong></td>
<td>Cordran cream, oint 0.025%</td>
<td>Intermediate</td>
<td>bid/tid</td>
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</tr>
<tr>
<td></td>
<td>cream, lotion, oint 0.05%</td>
<td>Intermediate</td>
<td>bid/tid</td>
<td></td>
</tr>
<tr>
<td></td>
<td>tape, 4 mcg/cm²</td>
<td>Intermediate</td>
<td>qd</td>
<td></td>
</tr>
<tr>
<td>Fluticasone propionate</td>
<td>Cutivate cream 0.05%, oint 0.005%</td>
<td>Intermediate</td>
<td>bid</td>
<td></td>
</tr>
<tr>
<td>Halobetasol</td>
<td>Ultravate cream, oint 0.05%</td>
<td>Very high</td>
<td>bid</td>
<td></td>
</tr>
<tr>
<td>Halcinonide</td>
<td>Halog cream 0.025%, emollient base 0.1%</td>
<td>High</td>
<td>qd/tid</td>
<td></td>
</tr>
<tr>
<td></td>
<td>cream, oint, sol 0.1%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Hydrocortisone</strong></td>
<td>Cortizone, Caldecort, Hycort, Hytone, etc.</td>
<td>Low</td>
<td>tid/qid</td>
<td></td>
</tr>
<tr>
<td></td>
<td>aerosol 1%; cream 0.5, 1, 2.5%; gel 0.5%; oint 0.5, 1, 2.5%; lotion 0.5, 1, 2.5%; paste 0.5%; soln 1%</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Hydrocortisone acetate</td>
<td>Corticaine cream, oint 0.5, 1%</td>
<td>Low</td>
<td>tid/qid</td>
<td></td>
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<tr>
<td>Hydrocortisone butyrate</td>
<td>Locoid oint, soln 0.1%</td>
<td>Intermediate</td>
<td>bid/tid</td>
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<tr>
<td>Hydrocortisone valerate</td>
<td>Westcort cream, oint 0.2%</td>
<td>Intermediate</td>
<td>bid/tid</td>
<td></td>
</tr>
<tr>
<td>Agent</td>
<td>Common Trade Names</td>
<td>Potency</td>
<td>Apply</td>
<td></td>
</tr>
<tr>
<td>-------</td>
<td>--------------------</td>
<td>---------</td>
<td>-------</td>
<td></td>
</tr>
<tr>
<td><strong>Mometasone furoate</strong></td>
<td>Elocon cream, oint, lotion 0.1%</td>
<td>Intermediate</td>
<td>qd</td>
<td></td>
</tr>
<tr>
<td><strong>Prednicarbate</strong></td>
<td>Dermatop cream 0.1%</td>
<td>Intermediate</td>
<td>bid</td>
<td></td>
</tr>
<tr>
<td><strong>Triamcinolone</strong></td>
<td>Aristocort, Kenalog cream, oint, lotion 0.025%</td>
<td>Low</td>
<td>tid/qid</td>
<td></td>
</tr>
<tr>
<td>Triamcinolone acetonide 0.025%</td>
<td>Aristocort, Kenalog cream, oint, lotion 0.1%</td>
<td>Intermediate</td>
<td>tid/qid</td>
<td></td>
</tr>
<tr>
<td>Triamcinolone acetonide 0.1%</td>
<td>Aristocort, Kenalog cream, oint 0.5%</td>
<td>High</td>
<td>tid/qid</td>
<td></td>
</tr>
<tr>
<td>Triamcinolone acetonide 0.5%</td>
<td>Aristocort, Kenalog cream, oint 0.5%</td>
<td>High</td>
<td>tid/qid</td>
<td></td>
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</tbody>
</table>
### TABLE 5
Comparison of Insulins (See also page 134)

<table>
<thead>
<tr>
<th>Type of Insulin</th>
<th>Onset (h)</th>
<th>Peak (h)</th>
<th>Duration (h)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Ultra Rapid</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Apidra (glulisine)</td>
<td>Immediate</td>
<td>0.5–1.5</td>
<td>3–5</td>
</tr>
<tr>
<td>Humalog (lispro)</td>
<td>Immediate</td>
<td>0.5–1.5</td>
<td>3–5</td>
</tr>
<tr>
<td>NovoLog (insulin aspart)</td>
<td>Immediate</td>
<td>0.5–1.5</td>
<td>3–5</td>
</tr>
<tr>
<td><strong>Rapid</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Regular Iletin II</td>
<td>0.25–0.5</td>
<td>2–4</td>
<td>5–7</td>
</tr>
<tr>
<td>Humulin R</td>
<td>0.5</td>
<td>2–4</td>
<td>6–8</td>
</tr>
<tr>
<td>Novolin R</td>
<td>0.5</td>
<td>2.5–5</td>
<td>5–8</td>
</tr>
<tr>
<td>Velosulin</td>
<td>0.5</td>
<td>2–5</td>
<td>6–8</td>
</tr>
<tr>
<td><strong>Intermediate</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NPH Iletin II</td>
<td>1–2</td>
<td>6–12</td>
<td>18–24</td>
</tr>
<tr>
<td>Lente Iletin II</td>
<td>1–2</td>
<td>6–12</td>
<td>18–24</td>
</tr>
<tr>
<td>Humulin N</td>
<td>1–2</td>
<td>6–12</td>
<td>14–24</td>
</tr>
<tr>
<td>Novulin L</td>
<td>2.5–5</td>
<td>7–15</td>
<td>18–24</td>
</tr>
<tr>
<td>Novulin 70/30</td>
<td>0.5</td>
<td>7–12</td>
<td>24</td>
</tr>
<tr>
<td><strong>Prolonged</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ultralente</td>
<td>4–6</td>
<td>14–24</td>
<td>28–36</td>
</tr>
<tr>
<td>Humulin U</td>
<td>4–6</td>
<td>8–20</td>
<td>24–28</td>
</tr>
<tr>
<td>Lantus (insulin glargine)</td>
<td>4–6</td>
<td>No peak</td>
<td>24</td>
</tr>
<tr>
<td><strong>Combination Insulins</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Humalog Mix (lispro protamine/</td>
<td>0.25–0.5</td>
<td>1–4</td>
<td>24</td>
</tr>
<tr>
<td>lispro)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
TABLE 6
Commonly Used Oral Contraceptives (See also page 180 for a discussion of specific oral contraceptive dosing) *(Note: 21 = 21 Active Pills; 28 = 21 Active Pills + 7 Placebo)*

<table>
<thead>
<tr>
<th>Drug (Manufacturer)</th>
<th>Estrogen (mcg)</th>
<th>Progestin (mg)</th>
<th>Iron/Other</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Monophasics</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alesse 21, 28 (Wyeth)</td>
<td>Ethinyl estradiol (20)</td>
<td>Levonorgestrel (0.1)</td>
<td></td>
</tr>
<tr>
<td>Apri 28 (Barr)</td>
<td>Ethinyl estradiol (30)</td>
<td>Desogestrel (0.15)</td>
<td></td>
</tr>
<tr>
<td>Aviane 28 (Barr)</td>
<td>Ethinyl estradiol (20)</td>
<td>Levonorgestrel (0.1)</td>
<td></td>
</tr>
<tr>
<td>Brevicon 28 (Watson)</td>
<td>Ethinyl estradiol (35)</td>
<td>Norethindrone (0.5)</td>
<td></td>
</tr>
<tr>
<td>Cryselle 28 (Barr)</td>
<td>Ethinyl estradiol (30)</td>
<td>Norgestrel (0.3)</td>
<td></td>
</tr>
<tr>
<td>Demulen 1/35 21, 28 (Pfizer)</td>
<td>Ethinyl estradiol (35)</td>
<td>Ethynodiol diacetate (1)</td>
<td></td>
</tr>
<tr>
<td>Demulen 1/50 21, 28 (Pfizer)</td>
<td>Ethinyl estradiol (50)</td>
<td>Ethynodiol diacetate (1)</td>
<td></td>
</tr>
<tr>
<td>Desogen 28 (Organon)</td>
<td>Ethinyl estradiol (30)</td>
<td>Desogestrel (0.15)</td>
<td>75 mg Fe × 7 d</td>
</tr>
<tr>
<td>Femcon Fe (Warner-Chilcott)</td>
<td>Ethinyl estradiol (35)</td>
<td>Norethindrone (0.4)</td>
<td>75 mg × 7 d in 28 d</td>
</tr>
<tr>
<td>Junel Fe 1/20 28 (Barr)</td>
<td>Ethinyl estradiol (20)</td>
<td>Norethindrone acetate (1)</td>
<td>75 mg × 7 d in 28 d</td>
</tr>
<tr>
<td>Junel Fe 1.5/30 28 (Barr)</td>
<td>Ethinyl estradiol (30)</td>
<td>Norethindrone acetate (1.5)</td>
<td>75 mg × 7 d in 28 d</td>
</tr>
<tr>
<td>Kariva 28 (Barr)</td>
<td>Ethinyl estradiol (20, 0, 10)</td>
<td>Desogestrel (0.15)</td>
<td>+2 inert +2 ethinyl estradiol (10)</td>
</tr>
<tr>
<td>Kelnor 1/35 28 (Barr)</td>
<td>Ethinyl estradiol (35)</td>
<td>Ethynodiol diacetate (1)</td>
<td></td>
</tr>
<tr>
<td>Lessina 28 (Barr)</td>
<td>Ethinyl estradiol (20)</td>
<td>Levonorgestrel (0.1)</td>
<td></td>
</tr>
<tr>
<td>Levlen 21, 28 (Bayer)</td>
<td>Ethinyl estradiol (30)</td>
<td>Levonorgestrel (0.15)</td>
<td></td>
</tr>
<tr>
<td>Levlite 28 (Bayer)</td>
<td>Ethinyl estradiol (20)</td>
<td>Levonorgestrel (0.1)</td>
<td></td>
</tr>
<tr>
<td>Levora 28 (Watson)</td>
<td>Ethinyl estradiol (30)</td>
<td>Levonorgestrel (0.15)</td>
<td></td>
</tr>
<tr>
<td>Loestrin Fe 24 (Warner-Chilcott)</td>
<td>Ethinyl estradiol (20)</td>
<td>Norethindrone (1)</td>
<td>4 inert 28-d pack</td>
</tr>
<tr>
<td>Loestrin Fe 1.5/30 21, 28 (Warner-Chilcott)</td>
<td>Ethinyl estradiol (30)</td>
<td>Norethindrone acetate (1.5)</td>
<td>75 mg × 7 d in 28 d</td>
</tr>
<tr>
<td>Brand Name</td>
<td>Estrogen Type</td>
<td>Progestin Type</td>
<td>Dosage</td>
</tr>
<tr>
<td>----------------------------------</td>
<td>-----------------------</td>
<td>------------------------</td>
<td>---------------------------</td>
</tr>
<tr>
<td>Loestrin Fe 1/20 21, 28 (Warner-Chilcott)</td>
<td>Ethinyl estradiol (20)</td>
<td>Norethindrone acetate (1)</td>
<td>75 mg × 7 d in 28 d</td>
</tr>
<tr>
<td>Lo/Ovral 21, 28 (Wyeth)</td>
<td>Ethinyl estradiol (30)</td>
<td>Norgestrel (0.3)</td>
<td></td>
</tr>
<tr>
<td>Low-Ogestrel 28 (Watson)</td>
<td>Ethinyl estradiol (30)</td>
<td>Norgestrel (0.3)</td>
<td></td>
</tr>
<tr>
<td>Microgestin Fe 1/20 21, 28</td>
<td>Ethinyl estradiol (20)</td>
<td>Norethindrone acetate (1)</td>
<td>75 mg × 7 d in 28 d</td>
</tr>
<tr>
<td>Microgestin Fe 1.5/30 21, 28</td>
<td>Ethinyl estradiol (30)</td>
<td>Norethindrone acetate (1.5)</td>
<td>75 mg × 7 d in 28 d</td>
</tr>
<tr>
<td>Mircette 28 (Organon)</td>
<td>Ethinyl estradiol (20, 0, 10)</td>
<td>Desogestrel (0.15)</td>
<td></td>
</tr>
<tr>
<td>Modicon 28 (Ortho-McNeil)</td>
<td>Ethinyl estradiol (35)</td>
<td>Norethindrone (0.5)</td>
<td></td>
</tr>
<tr>
<td>MonoNessa 28 (Watson)</td>
<td>Ethinyl estradiol (35)</td>
<td>Norgestimate (0.25)</td>
<td></td>
</tr>
<tr>
<td>Necon 1/50 28 (Watson)</td>
<td>Mestranol (50)</td>
<td>Norethindrone (1)</td>
<td></td>
</tr>
<tr>
<td>Necon 1/35 28 (Watson)</td>
<td>Ethinyl estradiol (35)</td>
<td>Norethindrone (0.5)</td>
<td></td>
</tr>
<tr>
<td>Necon 1/35 28 (Watson)</td>
<td>Ethinyl estradiol (35)</td>
<td>Norethindrone (1)</td>
<td></td>
</tr>
<tr>
<td>Nordette 21, 28 (King)</td>
<td>Ethinyl estradiol (30)</td>
<td>Levonorgestrel (0.15)</td>
<td></td>
</tr>
<tr>
<td>Nortrel 0.5/35 28 (Barr)</td>
<td>Ethinyl estradiol (35)</td>
<td>Norethindrone (0.5)</td>
<td></td>
</tr>
<tr>
<td>Nortrel 1/35 21, 28 (Barr)</td>
<td>Ethinyl estradiol (35)</td>
<td>Norethindrone (1)</td>
<td></td>
</tr>
<tr>
<td>Norinyl 1/35 28 (Watson)</td>
<td>Ethinyl estradiol (35)</td>
<td>Norethindrone (1)</td>
<td></td>
</tr>
<tr>
<td>Norinyl 1/50 28 (Watson)</td>
<td>Mestranol (50)</td>
<td>Norethindrone (1)</td>
<td></td>
</tr>
<tr>
<td>Ogestrel 0.05/50 28 (Watson)</td>
<td>Ethinyl estradiol (50)</td>
<td>Norgestrel (0.5)</td>
<td></td>
</tr>
<tr>
<td>Ortho-Cept 28 (Ortho-McNeil)</td>
<td>Ethinyl estradiol (30)</td>
<td>Desogestrel (0.15)</td>
<td></td>
</tr>
<tr>
<td>Ortho-Cyclen 28 (Ortho-McNeil)</td>
<td>Ethinyl estradiol (35)</td>
<td>Norgestimate (0.25)</td>
<td></td>
</tr>
<tr>
<td>Ortho-Novum 1/35 28 (Ortho-McNeil)</td>
<td>Ethinyl estradiol (35)</td>
<td>Norethindrone (1)</td>
<td></td>
</tr>
<tr>
<td>Ortho-Novum 1/50 28 (Ortho-McNeil)</td>
<td>Mestranol (50)</td>
<td>Norethindrone (1)</td>
<td></td>
</tr>
<tr>
<td>Ovcon 35 21, 28 (Warner-Chilcott)</td>
<td>Ethinyl estradiol (35)</td>
<td>Norethindrone (0.4)</td>
<td></td>
</tr>
<tr>
<td>Ovcon 35 Fe (Warner-Chilcott)</td>
<td>Ethinyl estradiol (35)</td>
<td>Norethindrone (0.4)</td>
<td>75 mg × 7 d in 28 d</td>
</tr>
<tr>
<td>Drug (Manufacturer)</td>
<td>Estrogen (mcg)</td>
<td>Progestin (mg)</td>
<td>Iron/Other</td>
</tr>
<tr>
<td>---------------------</td>
<td>----------------</td>
<td>----------------</td>
<td>------------</td>
</tr>
<tr>
<td>Ovcon 50 28 (Warner-Chilcott)</td>
<td>Ethinyl estradiol (50)</td>
<td>Norethindrone (1)</td>
<td></td>
</tr>
<tr>
<td>Ovral 21, 28 (Wyeth-Ayerst)</td>
<td>Ethinyl estradiol (50)</td>
<td>Norgestrel (0.5)</td>
<td></td>
</tr>
<tr>
<td>Portia 28 (Barr)</td>
<td>Ethinyl estradiol (30)</td>
<td>Levonorgestrel (0.15)</td>
<td></td>
</tr>
<tr>
<td>Sprintec 28 (Barr)</td>
<td>Ethinyl estradiol (35)</td>
<td>Norgestimate (0.25)</td>
<td></td>
</tr>
<tr>
<td>Yasmin 28 (Bayer)</td>
<td>Ethinyl estradiol (30)</td>
<td>Drospirenone (3.0)</td>
<td></td>
</tr>
<tr>
<td>Yaz (Bayer) 28 day b,d</td>
<td>Ethinyl estradiol (20)</td>
<td>Drospirenone (3.0)</td>
<td>4 inert</td>
</tr>
<tr>
<td>Zovia 1/50E 28 (Watson)</td>
<td>Ethinyl estradiol (50)</td>
<td>Ethylnodiol diacetate (1.0)</td>
<td></td>
</tr>
<tr>
<td>Zovia 1/35E 28 (Watson)</td>
<td>Ethinyl estradiol (35)</td>
<td>Ethylnodiol diacetate (1.0)</td>
<td></td>
</tr>
</tbody>
</table>

**Multiphasics**

<table>
<thead>
<tr>
<th>Drug (Manufacturer)</th>
<th>Estrogen (mcg)</th>
<th>Progestin (mg)</th>
<th>Iron/Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aranelle 28 (Barr)</td>
<td>Ethinyl estradiol (35)</td>
<td>Norethindrone (0.5, 1, 0.5)</td>
<td>75 mg Fe × 7 d</td>
</tr>
<tr>
<td>Cyclessa 28 (Organon)</td>
<td>Ethinyl estradiol (25)</td>
<td>Desogestrel (0.1, 0.125, 0.15)</td>
<td></td>
</tr>
<tr>
<td>Enpresse 28 (Barr) [Warner-Chilcott]</td>
<td>Ethinyl estradiol (30, 40, 30)</td>
<td>Levonorgestrel (0.05, 0.075, 0.125)</td>
<td></td>
</tr>
<tr>
<td>Estrostep Fe 28 (Warner-Chilcott)</td>
<td>Ethinyl estradiol (20, 30, 35)</td>
<td>Norethindrone acetate (1)</td>
<td></td>
</tr>
<tr>
<td>Leena 28 (Watson)</td>
<td>Ethinyl estradiol (35)</td>
<td>Norethindrone (0.5, 1, 0.5)</td>
<td></td>
</tr>
<tr>
<td>Necon 10/11 21, 28 (Watson)</td>
<td>Ethinyl estradiol (35)</td>
<td>Norethindrone (0.5, 1.0)</td>
<td></td>
</tr>
<tr>
<td>Necon 7/7/7 (Watson)</td>
<td>Ethinyl estradiol (35)</td>
<td>Norethindrone (0.5, 0.75, 1.0)</td>
<td></td>
</tr>
<tr>
<td>Nortrel 7/7/7 28 (Barr)</td>
<td>Ethinyl estradiol (35)</td>
<td>Norethindrone (0.5, 0.75, 1.0)</td>
<td></td>
</tr>
<tr>
<td>Ortho-Novum 10/11 21 (Ortho-McNeil)</td>
<td>Ethinyl estradiol (35, 35)</td>
<td>Norethindrone (0.5, 1.0)</td>
<td></td>
</tr>
<tr>
<td>Ortho-Novum 7/7/7 21 (Ortho-McNeil)</td>
<td>Ethinyl estradiol (35, 35, 35)</td>
<td>Norethindrone (0.5, 0.75, 1.0)</td>
<td></td>
</tr>
<tr>
<td>Product Name</td>
<td>Estrogen</td>
<td>Progestin</td>
<td>Dose Details</td>
</tr>
<tr>
<td>------------------------------</td>
<td>---------------</td>
<td>-----------------</td>
<td>--------------------------------------------------</td>
</tr>
<tr>
<td>Ortho Tri-Cyclen 21, 28</td>
<td>Ethinyl estradiol (25)</td>
<td>Norgestimate</td>
<td>(0.18, 0.215, 0.25)</td>
</tr>
<tr>
<td>Ortho Tri-Cyclen Lo 21, 28</td>
<td>Ethinyl estradiol (35, 35, 35)</td>
<td>Norgestimate</td>
<td>(0.18, 0.215, 0.25)</td>
</tr>
<tr>
<td>Tilia Fe 28 (Watson)</td>
<td>Ethinyl estradiol (20, 30, 35)</td>
<td>Norethindrone (1)</td>
<td>75 mg Fe × 7 d</td>
</tr>
<tr>
<td>Tri-Legest 21 (Barr)</td>
<td>Ethinyl estradiol (20, 30, 35)</td>
<td>Norethindrone (1)</td>
<td></td>
</tr>
<tr>
<td>Tri-Legest Fe 28 (Barr)</td>
<td>Ethinyl estradiol (20, 30, 35)</td>
<td>Norethindrone (1)</td>
<td></td>
</tr>
<tr>
<td>Tri-Levlen 28 (Bayer)</td>
<td>Ethinyl estradiol (30, 40, 30)</td>
<td>Levonorgestrel</td>
<td>(0.05, 0.075, 0.125)</td>
</tr>
<tr>
<td>TriNessa 28 (Watson)</td>
<td>Ethinyl estradiol (35)</td>
<td>Norgestimate</td>
<td>(0.18, 0.215, 0.25)</td>
</tr>
<tr>
<td>Tri-Norinyl 21, 28 (Watson)</td>
<td>Ethinyl estradiol (35, 35, 35)</td>
<td>Norethindrone (0.5, 1.0, 0.5)</td>
<td></td>
</tr>
<tr>
<td>Tri-Previfem 28 (Teva)</td>
<td>Ethinyl estradiol (35)</td>
<td>Norgestimate</td>
<td>(0.18, 0.215, 0.25)</td>
</tr>
<tr>
<td>Tri-Sprintec (Barr)</td>
<td>Ethinyl estradiol (35)</td>
<td>Norgestimate</td>
<td>(0.18, 0.215, 0.25)</td>
</tr>
<tr>
<td>Triphasil 21, 28 (Wyeth)</td>
<td>Ethinyl estradiol (30, 40, 30)</td>
<td>Levonorgestrel</td>
<td>(0.05, 0.075, 0.125)</td>
</tr>
<tr>
<td>Trivora-28 (Watson)</td>
<td>Ethinyl estradiol (30, 40, 30)</td>
<td>Levonorgestrel</td>
<td>(0.05, 0.075, 0.125)</td>
</tr>
<tr>
<td>Velivet (Barr)</td>
<td>Ethinyl estradiol (25)</td>
<td>Desogestrel</td>
<td>(0.1, 0.125, 0.15)</td>
</tr>
</tbody>
</table>

**Progestin Only (AKA “mini-pills”)**

<table>
<thead>
<tr>
<th>Product Name</th>
<th>Progestin</th>
<th>Dose Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Camila (Barr)</td>
<td>None</td>
<td>Norethindrone (0.35)</td>
</tr>
<tr>
<td>Errin (Barr)</td>
<td>None</td>
<td>Norethindrone (0.35)</td>
</tr>
<tr>
<td>Jolivette 28 (Watson)</td>
<td>None</td>
<td>Norethindrone (0.35)</td>
</tr>
<tr>
<td>Micronor 28 (Ortho-McNeil)</td>
<td>None</td>
<td>Norethindrone (0.35)</td>
</tr>
<tr>
<td>Nor-QD (Watson)</td>
<td>None</td>
<td>Norethindrone (0.35)</td>
</tr>
<tr>
<td>Nora-BE 28 (Ortho-McNeil)</td>
<td>None</td>
<td>Norethindrone (0.35)</td>
</tr>
</tbody>
</table>
**TABLE 6 (continued)**

Commonly Used Oral Contraceptives (See also page 180 for a discussion of specific oral contraceptive dosing) *(Note: 21 = 21 Active Pills; 28 = 21 Active Pills + 7 Placebo*)

<table>
<thead>
<tr>
<th>Drug</th>
<th>Estrogen (mg)</th>
<th>Progestin (mcg)</th>
<th>additional pills</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Extended-Cycle Combination (aka COCP [combined oral contraceptive pills])</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jolessa (Barr) 91-day pack</td>
<td>Levonorgestrel (0.15)</td>
<td>Ethinyl estradiol (30)</td>
<td>7 inert</td>
</tr>
<tr>
<td>Lybrel (Wyeth) 28-day pack†</td>
<td>Ethinyl estradiol (20)</td>
<td>Levonorgestrel (0.9)</td>
<td>None</td>
</tr>
<tr>
<td>Seasonique (Duramed) 91-day pack</td>
<td>Ethinyl estradiol (30)</td>
<td>Levonorgestrel (0.15)</td>
<td>7 (10 mcg ethinyl estradiol)</td>
</tr>
<tr>
<td>Seasonale (Duramed) 91 day</td>
<td>Ethinyl estradiol (30)</td>
<td>Levonorgestrel (0.15)</td>
<td>7 inert</td>
</tr>
<tr>
<td>Quasense (Watson)</td>
<td>Ethinyl estradiol (30)</td>
<td>Levonorgestrel (0.15)</td>
<td>7 inert</td>
</tr>
</tbody>
</table>

†The designations 21 and 28 refer to number of days in regimen available.

‡Also approved for acne.

§First FDA approved pill for 365-d dosing.

¶Approved for premenstrual dysphoric disorder (PMDD) in women who use contraception for birth control.

Avoid in patients with hyperkalemia risk.

### TABLE 7
**Some Common Oral Potassium Supplements** *(See also page 196)*

<table>
<thead>
<tr>
<th>Brand Name</th>
<th>Salt</th>
<th>Form</th>
<th>mEq Potassium/ Dosing Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glu-K</td>
<td>Gluconate</td>
<td>Tablet</td>
<td>2 mEq/tablet</td>
</tr>
<tr>
<td>Kaochlor 10%</td>
<td>KCl</td>
<td>Liquid</td>
<td>20 mEq/15 mL</td>
</tr>
<tr>
<td>Kaochlor S-F 10% (sugar-free)</td>
<td>KCl</td>
<td>Liquid</td>
<td>20 mEq/15 mL</td>
</tr>
<tr>
<td>Kaochlor Eff</td>
<td>Bicarbonate/ KCl/citrate</td>
<td>Effervescent tablet</td>
<td>20 mEq/tablet</td>
</tr>
<tr>
<td>Kaon elixir</td>
<td>Gluconate</td>
<td>Liquid</td>
<td>20 mEq/15 mL</td>
</tr>
<tr>
<td>Kaon</td>
<td>Gluconate</td>
<td>Tablet</td>
<td>5 mEq/tablet</td>
</tr>
<tr>
<td>Kaon-Cl</td>
<td>KCl</td>
<td>Tablet, SR</td>
<td>6.67 mEq/tablet</td>
</tr>
<tr>
<td>Kaon-Cl 20%</td>
<td>KCl</td>
<td>Liquid</td>
<td>40 mEq/15 mL</td>
</tr>
<tr>
<td>KayCiel</td>
<td>KCl</td>
<td>Liquid</td>
<td>20 mEq/15 mL</td>
</tr>
<tr>
<td>K-Lor</td>
<td>KCl</td>
<td>Powder</td>
<td>15 or 20 mEq/packet</td>
</tr>
<tr>
<td>Klorvess</td>
<td>Bicarbonate/ KCl</td>
<td>Liquid</td>
<td>20 mEq/15 mL</td>
</tr>
<tr>
<td>Klotrix</td>
<td>KCl</td>
<td>Tablet, SR</td>
<td>10 mEq/tablet</td>
</tr>
<tr>
<td>K-Lyte</td>
<td>Bicarbonate/ citrate</td>
<td>Effervescent tablet</td>
<td>25 mEq/tablet</td>
</tr>
<tr>
<td>K-Tab</td>
<td>KCl</td>
<td>Tablet, SR</td>
<td>10 mEq/tablet</td>
</tr>
<tr>
<td>Micro-K</td>
<td>KCl</td>
<td>Capsule, SR</td>
<td>8 mEq/capsule</td>
</tr>
<tr>
<td>Slow-K</td>
<td>KCl</td>
<td>Tablet, SR</td>
<td>8 mEq/tablet</td>
</tr>
<tr>
<td>Tri-K</td>
<td>Acetate/bicarbonate and citrate</td>
<td>Liquid</td>
<td>45 mEq/15 mL</td>
</tr>
<tr>
<td>Twin-K</td>
<td>Citrate/gluconate</td>
<td>Liquid</td>
<td>20 mEq/5 mL</td>
</tr>
</tbody>
</table>

SR = sustained release.
### TABLE 8
Tetanus Prophylaxis (See also page 223)

<table>
<thead>
<tr>
<th>History of Absorbed Tetanus Toxoid Immunization</th>
<th>Clean, Minor Wounds</th>
<th>All Other Wounds&lt;sup&gt;a&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unknown or &lt;3 doses</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>=3 doses</td>
<td>No&lt;sup&gt;a&lt;/sup&gt;</td>
<td>No</td>
</tr>
</tbody>
</table>

<sup>a</sup>Such as, but not limited to, wounds contaminated with dirt, feces, soil, saliva, etc; puncture wounds; avulsions; and wounds resulting from missiles, crushing, burns, and frostbite.

<sup>b</sup>Td = tetanus-diphtheria toxoid (adult type), 0.5 mL IM.
- For children <7 y, DPT (DT, if pertussis vaccine is contraindicated) is preferred to tetanus toxoid alone.
- For persons >7 y, Td is preferred to tetanus toxoid alone.
- DT = diphtheria-tetanus toxoid (pediatric), used for those who cannot receive pertussis.

<sup>c</sup>TIG = tetanus immune globulin, 250 units IM.

<sup>d</sup>Yes, if >10 y since last dose.

<sup>e</sup>Yes, if >5 y since last dose.

Based on guidelines from the Centers for Disease Control and Prevention and reported in MMWR.
| Table 9: Oral Anticoagulant Standards of Practice (See also warfarin page 237) |
|---------------------------------|-----------------|-----------------|
| **Thromboembolic Disorder**     | **INR**         | **Duration**    |
| **Deep Venous Thrombosis & Pulmonary Embolism** |
| Treatment single episode        |                 |                 |
| Transient risk factor           | 2–3            | 3 mo            |
| Idiopathic                      | 2–3            | 6–12 mo         |
| Recurrent systemic embolism     | 2–3            | Indefinite      |
| **Prevention of Systemic Embolism** |
| Atrial fibrillation (AF)\(^a\)  | 2–3            | Indefinite      |
| AF: cardioversion               | 2–3            | 3 wk prior; 4 wk post sinus rhythm |
| Valvular heart disease          | 2–3            | Indefinite      |
| Cardiomyopathy                  | 2–3            | Indefinite      |
| **Acute Myocardial Infarction** |
| High-risk patients\(^c\)        | 2–3 + lowdose aspirin | 3 mo |
| **Prosthetic Valves**           |                 |                 |
| Tissue heart valves             | 2–3            | 3 mo            |
| Bileaflet mechanical valves in aortic position | 2–3 | Indefinite |
| Other mechanical prosthetic valves\(^b\) | 2.5–3.5 | Indefinite |

\(^a\)With high-risk factors or multiple moderate risk factors.

\(^b\)May add aspirin 81 mg to warfarin in patients with caged ball or caged disk valves or with additional risk factors.

\(^c\)Large anterior MI, significant heart failure, intracardiac thrombus, and/or history of thromboembolic event.

INR = international normalized ratio.

Based on data published in *Chest* 2004 Sep; 126 (Suppl): 1635–6965.
**TABLE 10**  
**Antiarrhythmics: Vaughn Williams Classification**

### Class I: Sodium Channel Blockade

A. **Class Ia**: Lengthens duration of action potential (↑ the refractory period in atrial and ventricular muscle, in SA and AV conduction systems, and Purkinje fibers)  
   1. Amiodarone (also class II, III, IV)  
   2. Disopyramide (Norpace)  
   3. Imipramine (MAO inhibitor)  
   4. Procainamide (Pronestyl)  
   5. Quinidine  

B. **Class Ib**: No effect on action potential  
   1. Lidocaine (Xylocaine)  
   2. Mexiletine (Mexitil)  
   3. Phenytoin (Dilantin)  
   4. Tocainide (Tonocard)  

C. **Class Ic**: Greater sodium current depression (blocks the fast inward Na⁺ current in heart muscle and Purkinje fibers, and slows the rate of ↑ of phase 0 of the action potential)  
   1. Flecainide (Tambocor)  
   2. Propafenone

### Class II: β Blocker

D. Amiodarone (also class Ia, III, IV)  
E. Esmolol (Brevibloc)  
F. Sotalol (also class III)

### Class III: Prolong Refractory Period via Action Potential

G. Amiodarone (also class Ia, II, IV)  
H. Sotalol

### Class IV: Calcium Channel Blocker

I. Amiodarone (also class Ia, II, III)  
J. Diltiazem (Cardizem)  
K. Verapamil (Calan)
<table>
<thead>
<tr>
<th>Isoenzyme</th>
<th>Substrates</th>
<th>Inhibitors</th>
<th>Inducers</th>
</tr>
</thead>
<tbody>
<tr>
<td>CYP1A2</td>
<td>Acetaminophen, caffeine, clozapine, imipramine, theophylline, propranolol</td>
<td>Most fluoroquinolone antibiotics, fluvoxamine, cimetidine</td>
<td>Tobacco smoking, charcoal-broiled foods, cruciferous vegetables, omeprazole</td>
</tr>
<tr>
<td>CYP2C9</td>
<td>Most NSAIDs (including COX-2), warfarin, phenytoin</td>
<td>Fluconazole</td>
<td>Barbiturates, rifampin</td>
</tr>
<tr>
<td>CYP2C19</td>
<td>Diazepam, lansoprazole, omeprazole, phenytoin, pantoprazole</td>
<td>Omeprazole, isoniazid, ketoconazole</td>
<td>Barbiturates, rifampin</td>
</tr>
<tr>
<td>CYP2D6</td>
<td>Most β-blockers, codeine, clomipramine, clozapine, codeine, encainide, flecaainide, fluoxetine, haloperidol, hydrocodone, 4-methoxy-amphetamine, metoprolol, mexiletine, oxycodone, paroxetine, propafenone, propoxyphene, risperidone, selegiline (deprenyl), thioridazine, most tricyclic antidepressants, timolol</td>
<td>Fluoxetine, haloperidol, paroxetine, quinidine</td>
<td>Unknown</td>
</tr>
<tr>
<td>CYP3A</td>
<td>Anticholinergics: Darifenacin, oxybutynin, solifenacin, tolterodine</td>
<td>Benzodiazepines: Alprazolam, midazolam, triazolam</td>
<td>Ca channel blockers: Diltiazem, felodipine, nimodipine, nifedipine, nisoldipine, verapamil</td>
</tr>
</tbody>
</table>

(continued)
TABLE 11 (continued)

Cytochrome P-450 Isoenzymes and Common Drugs They Metabolize, Inhibit, and Induce

| Chemotherapy: | Cyclophosphamide, erlotinib, ifosfamide, paclitaxel, tamoxifen, vinblastine, vincristine |
| HIV protease inhibitors: | Amprenavir, atazanavir, indinavir, nelfinavir, ritonavir, saquinavir |
| HMG-CoA reductase inhibitors: | Atorvastatin, lovastatin, simvastatin |
| Immunosuppressive agents: | Cyclosporine, tacrolimus |
| Macrolide-type antibiotics: | Clarithromycin, erythromycin, telithromycin, troleandomycin |
| Opioids: | Alfentanil, cocaine, fentanyl, sufentanil |
| Steroids: | Budesonide, cortisol, 17-β-estradiol, progesterone |
| Others: | Acetaminophen, amiodarone, carbamazepine, delavirdine, efavirenz, nevirapine, quinidine, repaglinide, sildenafil, tadalafil, trazodone, vardenafil |

Inhibitors: Amiodarone, amprenavir, atazanavir, ciprofloxacin, cisapride, clarithromycin, diltiazem, erythromycin, fluconazole, fluvoxamine, grapefruit juice (in high ingestion), indinavir, itraconazole, ketoconazole, nefazodone, nelfinavir, norfloxacin, ritonavir, telithromycin, troleandomycin, verapamil, voriconazole

Inducers: Carbamazepine, efavirenz, glucocorticoids, macrolide antibiotics, nevirapine, phenytoin, phenobarbital, rifabutin, rifapentine, rifampin, St. John’s wort

*aIncreased or decreased (primarily hepatic cytochrome P-450) metabolism of medications may influence the effectiveness of drugs or result in significant drug-drug interactions. Understanding the common cytochrome P-450 isoforms (eg, CYP2C9, CYP2D9, CYP2C19, CYP3A4) and common drugs that are metabolized by (aka “substrates”), inhibit, or induce activity of the isoform helps minimize significant drug interactions. CYP3A is involved in the metabolism of >50% of drugs metabolized by the liver.

TABLE 12
SSRIs/SNRI/Triptan and Serotonin Syndrome

A life-threatening condition, when selective serotonin reuptake inhibitors (SSRIs) and 5-hydroxytryptamine receptor agonists (triptans) are used together. However, many other drugs have been implicated (see below). Signs and symptoms of serotonin syndrome include the following:

Restlessness, coma, N/V/D, hallucinations, loss of coordination, overactive reflexes, ↑ HR/temperature, rapid changes in BP, increased body temperature

<table>
<thead>
<tr>
<th>Class</th>
<th>Drugs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antidepressants</td>
<td>MAOIs, TCAs, SSRIs, SNRIs, mirtazapine, venlafaxine</td>
</tr>
<tr>
<td>CNS stimulants</td>
<td>Amphetamines, phentermine, methylphenidate, sibutramine</td>
</tr>
<tr>
<td>5-HT1 agonists</td>
<td>Triptans</td>
</tr>
<tr>
<td>Illicit drugs</td>
<td>Cocaine, methylenedioxymethamphetamine (ecstasy), lysergic acid diethylamide (LSD)</td>
</tr>
<tr>
<td>Opioids</td>
<td>Tramadol, pethidine, oxycodone, morphine, meperidine</td>
</tr>
<tr>
<td>Others</td>
<td>Buspirone, chlorpheniramine, dextromethorphan, linezolid, lithium, selegiline, tryptophan, St John’s Wort</td>
</tr>
</tbody>
</table>

Management includes removal of the precipitating drugs and supportive care. To control agitation serotonin antagonists (cyproheptadine or methysergide) can be used. When symptoms are mild, discontinuation of the medication or medications, and the control of agitation with benzodiazepines may be needed. Critically ill patients may require sedation and mechanical ventilation as well as control of hyperthermia. (Boyer EW, Shannon M. “The Serotonin Syndrome”. N Engl J Med. 2005; 352 (11): 1112–20)

MOAI = monoamine oxidase inhibitor
TCA = tricyclic antidepressant
SNRI = serotonin-norepinephrine reuptake inhibitors
### TABLE 13
Composition of Selected Multivitamins and Multivitamins with Mineral and Trace Element Supplements. Listings show vitamin content (Part 1) and then mineral trace element and other components (Part 2) of popular US brands. Values listed are a percentage of Daily Value. (See also page 168)

<table>
<thead>
<tr>
<th>Part 1. Vitamins</th>
<th>Fat Soluble</th>
<th>Water Soluble</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>A</td>
<td>D</td>
</tr>
<tr>
<td>Centrum</td>
<td>70</td>
<td>100</td>
</tr>
<tr>
<td>Centrum Performance</td>
<td>70</td>
<td>100</td>
</tr>
<tr>
<td>Nature Made Multi Complete</td>
<td>50</td>
<td>125</td>
</tr>
<tr>
<td>Nature Made Multi Daily</td>
<td>60</td>
<td>100</td>
</tr>
<tr>
<td>Nature Made Multi Max</td>
<td>60</td>
<td>100</td>
</tr>
<tr>
<td>Nature Made Multi 50+</td>
<td>60</td>
<td>100</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>------------------</td>
<td>-------------------</td>
</tr>
<tr>
<td>50</td>
<td>100</td>
<td>110</td>
</tr>
<tr>
<td>60</td>
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<td>50</td>
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<td>100</td>
</tr>
<tr>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>
## TABLE 13 (continued)
Composition of Selected Multivitamins and Multivitamins with Mineral and Trace Element Supplements. Listings show vitamin content (Part 1) and then mineral trace element and other components (Part 2) of popular US brands. Values listed are a percentage of Daily Value. (See also page 168)

<table>
<thead>
<tr>
<th></th>
<th>Minerals</th>
<th>Trace Elements</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Ca</td>
<td>P</td>
<td>Mg</td>
</tr>
<tr>
<td>Centrum®</td>
<td>20</td>
<td>11</td>
<td>25</td>
</tr>
<tr>
<td>Centrum® Performance®</td>
<td>10</td>
<td>5</td>
<td>10</td>
</tr>
<tr>
<td>Centrum Silver®</td>
<td>22</td>
<td>11</td>
<td>13</td>
</tr>
<tr>
<td>Nature Made</td>
<td>16</td>
<td>NA</td>
<td>25</td>
</tr>
<tr>
<td>Multi Complete</td>
<td>45</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Nature Made Multi Daily</td>
<td>10</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td>Nature Made Multi Max</td>
<td>20</td>
<td>5</td>
<td>25</td>
</tr>
<tr>
<td>Nature Made Multi 50+</td>
<td>12</td>
<td>0</td>
<td>25</td>
</tr>
<tr>
<td>One-A-Day 50 Plus</td>
<td>16</td>
<td>11</td>
<td>25</td>
</tr>
<tr>
<td>Therapeutic Vitamin&lt;sup&gt;b&lt;/sup&gt;</td>
<td>0 0 0 0 0 0 0 0 0 0 0 0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Theragran-M Advanced High Potency</td>
<td>4 3 25 50 100 100 100 1 100 100 42 100</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Theragran-M Premier High Protein</td>
<td>17 11 25 100 100 100 286 2 100 100 107 Lutein, lycopene, coenzyme Q10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Theragran-M Premier 50 Plus High Potency</td>
<td>20 5 25 0 113 100 286 2 100 100 21 100 Lutein, coenzyme Q10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Therapeutic Vitamin + Minerals&lt;sup&gt;b&lt;/sup&gt;</td>
<td>4 3 10 50 100 50 36 &lt;1 100 100 42 100</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unicap M</td>
<td>6 5 0 100 100 100 0 &lt;1 50 100 0 0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unicap Sr.</td>
<td>10 8 8 56 100 100 0 &lt;1 50 100 0 0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unicap T</td>
<td>0 0 0 100 100 100 14 &lt;1 50 100 0 0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Common multivitamins available without a prescription are listed. Most chain drug stores have generic versions of many of the multivitamin supplements listed above; thus, specific generic brands are not listed. Many specialty vitamin combinations are available, but not included in this list (examples are B vitamins plus C, supplements for a specific condition or organ, pediatric and infant formulations, and prenatal vitamins). Values are listed as percentages of the Daily Value (also known as %DV) based on Recommended Dietary Allowances of vitamins and minerals based on Dietary Reference Intakes (Food and Nutrition Board, Institute of Medicine, National Academy of Science). Additional information may be available for many other supplements from the NIH Dietary Supplements labels Database http://dietarysupplements.nlm.nih.gov/dietary

<sup>a</sup>New formulation October 2007.

<sup>b</sup>Formulations may vary. Consult with pharmacy for current product.

<sup>c</sup>Common generic brands (when other than the store name itself) are: Osco Drug Central-Vite (Albertson’s); Spectravite (CVS); Kirkland Signature Daily Multivitamin (Costco); Whole Source, PharmAssure (Rite Aid); Central-Vite (Safeway); Member’s Mark (Sam’s Club); Vitasmart (Kmart); Century (Target); A thru Z Select, Super Aytinal, Ultra Choice (Walgreens), Equate Complete or Spring Valley Century-Vite (Wal-Mart).

Vitamins: $B_1 =$ Thiamine; $B_2 =$ Riboflavin; $B_3 =$ Niacin; $B_6 =$ Pantothenic Acid; $B_9 =$ Pyridoxine; $B_{12} =$ Cyanocobalamin. Elements: $Ca =$ calcium; $Cr =$ chromium; $Cu =$ copper; $Fe =$ iron; $I =$ iodine; $K =$ potassium; $Mg =$ magnesium; $Mn =$ manganese; $Mo =$ Molybdenum; $P =$ phosphorus; $Se =$ selenium; $Zn =$ zinc; $0 =$ not applicable or not available.
This page intentionally left blank
A-K Beta (Levobunolol), 144
A/T/S (Erythromycin, topical), 101
Abacavir (Ziagen), 29
Abatacept (Orencia), 29
Abbokinase (Urokinase), 233
Abciximab (ReoPro), 29
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Abilify (Aripiprazole), 45
Abilify Discmelt (Aripiprazole), 45
Abraxane (Paclitaxel), 184
Acamprosate (Campral), 29
Acebutolol (Sectral), 30
Aceon (Perindopril Erbumine), 190
Acetadote (Acetylcysteine), 31
Acetaminophen, 248
Acetaminophen + Butalbital ± Caffeine (Fioricet, Medigesic, Repan, Sedapap-10, Two-Dyne, Triapine, Axocet, Phrenilin Forte), 30
Acetaminophen + Codeine (Tylenol No. 2, 3, No. 4), 30
Acetaminophen (APAP, N-acetyl-p-aminophenol, Tylenol), 30
Acetazolamide (Diamox), 31
Acetic Acid & Aluminum Acetate (Otic Domeboro), 31
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Acetylcysteine (Acetadote, Mucomyst), 31
Achromycin V (Tetracycline), 223
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Aconile, 245
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Acular LS (Ketorolac Ophthalmic), 139
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Aczone, 81
Adalat CC (Nifedipine), 175
Adalimumab (Humira), 32
Adapin (Doxepin), 93
Adefovir (Hepsera), 32
Adenocard (Adenosine), 33
Adenosine (Adenocard), 33
Adoxa (Doxycycline), 94
Adrenalin (Epinephrine), 98
Adriamycin (Doxorubicin), 93
Adrucil (Fluorouracil), 115
Advair Diskus, 116
Advair HFA, 116
Advil (Ibuprofen), 130
Advisor (Niacin & Lovastatin), 174
AeroBid (Flunisolide), 114
Aeroseb-Dex aerosol 0.01%, 252

Index
<table>
<thead>
<tr>
<th>Brand Name</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aerospan (Flunisolide)</td>
<td>114</td>
</tr>
<tr>
<td>Afrinol (Pseudoephedrine)</td>
<td>200</td>
</tr>
<tr>
<td>Agenerase (Amprenavir)</td>
<td>43</td>
</tr>
<tr>
<td>Aggrastat (Tirofiban)</td>
<td>227</td>
</tr>
<tr>
<td>Aggrenox</td>
<td>90</td>
</tr>
<tr>
<td>AH-chew D (Phenylephrine, oral)</td>
<td>191</td>
</tr>
<tr>
<td>AK-Dex Ophthalmic</td>
<td>85</td>
</tr>
<tr>
<td>Ak-Dilate (Phenylephrine, ophthalmic)</td>
<td>191</td>
</tr>
<tr>
<td>AK-Neo-DEX Ophthalmic</td>
<td>172</td>
</tr>
<tr>
<td>AK Poly Bac Ophthalmic</td>
<td>51</td>
</tr>
<tr>
<td>AK Spore HC Ophthalmic</td>
<td>51</td>
</tr>
<tr>
<td>AK Spore Ophthalmic</td>
<td>51</td>
</tr>
<tr>
<td>AK-Tracin Ophthalmic</td>
<td>51</td>
</tr>
<tr>
<td>AKTob (Tobramycin Ophthalmic)</td>
<td>227</td>
</tr>
<tr>
<td>Alalon (Naphazoline)</td>
<td>170</td>
</tr>
<tr>
<td>Alamast (Pemirolast)</td>
<td>188</td>
</tr>
<tr>
<td>Alavert (Loratadine)</td>
<td>149</td>
</tr>
<tr>
<td>Alaway (Ketotifen)</td>
<td>139</td>
</tr>
<tr>
<td>Albumin (Albuminar, Buminate, Albutein)</td>
<td>33</td>
</tr>
<tr>
<td>Albuterol &amp; Ipratropium (Combivent, DuoNeb)</td>
<td>33</td>
</tr>
<tr>
<td>Albuterol (Proventil, Ventolin, Volmax)</td>
<td>33</td>
</tr>
<tr>
<td>Alclometasone dipropionate</td>
<td>252r</td>
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<td>Aldactazide (Hydrochlorothiazide &amp; Spironolactone)</td>
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</tr>
<tr>
<td>Aldactone (Spironolactone)</td>
<td>214</td>
</tr>
<tr>
<td>Aldara (Imiquimod Cream, 5%)</td>
<td>132</td>
</tr>
<tr>
<td>Aldeleukin [IL-2] (Proleukin)</td>
<td>33</td>
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<td>Magnesium Sulfate</td>
<td><strong>VF/pulseless VT arrest with torsade de pointes:</strong> 1–2 g IV push (2–4 mL 5% solution) in 10 mL D5W. If pulse present then 1–2 g in 50–100 mL D5W over 5–60 min.</td>
</tr>
<tr>
<td>Metoprolol</td>
<td>5 mg slow IV q5min, total 15 mg.</td>
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<tr>
<td>Morphine</td>
<td>2–4 mg IV (over 1–5 min) then give 2–8 mg IV q5–15min as needed.</td>
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<td>Nitroglycerin</td>
<td>IV bolus: infuse at 10–20 mcg/min every 3–5 min, ↑ by 5–10 mcg/min PRN. SL: 0.3–0.4 mg, repeat q5min. Aerosol spray: Spray 0.5–1 s at 5-min intervals.</td>
</tr>
<tr>
<td>Nitroprusside</td>
<td>0.1–0.3 mcg/kg/min start, titrate max dose 10 mcg/kg/min).</td>
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<td>Procainamide</td>
<td>Stable monomorphic VT, HR control in a fib, AV reentrant narrow complex tachycardia: 20 mg/min IV until one of these: arrhythmia stopped, hypotension, QRS widens &gt;50%, total 17 mg/kg; then maintenance infusion of 1–4 mg/min.</td>
</tr>
<tr>
<td>Propranolol (Inderal)</td>
<td>0.1 mg/kg slow IV push, ÷ 3 equal doses q2–3min, max 1 mg/min; repeat in 2 min PRN.</td>
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<td>Retreplase recombinant (Retavase)</td>
<td>10 Units IV bolus over 2 min; 30 min later, 10 units IV bolus over 2 min NS flush before and after each dose.</td>
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<tr>
<td>Sodium Bicarbonate</td>
<td>1 mEq/kg IV bolus; repeat 1/2 dose q10min PRN.</td>
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<tr>
<td>Sotalol (Betapace)</td>
<td>1–1.5 mg/kg IV over 5 min then 10 mg/min.</td>
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<td>Streptokinase</td>
<td>AMI: 1.5 million Int Units over 1 h.</td>
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<td>Tirofibian (Aggrastat)</td>
<td><strong>ACS or PCI:</strong> 0.4 mcg/kg/min IV for 30 min, then 0.1 mcg/kg/min.</td>
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<td>Verapamil</td>
<td>2.5–5 mg IV over 1–2 min; repeat 5–10 mg, in 15–30 min PRN max of 20 mg; or 5 mg bolus q15min (max 30 mg).</td>
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Available online at: http://circ.ahajournals.org/content/vol112/24_suppl (accessed September 28, 2008)
Calcium Chloride

**Hyperkalemia/hypermagnesemia/CCB overdose:** 8–16 mg/kg; 10% solution, 5–10 mL over 2–5 min.

Clopidogrel

**ACS:** 300-mg loading dose then 75 mg/d.

Diltiazem (Cardizem)

**Acute Rate Control:** 0.25 mg/kg (15–20 mg) over 2 min followed in 15 min by 0.35 mg/kg (20–25 mg) over 2 min maint inf 5–15 mg/h.

Dobutamine (Dobutrex)

0.5–1.0 mcg/kg/min; titrate to HR not >10% of baseline.

Dopamine

2–20 mcg/kg/min; **Brady:** 2–10 mcg/kg/min; **Hypotension:** 10–20 mcg/kg/min.

Epinephrine

1-mg IV push, repeat q3–5min (0.2 mg/kg max) if 1 mg dose fails. Inf: 30 mg (30 mL of 1:1000 solution) in 250 mL NS or DSW, at 100 mL/h, titrate. ET 2–2.5 mg in 20 mL NS. **Profound bradycardia/hypotension:** 2–10 mg/min (1 mg of 1:1000; in 500 mL NS, infuse 1–5 mL/min).

Eptifibatide (Integrilin)

**ACS:** 180 mcg/kg/min IV bolus over 1–2 min then 2 mcg/kg/min.

Esmolol (Brevibloc)

0.5 mg/kg over 1 min, then 0.05 mg/kg/min for 4 min; if no response 2nd bolus of 0.5 mg/kg with maintenance of 0.1 mg/kg/min with maximum of 0.3 mg/kg/min.

Glucagon

**β-Blocker or CCB overdose:** 3 mg initially followed by 3 mg/h; **Hypoglycemia:** 1 mg IV, IM, or sub Q

Heparin (Unfractionated)

**Bolus:** 80 Int Units/kg (max 4000 Int Units); then 18 Int Units/kg/h (max 1000 Int Units/h for patients >70 kg) round to nearest 50 IU; keep PTT 1.5–2× control 48 h or until angiography. If adjunct with fibrin specific lytics then 60 IU/kg bolus then 12 Int Units/kg/h.

Ibutilide

Adults ≥60 kg, 1 mg (10 mL) over 10 min; a second dose may be used; <60 kg 0.01 mg/kg.

Labetalol (Trandate)

10 mg IV over 1–2 min; repeat or double dose q10min (150 mg max); or initial bolus, then 2–8 mg/min.

Lidocaine

**Cardiac Arrest from VF/VT refractory VF:** Initial: 1–1.5 mg/kg IV, additional 0.5–0.75 mg/kg IV push, repeat in 5–10 min, max total 3 mg/kg. ET: 2–4 mg/kg.

**Perfusing stable VT, wide complex tachycardia or ectopy:** (up to 1–1.5 mg/kg may be used) IV push; repeat 0.5–0.75 mg/kg q5–10min; max total 3 mg/kg. Maint: 1–4 mg/min (30–50 mcg/min).

(continued)
ADULT EMERGENCY CARDIAC CARE (ECC) MEDICATIONS BASED ON AHA GUIDELINES.
(See individual drugs listings for details.)

MEDICATION

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<td>Abciximab (ReoPro)</td>
<td><strong>ACS with PCI in 24 h:</strong> 0.25 mg/kg IV bolus 10–60 min before PCI, then 0.125 mcg/kg/IV for 12 h; w/ heparin.</td>
</tr>
<tr>
<td>Adenosine (Adenocard)</td>
<td>6-mg IV push, then 20-mL NS bolus. Elevate extremity; repeat 12 mg in 1–2 min PRN.</td>
</tr>
<tr>
<td>Alteplase, Recombinant (Activase)</td>
<td><strong>AMI rapid Inf:</strong> 15-mg bolus; then 0.75 mg/kg over 30 min (50 mg max); then 0.50 mg/kg over next 60 min (35 mg max) <strong>Acute ischemic stroke:</strong> 0.9 mg/kg IV (max 90 mg) over 60 min 10% of dose over 1 min; remaining 90% over 1 h (or 3-h Inf )</td>
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</table>
| Amiodarone (Cordarone, Pacerone)                     | **Cardiac Arrest:** 300-mg IV push; 150-mg IV push × 1 in 3–5 min PRN  
**Refractory pulseless VT, VF:** 5 mg/kg rapid IV bolus. **Perfusing arrhythmias:** Load 5 mg/kg IV/IO over 20–60 min (repeat, max 15 mg/kg/d). **Stable monomorphic VT:** 150 mg IV over 10 min then 1 mg/min for 6 h then 0.5 mg/min over 18 h; repeat 150-mg bolus PRN; 2.2 g/d daily max. |
| Anistreplase (Eminase)                               | **ACS:** 30 units IV over 2–5 min  
**Aspirin**                                             | 160–325 mg PO ASAP (chewing preferred at ACS onset) |
| Atenolol (Tenormin)                                  | 5 mg IV over 5 min; in 10 min, 5 mg slow IV; if tolerated in 10 min, start 50 mg PO, then 50 mg PO BID. |
| Atropine Sulfate                                     | **Asystole or PEA:** 1-mg IV push. Repeat every 3–5 min (if asystole persists) to 0.03–0.04 mg/kg max. **Bradyarrhythmias:** 0.5–1 mg IV q3–5min as needed; max 3 mg or 0.04 mg/kg: ET 2–3 mg in 10 mL NS. |