

Trauma

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A haematoma of the pinna occurs when blood collects under the perichondrium. The cartilage receives its blood supply from the perichondrial layer and will die if the haematoma is not evacuated, resulting in a so-called cauliflower ear. A generous incision under anaesthetic, with a pressure dressing or compressive sutures and antibiotic cover, is recommended (Figure 51.10). Foreign bodies in the ear canal are most easily removed at the first attempt by an experienced practitioner with the aid of a microscope. General anaesthesia may be required in children and those with learning difficulties. Batteries need to be removed within the hour (Figure 51.11).

Summary box 51.2 Trauma of the external ear

Figure 51.9 Computed tomography scan showing a vestibular schwannoma occluding the left internal acoustic meatus (arrow). A haematoma of the pinna requires thorough drainage, antibiotics and a compressive dressing or sutures Foreign bodies in the ear canal are most easily removed at the first attempt with the aid of a microscope Batteries need to be removed urgently

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Trauma to the middle ear can result in a perforated tympanic membrane (Figure 51.16a); 90% of such perforations heal spontaneously within 6 weeks (Figure 51.16b). Trauma can also result in ossicular discontinuity and it is usually the incus that is displaced. A damaged ossicular chain and tympanic membrane are repaired by ossiculoplasty or tympanoplasty , respectively .

Summary box 51.4 Congenital anomalies and trauma of the middle ear

Congenital anomalies may be isolated or associated with general congenital deformities Traumatic perforations of the tympanic membrane usually heal spontaneously but explosive and welding injuries do not A myringoplasty is an operation that repairs the tympanic membrane With severe head trauma the incus can be displaced, which leads to a conductive hearing loss

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Noise exposure Hair cells within the cochlea are damaged by sudden acoustic trauma (blast injury or gunfire) or prolonged exposure to excessive noise. The sensorineural hearing loss that results is greatest - between 3 and 6 kHz and is often accompanied by tinnitus (Figure 51.30). The law in the UK requires that workers are protected from noise . Head injury The otic capsule is the hardest bone in the body but, if trauma to the head is severe, temporal bone fractures may occur. These are traditionally described as either longitudinal (80%) or transverse (20%); however, the majority have longitudinal and transverse components. Longitudinal fractures may lead to fracture of the external auditory canal, conductive hearing loss and CSF otorrhoea. Transverse fractures may involve Charles Skinner Hallpike , 1900–1979, aural surgeon, National Hospital for Neurology and Neurosurgery , London, UK. John W Epley , contemporary , Director, Portland

Otology Clinic, Portland, OR, USA, established his clinic in 1975; he developed the Epley manoeuvre for treating benign paroxysmal positional vertigo (BPPV). the facial nerve, leading to palsy, and labyrinth, leading to a sensorineural hearing loss that is permanent. Profound vertigo occurs initially, followed by gradual compensation. Drug ototoxicity Antibiotics such as aminoglycosides, vancomycin and erythro - mycin, loop diuretics such as frusemide, chemotherapy agents such as cisplatin and carboplatin, and salicylates such as aspirin and quinine are all ototoxic. Recognition of risk factors, such as poor renal function in patients being treated with amino - glycosides, is therefore important. Although many topical ear drops contain aminoglycosides, there is little evidence that short periods of topical treatment cause sensorineural hearing loss.

-20 -10 0 10 20 30 40 50 60 70 Hearing level (dB ISO) 80 90 100 110 120 125 250 500 1000 2000 4000 6000 Frequency (Hz) Figure 51.28 Typical audiogram of pr esbycusis: (a) right ear; Figure 51.29 Modern hearing aid. -20 -10 0 10 20 X X 30 X 40 50 X 60 70 Hearing level (dB ISO) 80 X 90 X 100 110 120 125 250 500 1000 2000 4000 6000 Frequency (Hz) (b) left ear.

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