Chapter 1: Examination of the nose: conditions of the external nose

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Examination

The exterior of the nose requires no special apparatus for examination. The nasal fossae, however, are not easy to examine without good lighting, special instruments and, occasionally, the topical use of a vasoconstrictor to shrink the nasal mucosa.

A head mirror or head light is necessary for a thorough examination and leaves both hands free for using instruments: a hand-held light is adequate to demonstrate the nasal vestibule. In children, an auriscope with a wide speculum is a useful additional instrument for examining the nasal fossae. A nasal speculum is necessary in adults to dilate the vestibule and elevate the tip of the nose. In children, however, where the use of instruments is best avoided, simple pressure on the tip of the nose will suffice. A child may require to be held firmly during this examination, if, any instrument is needed, for example for removal of a foreign body.

The Thudicum nasal speculum is in common use - several sizes are needed, with blades of varying lengths. The spring action should be gentle and the blades smooth. If the speculum is inserted into the skin-lined, relatively insensitive vestibule and the blades are allowed to spring apart or if the speculum is opened forcibly, it is an uncomfortable experience.

The blades are opened just sufficiently to give an adequate view of the nasal fossae. To see the upper and lower limits of the nose requires angulation of the beam of light, the patient's head and the speculum. The longer bladed St Clair Thomson or Killian speculum is useful for seeing the middle and posterior thirds of the nasal cavities and for lifting turbinates to expose the inferior and middle meatuses, but it can only be used under local or general anaesthesia.

Fibreoptic endoscopy

Fibreoptic endoscopy enables a considerably more thorough examination of the nasal cavities and postnasal space. Local anaesthetic to the inferior meatus enables the narrow endoscope to be inserted along the floor of the nose, and familiarity with the technique enables such features as the openings of the nasolacrimal duct and maxillary sinus along with a clear view of the postnasal space to be achieved as a routine procedure in out-patients.

Examination of infants

When examining a neonate's or infant's nose, the patency of the nasal airway on quiet breathing is assessed and the presence or absence of nasal discharge is noted. The infant is best examined wrapped, with its arms included, in a shawl or blanket and held flat on its back on a bed or table with a nurse to control head movements.
Common nasal conditions requiring investigation in infancy are discharge and an inadequate airway. Slight discharge is common during the first few days of life as the nose is cleared of intrauterine and birth contaminants. A nasal swab is taken and the nose examined to exclude a collection of infected debris or other sources of infection. Suction with a soft rubber-zipped Zöllner aural sucker is a useful technique for clearing the nasal fossae.

A moderate degree of nasal obstruction may interfere with feeding, and severe or complete obstruction, as seen in bilateral choanal atresia, threatens life due to the infant's inability to learn mouth-breathing. If the baby lies quietly breathing with the mouth shut, then the nasal airway is adequate. If the baby is restless and can only take a few sucks at the nipple or teat without drawing its head back and gasping for breath, then an inadequate nasal airway is probable. If mucus is seen bubbling in the nostril, or if clouding with the breath on a bright surface held beneath the nostrils can be demonstrated, then some airway must be present. Otherwise, the patency of the airway must be tested with a blunt-ended soft rubber or plastic catheter to exclude choanal atresia. It should be demonstrated that the catheter passes through the oropharynx where it will cause gagging and can be seen through the open mouth. Suction can be used on withdrawing the catheter to remove any secretions which may have been the cause of the obstruction. Failure of the catheter to pass into the oropharynx requires X-ray examination which may require general anaesthesia. Lateral soft tissue X-rays must be taken first, followed by similar views taken after introducing a radiopaque solution into each nostril cavity separately while the infant lies on his back. Congenital nasal deformities are usually seen in conjunction with hare-lip and cleft palate and involve the alar cartilages. An abnormal fusion of the nasal processes produces a characteristic external deformity.

**Examination of adults**

The external nose is examined by observation and palpation. When assessing injury to the nasal bones and cartilage, it is important not to miss injury to the adjacent structures particularly the eye and cribriform plate. Many different types of swelling and cysts appear on or near the nose. Dermoids are found at the lines of fusion of the nasal processes, and the philtrum of the lip and they also occur over the nasal bones and columella. A moist sinus near the bony cartilaginous junction on the bridge of the nose is seen in dermoid cysts, with a deep extension upwards between the nasal bones which may extend to the anterior cranial fossa. A furuncle often occurs near the tip arising in hair follicles in the vestibule and presenting as a tender red external swelling. Sebaceous cysts may occur on the nose, while swellings near the alae may be dental in origin - either cysts or abscesses.

Acne rosacea, with its butterfly rash over the nose and cheeks, is a common condition of the nasal skin, but virtually any skin disease can affect the nose. In rhinophyma the lower half of the nose enlarges due to hypertrophy of the skin and proliferation of the sebaceous glands. Skin neoplasms found here include epitheliomata and melanomata. Loss of tissue around the edges of the nares may be due to trauma or to healed lupus. Ulceration and inflammation of the skin surrounding the anterior nares is often secondary to discharge from the nose. Herpes simplex ulcers also may present in this site; they are frequently multiple and in most instances there is a history of previous attacks. Skin lesions restricted to the distribution of the maxillary division of the fifth cranial nerve are characteristic of herpes zoster and this can be complicated by secondary infection.
The shape of the nose alters with age. Loss of elasticity of the soft tissue between the columella and the caudal margin of the septal cartilage and the alar and upper lateral cartilages results in a drooping of the tip of the nose, so that the nose appears longer (Parkes and Kamer, 1973). The variations in the shape of the nose related to racial characteristics are also well recognized.

Palpation of the nasal bones and cartilages differentiates a bony deformity from a cartilaginous or soft-tissue swelling. An external deviation of the nasal bones and cartilage is probably associated with a deviated nasal septum.

Destruction of the bony septum, with subsequent saddle deformity, may result from syphilis and of the cartilaginous skeleton from lupus vulgaris. Enlargement of the bony skeleton may be due to a general bone disease, such as Paget's disease, or to a fibro-osseous dysplasia. Cartilaginous enlargement may be due to a chondroma or chondrosarcoma.

X-rays of the nasal bones will demonstrate recent fractures and show the degree of displacement; X-rays may have a medicolegal significance but are of very limited help in the management of nasal fractures.

**Examination of the vestibule of the nose**

The vestibule is the skin-lined anterior compartment of the nose. Its size and shape vary according to age, and from one person to another, but it is pear-shaped in adults with a narrow slit-like upper angle between the septum and ala. The skin contains hair follicles, sebaceous and sweat glands. The vibrissae become well developed in middle-aged and elderly men. Most of the hairs arise from the lateral and medial walls. The skin lining extends further posteriorly on the lateral wall and this side is more flexible than the medial. Insertion of a speculum causes more discomfort on the medial side where the sensitive mucosal surface is nearer the front of the nose and the wall is relatively rigid. The mucocutaneous junction is identifiable by a change of colour to pink and by the moist appearance of the mucosa, due to its surface film of mucus.

Metaplasia of the columnar mucosa to a squamous cell lining may occur in the anterior part of the nasal passages, especially on the septum. This is usually due to frequent rubbing of these areas by the patient, through habit or to relieve irritation. The metaplasia stands out as whitish dry areas on the surrounding normal mucosa and, where these are continuous with the vestibular skin, the mucocutaneous junction is obliterated. Frequent rubbing of the septum produces even more marked changes, sometimes progressing to ulceration and septal perforation. The anterior end of the septal cartilage may become dislocated out of its groove in the maxillary crest and protrude into one or other vestibule. It causes an obvious, and often unsightly, projection into the vestibular lumen and tends to cause nasal obstruction and be subject to trauma. Various industrial dusts and fumes, notably nickel and chrome, tend to be deposited on the vestibular septum and may cause septal perforation.

A nasal speculum may hide more of the vestibule than it reveals. Examination of this region should begin with inspection from several angles, assisted by pressing on the columella and tip of the nose to open up different areas of the vestibule. A short bladed speculum is
inserted just within the anterior nares and, deliberately, each wall and the floor are inspected. The upper angle and the upper lateral wall are particularly difficult to examine and a small mirror often gives the best view of these parts.

Staphylococcal infection of the hair follicles is common and may produce acute inflammation, or the patient may be a symptom-free carrier of bacteria. Swabbing of the nasal vestibules of hospital staff is a routine procedure when a bacteriologist is trying to trace the origin of a ward infection. A vestibular staphylococcal infection may go unnoticed by the patient while infection is transmitted to other parts of the head and neck, causing such problems as furuncles, conjunctivitis and otitis externa.

While many types of skin condition occur in the vestibule, one of the most common is a papilloma which is usually pedunculated. Malignant change in a papilloma is very rare but carcinomata and melanomata do occasionally present in the nasal vestibule.

**Examination of the nasal fossae**

The nasal fossae in an adult are approximately 7.5 cm long and 5 cm high. The airway through them is tortuous and its shape and size depend upon two factors:

1. the configuration of the skeletal elements - septum, lateral wall and turbinate bones
2. the nasal mucous membrane, which is liable to considerable changes in thickness. These changes are particularly marked over the inferior and middle turbinates and depend upon a variety of exogenous and endogenous factors.

The nasal airway is subject, therefore, to wide variation from day to day in any one person.

The area of the nasal fossae visible on anterior rhinoscopy varies considerably, but the anterior part of the septum and floor are always visible, while the area of the lateral wall that can be seen depends upon the size of the anterior end of the inferior turbinate. This is the most conspicuous feature on first inspection of the nasal fossae and patients may attend hospital for advice on this 'tumour' which they have glimpsed in the mirror. A large inferior turbinate which obstructs a satisfactory view of the middle turbinate and middle meatus can be reduced in size by the application of a vasoconstrictor solution, such as topical adrenaline.

When inspecting the nasal fossae, the following should be evaluated: the airway, the septum, the inferior turbinate and meatus, the middle turbinate and meatus, and the floor of the nose.

An examination which follows this routine avoids overlooking a particular site in the nose.

**The airway**

A complaint of nasal obstruction is very common and the range of individual tolerance to this symptom is wide.
For assessment of the airway, each side of the nose is examined separately, and one anterior naris is occluded without deforming the opposite side. A bright surface held beneath the nostrils to compare the area of misting may also demonstrate and compare the airways. If the obstruction is worse on inspiration, the alae nasi may be seen to collapse on to the septum. Sometimes, a previous submucous resection may cause the septum to 'flap' or impinge on inspiration against the lateral wall of the nose. If the obstruction is mainly on expiration, a 'corking' effect in the posterior choana is a possible cause and may be due either to a large posterior end of an inferior turbinate or to ethmoidal or choanal polyps. Occasionally, adhesions are seen between the septum and turbinates - usually as the result of surgical or other trauma.

The septum

The general configuration of the septum is first related to the external shape of the nose. A septal spur on one side usually means a concavity on the other, but sometimes the septum is thickened and bulges into both nasal passages. This occurs as an acute condition in a septal haematoma or abscess. A chronic thickening of the septum may be due to a duplication of the cartilage or to an organized haematoma. The septum is rarely straight and small deformities are often of no clinical significance. It is also remarkable how a marked deviation of the septum found on a routine examination may be unassociated with any nasal symptoms. They should be noted, however, and a drawing is often a useful note. Examination of the septum should exclude perforation and areas of granulation.

The inferior turbinate and meatus

The inferior is the largest turbinate and it is subject to considerable variation in size, due mainly to changes in its submucosal vascular bed. Hypertrophy of the inferior turbinate may occur when the airway is large: the concave aspect of a deviated septum is usually seen to be opposed by a compensatory enlargement of the inferior turbinate. A wide airway results in drying of the mucous film and crusting. The mucosa is thick in chronic and allergic rhinitis and this is an important cause of nasal obstruction. Hypertrophy of the inferior margins of the middle and inferior turbinates and of their posterior ends is common in these conditions.

The inferior meatus is not usually visible unless the inferior turbinate is lifted upwards and inwards, and this requires anaesthesia. Sometimes the anterior opening is very narrow and low down near the floor of the nose, making the introduction of probes and other instruments difficult. If the inferior meatus is visible, the lateral wall is seen to curve laterally in the anterior third. The nasolacrimal duct enters the meatus just below the attachment of the turbinate in this area, but it is rarely visible except with the nasal endoscope.

The middle turbinate and meatus

The middle turbinate, like the inferior one, is subject to variations in size and shape. A large turbinate often contains an air cell, while oedema, hypertrophy or polypoid change in the mucosa are all common. The shape is also influenced by the size of the airway, and physiological compensatory hypertrophy occurs in wide nasal fossae as with the inferior turbinate.
The middle meatus is the main drainage channel for the sinuses and the most likely place to find evidence of sinus disease. Most nasal polyps first appear in this space. While it is possible to view the area in some noses, it is often necessary to use a vasoconstrictor spray to reduce the inferior and middle turbinates for an adequate view. With the meatus exposed, the hiatus semilunaris and bulla ethmoidalis are seen anteriorly and it is possible to cannulate or probe the ostium of the maxillary antrum more posteriorly.

The floor of the nose

Foreign bodies usually lodge between the inferior turbinate and the septum and may be overlooked by failure to examine directly along the floor of the nose. A swelling in this area may extend from the teeth, the palate or the buccalvolar sulcus, for example a nasoalveolar cyst. An ulcer in the floor of the nose should be probed to exclude a communication with the oral cavity. Posteriorly, an antrochoanal polyp or a hypertrophic end of an inferior turbinate may cause obstruction.

The superior turbinate and meatus and the olfactory mucosa are not seen on routine clinical examination. Any polyp or swelling apparently arising from these areas may communicate with the cranial cavity.

Other examination techniques

Probing

A mucosal anaesthetic is usually needed before probing to demonstrate the consistency, mobility and site of attachment of a lesion. Ulcers are probed to detect if the underlying bone is exposed or if there is a sinus or fistula. The septum can be touched to see if the cartilage or bone is missing or to demonstrate a perforation, by passing the probe through and observing it in the other nasal fossa. The grating sensation felt on probing a rhinolith is characteristic.

X-rays

Lateral and anteroposterior X-rays and tomograms are helpful in demonstrating the nasal fossae. Soft-tissue shadows can be seen outlined against the air space, and the size and situation of radiopaque foreign bodies and rhinoliths can be seen. Because the septal cartilages are radiotranslucent, little information about them, and accurate assessment of the airways, are not obtainable by X-ray examination.

Examination under anaesthesia

Under general or local anaesthesia, the nasal passages can be dilated with a speculum, such as Killian's or St Clair Thomson's, and the nasal fossae can be examined to the choanae. The turbinates can be infractured and the blades of the speculum inserted beneath the inferior and middle turbinates, giving good exposure of the meatus.
Conditions of the external nose

The nose and nasal vestibules are covered with skin and may be involved in many generalized skin diseases, while a few dermatological conditions, such as acne rosacea, are especially liable to affect the nasal skin. The vestibules and surrounding skin are liable to infection because this is the main air inlet and patients frequently rub this area, causing minor abrasions and introducing infection on the finger. The hairs of the nasal vestibule are thick and strong; their follicles are a common site of both acute and chronic infection presenting as furuncles, cellulitis or vestibulitis.

The normal nasal flora

Jacobson and Dick (1941) swabbed the nose in 500 consecutive patients admitted to a medical ward who had no nasal symptoms. They found the common organisms to be Staphylococcus albus, diphtheroid bacilli and, occasionally, in apparently normal noses, they also found Staphylococcus aureus and Micrococcus catarrhalis.

The results of nasal swabs taken from staff at The Royal National Throat Nose and Ear Hospital showed the following results (Rees, 1969, personal communication): out of 158 persons examined, 44 grew coagulase-positive staphylococci, and 38 out of 44 organisms cultured were resistant to penicillin. Laryngectomy cases have nasal swabs taken preoperatively as a routine and, in 1969, out of a total of 25 patients, 16 grew no pathogenic organisms, five grew staphylococci, two grew beta-haemolytic streptococci, one grew pneumococci and one grew Proteus sp.

The nose is, therefore, free of pathogens in the majority of normal people but it should be examined as a source of infection in institutional outbreaks. Coagulase-positive staphylococci are the most common pathogens and may cause acute or chronic infection in the vestibule.

Acute infections

The nasal vestibule is a painful site for a furuncle which is probably the commonest acute infection. The infecting organism is nearly always Staph. pyogenes (aureus). It is important to find out the sensitivities of the particular strain of Staphylococcus sp. If the furuncle is pointing or has discharged, this information is easily obtained, but a swab from the surface of the vestibule probably reveals the type of Staphylococcus. The vestibule of the nose may act as a reservoir of staphylococci from which other parts of the body may become infected; alternatively, staphylococci may be transferred from other areas of the body, perhaps from ears, eyes or perianal region to the nasal vestibule, the finger nails acting as the connecting link.

Nasal furuncles are potentially dangerous because the veins of the nose drain on each side into the facial veins, which, like the ophthalmic veins communicate directly with the facial veins and also communicate with them indirectly through the supraorbital veins. The ophthalmic veins pass by way of the superior orbital fissure to the cavernous sinus. Severe nasal inflammatory processes may therefore extend to the venous sinuses of the brain, causing
thrombophlebitis, a condition which may prove fatal despite antibiotics. Squeezing or incision of nasal furuncles is best avoided unless they are definitely pointing. The first indications of cavernous sinus thrombophlebitis as a complication of a nasal furuncle are those of malaise, headache and pyrexia. There may be superficial tenderness along the facial veins, with lid oedema and chemosis of the conjunctiva. Later, there is proptosis with limited eye movement. These local signs are due to the obstruction of the venous return from the ophthalmic veins.

The great majority of nasal furuncles are minor infections, however, and resolve spontaneously by discharging into the vestibule. A topical antibiotic ointment suffices as treatment for the small furuncle and vestibulitis. A severe furuncle with a general reaction requires systemic antibiotics and, because of the potential dangers, close observation to ensure that the infection is showing an early response to treatment.

Recurrent boils suggest either local trauma, which may be self-induced, or an underlying general condition which reduces the patient's resistance to infection. Having excluded local causes, the patient's blood picture should be investigated and diabetes mellitus must be excluded.

**Vestibulitis**

Vestibulitis is a condition in which the skin of the nasal vestibule becomes excoriated and infected. An eczema of the vestibular skin gives a similar picture. Repeated trauma to the vestibule when the nose is rubbed or cleaned excessively by the patient is a common cause. The projection of a dislocated columellar portion of the cartilaginous septum into the vestibule is one of the most common predisposing factors in vestibulitis. The skin overlying the projecting cartilage is thin, stretched and easily damaged with minimal trauma to the nose. Persistent infected ulceration develops. Advice to avoid unnecessary trauma, with the application of an ointment such as aureomycin, often suffices as treatment, but removal or correction of the projecting cartilage may be necessary.

Unilateral vestibulitis in a child is invariably diagnostic of a foreign body. The offensive discharge from the mucosal irritation of a foreign body causes a secondary vestibulitis. Vestibulitis affecting both nares is usually due to eczema, which may be localized to the nose or may be part of a generalized tendency to eczema. Purulent rhinorrhea may also cause vestibulitis. The watery rhinorrhea of nasal allergy or coryza may also cause an excoriation of the vestibular skin.

Impetigo is a contagious skin infection of the superficial layer of the epidermis caused by a pyogenic staphylococcus and occasionally by a streptococcus. Pustular vesicles form and break, with yellow transparent adherent scabs. Impetigo commonly affects the face and nasal vestibules. The condition usually settles with the application of an ointment such as aureomycin.

**Erysipelas**

This causes an acute inflammation of the skin and subcutaneous tissues of the nose. The skin is raised and deep red in colour, with pain, heat and vesiculation, often accompanied by headache, fever and malaise. The organism is *Streptococcus* sp, which usually enters
through a small fissure in the skin. Erysipelas in the region of the medial canthus simulates an acute frontal sinusitis, with eye closure from lid oedema. The diagnosis is clear, however, from the sharp margin of the reddened area of skin, the absence of intranasal symptoms and signs, and the normal sinus X-ray. Penicillin is usually curative.

**Herpes simplex and zoster**

Small vesicles forming near the nostrils or lips are not uncommon with a coryza. They are painful and break down, with a watery discharge, to coalesce and form a larger irregular ulcer. The vesicles tend to recur at the same site and are caused by the herpes simplex virus. This virus may remain latent in the skin until local irritation, possibly combined with a period of lowered resistance, causes the virus to become active and the vesicles to develop.

The nasal skin is affected in zoster of the maxillary division of the trigeminal nerve when vesicles involve the cheek, nose, nasal vestibule, nasal mucosa and palate. In ophthalmic herpes, the eye lesion and vesicles in the supratrochlear and supraorbital areas demand most attention, although vesicles also affect the nose in the distribution of the anterior and posterior ethmoidal and external nasal nerves. Pain may precede the eruption and, in the maxillary or mandibular division, may be mistaken for dental or sinus disease. Once the eruption develops, diagnosis is made by the exact limitation of the outbreak to the nerve distribution, and limitation to the midline is characteristic. Secondary infection of the eruption makes diagnosis more difficult but the distribution remains unaltered. Lesions of the palate and nasal mucosa are rarely seen in the vesicular state, and they appear as discrete superficial ulcers which heal in 3-4 days. Treatment is restricted to the skin, with an ointment such as neomycin and hydrocortisone 1%. Postherpetic neuralgia is rare in these cases.

**Chronic infections**

**Lupus vulgaris**

Lupus vulgaris may cause skin involvement of the nose by the tubercle bacillus and occurs more frequently in women than in men. The skin invasion usually begins between the ages of 2 and 15 and occurs in someone who has already been infected by tuberculosis. Reddish-brown papules first appear on the nose, which when pressed with a glass slide, become white, and 'apple-jelly' nodules appear as small brown semi-transparent spots. Borrie (1975) describes two types of lupus involving the nose:

1. A slowly progressive usually non-ulcerative tuberculous infection of the skin. The disease is probably borne by the fingers to the nose and the bacillus enters the deep layers of the skin from a finger scratch. The condition is characterized by miliary tubercles forming lupus nodules in the dermis.

2. An ulcerative type of infection of the skin, which may spread rapidly, and which is nearly always secondarily infected by staphylococci.

In the slowly progressive type of lupus the papules become soft, coalesce, and break down, forming shallow ulcers with undermined edges. Severe scarring and nasal deformity result with nasal obstruction of varying degree caused by contraction of the scar tissue at the
vestibule. A chest X-ray is necessary and evidence of tuberculosis elsewhere in the body is to be excluded. Lupus, before adequate chemotherapy, resulted in extreme nasal deformity with virtually complete destruction of the external nose and closure of the nares. Lupus is now rare, presenting with less conspicuous lesions, and early treatment has eliminated such gross sequelae.

**Syphilis**

Primary lesions of syphilis may present on the nose and *Treponema pallidum* is demonstrated in the exudate from the ulcer. The primary sore appears 9-90 days after exposure to infection and, if untreated, heals slowly in 3-10 weeks, leaving a thin atrophic scar.

Tertiary syphilis of the nose has the usual characteristic of the gumma. A hard, painless nodule breaks down to leave a deep ulcer with a typical punched out margins and a 'wash leather' base. A gumma heals with scarring and destruction of tissue. A painless chronic inflammatory nodule requires the exclusion of syphilis as a diagnosis.

The nasal vestibule may become involved in congenital syphilis, giving rise to 'snuffles', and late congenital syphilis produces the classic saddle nose with occasional more severe deformity. Gummatous lesions which destroy the nasal septum are in part responsible for the external deformity of the nose and cause large crusted septal perforations.

**Other skin conditions**

**Acne rosacea**

Enlarged superficial blood vessels in the skin of the nose and cheeks cause the dusky red colour and shiny surface characteristic of acne rosacea. There is usually secondary hypertrophy of sebaceous glands, and acneiform lesions may be superimposed. The disease is seen more commonly in women at the menopause. In some cases, usually males, there is enormous hypertrophy of the sebaceous glands, leading to the condition of rhinophyma. With gross deformity, surgical excision of the excess skin is necessary, avoiding damage to the underlying cartilage.

**Lupus erythematosus**

The skin lesion affects the nose and cheeks with a symmetrical butterfly distribution. There are patches of erythema and scaling which slowly become thin atrophic scars. In these areas, there is a stippling caused by filling of the orifices of the sweat glands and hair follicles with horny plugs. The condition is differentiated from lupus vulgaris by the absence of apple-jelly nodules and ulceration, and the presence of stippling. In about 5% of cases, the disease become systemic, with malaise, multiple arthritis and kidney lesions in addition to the skin changes. In these cases, blood examination will show a raised erythrocyte sedimentation rate and gamma-globulins, leucopenia and the presence of typical lupus erythematosus cells - rosettes of leucocytes around nucleoprotein. Sarcoidosis, leprosy, scleroderma, yaws and rhinosporidiosis affecting the nose are described in Chapter 8.
Neoplasms of the skin of the nose and vestibules

Papillomata

Papillomata are common and may require excision on account of their appearance or irritation to the patient.

Rodent ulcers (basal-cell carcinomata)

These are common in the skin covering the nose, especially around the alae nasi where they may be inconspicuous. A small semi-transparent pearly nodule first appears which ulcerates and fails to heal. The ulcer slowly enlarges (so the history is usually long) and causes local destruction of skin, cartilage and bone but either without metastasis to nodes or systemically. The diagnosis should be suspected in any long-standing ulcer on the nose and, if the diagnosis is in doubt, the lesion is biopsied. Radiotherapy or excision is curative in an early lesion.

Squamous-cell carcinoma

This may occur on the skin of the external nose or vestibule. The history is short, unlike that of rodent ulcer. A carcinoma on the external nose usually has an ulcerated centre with rolled everted edges.

The prognosis, with treatment for a small early lesion, before there is lymphatic metastatic spread or involvement of underlying bone and cartilage, is good. Some early neoplasms respond to radiotherapy while more advanced lesions require wide excision with radical neck dissection for cervical metastases. A painless lesion in the vestibule or on the septum is often ignored by the patient or missed by the doctor in the early stages. The prognosis with nasal carcinomata is therefore frequently not good and early metastases in the cervical nodes are seen.

Injury to the nose

Nasal fractures, with or without skin laceration, are common injuries. An external cosmetic deformity, and injury to the septum causing nasal obstruction, are the main relevant aspects of nasal fractures.

Fractures of the nasal bones, like fractures elsewhere, can be simple, with or without displacement, or compound. The fractures may be associated with both skin and mucous membrane laceration, causing epistaxis as well as external bleeding. Nasal bone fractures with associated fracture of the maxillae may involve the nasal sinuses, which fill with blood. It is important to exclude associated fractures of the skull particularly those of the anterior cranial fossa or orbital margin in a case of nasal fracture. The nasal septum is frequently displaced when the nasal bones are fractured, and a septal haematoma may also form, lifting the perichondrium on one or both sides and causing marked nasal obstruction. Pain suggests secondary infection of the haematoma. Management is discussed in Chapter 13.