



External Ear Conditions

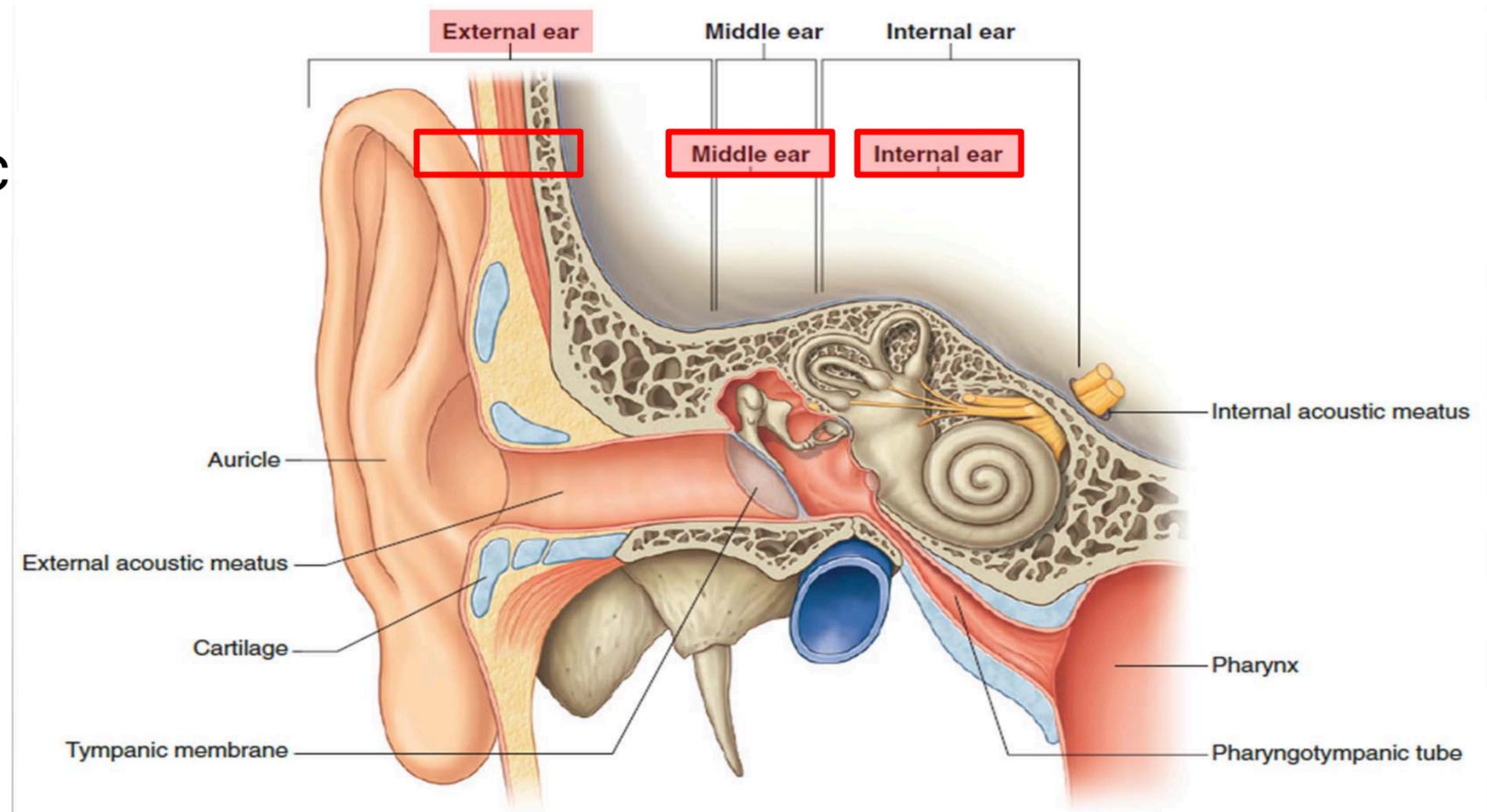
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V. Feb 2026

External ear

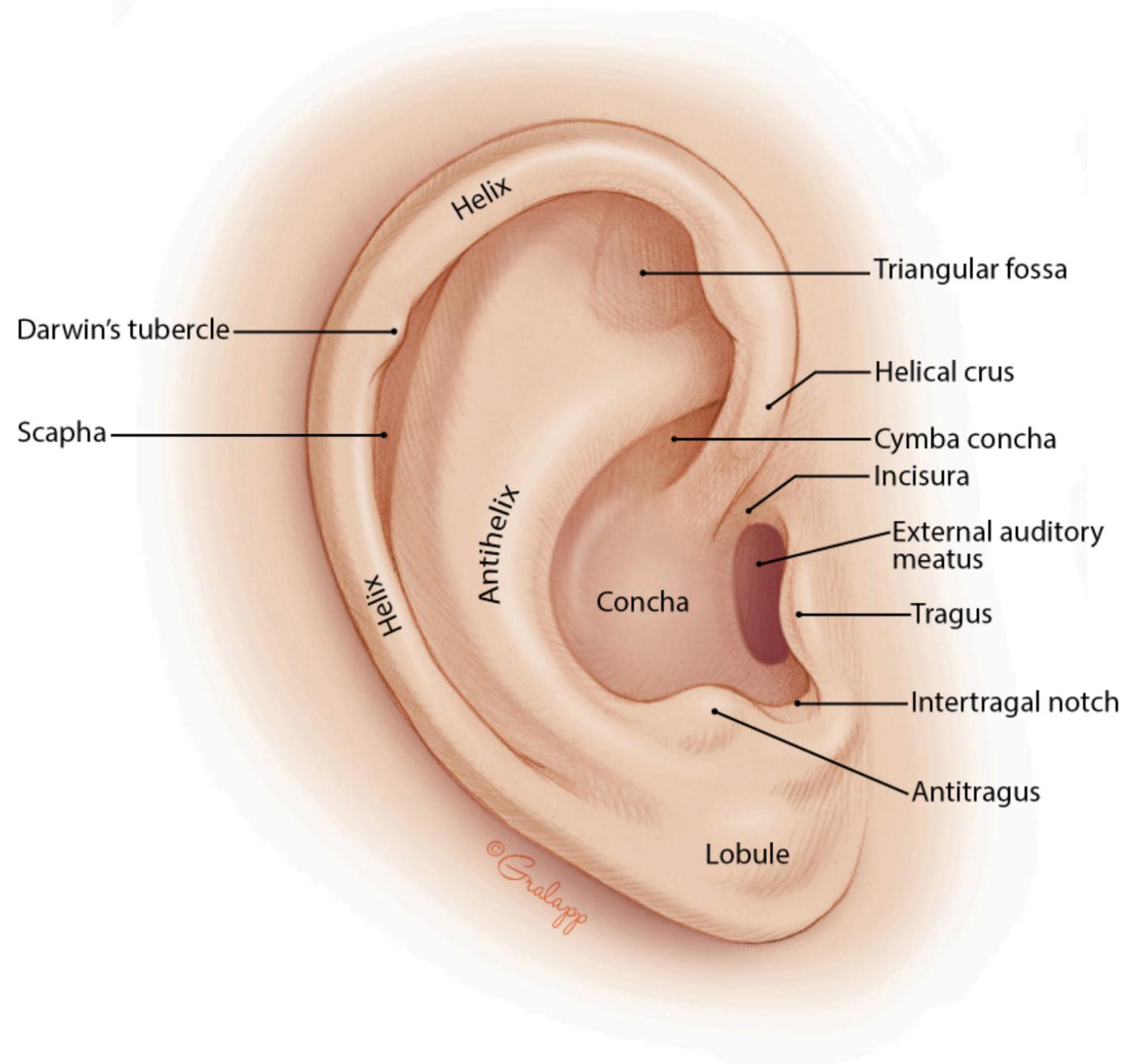
- Extends from auricle to the lateral surface of the tympanic membrane.
- Functions: sound collection, amplification, and protection.

Components:

- Auricle (Pinna)
- External Auditory Canal (EAC)
- Tympanic Membrane (lateral surface)



Pinna lateral surface



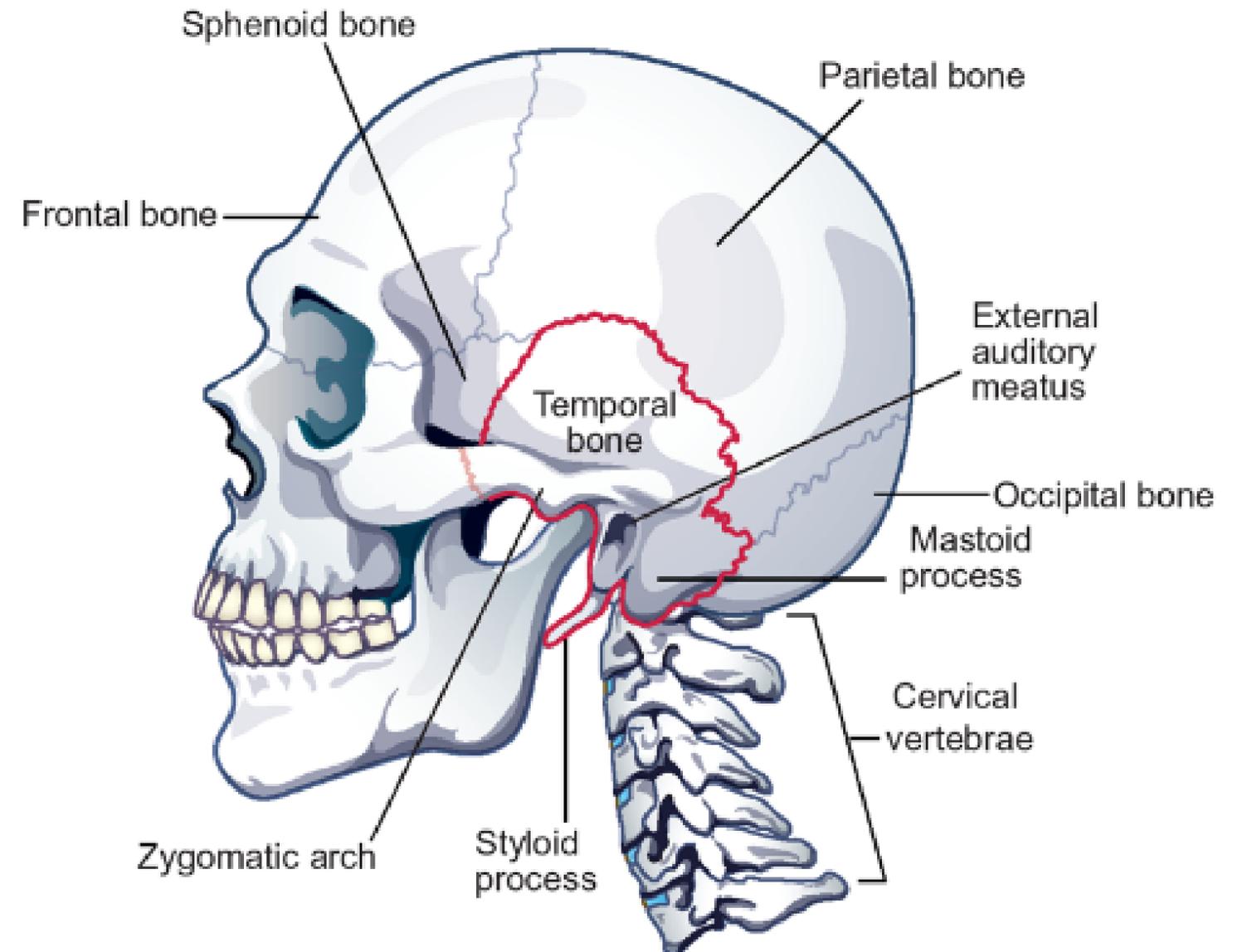
External Auditory Canal



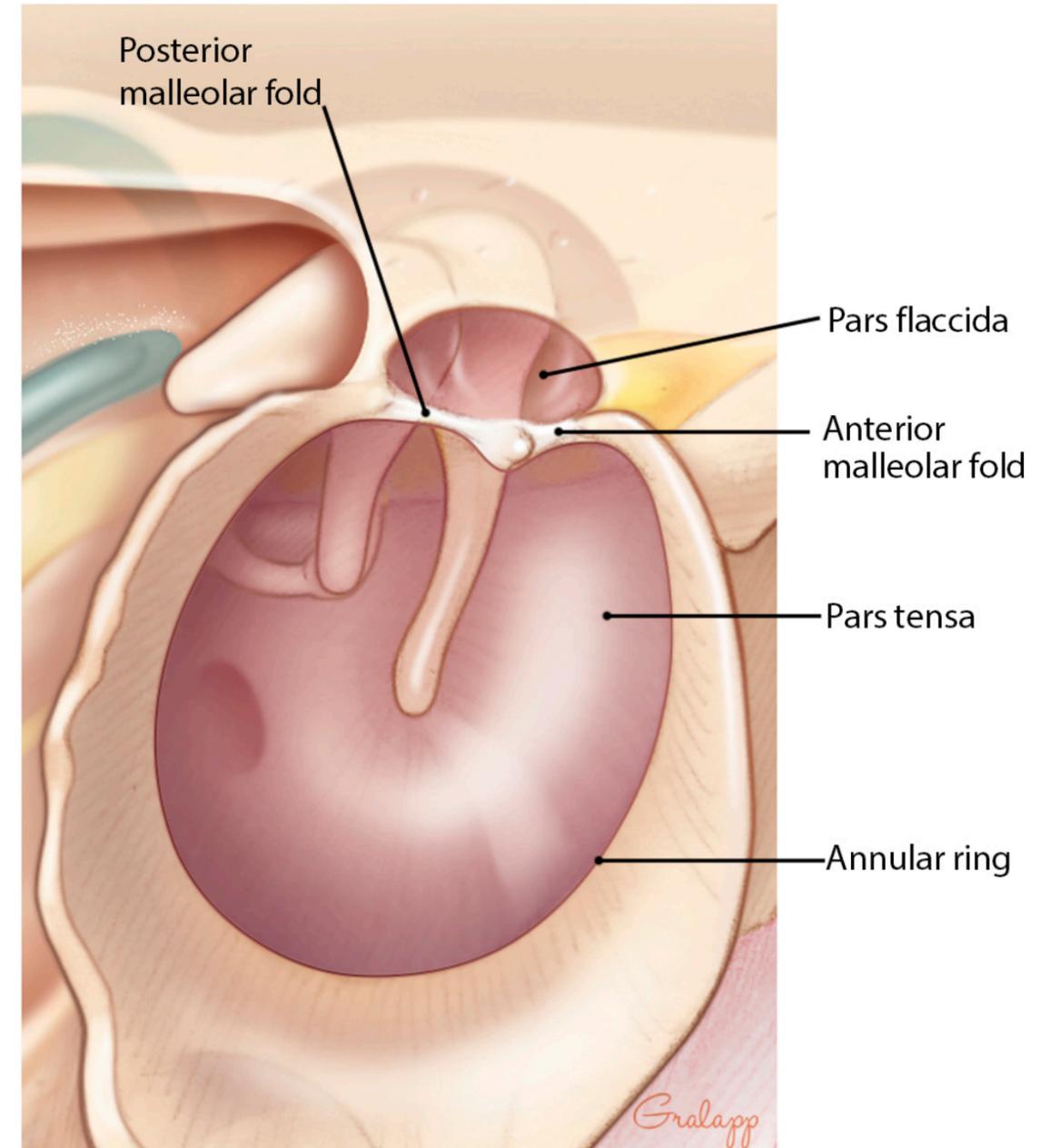
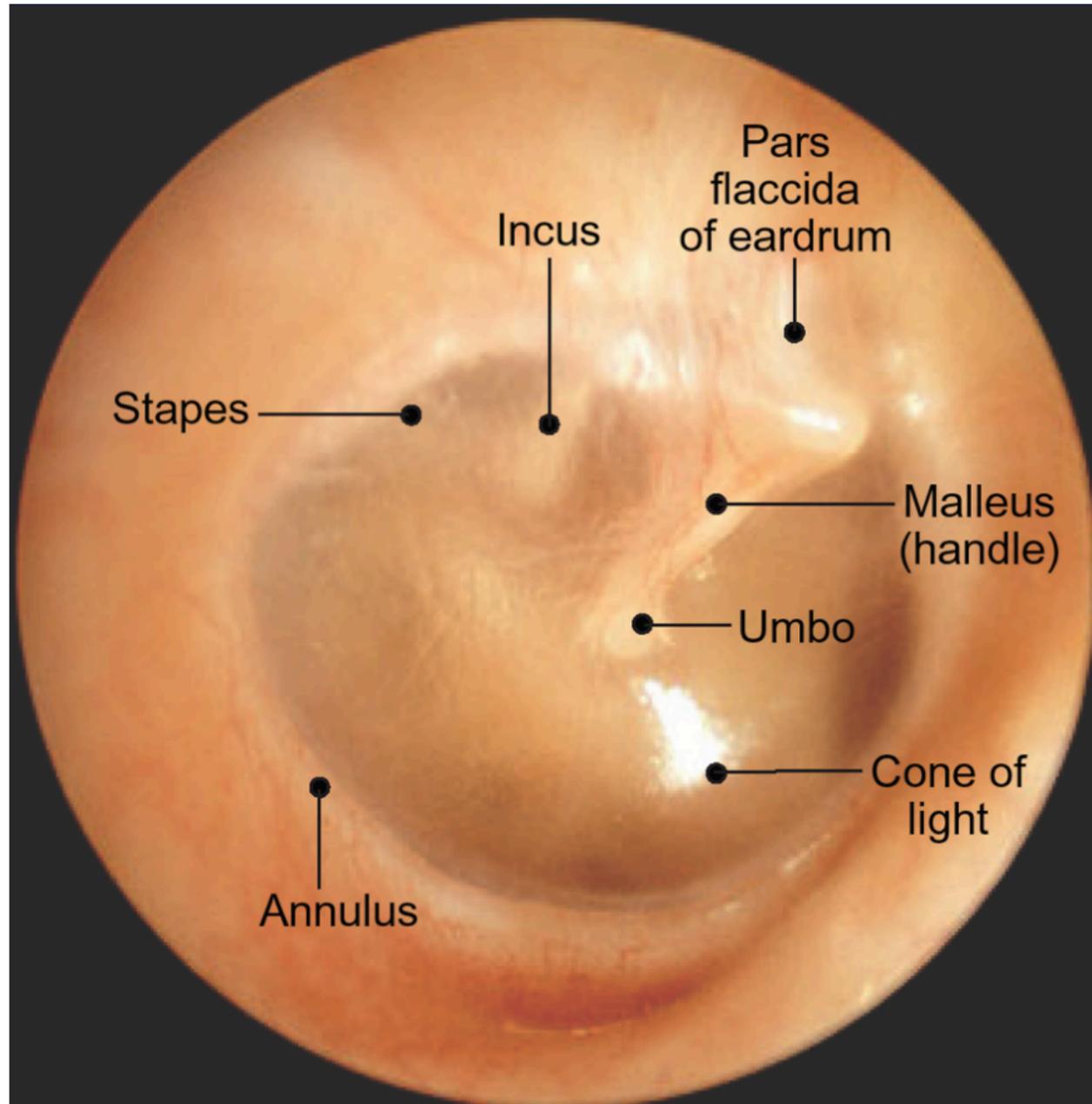
**Cartilaginous
EAC (lateral
third)**



**Bony EAC
(inner two
thirds)**



Tympanic membrane



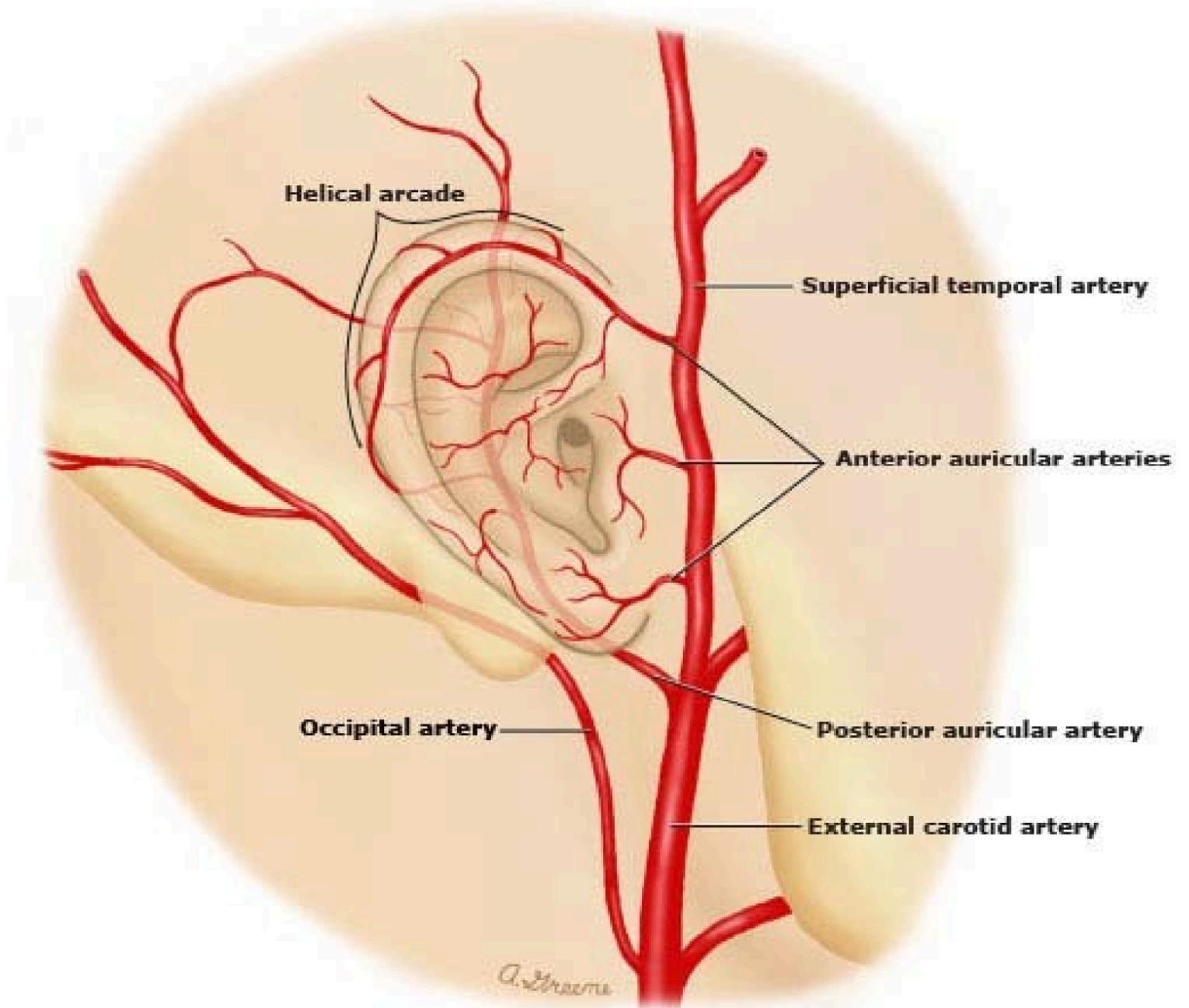
Blood supply:

The external ear is supplied by branches of the external carotid artery:

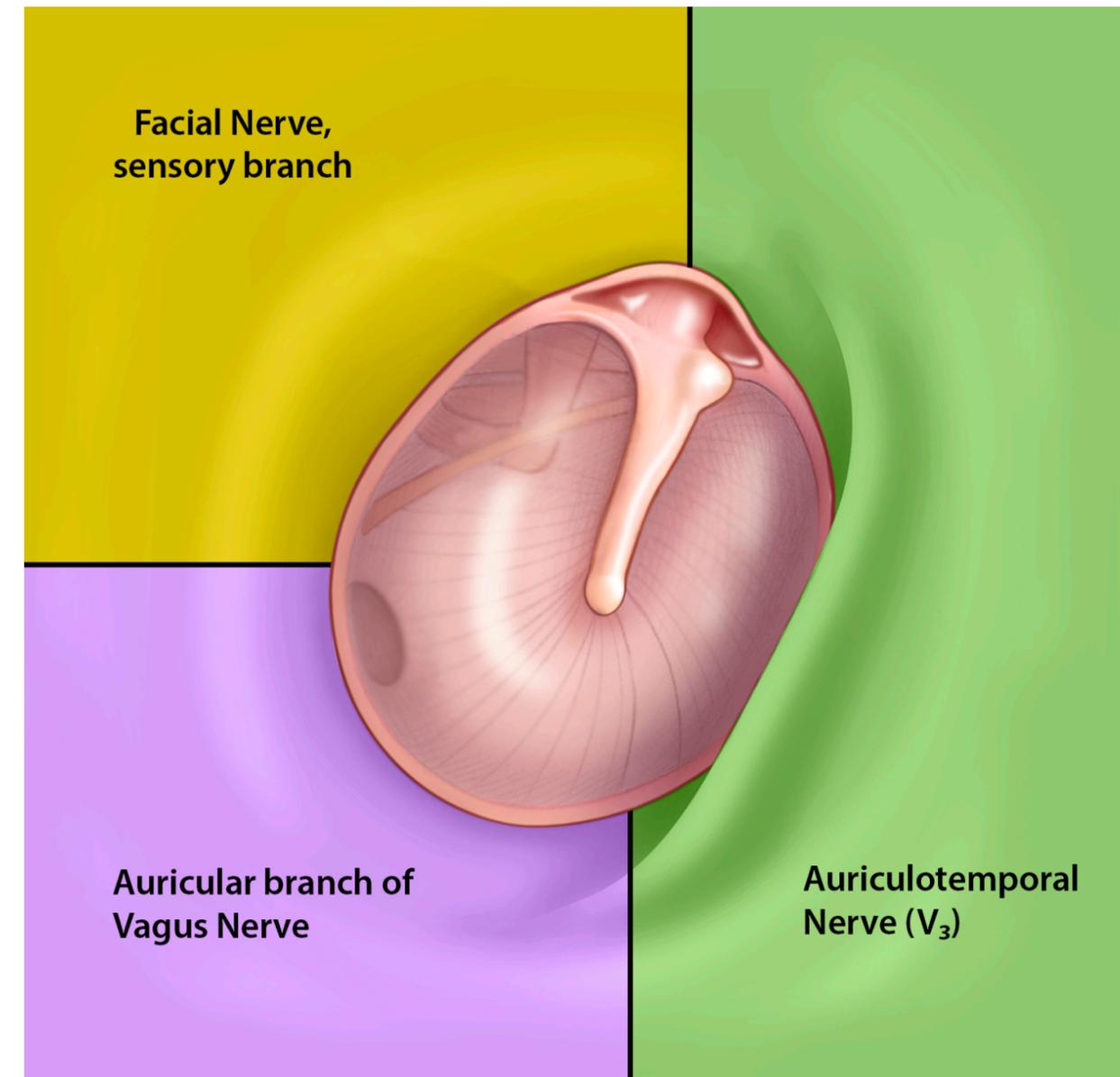
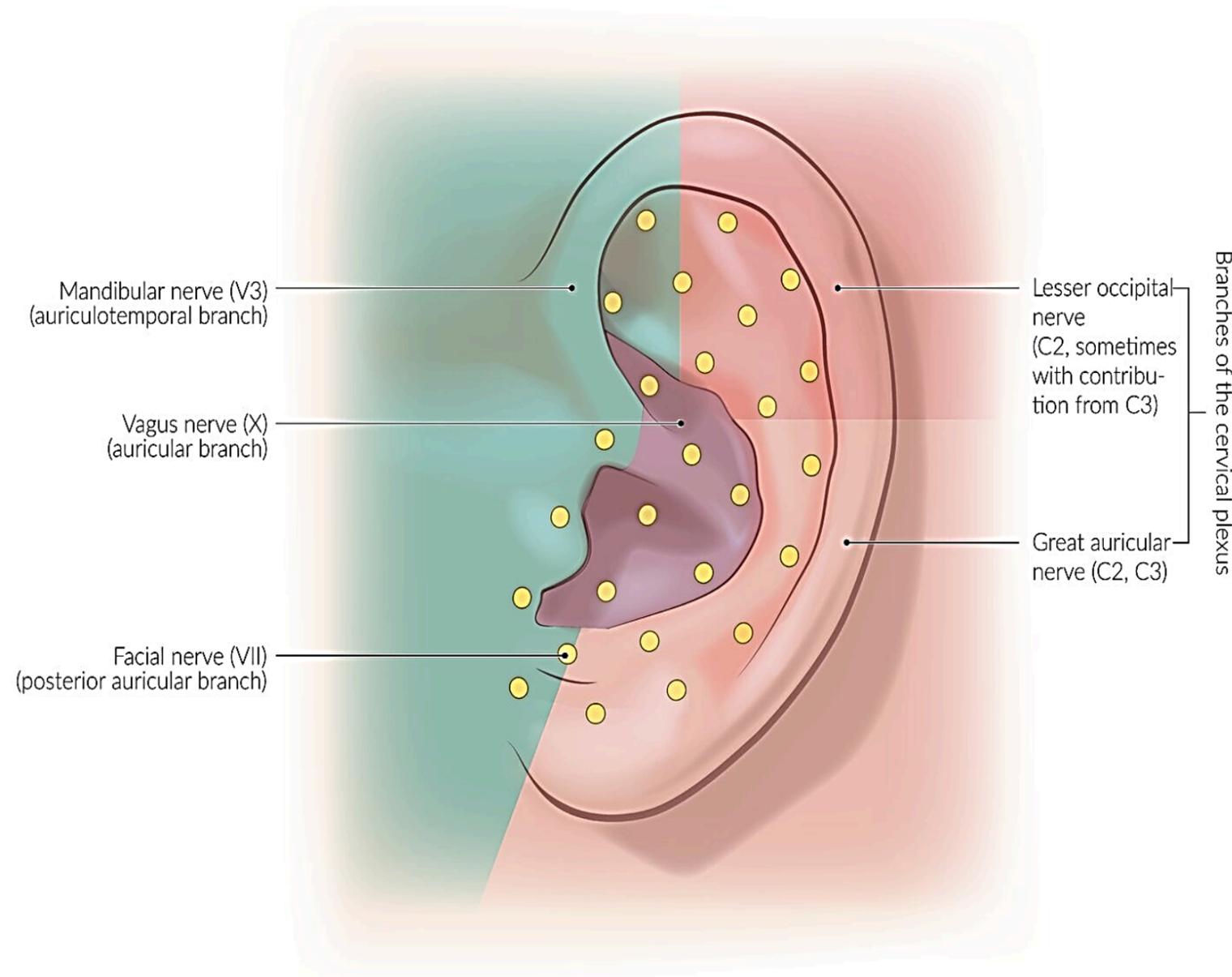
- Posterior auricular artery
- Superficial temporal artery
- Occipital artery
- Maxillary artery (deep auricular branch) – supplies the deep aspect of the external acoustic meatus and tympanic membrane only.
- Venous drainage is via veins following the arteries listed above.

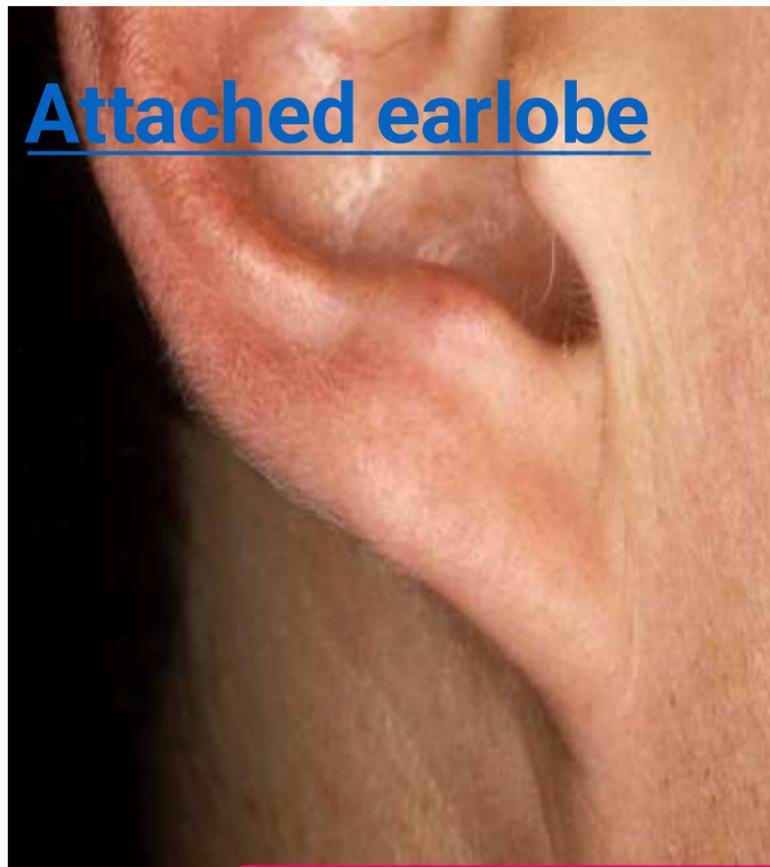
Lymphatic drainage:

- Anterior to superficial parotid nodes.
- Posterior to mastoid nodes

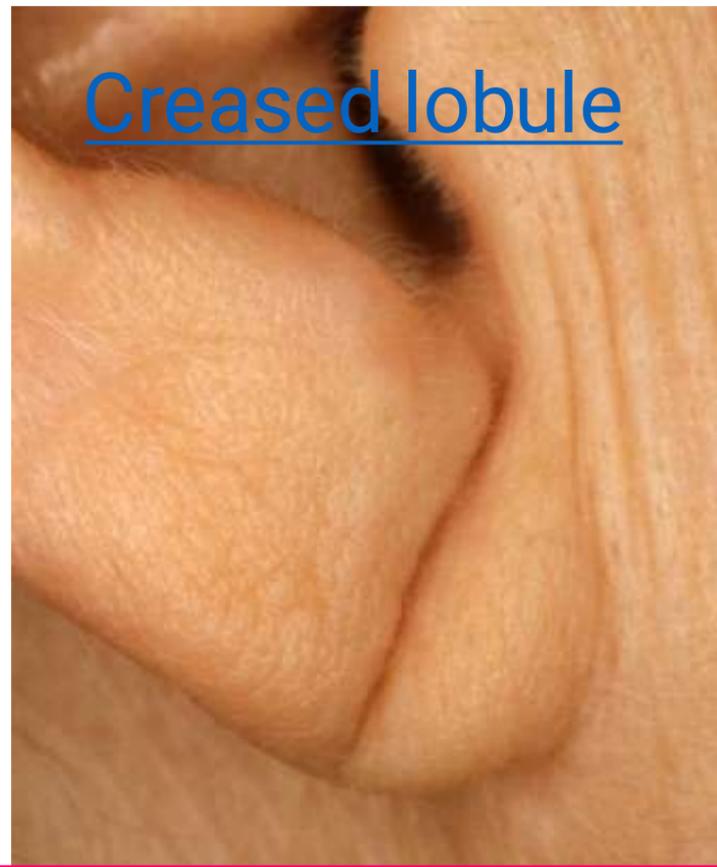


Nerve supply

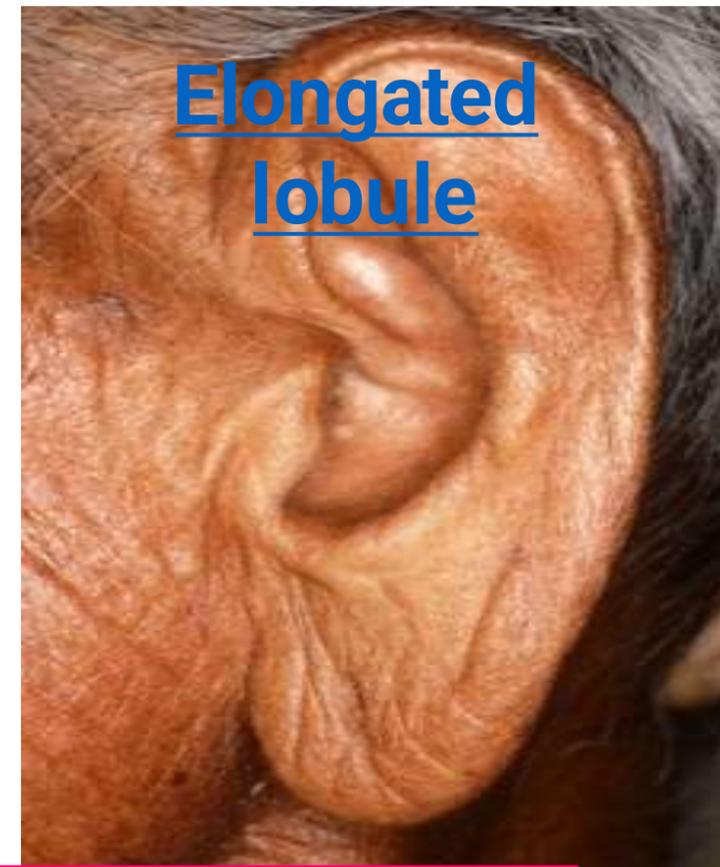




Attached earlobe

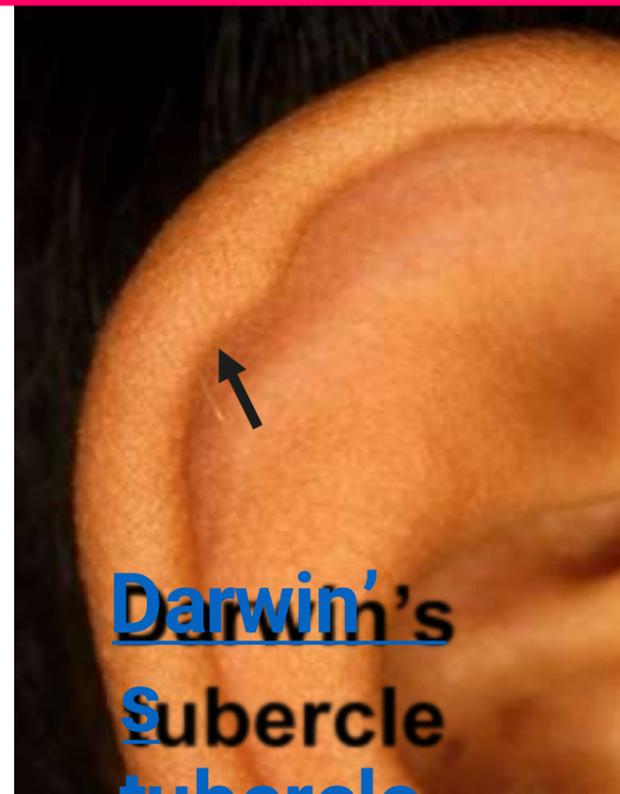


Creased lobule

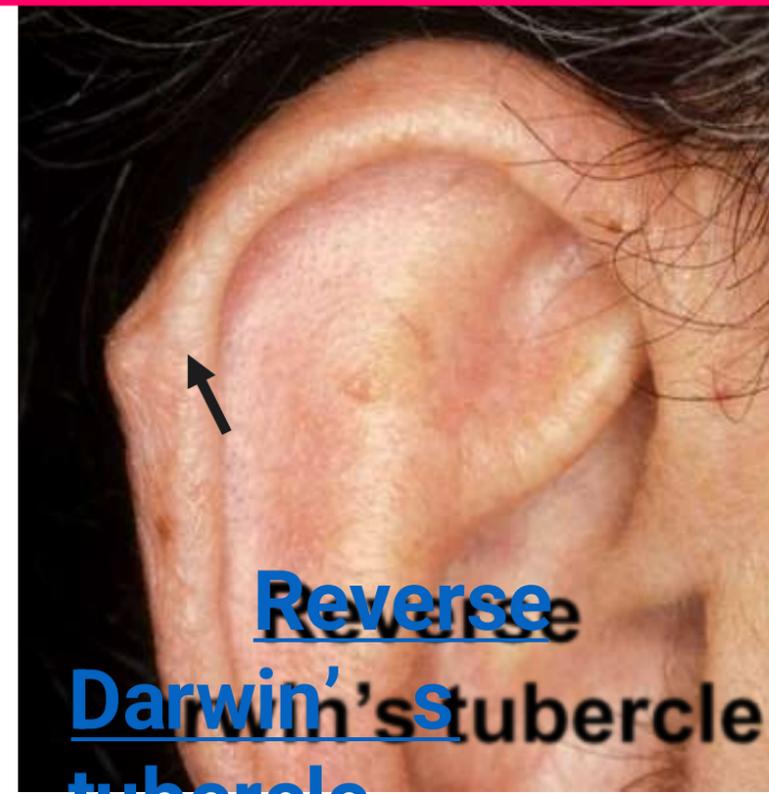


Elongated lobule

MINOR ANATOMIC VARIATIONS



Darwin's subercle tubercle



Reverse Darwin's subercle tubercle

Diseases of the Pinna

Congenital

Anotia, Microtia, EAC Atresia

Bat ears

Auricular appendages

Pre-auricular sinus/ cyst

Acquired

Auricular hematoma

Perichondritis

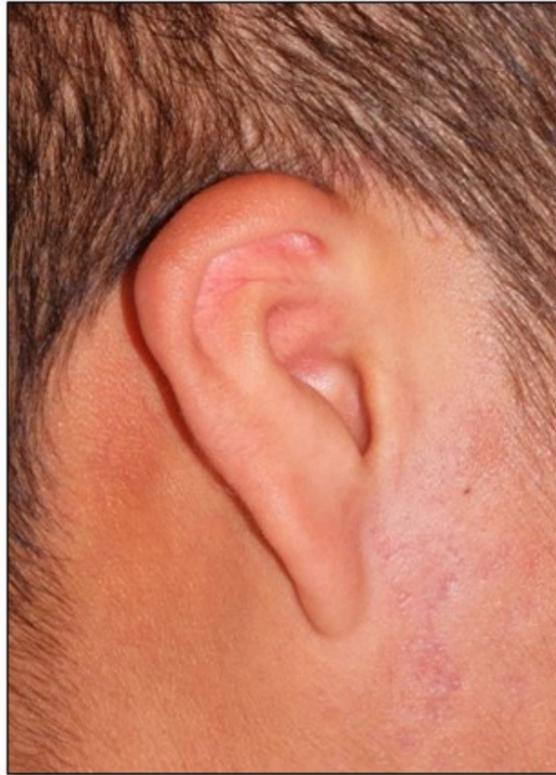
Cauliflower ear

Keloids

Herpes Zoster oticus

Congenital Aural Atresia

Microtia/ Anotia



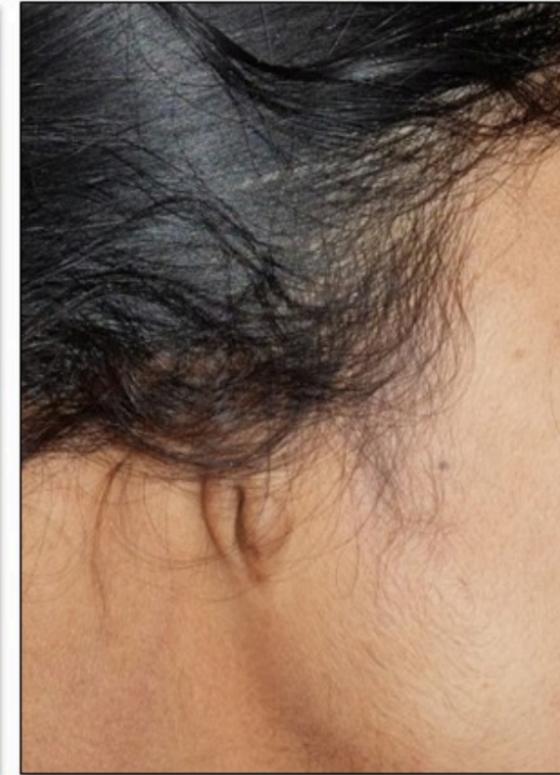
Grade I:
Auricle small but all
subunits present



Grade II:
Auricle small and
subunits
underdeveloped or
absent

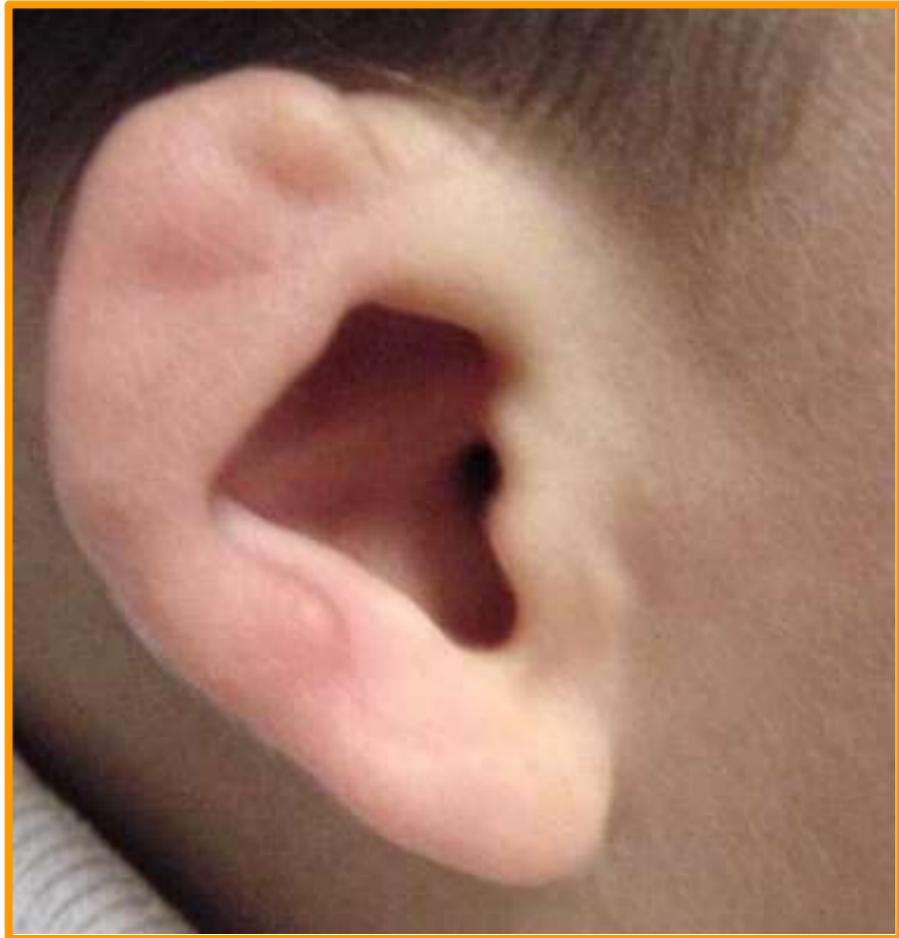


Grade III:
Small cartilage
remnant with
anterosuperiorly
rotated lobule



Grade IV:
Anotia

**Microtia
without canal atresia**



**Microtia
with canal atresia**



Bat ears

before and after 'OTOPLASTY'



Auricular Appendages

(Auricular tags, Accessory auricles)



Pre Auricular Sinus

- A pit or sinus tract in the pre-auricular area
- External opening between tragus and crus helix between tragus and crus helix



Diseases of the Pinna

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Atresia

Bat ears

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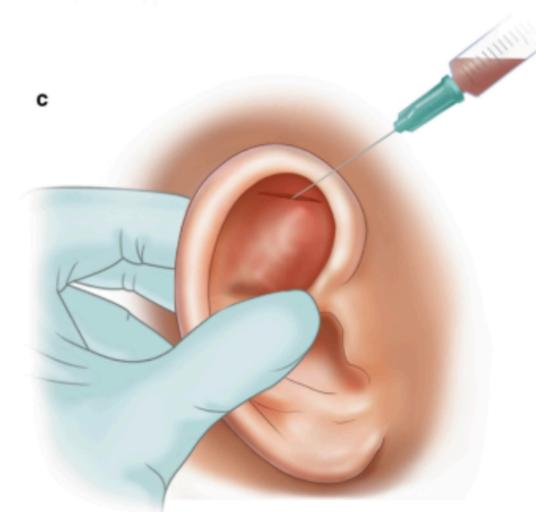
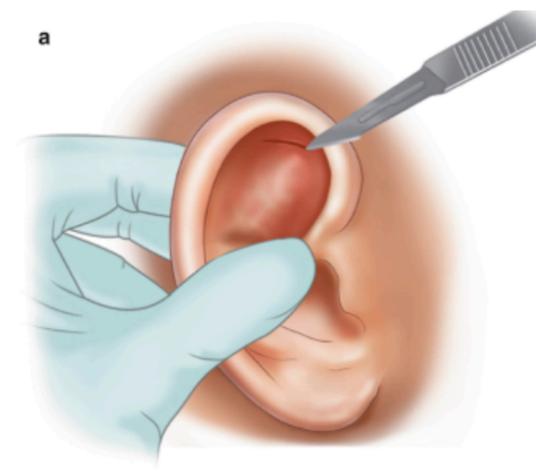
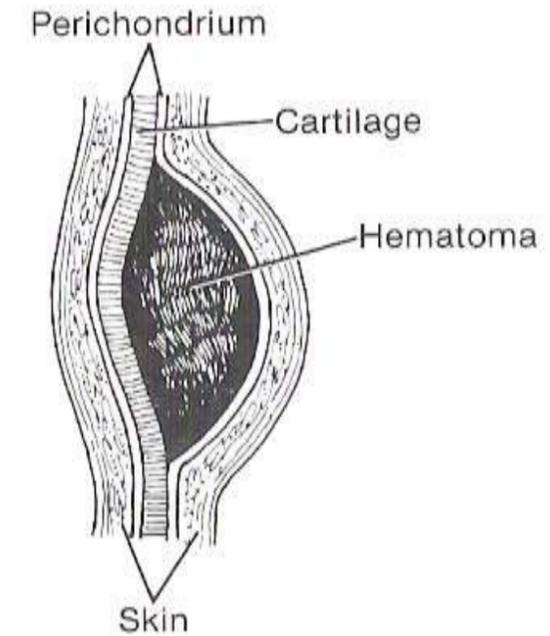
Exostosis/ Osteoma

Malignant tumors

Infection/ inflammation

Auricular hematoma

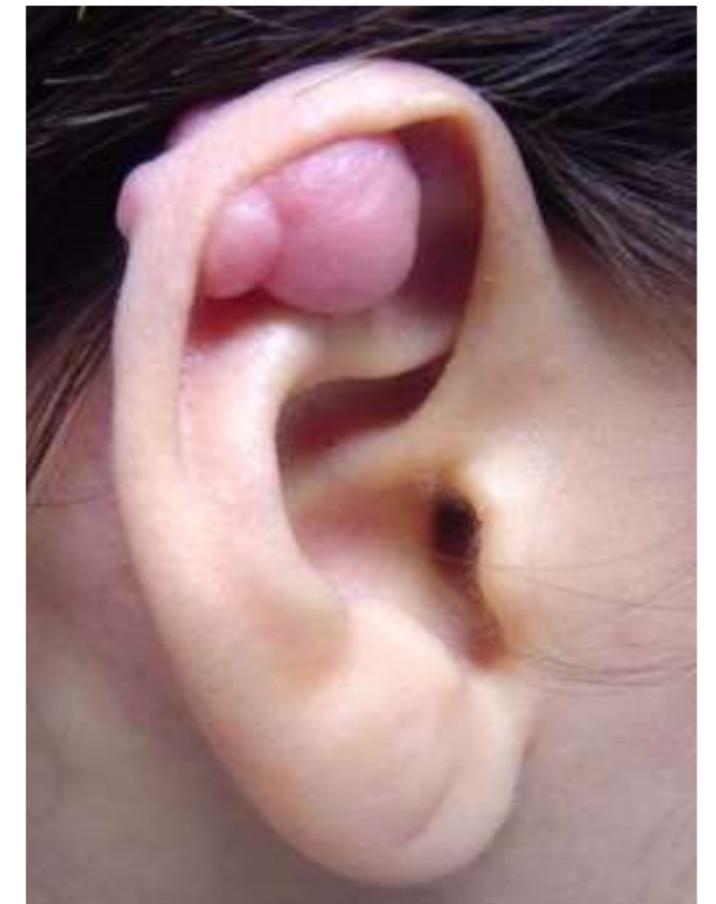
- Collection of blood under the perichondrium
- Direct blunt trauma to the pinna- rupture of blood vessels- blood collects under perichondrium.
- If not treated : thickening & fibrosis/ necrosis of cartilage : ***Cauliflower ear or Boxer's ear***
- Treatment
 - If small aspirate
 - If large I/D with pressure dressing



Keloids

Pathologic scar from excessive collagen deposition extending beyond wound margins.

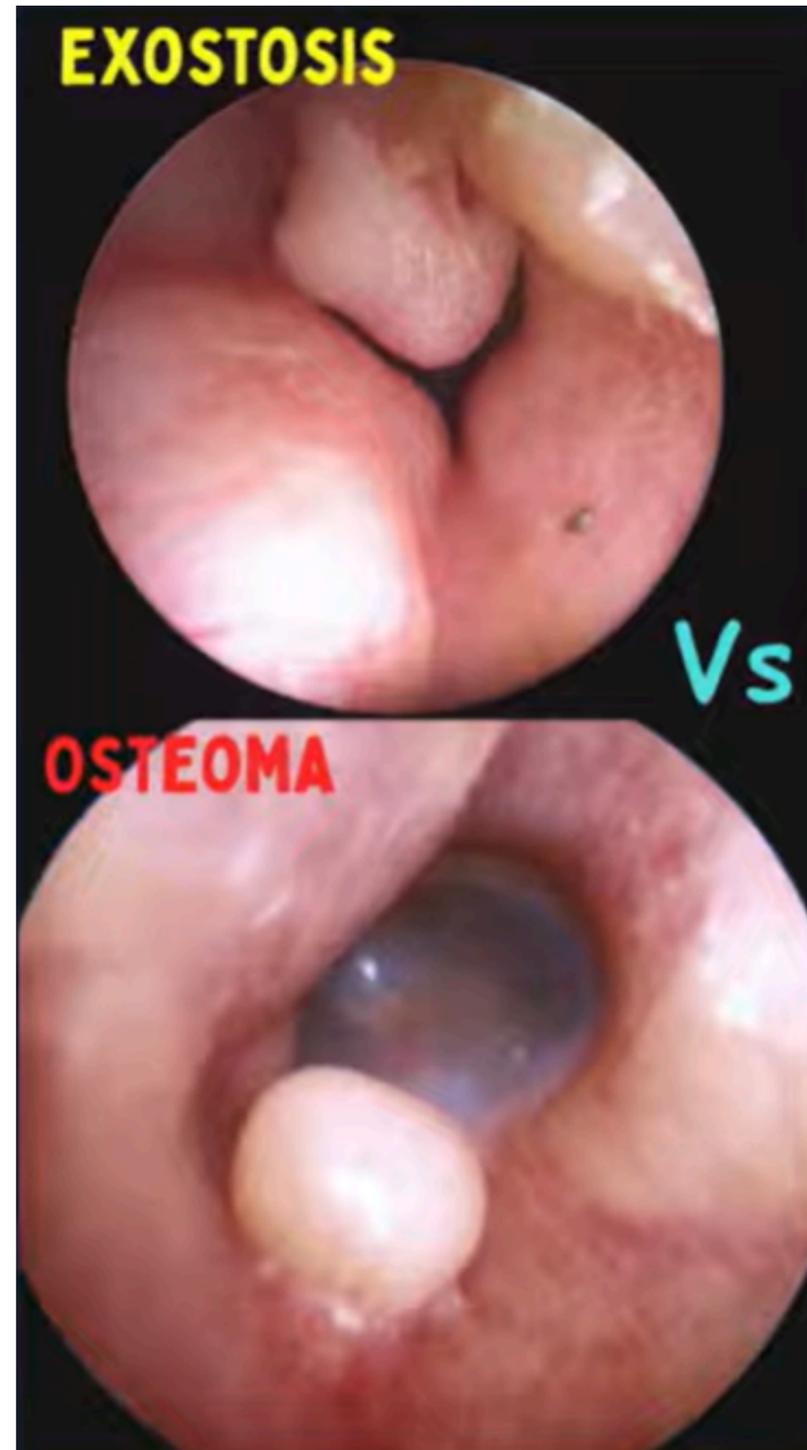
- Common after ear piercing
- Predilection: lobule
- More frequent in dark-skinned individuals
- **Management**
 - Intralesional corticosteroids
 - Surgical excision
 - Excision + serial steroids (\downarrow recurrence)
 - Radiotherapy (recurrent cases)



EAC Bony growths

Exostosis

- Reactive bony hypertrophy
- Usually multiple & bilateral
- Sessile, broad-based
- Deep EAC
- Cold water exposure (swimmers), adult males
- Usually asymptomatic; obstruction if large
- Surgical removal if obstructive



Osteoma

- Benign true tumor
- Solitary & usually unilateral
- Pedunculated
- Near tympanosquamous suture (close to isthmus)
- Cerumen trapping, obstruction
- Surgical removal if symptomatic

Malignant tumors

Feature	SCC	BCC	Melanoma
Common sites	Helix, postauricular	Tragus, helix border	Sun-exposed auricle
Typical lesion	Indurated ulcer, everted margin	Pearly lesion, rolled edge, bleeds	Pigmented nodular lesion, rapid growth
Growth rate	Moderate–aggressive	Slow	Rapid
LN metastasis	Common	Rare	Early
Distant spread	Possible	Very rare	Common
Primary treatment	Wide excision ± RT	Wide excision	Wide excision
Advanced treatment	± Parotidectomy, Neck dissection	Rarely radical	Radical excision + LN dissection
Prognosis	Intermediate	Best	Worst



External ear infectious/ inflammatory conditions

Auricle

- Perichondritis
- Herpes Zoster Oticus (Ramsay Hunt Syndrome)

External auditory canal (otitis externa)

- Acute
 - Localized (furuncle, boil)
 - Diffuse (swimmers ear)
- Chronic
 - Fungal (Otomycosis)
 - Necrotizing (malignant otitis externa)

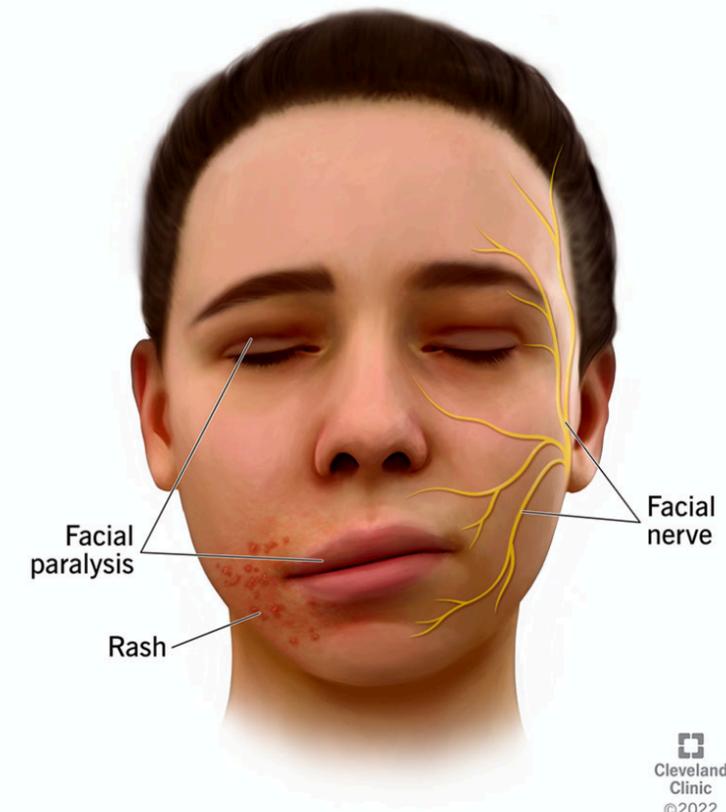
Perichondritis

- Inflammation/ infection of auricular cartilage & perichondrium (commonly Pseudomonas).
- Causes: Trauma (most common esp due to piercing), post-hematoma, surgery, frostbite, extension of otitis externa, Infected auricular hematoma, Inflammatory/autoimmune (less common like relapsing perichondritis)
- Clinical: Severe pain, red swollen tender pinna (lobule spared), induration, \pm fluctuation.
- Treatment: Systemic anti-pseudomonal antibiotics \pm topical; I&D if abscess; debridement; pressure dressing.



Herpes Zoster Oticus (Ramsay Hunt Syndrome)

- Reactivation of Varicella Zoster Virus affecting geniculate ganglion (CN VII).
- Presentation: Severe, persistent otalgia, vesicles on pinna, external auditory canal, tympanic membrane
- Cranial nerve involvement:
 - Ramsay Hunt Syndrome (Type II): Herpes zoster oticus + facial nerve palsy.
 - May also involve CN VIII → hearing loss, vertigo
- Treatment: Acyclovir + oral corticosteroids (10–14 days); corneal protection if facial palsy & Blood sugar control.



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- Perichondritis
- Herpes Zoster Oticus (Ramsay Hunt Syndrome)

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Otitis externa

Infection/inflammation of the skin of the external auditory canal (partial or whole).

- 10% lifetime incidence.
- More common in summer (humidity & water exposure).
- Could be:
 - Acute
 - Localized (furuncle, boil)
 - Diffuse (swimmers ear)
 - Chronic
 - Fungal (Otomycosis)
 - Necrotizing (malignant otitis externa)

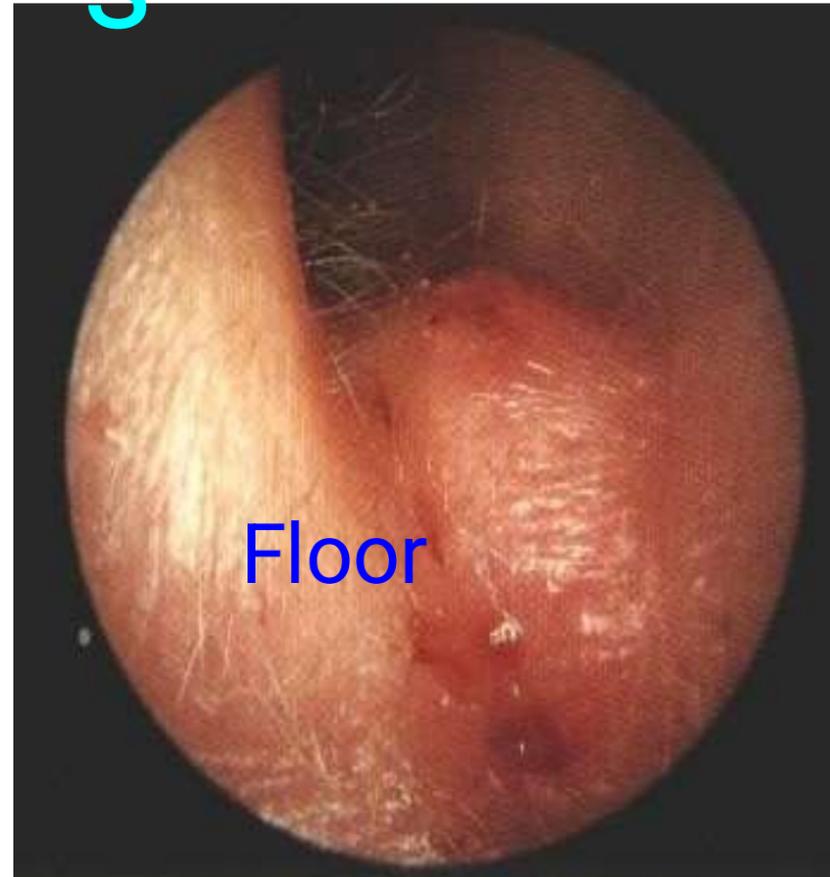
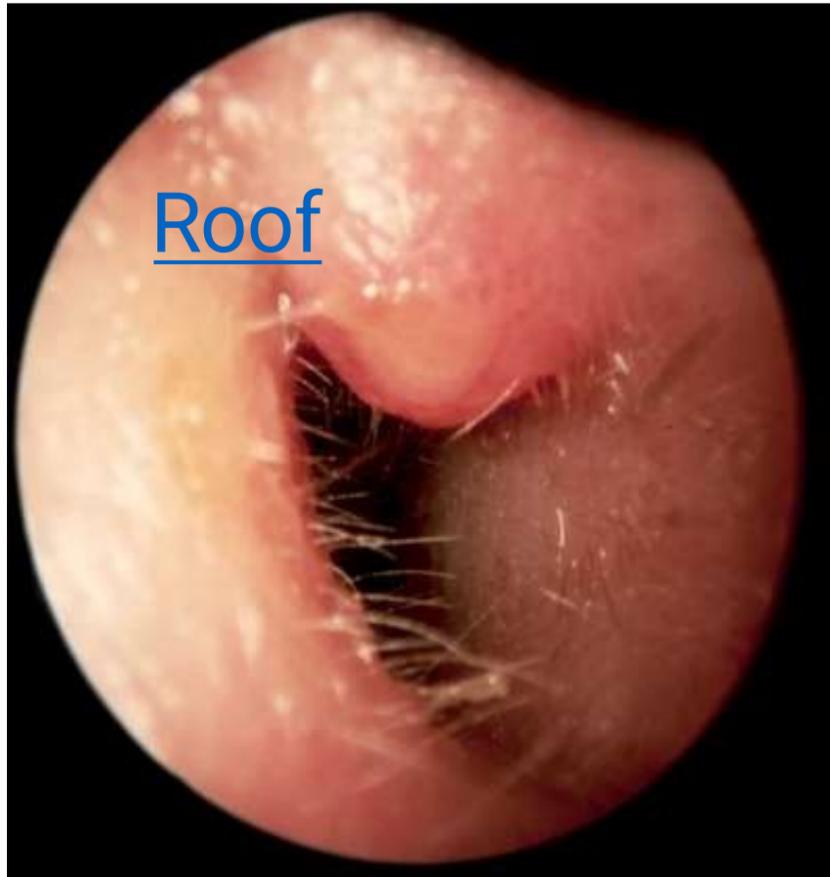
Acute Localized otitis externa (Furunculosis or **Boil**)

- Localized infection of a hair follicle in the cartilaginous external auditory canal (usually *Staphylococcus aureus*).
- Predisposing factors: Canal trauma, cotton buds, scratching, diabetes, moisture.
- Clinical features: Severe throbbing otalgia, pain on tragal pressure, focal canal swelling, \pm abscess.
- Management: Analgesics, topical \pm systemic anti-staphylococcal antibiotics, incision & drainage if abscess.



Furunculosis

S



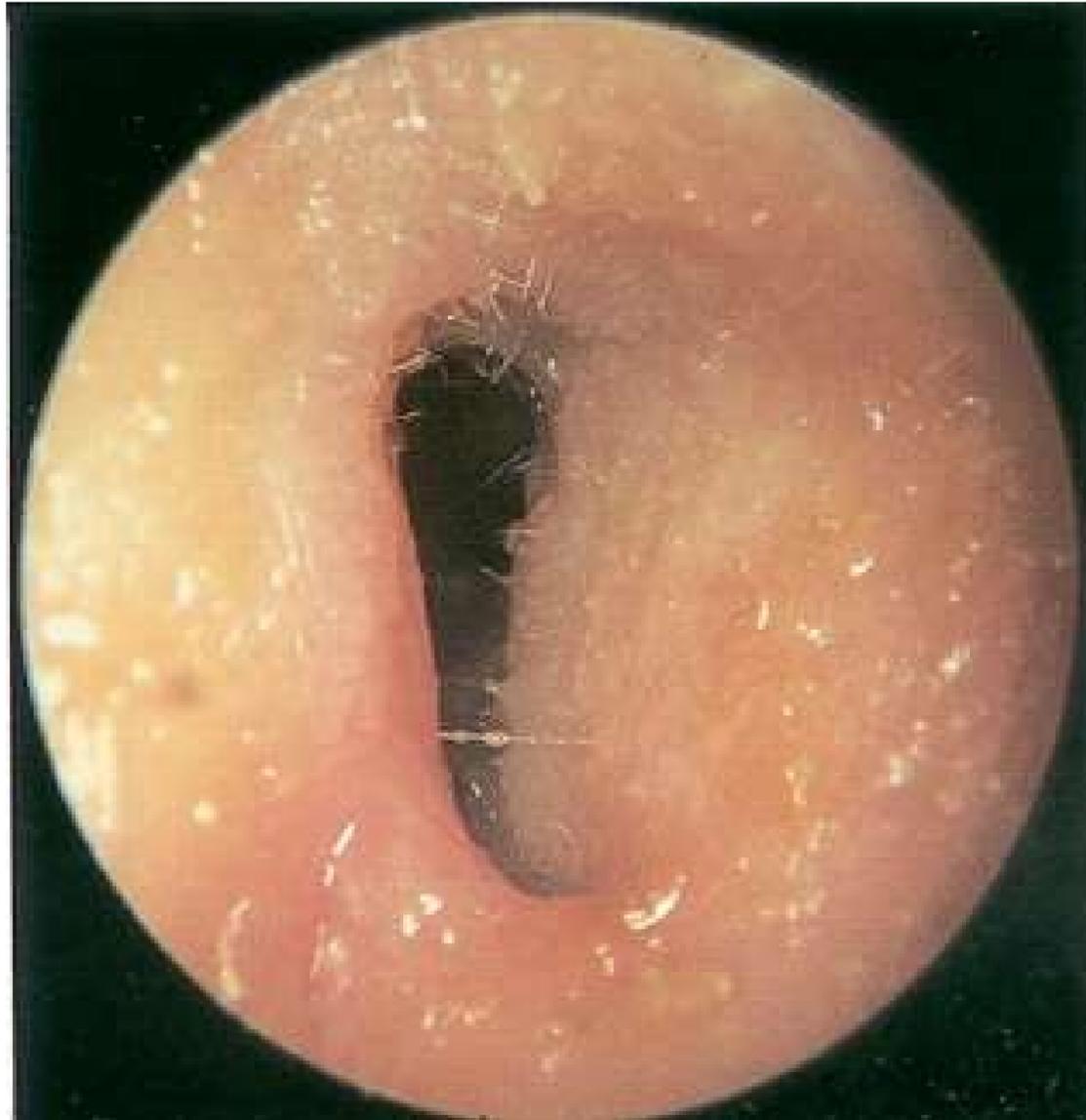
Large boil, about to burst

Acute diffuse otitis externa

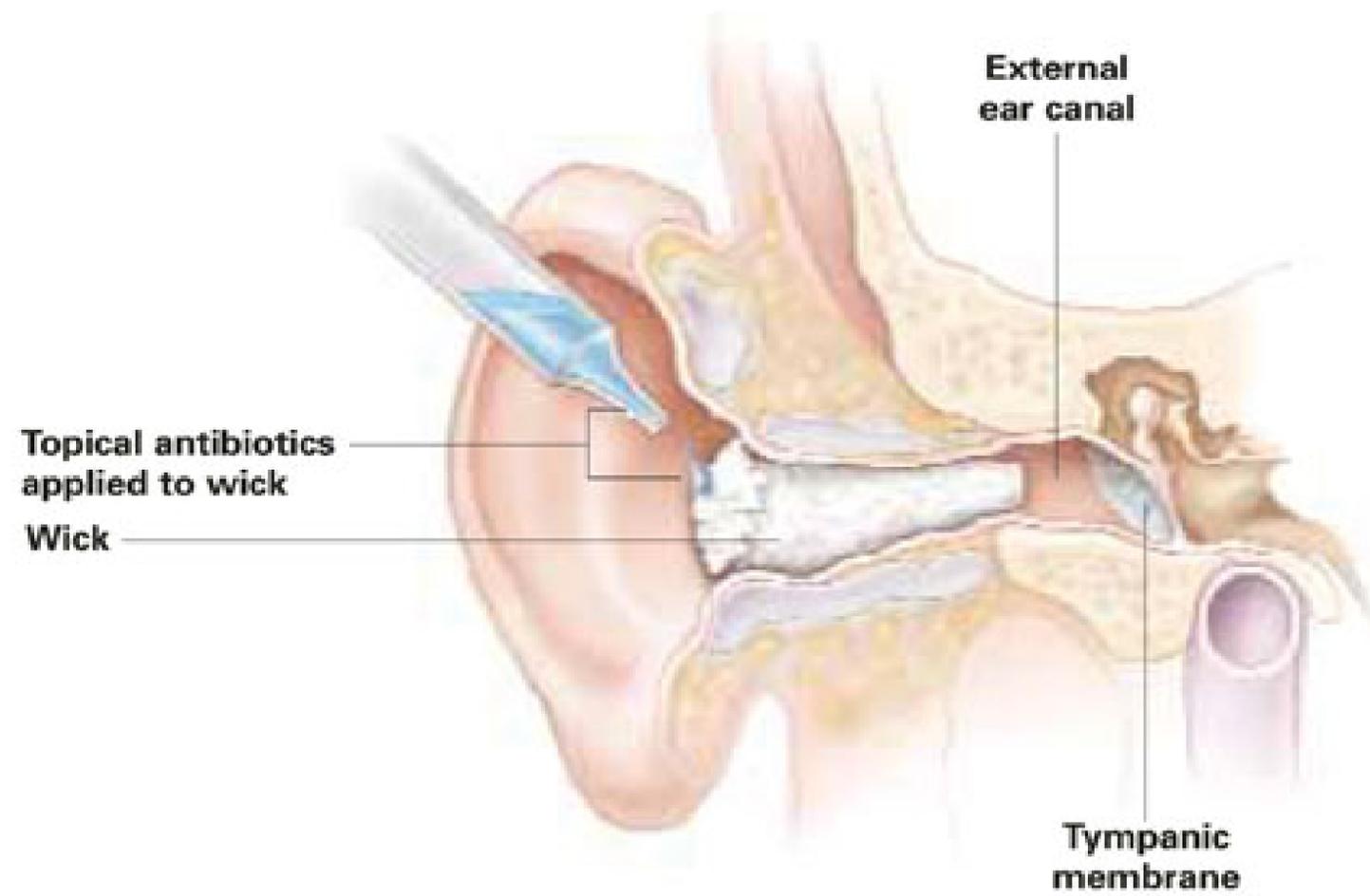
- Diffuse inflammation/infection of the entire external auditory canal skin (commonly *Pseudomonas*).
- Predisposing factors: Water exposure, humidity, trauma, hearing aids, dermatologic conditions.
- Clinical: Otalgia, tragal tenderness, canal edema & erythema, purulent discharge, \pm conductive hearing loss.
- Management: Aural toilet, topical antibiotic \pm steroid drops, ear wick if swollen, keep ear dry.



Acute Diffuse Otitis Externa



Ear wick



Chronic Otitis Externa

- Chronic inflammatory process, persistent symptoms for > 2-3 months
- Diffuse low grade infection of mixed etiology
- Bacterial, fungal, dermatological etiologies

Symptoms:

- Unrelenting pruritus/ itching
- Mild discomfort



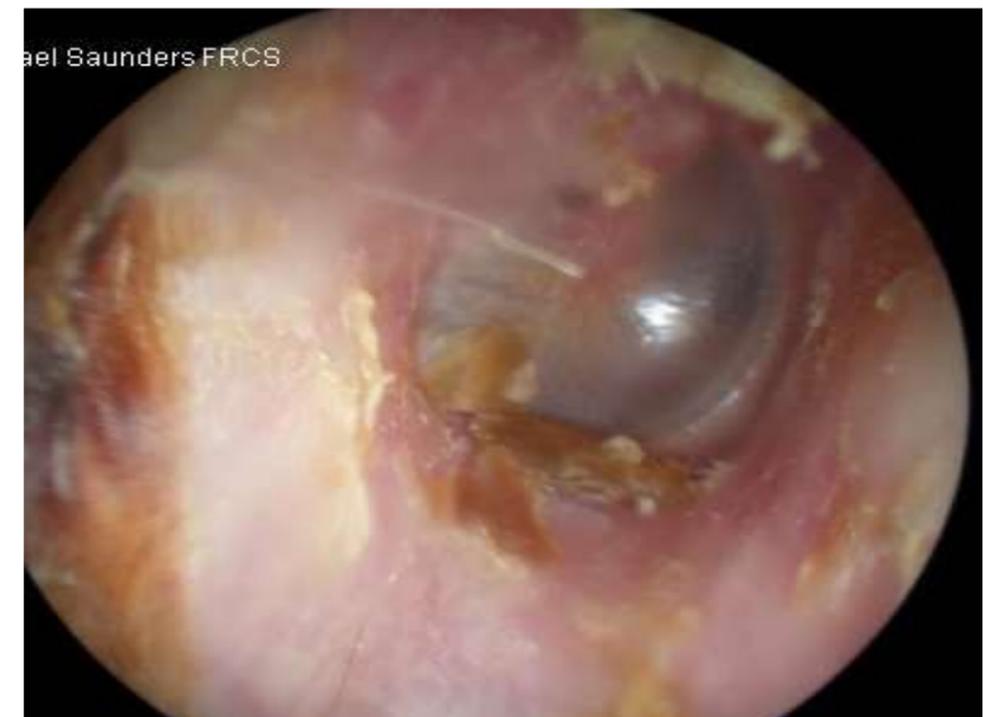
Chronic Otitis Externa

Signs

- Typically dry, flaky skin
- Somewhat atrophic
- Longstanding infection may lead to thickening of skin & narrowing of the lumen

Treatment

- ***Difficult to treat***
- Similar to that of AOE
- Frequent cleanings
- Long-term topical steroids/ antibiotic cream use
- Last resort is surgery (removal of skin with grafting)



Otomycosis

- Superficial fungal infection of the deeper external auditory canal skin ± tympanic membrane.
- **Organisms:** Aspergillus (yellow/black/gray spores), Candida albicans (white).
- **Predisposing factors:** Dirty water exposure, chronic discharge, prolonged ear drops, diabetes, immunosuppression.
- **Symptoms:** Deep pruritus, irritation, dull pain (severe if excoriated), obstructive hearing loss.
- **Signs:** Black/white fungal debris, blotting-paper appearance, cheesy material, edematous excoriated canal skin.
- **Management:** Thorough cleaning of canal by dry mopping or gentle suction, Topical antifungals (Clotrimazol), Sprit in Salicylic acid drops, Analgesics & Antibiotics for mixed infection, Avoid water.



Malignant Otitis Externa or Necrotizing Otitis Externa (NOE)

- Potentially lethal infection that affects the external auditory canal and temporal bone.
- Infection begins as an external otitis that progresses into osteomyelitis of temporal bone.
- Spread of the disease outside the external auditory canal occurs through the fissures of Santorini and the osseocartilaginous junction.
- Typically seen in elderly diabetics and immunocompromised patients
- *Pseudomonas aeruginosa* is the usual culprit



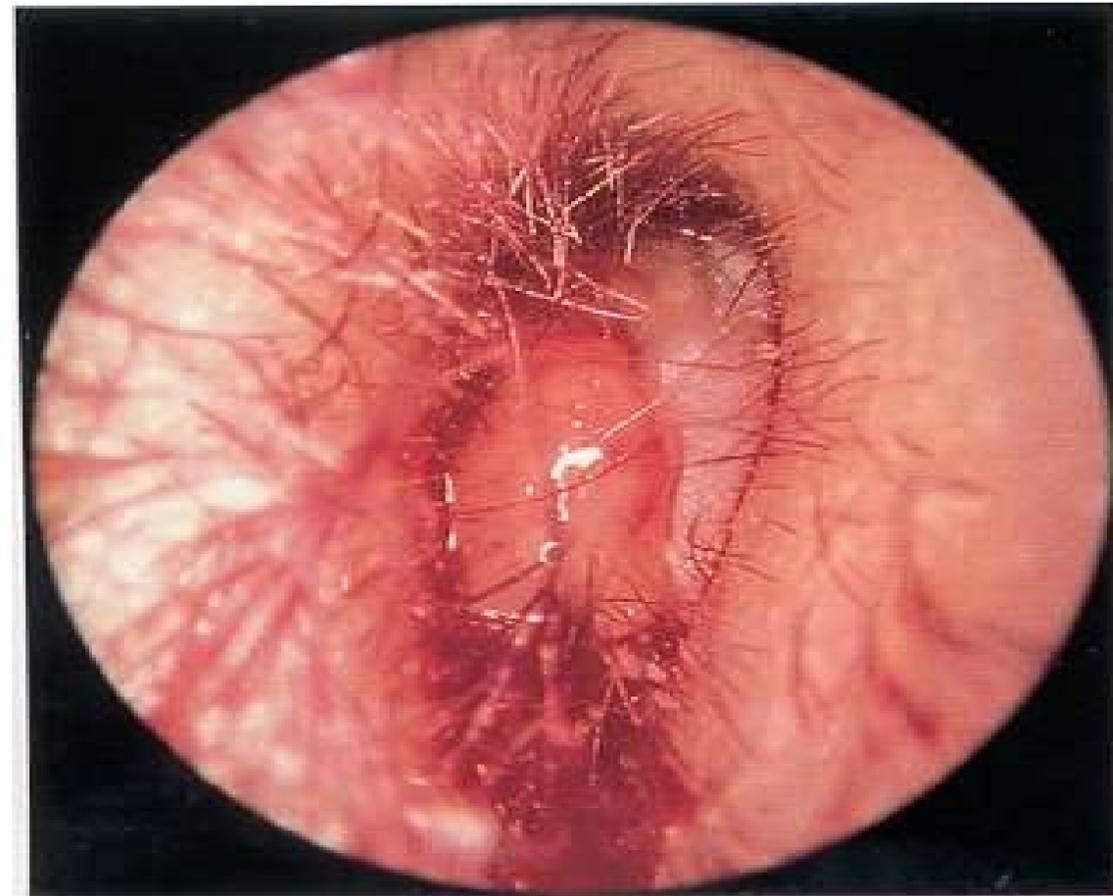
NOE Signs & Symptoms

Symptoms

- Deep-seated aural pain, severe, throbbing
- Chronic otorrhea
- Aural fullness

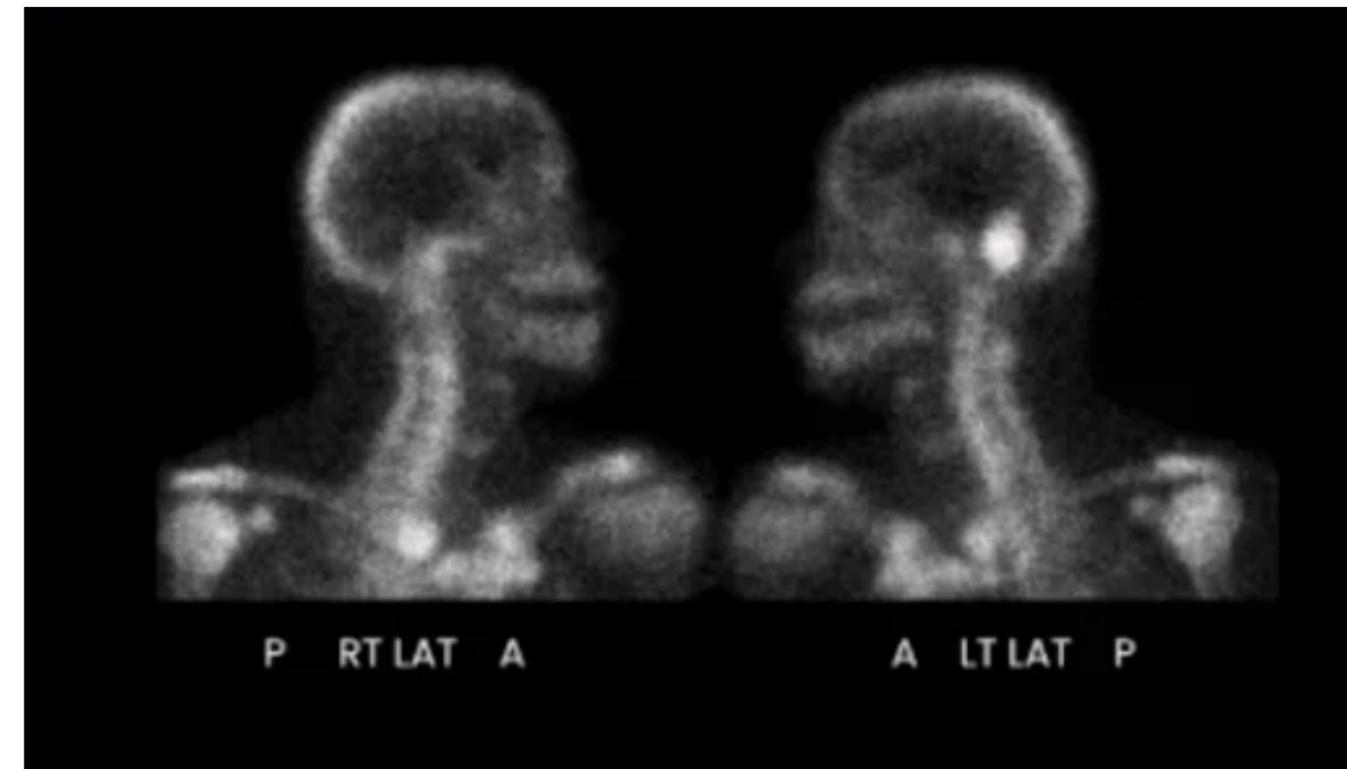
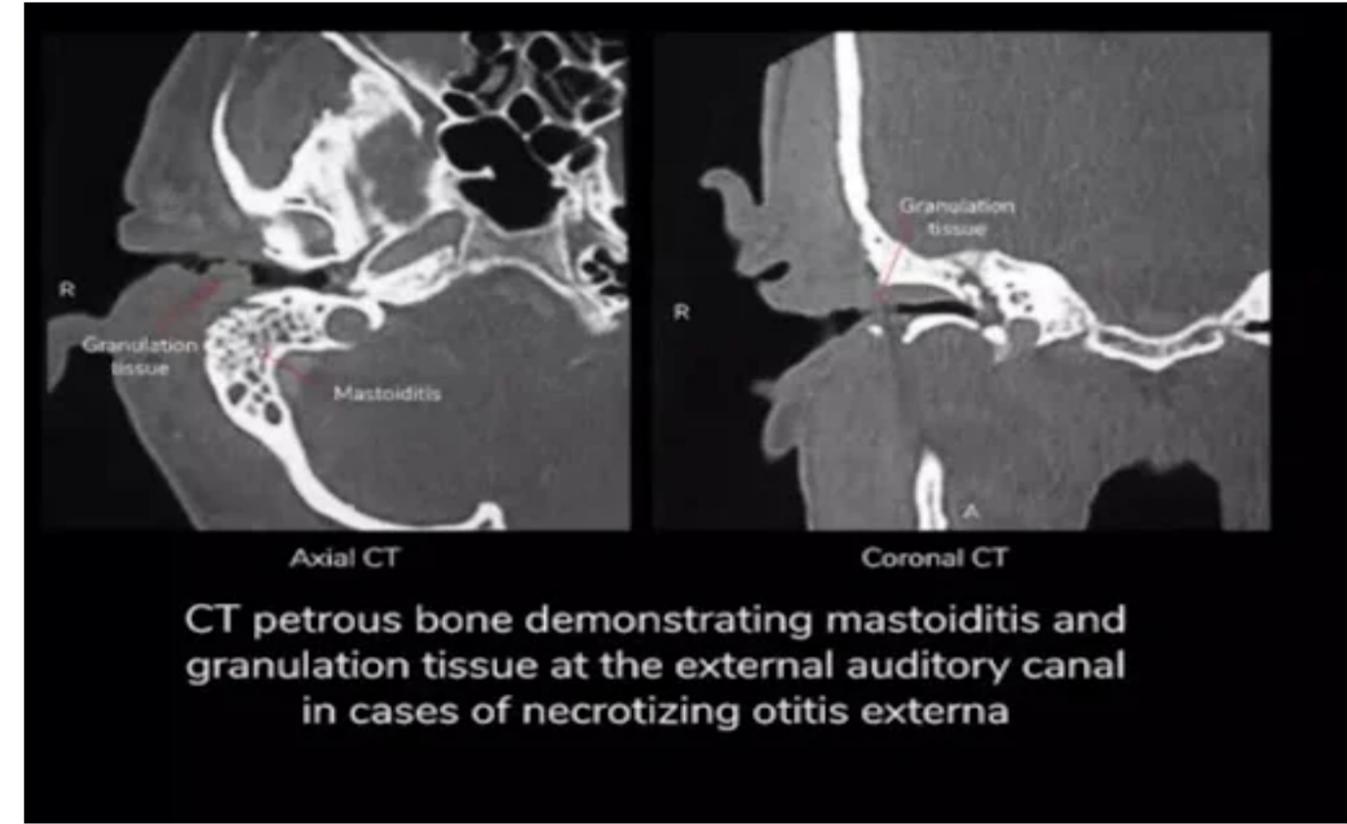
Signs

- Inflammation and granulation
- Purulent secretions
- Occluded canal and obscured TM
- Cranial nerve involvement



NEO Imaging

- CT scan: most used
- Technetium-99 scan: reveals osteomyelitis
- Gallium scan – useful for evaluating Rx
- MRI (assess soft tissue and intracranial extension.)



NEO

Treatment

- Meticulous glucose control
- Intravenous antipseudomonal antibiotics for (4-17) weeks – with serial gallium scans monthly
 - 3rd generation cephalosporins
 - Anti-pseudomonal penicillins
 - Quinolones
- Hyperbaric oxygenation
- Pain control
- Local canal debridement, removal of bony sequestra

Question?

Thank you