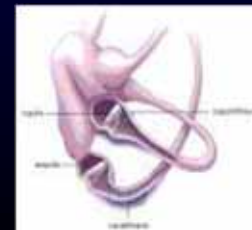


Dizziness & Vertigo

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AIMS

- **Dizziness versus vertigo**
- **Components of the balance system**
- **Anatomy of the inner ear**
- **Case scenarios**
- **Diagnostic workup of dizziness/vertigo**
- **Treatment of common ENT disorders of
balance**

DEFINITION

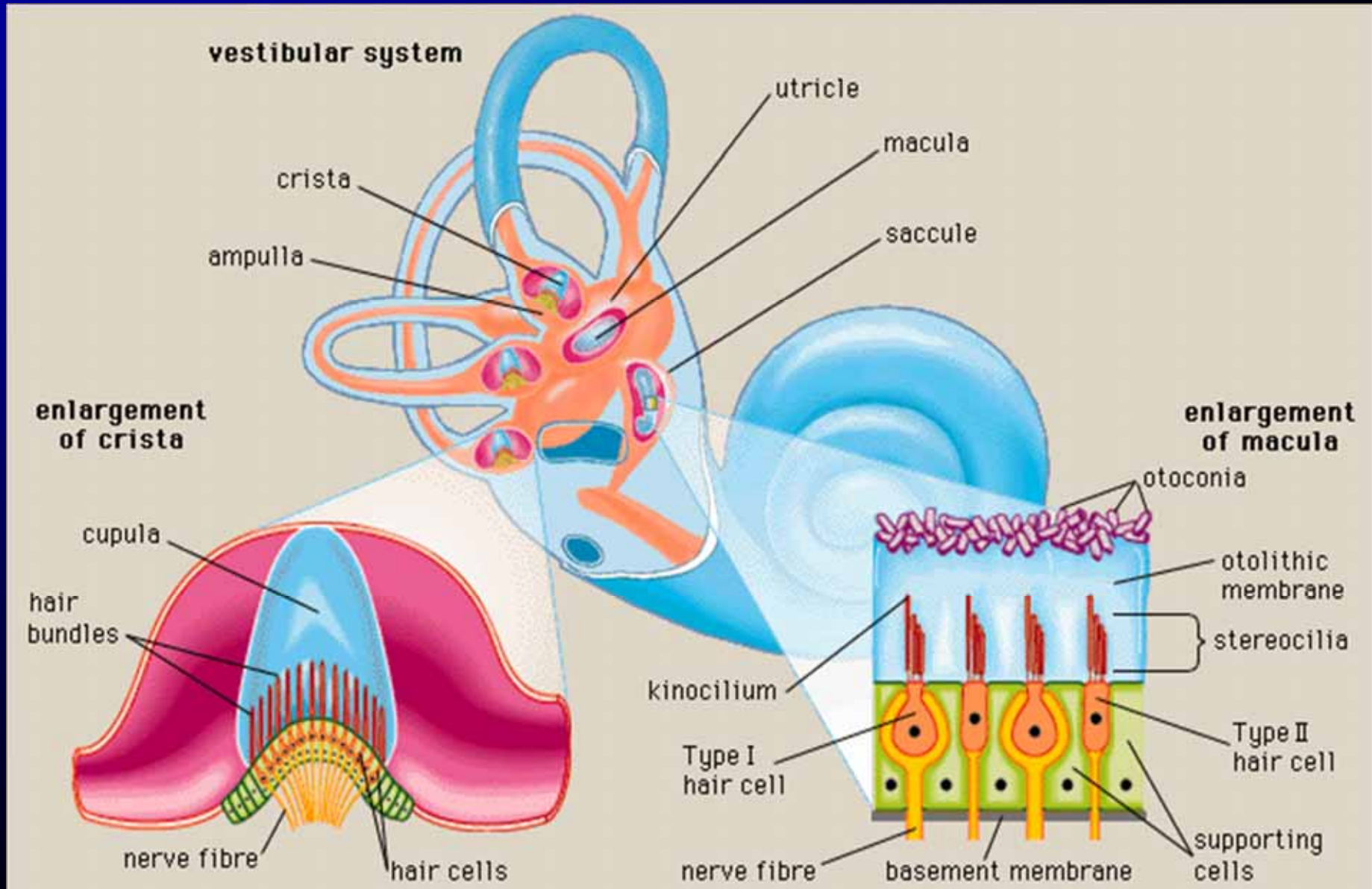
- **Dizziness is a vague term**
 - lightheadedness, swimmy feeling, unsteadiness, difficulty walking in a straight line, difficulty thinking, giddiness, blurred vision, etc
- **Vertigo is an **illusion** of movement**



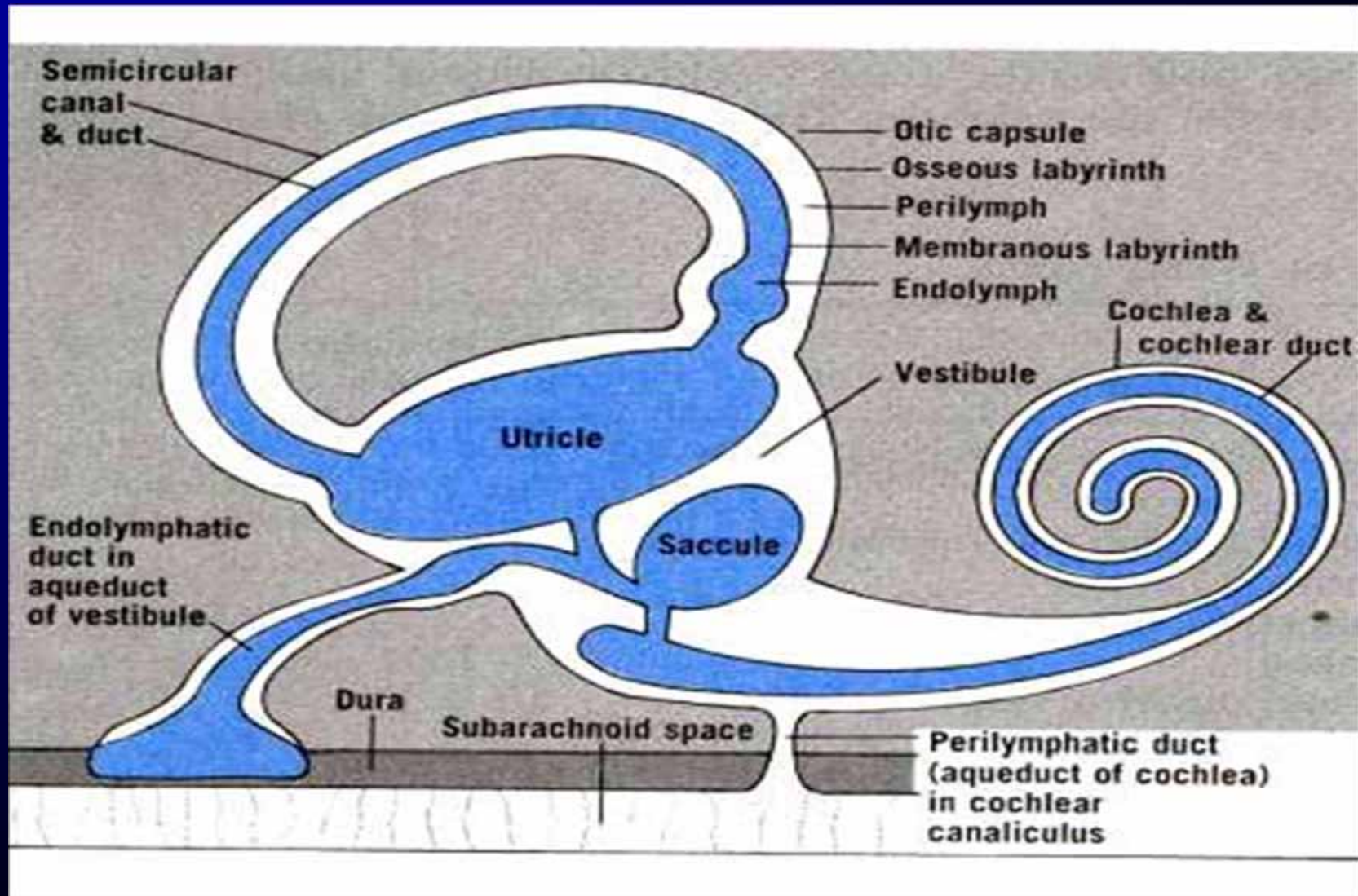
THE BALANCE SYSTEM

- **Ears** - semicircular canals, saccule, utricle, cochlea
- **Eyes**
- **Skin** - light touch
- **Musculoskeletal system** - proprioception, muscle tone, reflexes
- **Central nervous system** - cerebellum, brainstem, cerebral cortex
- **Cardiovascular system**
- **Respiratory system**
- **Endocrine system**

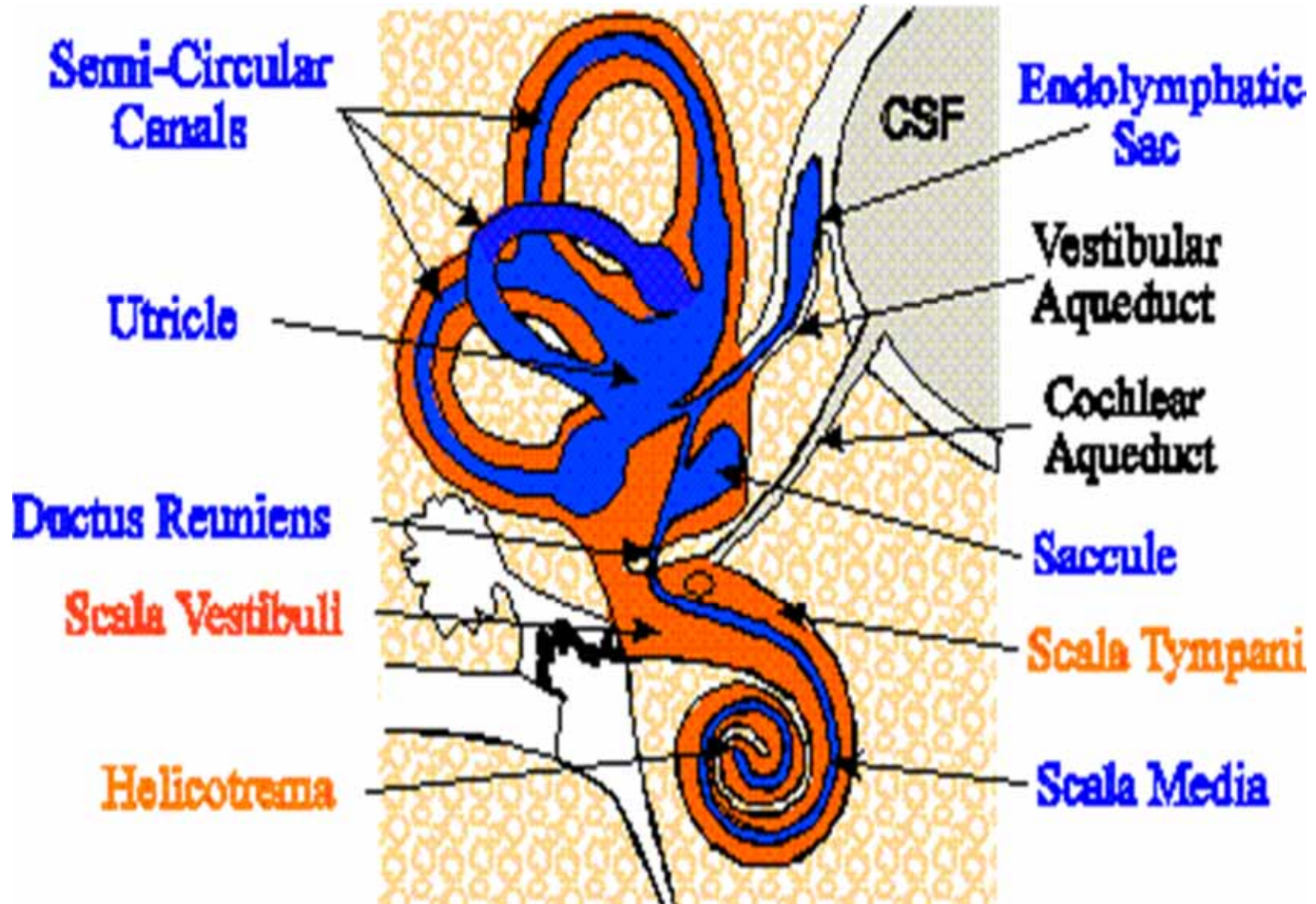
THE EAR



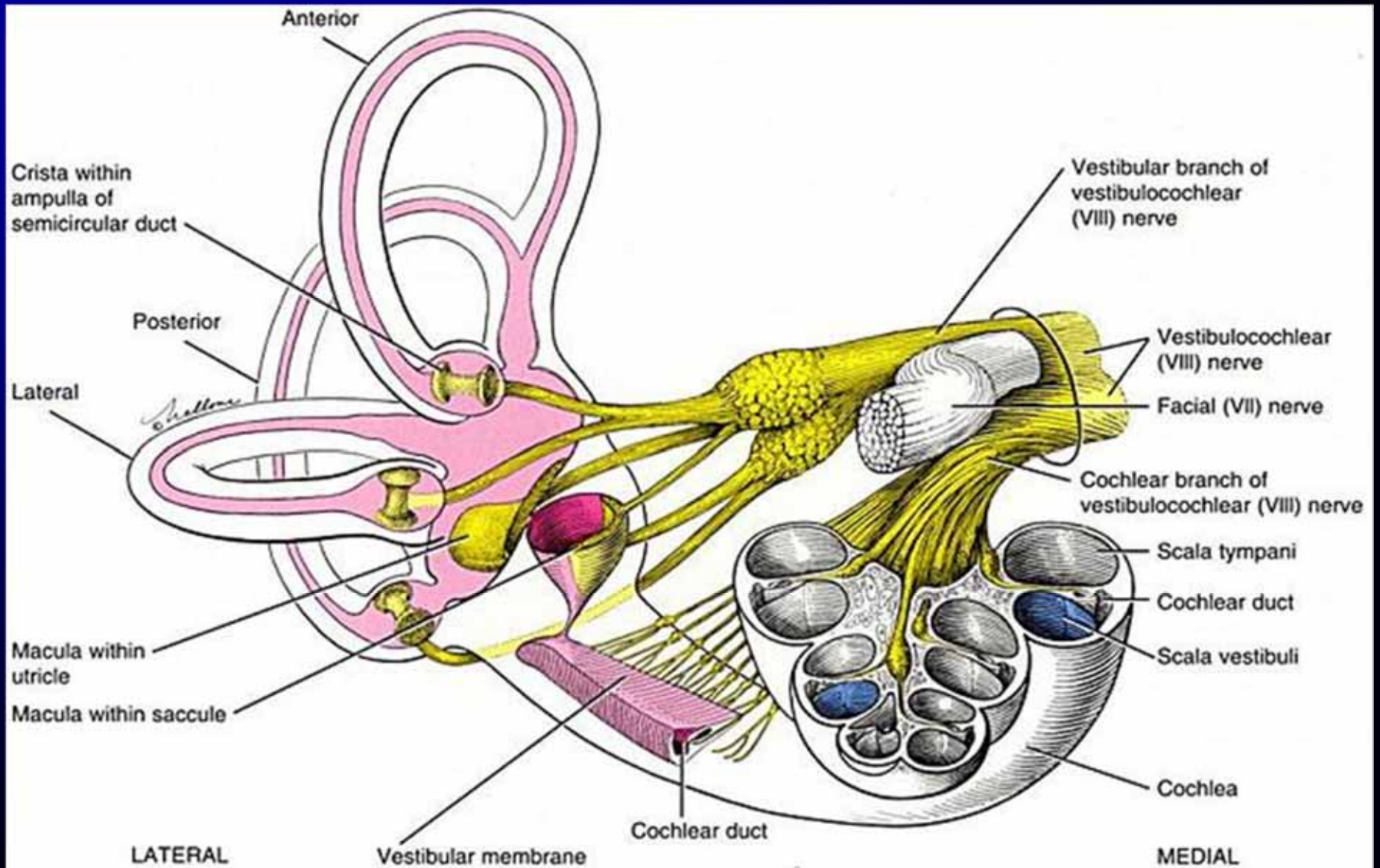
THE EAR



THE EAR



THE EAR



CASE SCENARIOS

Case 1

60 year old male

**Brief lightheadedness and
unsteadiness on getting up**

Nausea

Occasional confusion

Fainted once - no injury sustained

Orthostatic (postural) Hypotension

Case 2

65 year old hypertensive male smoker

Sudden rotatory vertigo and unsteadiness

Diplopia

Dysarthria

Paraesthesia

Full recovery in 10 minutes

**Vertebrobasilar Insufficiency
or
Transient Ischaemic Attack**

Case 3

30 year old female

Sudden onset of vertigo at 5 am

**Room spins for about 30 seconds
when she turns over in bed**

Very reluctant to look up or bend down

Nausea

No vomiting

Benign Paroxysmal Positional Vertigo (BPPV)

Case 4

50 year old female

Sudden onset of rotatory vertigo and unsteadiness while at work

Associated aural fullness, tinnitus, deafness

Vomiting

Returned to normal the next morning

Ménière's Disease

Case 5

30 year old overweight female

Room moves for a few minutes to hours

Low frequency humming tinnitus

Mild hearing loss

Deterioration of memory

Dull headache

Benign Intracranial Hypertension

Idiopathic Intracranial Hypertension

Pseudotumour Cerebri

Case 6

55 year old male

**Admitted 2 weeks ago with an infected hip
prosthesis**

**Complains of severe dizziness and
deafness**

Oscillopsia

Wheelchair bound

Iatrogenic Ototoxicity

(Gentamicin + Vancomycin)

Case 7

7 year old boy

**Frequent episodes of foul smelling
otorrhoea for 1 year**

**Dizziness provoked by noise exposure
and nose-blowing (Tullio's phenomenon)**

**Cholesteotoma
causing
horizontal semicircular canal fistula**

DIAGNOSTIC WORKUP

History

Examination

Investigations

HISTORY

Describe the very first attack

Was it true vertigo?

Duration

Associated symptoms

**- Ears, Eyes, CVS, CNS, Autonomic,
Psychological, Orthopaedic, Endocrine**

Provoking and alleviating factors

Recurrence - Frequency, Severity

Disability

MORE HISTORY

Past Medical History - DM, ↑BP, IHD, migraine, epilepsy, CVA, meningitis, otitis media, syphilis

Past Surgical History - otological, ophthalmological, neurosurgical, orthopaedic, cardiovascular, endocrine

Drug History - aminoglycosides, macrolides, itraconazole, fluoxetine withdrawal

Social History - alcohol, drugs, diet

Family History - migraine, Ménière's

EXAMINATION

- **General examination**
- **Cardiovascular – pulse, BP (sitting and standing), murmurs, neck bruits**
- **Ears and hearing - need full view of eardrum, tuning fork tests, voice test, fistula test**
- **Eyes - pupils, range of movements, saccades, smooth pursuit, nystagmus, head shake, head thrust, fundoscopy, acuity**
- **Neurological - inc. cerebellar signs (finger-nose, dysdiadochokinesia, ataxia), proprioception (Romberg)**
- **Gait - heel to toe if possible, turning around quickly**
- **Special tests - sharpened Romberg, Unterberger, Hallpike-Dix manoeuvre**

INVESTIGATIONS

- **Should be directed by the history and examination**
- **Pure Tone Audiometry**
- **Vestibular testing - ENG -
calorics, rotational chair, static/dynamic posturography**
- **Blood tests - Hb, glucose, thyroid, electrolytes,
syphilis**
- **ECG**
- **Imaging - MRI, MRA, CT, Doppler, Plain X-ray**

TREATMENT

- Depends on cause
- Referral to appropriate specialty
- Reassurance
- Short bed rest
- Lifestyle modification - diet, physical activity, avoid driving and climbing
- Physical therapy - Brandt-Daroff, Cooksey-Cawthorne exercises for habituation
- Medication
- Surgery

COMMON PERIPHERAL VESTIBULAR DISORDERS

- **Benign Paroxysmal Positional Vertigo**
- **Ménière's disease**
- **Acute vestibular failure**
- **Recurrent vestibulopathy**
- **Acute labyrinthitis**

LESS COMMON AND RARE PERIPHERAL VESTIBULAR DISORDERS

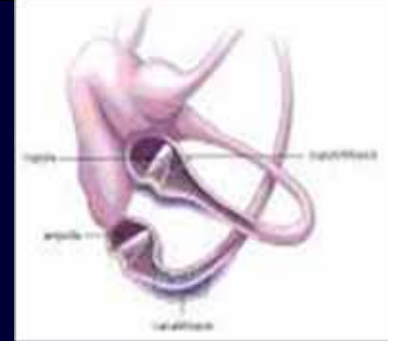
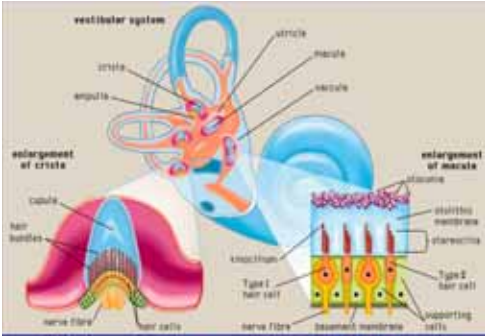
- Congenital malformations of labyrinth
- Ototoxicity - eardrops, oral / IV medication
- Post-op complication (stapedectomy, mastoidectomy, acoustic neuroma surgery, etc)
- Acoustic neuroma
- Cholesteotoma
- Perilymph fistula
- Temporal bone fracture
- Ramsay Hunt syndrome
- Cogan's syndrome
- Superior semicircular canal dehiscence
- Syphilis

BPPV

&

MÉNIÈRE'S DISEASE

BPPV

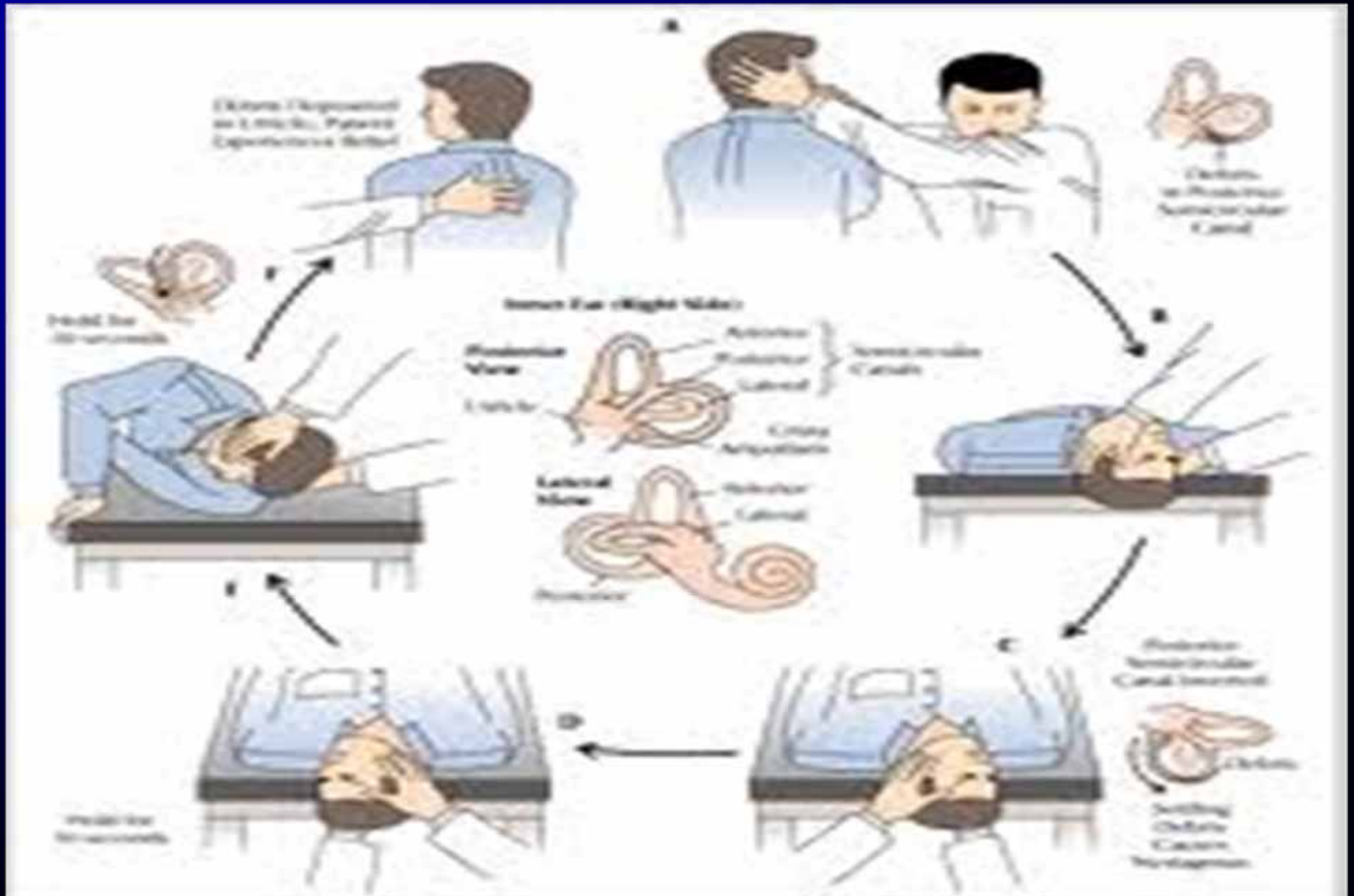


- **Most common peripheral vestibular disorder**
- **Utricular damage - head injury, viral**
- **Free floating otoconia in posterior SCC**

- **Hallpike-Dix Test – pathognomonic nystagmus (Frenzel's glasses)**

- **EPLEY Manoeuvre**
 - 77 % cure rate 1st time**
 - 97 % cure rate after 2nd treatment a week later**

Epley Manoeuvre



MÉNIÈRE'S DISEASE

- 1995 AAO-HNS classification
Possible, Probable, Definite, Certain
- First attack - **MRI IAM, exclude other causes**
- Treatment of acute vertigo attack - **stemetil, cinnarizine (Diziron 25 mg tds), anxiolytics, calcium antagonists, IV fluids**
- Prevention of recurrent episodes - **diuretics, low salt diet, Stop 4 C's + MSG**

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KEY MESSAGES

- Do talk to your patients
- Refer to appropriate specialist early
Remember, no assessment of the ear is complete without a full clear view of the eardrum
- **STOP SYRINGING EARS!**
- **DO MICROSUCTION**

Thank You

“Labyrinthine disturbance may make one feel like the end of the world has arrived... and in the acutest phase of the distress one wished that it had”

Sir Terence Cawthorne