Ear, Nose, and Throat (ENT)

Benign paroxysmal positional vertigo (BPPV)
- **Otolith** detachment into *semicircular canals* (esp. posterior); commonest cause of vertigo
- Causes - idiopathic (majority), trauma, labyrinthine degeneration, post-viral, chronic otitis
- Risks - age 40-60, female sex, Ménière’s, migraine
- Symptoms - episodic sudden transient vertigo *provoked by head movement*, nausea
- Investigations - **Dix-Hallpike test** (vertical nystagmus on rapid depression of tilted head)
- Management - **Epley’s manoeuvre**, consider Brandt-Daroff exercises

Cerumen (earwax)
- Normal physiological protective substance; contains sebum, dead cells, sweat, hair, dust
- Management - **ear drops** (sodium bicarbonate, olive oil), **irrigation**, microsuction
  - irrigation contraindications - recent perforation / otitis, grommets, cleft palate
  - irrigation complications - perforation, otitis, pain, exacerbated tinnitus, vertigo, deafness

Cholesteatoma
- Locally *erosive* collection of epidermal / connective tissue in middle ear
  - may be *primary* (chronic negative pressure) or *secondary* (post-traumatic, otitis media)
- Symptoms - **otorrhea**, otitis, **conductive hearing loss**, vertigo, headache, CNVII palsy
- Investigations - audiometry, CT / MRI
- Management - tympanomastoidectomy / tympanoplasty (GA)

Deafness
- Normal threshold of hearing is 0-20dB (30dB whisper, 60dB conversational speech)
- Loss - mild (25-40dB), moderate (40-70dB), severe (70-95dB), profound (> 95dB)
  - **conductive** - commoner at younger age e.g. earwax, trauma, otitis, otosclerosis
  - **sensorineural** - commoner in advanced age e.g. presbyacusis
- Audible frequencies from low (250Hz) to high (8kHz)

Otosclerosis
- **Autosomal dominant** metabolic dysplasia of inner ear / ossicles, stapes footplate ankylosis
- Risks - female sex, middle age, FH, measles
- Symptoms - progressive **bilateral conductive hearing loss** (low frequencies), **tinnitus**
  - associated with quiet speech, **Schwartzte’s sign** (red-blue oval window - hyperaemia)
- Investigations - **audiometry** (Carhart’s notch - low frequency), CT (halo sign)
- Management - hearing aids, **stapedectomy / -otomy** (risk of sensorineural deafness!)
Presbyacusis

- Progressive **bilateral sensorineural hearing loss** (high frequencies)
  - results from cochlear / ganglion degeneration, vascular atrophy (*normal ageing process*)
- Risks - noise exposure, ototoxics (digoxin, gentamicin), HTN, DM, smoking, obesity
- Symptoms - insidious onset of **high frequency loss** e.g. speech esp. voiceless consonants
- Management - **hearing aids**, assistive listening devices, cochlear implants (if refractory)

Labyrinthitis

- Inflammation of membranous labyrinth, vestibular / cochlear damage; often viral cause
- Symptoms - sudden vertigo, **hearing loss**, tinnitus, otalgia, nausea, facial weakness

Vestibular neuritis

- Isolated vestibular (CNVIII) neuropathy thought to be **herpes simplex** reactivation
- Symptoms - sudden dizziness / **vertigo**, **nausea**, **vomiting** worsened with head movement
  - associated with **spontaneous horizontal nystagmus**; **no** hearing loss
- Management - consider antiemetic, prochlorperazine, short-term steroids

Ménière’s disease

- Disorder of **labyrinthine fluid volume** (endolymph) with progressive **labyrinthine distension**
- Associations - allergy, autoimmunity, metabolic disorders, infection, vascular disorders
- Symptoms - attacks of **vertigo**, **tinnitus**, **hearing loss** / sensation of **aural pressure**
  - initially **unilateral** - episodes every month or so lasting minutes to hours
- Investigations - **audiometry** (sensorineural loss), MRI, mastoid XR (*forward sigmoid sinus*)
- Management - acutely **prochlorperazine** / cyclizine; consider **betahistine** prophylaxis
  - consider gentamicin, steroid injection, endolymphatic decompression, micropressure

Rhinosinusitis

- Risks - URTI, atopy, smoking, DM, foreign body, irritants, dental problems, swimming, CF
- Symptoms - facial pain, nasal discharge / PND, decreased smell, halitosis, cough
- **Acute sinusitis** - usually caused by *Strep. pneumoniae*, HiB, *Moraxella* (esp. in children)
- **Chronic sinusitis** - may be associated with **polyps** or **fungal infection**
  - consider **inhaled steroids** e.g. beclometasone, budesonide
- Complications (rare) - **orbital cellulitis**, meningitis, cerebral abscess, osteomyelitis

Nasal polyps

- Majority **eosinophil-rich**, bilateral; suspect malignancy if unilateral e.g. encephalocele
- Associations - **asthma**, **aspirin sensitivity** (Samter’s triad); CF, sinusitis, Churg-Strauss
- Management - steroid nasal drops / systemic steroids if large
  - consider inpatient aspirin desensitisation as appropriate