

ENT mini-OSCE

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Based on Dr. Amer Sawalha seminar + Past Papers

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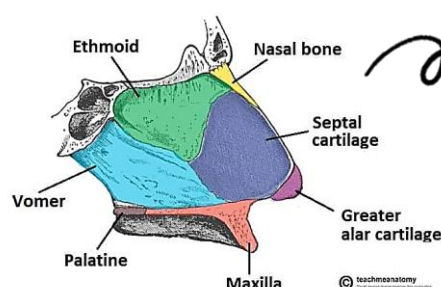
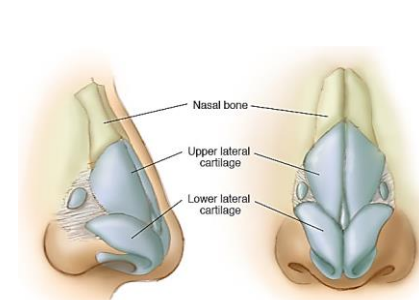
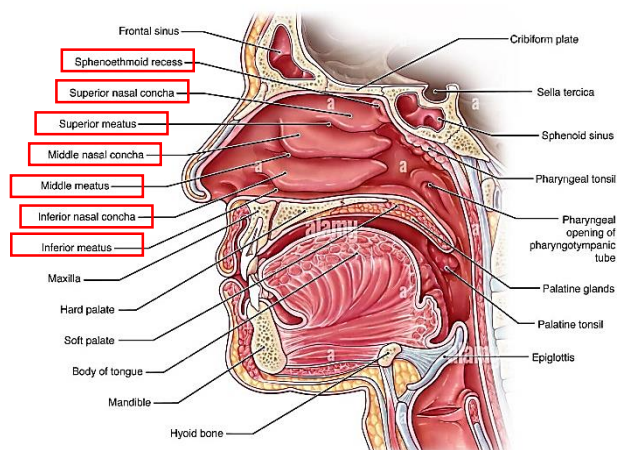
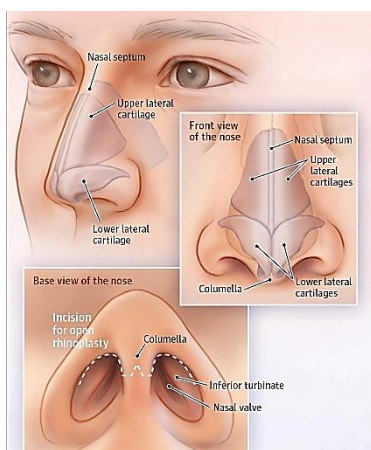
- ♦ Otitis Media
- ♦ Foreign body
- ♦ Otitis externa
- ♦ Preauricular pits/cyst
- ♦ Microtia

❖ Laryngology + Head & Neck

- Larynx Anatomy
- Laryngoscopy
- Neck masses
- Past paper questions

Rhinology

● Nose anatomy



- medial wall of nose:
Posteriorly = Bone (ethmoid + sphenoid)
Anteriorly = Cartilage

● Epistaxis

Types:

- Anterior (90%) --> in Kiesselbach's Plexus (Little's area), which is supplied by:

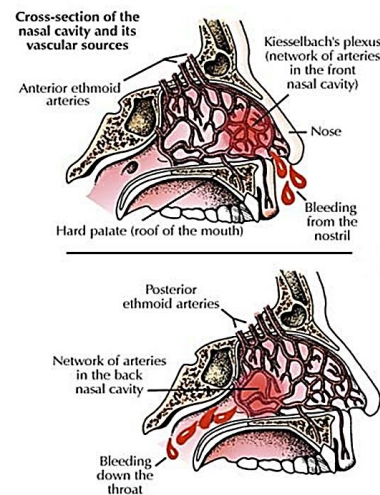
1. **Anterior Ethmoid a.** (ICA)
 2. **Superior Labial a.** (Facial)
 3. **Sphenopalatine a.** (internal maxillary a.)
 4. **Greater Palatine a.** (internal maxillary a.)
- ± **posterior Ethmoid a.** (ICA)

- Posterior (10%) --> in Woodruff's plexus

1. **Posterior Ethmoid a.** (ICA)
2. **Sphenopalatine a.**, -with its Pharyngeal and post. Nasal branches- (internal maxillary a.)

Management:

1. ABC
2. Press on the soft part of the nose (Little's area); to stop bleeding + Do Chin-to-chest flexion; to prevent aspiration with blood.
3. After 15 mins, Examine the nose ...



Visible bleeding point

Do **Cauterization**, either:

- Chemically by **Silver nitrate**



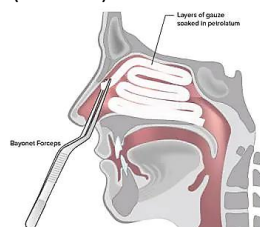
- Electrically by **Diathermy and bipolar**



Non-Visible bleeding point

Put **nasal packs**, either:

1. Gauze soaked with petrolatum (Vaseline)



2. Merocel sinus packs, which is ...

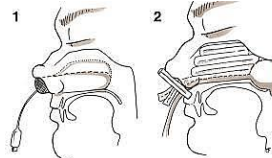
- more expensive
- used by putting it in the nose then spraying it with NS; so it enlarges and copresses the bleeding point.
- Do not use it in severe SD to avoid injury.



↓ if still not controlled, it's post. Epistaxis !

Foley's catheter

- to close the choana; preventing the blood from going to stomach or lung (aspiration).
- this presentation occurs usually in an ICU pt. with HTN.



↓ if still not controlled

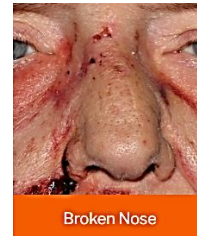
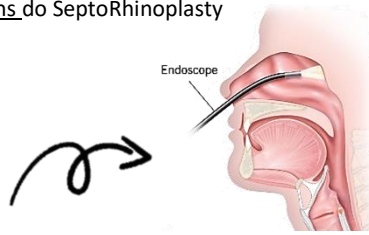
Fiberoptic nasal endoscopy under anaesthesia to do Cauterization or Sphenopalatine a. ligation



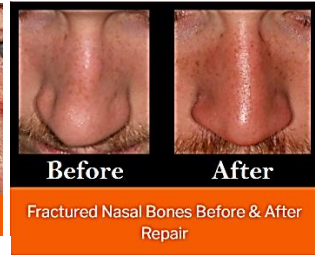
● Nasal Trauma

Management:

1. ABC
2. Treat the epistaxis
3. Nasal bone reduction (return the nose to its normal position after it was broken), according to time of presentation ...
 - within 1-2 hrs → immediately (manual or surgery under anaesthesia)
 - within > 2 hrs → after 1 wk; because the nose is swollen
 - after wks-mths → after 6 mths do SeptoRhinoplasty



(Swollen nose)

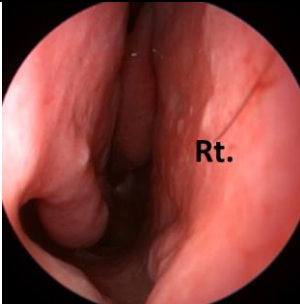
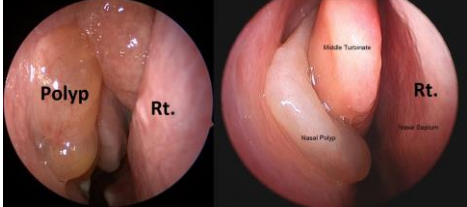
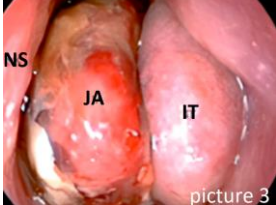


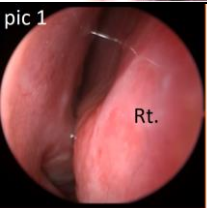
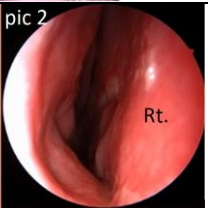
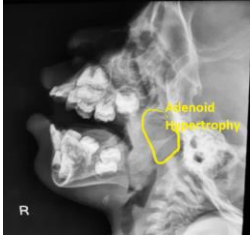
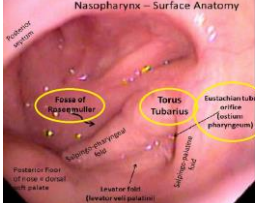
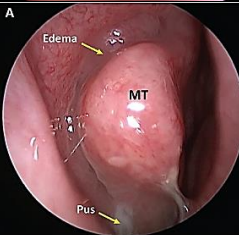
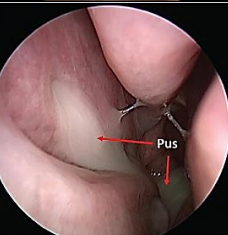
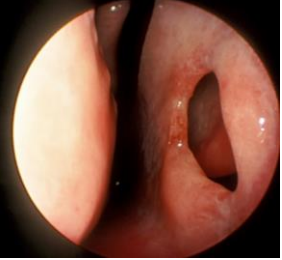
Fractured Nasal Bones Before & After Repair

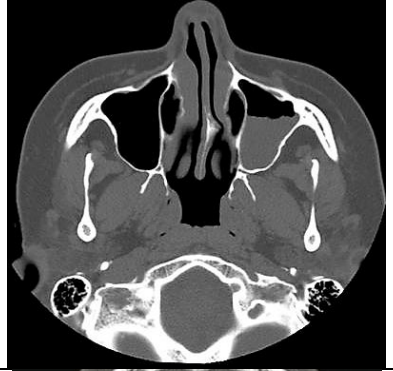
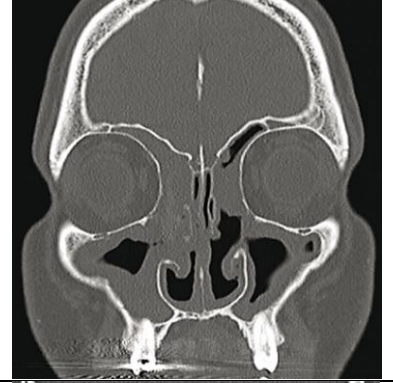
● Nasal Endoscopy

Device: Fiberoptic nasal endoscope

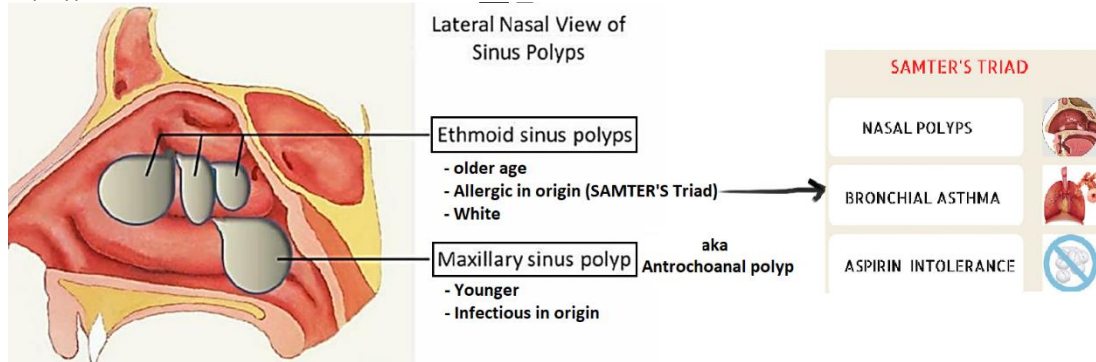
How to determine which nasal cavity is examined --> by Septum (if it's on the Rt. then it's the Rt. cavity).

Endoscope image		Finding(s)
	Rt.	- Normal
	RT.	- Hypertrophied turbinate due to <u>Rhinitis medicamentosa</u> ↳ Rhinitis medicamentosa: increase in nasal vasodilation and congestion caused by the overuse of nasal decongestants (alpha agonists); ex. Dicozal.
	Lt.	- Enlarged inf. Turbinate with pale mucosa and mucus secretion due to <u>Allergic Rhinitis</u> - SD (Septal Deviation)
	Rt.	- <u>Nasal polyps</u> which appears white or yellow compared with the pink nasal cavity.
		Case: a child presented with nasal obstruction - Describe --> Nasal mass obstructing the Rt. nasal cavity. - DDx. : 1. <u>Polyps</u> 2. Cystic Fibrosis/ do sweat chloride test to rule it out ! 3. Juvenile nasopharyngeal Angiofibroma (vascular mass as in picture 3)/ do CT angiograph to rule it out, but do not do biopsy; to avoid bleeding !!! 4. Encephalocele/ do CT or MRI to rule it out, but do not do biopsy to avoid meningitis! 5. Post-traumatic SD or septal hematoma ↳ Tx. Of septal hematoma : incision & drainage of the blood. ↳ Complications: 1. Infection with abscess formation 2. septal perforation.
	NS, JA, IT	picture 3

	- Grape-like benign mass which is <u>Inverted Papilloma</u>.																
pic 1  Rt. Deviated Nasal Septum pic 2  Rt. Straight Septum	- Pic. 1: <u>SD</u> + minimal mucus secretion - Pic 2: Straight septum after septoplasty																
 Adenoids Before Adenoidectomy  Adenoid Bed After Adenoidectomy	Case: A child presented with nasal obstruction, snoring, and OSA - Investigations: - Fiberoptic nasopharyngoscopy - Lateral head Xray (aka Post-nasal space Xray) - Dx.: Adenoids hypertrophy - Tx.: - Medical (Steroid spray) - Surgery (adenoidectomy) Note : MCC of rhinosinusitis in peds is Adenoid hypertrophy! 																
Nasopharynx – Surface Anatomy  	- seen by: nasopharyngoscope placed through Lt. tonsil - Identify the structures: 1. Torus Tubarius 2. Eustachian Tube orifice (Anteriorly) 3. Fossa of Rosenmüller (Posteriorly) --> MC site of nasopharyngeal Ca.																
A  Edema MT Pus B  Pus	- Edema around the middle turbinate + Pus from the sinus opening indicating <u>Acute Sinusitis</u>																
	Case: Pt. presented post-surgery with nasal dryness, discharge, crusting and epistaxis - Describe: Septal perforation in the Rt. Cavity - Possible causes: 1. <u>Iatrogenic post-septoplasty</u> 2. Trauma 3. Piercing 4. Nose picking 5. Cocaine use 6. Tertiary syphilis - Tx.: - Medical (Lubricant) - Surgery (repair but has low success rate)																
a  b 	Case: a 5 YO child presented to ER C/O unilateral nasal discharge - Dx.: (mcc) <u>Foreign body</u> Other causes ... Nasal Discharge <table border="1"> <thead> <tr> <th>Unilateral</th> <th>Bilateral</th> </tr> </thead> <tbody> <tr> <td>FB (children)</td> <td>Enlarged Adenoids</td> </tr> <tr> <td>U/I Choanal atresia</td> <td>B/I Choanal atresia</td> </tr> <tr> <td>Antro-choanal polyp</td> <td>Ethmoidal polyp</td> </tr> <tr> <td>U/L Chronic sinusitis</td> <td>B/L Chronic sinusitis</td> </tr> <tr> <td>U/L Rhinosporidiosis</td> <td>B/L Rhinosporidiosis</td> </tr> <tr> <td>Rhinolith , CSF Rhinorrhea</td> <td>AR, VMR</td> </tr> <tr> <td>Neoplasm Nose & PNS</td> <td></td> </tr> </tbody> </table> - Tx. Remove foreign body + irrigation	Unilateral	Bilateral	FB (children)	Enlarged Adenoids	U/I Choanal atresia	B/I Choanal atresia	Antro-choanal polyp	Ethmoidal polyp	U/L Chronic sinusitis	B/L Chronic sinusitis	U/L Rhinosporidiosis	B/L Rhinosporidiosis	Rhinolith , CSF Rhinorrhea	AR, VMR	Neoplasm Nose & PNS	
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CT	Finding(s)
	- study: coronal sinuses CT - mention the findings and the treatment of each: 1. <u>SD</u> to Rt. → Septoplasty 2. Lt. inf. Turbinate <u>hypertrophy</u> → Lt. inf. Turbinate reduction 3. Lt. mid. Turbinate <u>Concha bullosa</u> → Concha bullosa reduction (Decapping)
	- study: coronal sinuses CT - finding: Bilateral Maxillary and Ethmoidal AF level indicating <u>Acute sinusitis</u> - Treatment of Acute sinusitis: (according to the presence of complications): <u>Uncomplicated</u> - Nasal irrigation + Decongestant steroid spray + Antibiotic - NO Antihistamines; to avoid increased secretions by sinuses !! <u>Complicated (reached eyes or brain)</u> - Medical + surgical therapy
	- study: Axial sinuses CT - finding: Lt. maxillary AF level indicating <u>Acute sinusitis</u>
	- study: Coronal sinuses CT - finding: Bilateral Maxillary and Ethmoidal circumferential mucosal thickening indicating <u>Chronic sinusitis</u> - Treatment of Chronic sinusitis: (according to the presence of nasal polyps): <u>Without nasal polyps</u> - Nasal irrigation + Decongestant steroid spray + Antihistamines <u>With nasal polyps</u> - Nasal irrigation + Decongestant steroid spray + Antihistamines + systemic steroid
	- study: Coronal sinuses CT - findings: 1. Bilateral chronic Maxillary sinusitis 2. Bilateral inferior turbinate hypertrophy
	- study: Axial sinuses CT - findings: 1. Bilateral chronic Maxillary sinusitis 2. SD

❖ Types of Nasal polyps associated with chronic sinusitis:



	- study: Coronal sinuses CT - finding: Lt. maxillary sinus opacification with intranasal opacification indicating <u>Antrochoanal polyp</u> - How it appears on nasal endoscope:
	- not a CT but notice the whitish ethmoidal nasal polyps
	Polyps cannot always be differentiated on CT as in this picture.
	- Rt. Maxillary sinus opacification resulted in fungal ball (as seen in endoscopy) - Tx.: Surgery + nasal irrigation + steroid + Antihistamines

● Past paper Questions

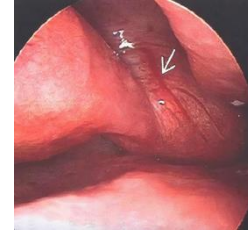
1. A patient presented with a history of facial trauma 3 days ago.

- Diagnosis? **Septal hematoma**
- Cause? **Facial trauma**
- mention other possible causes? **septal surgery, bleeding disorders.**
- Treatment? **Incision & drainage of the blood**
- Mention 2 complications? **1. Infection with abscess formation 2. septal perforation**
- How to treat saddle nose deformity? **Rhinoplasty**



2. According to the picture ...

- Mention 3 DDx? **inverted papilloma, Angiofibroma, rhabdomyosarcoma**
- How do you confirm your diagnosis? **CT angiography + Biopsy & histopathology**



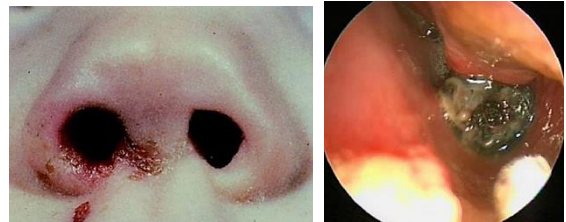
3. A child presented with inability to breathe through her nose ...

- What's the name of the imaging modality? **Lateral head X-ray (Post-nasal space X-ray)**
- Diagnosis? **Adenoid Hypertrophy**



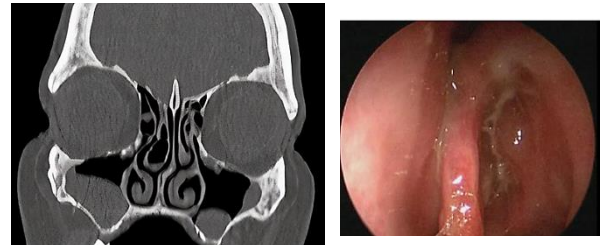
4. A 27 YO child presented with a 3-month history of right nostril discharge.

- Diagnosis? **Foreign body in the nasal cavity**
- Treatment? **Removal of the foreign body + irrigation**
- Most serious complications?
 - **Aspiration with foreign body and airway obstruction.**



5. A 47 YO man presented with a 5 days' history of fever & thick, yellow nasal discharge.

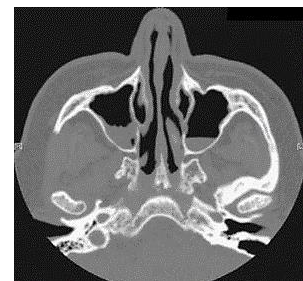
- Name of the test? **coronal CT scan of Paranasal sinuses without contrast**
- Diagnosis? **1. Acute bilateral maxillary sinusitis 2. SD**
- Treatment?
 - 1. Nasal irrigation + Decongestant steroid spray + Antibiotic, surgery (FESS) if there are intracranial or orbital complications.**
 - 2. septoplasty.**



Note: if the duration was months then its chronic sinusitis!

6. A 47 YO man presented with a 5 months' history of fever & thick, yellow Nasal discharge.

- Name of the test? **axial CT scan of Paranasal sinuses without contrast**
- Diagnosis? **1. Chronic bilateral maxillary sinusitis 2. SD**
- Treatment?
 - 1. Nasal irrigation + Decongestant steroid spray, + Antihistamines, surgery (FESS) if there are intracranial or orbital complications.**
 - 2. septoplasty.**



7. According to the picture ...

- Diagnosis? **SD**
- Treatment? **Septoplasty**



8. A child complaining of nasal blockage for 2 months ...

- Give 3 DDx? **1. Allergic Rhinitis 2. Nasal polyp 3. Tumour**
- what is the most suspected diagnosis? **Allergic Rhinitis; due to enlarged inf. Turbinate.**
- which side is affected? **Left nasal cavity**
- What is the best investigation to confirm the diagnosis? **Biopsy & histopathology**
- Treatment? **Nasal irrigation + Decongestant steroid spray + Antihistamine**



9. According to the picture ...

- Diagnosis? **SD**
- Treatment? **Septoplasty**



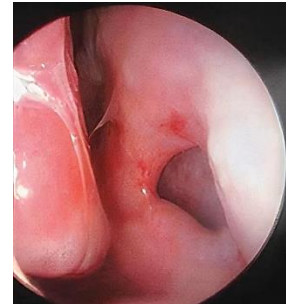
10. A 15 YO boy presents with a few months' history of recurrent epistaxis ...

- Diagnosis? **Nasopharyngeal Angiofibroma**
- What investigation should be done to confirm the diagnosis? **CT Angiography**



11. A patient presented with a history of facial trauma 4 months ago.

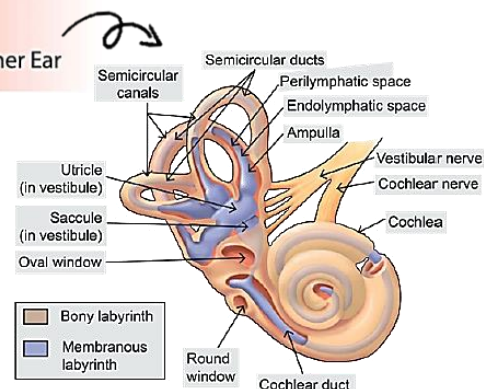
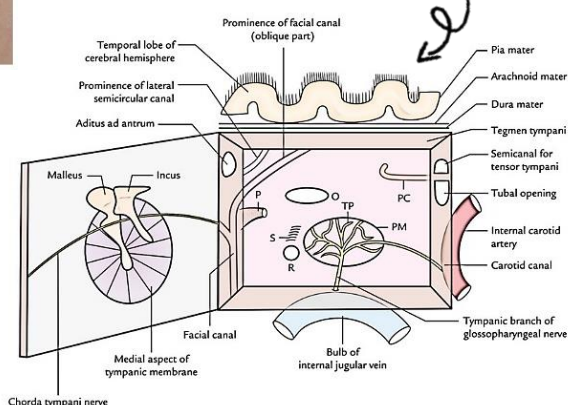
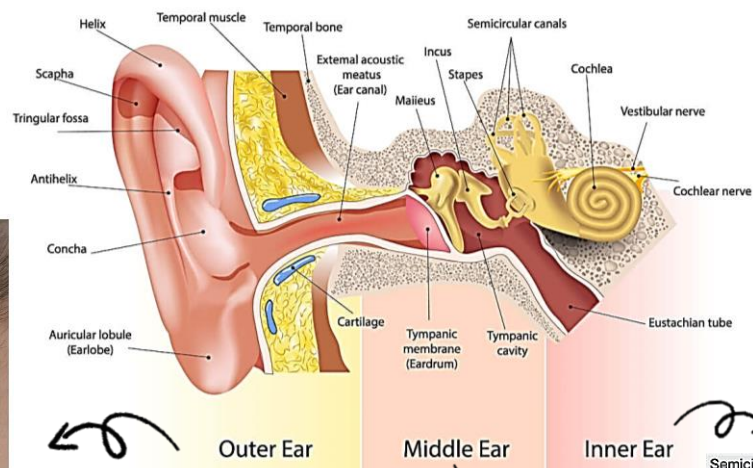
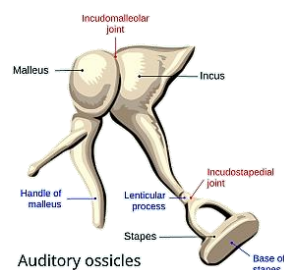
- Diagnosis? **Septal perforation**
- Cause? **Facial trauma**
- Best treatment option? **Medically (lubricant), surgery (septoplasty) but has low success rate**



----- End of Rhinology :) -----

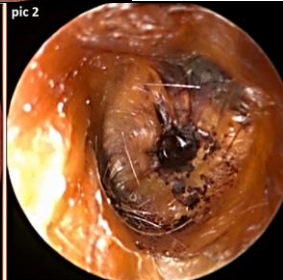
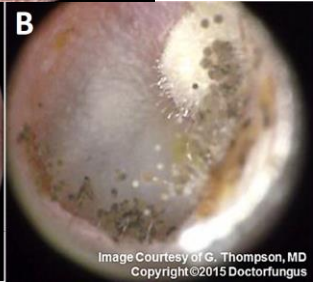
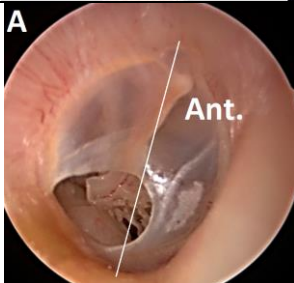
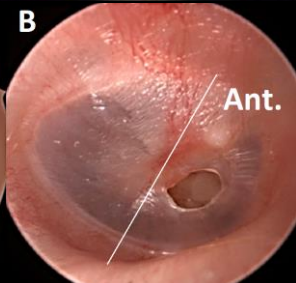
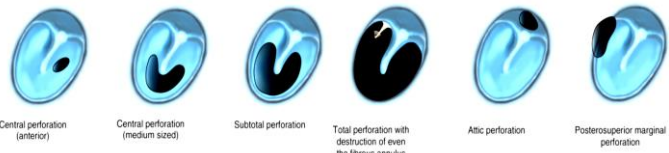
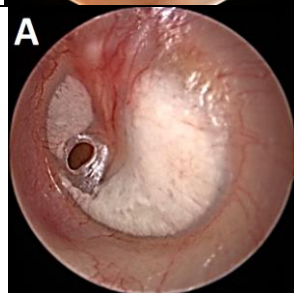
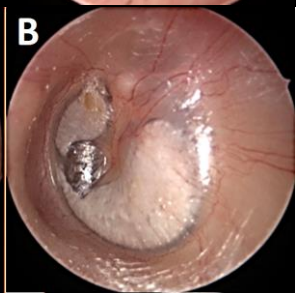
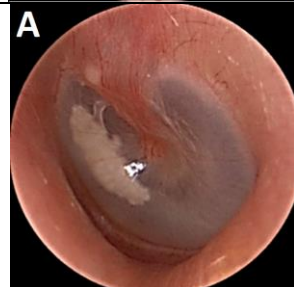
Otology

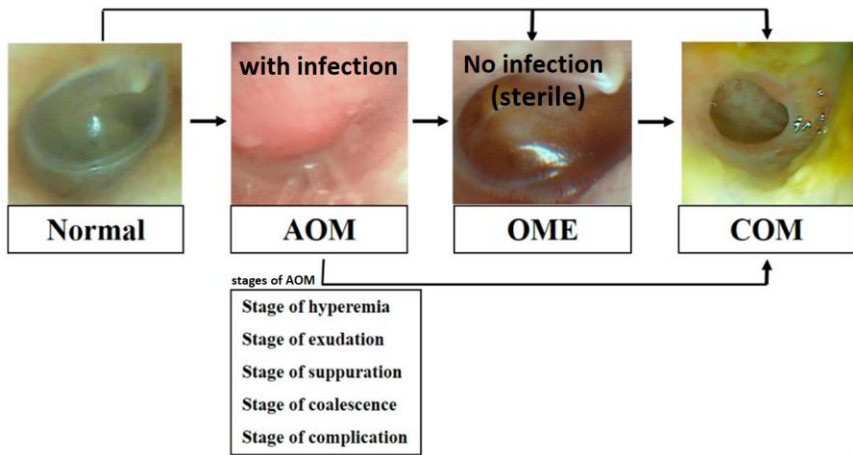
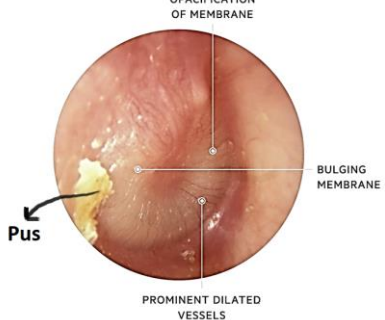
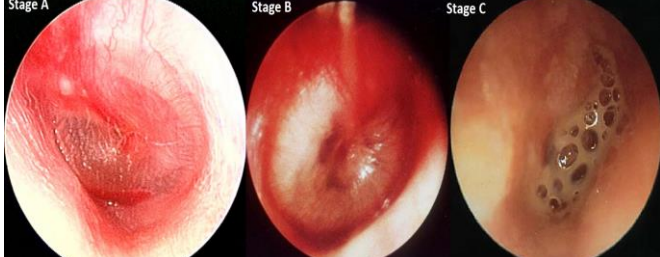
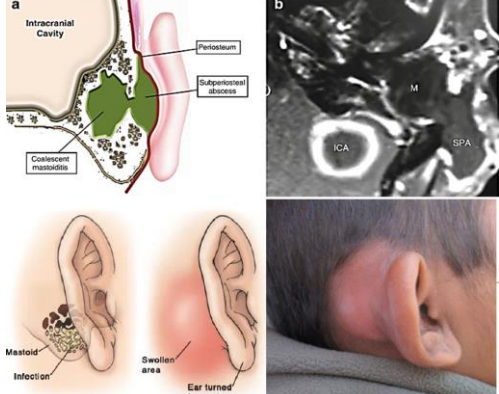
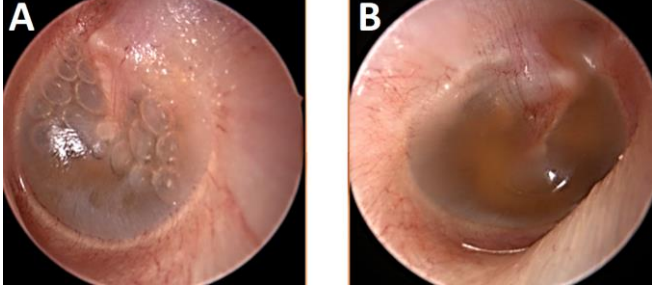
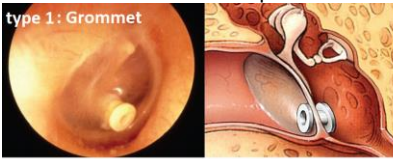
● Ear anatomy

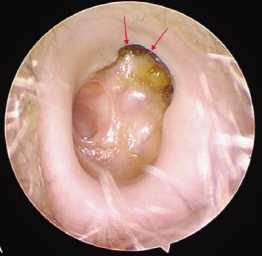
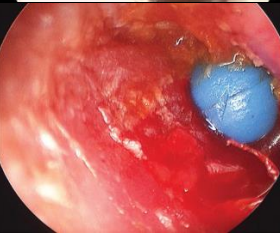
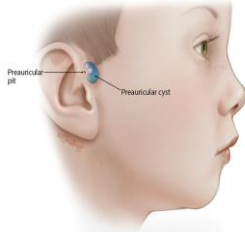


● Otoscope (visualizes Tympanic membrane)

Otoscope view	Finding(s)
	- Normal anatomy of tympanic membrane. - Ear direction is determined by: ♦ Handle (manubrium) of malleus • On 1:00 → Rt. Ear • On 11:00 → Lt. Ear ♦ Cone of light • On 4:00 → Rt. Ear • On 7:00 → Lt. Ear
	- 25 YO male swimmer, presented to check his ear... - which ear? Rt. - Finding? Normal tympanic membrane

	- which ear? Lt. - Finding? Retracted tympanic membrane; due to <u>Eustachian tube dysfunction</u>.
 	Pic 1: partial <u>wax impaction</u> Pic 2: complete <u>wax impaction</u> - treatment choices for wax impaction: 1. Suction 2. wax-softening ear drops 3. syringing with Normal saline - why to treat? To see and evaluate the tympanic membrane, also wax causes hear loss.
   Image Courtesy of G. Thompson, MD Copyright ©2015 Doctorfungus	- partial wax impaction with fungal infection (due to the Hyphae); indicating <u>Fungal otitis externa (Otomycosis)</u>. - MCC of fungal ear infection: • Candida --> white cheesy discharge (Pic. A) • Aspergillus --> black dots (Pic. B) - Treatment: 1. irrigation with alcohol to prevent fungal growth. 2. Aural toileting and suction 3. Topical Antifungal ear drops minimum for 3 wks (in bacterial infections, Antibiotics are used for 1 wk).
 	Pic. A: Rt. Ear, Posterior-Inferior dry <u>perforation</u> Pic. B: Rt. Ear, Anterior-Inferior dry <u>perforation</u> due to trauma. Types of perforation: 
 	- 2 pictures of the same Lt. ear: A: <u>myringosclerosis</u> (TM sclerosis) with Ant-Inf. Perforation B: incomplete healing of the perforation, leading to either: - thin, distorted, more transparent (lacks for middle fibrous layer) TM. - myringosclerosis
 	Pic A: small White plaque (<u>myringosclerosis</u>) on Anterior part of TM Pic B: Large myringosclerosis - Management of myringosclerosis: ♦ Small (No conductive hearing loss) → only observation ♦ Large (conductive hearing loss) → Tympanoplasty surgery

Types of OM: 	
	- signs of AOM: 1- prominent dilated vessels are called (cartwheel sign) 2- Bulging membrane 3- pus formation 4- opacification of membrane
	- stages of AOM: A → Hyperemia B → Exudation C → Suppuration (Mucopurulent and thick, but in Otitis Externa it's Serosus and not thick)
	- Acute mastoiditis (infection of mastoid air cells) is a complication of Acute Otitis media, it leads to: ♦ formation of sub-periosteal abscess. ♦ swollen area that turn the ear forward - Acute mastoiditis should be treated to avoid brain complications. ↳ Tx.: - 2 wks of Antibiotics - Grommet - mastoidectomy
	- Air bubbles (pic A) or yellow discharge (pic B) behind TM indicates Otitis Media with Effusion (OME). - this is seen usually in peds, due to Adenoid hypertrophy that does not improve with medications; so then Grommet tubes are used. - Types of ventilation tubes: ↳ inserted in Anterior-Inferior part of TM. type 1: Grommet  type 2: T-tube  - young pt - OME - stays for 6 mo - older pt - Chronic secretory OM - stays for yrs

			- <u>Chronic Otitis media with cholesteatoma</u> (abnormal collection of squamous cells in a retracted attic area of TM).
			- Types of cholesteatoma: 1- Primary acquired: most common type 2- Secondary acquired: after a perforation ↳ Acquired cholesteatoma are treated by surgery (mastoidectomy) 3- Congenital: TM is intact, treated by simple surgery.
			- which ear? Lt. - Finding? Cholesteatoma
			a child presented with unilateral ear discharge ... - Cause? Foreign body. - after removing it check the other ear too !
			Pt. C/O ear discharge, ear fullness and tinnitus ... - Dx.? Oedematous EAC with serous discharge indicating <u>bacterial otitis externa (aka Swimmer's ear)</u> - what is the most common causative organism? pseudomonas - Treatment? Topical Antibiotics applied to wick. 
			- <u>Preauricular pits/cyst</u>, do nth for it except it became symptomatic.

Spectrum of Microtia Severity

Least Severe  Most Severe



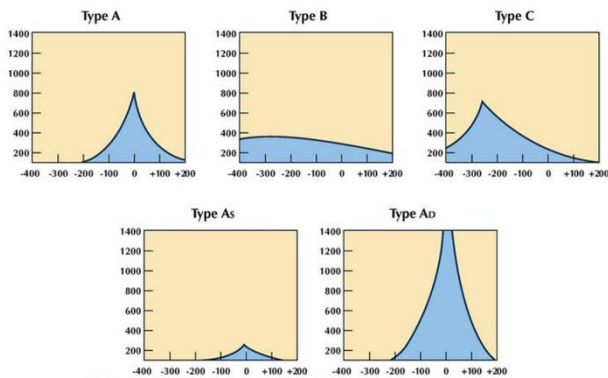
The ear is smaller but still looks like an ear because most normal features are present

Some normal features are present but the upper ear is severely deficient. The canal may be present or absent.

A small piece of cartilage is present just above the ear lobe which is displaced upward and forward. The canal is almost always absent.

Anotia is when there is a complete absence of the ear and canal. (atresia)

● Tympanometry (evaluate middle ear function)



Type A	Indicative of normal middle-ear function
Type As	Indicates a less 'compliant' middle-ear system; can indicate otosclerosis or Myringosclerosis
Type Ad	Indicates a highly 'compliant' middle-ear system; can indicate ossicular chain discontinuity or loose TM
Type B	Consistent with middle-ear pathology such as fluid or infection (low volume) or perforation (if high volume)
Type C	Consistent with Eustachian tube dysfunction which is commonly associated with nasal conditions such as allergies or upper respiratory tract infection

due to loss of fibrous layer during healing of perforation

● Pure tone audiometry (evaluate hearing sensitivity)

❖ How to interpret an audiogram?

- Air conduction symbols: **Rt.** --> **O**, **Lt.** --> **X**

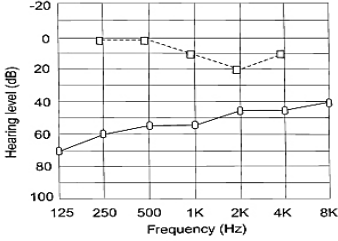
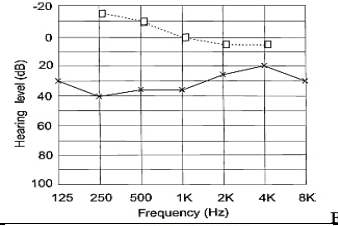
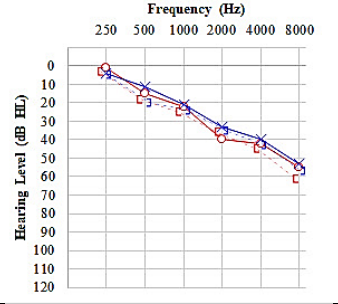
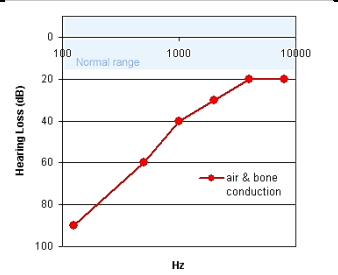
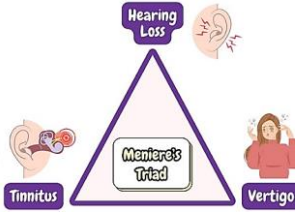
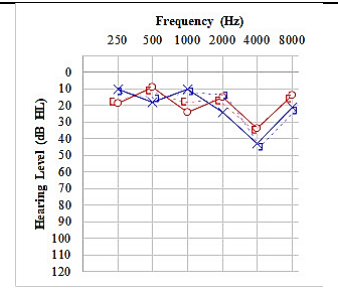
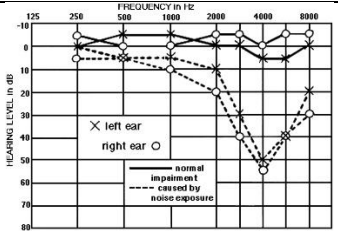
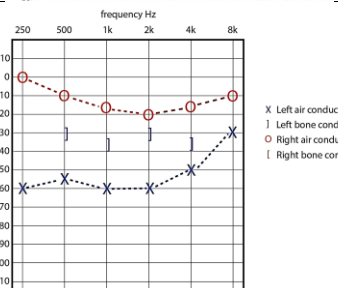
- Bone conduction symbols: **Rt.** --> [or <, **Lt.** -->] or >

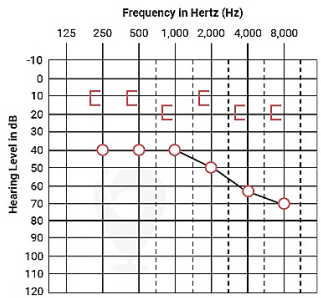
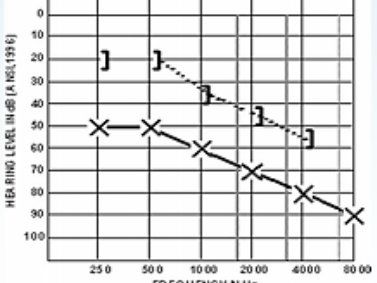
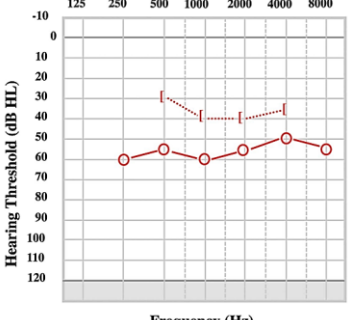
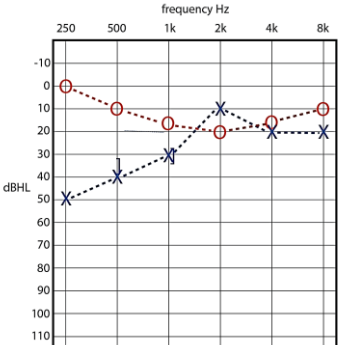
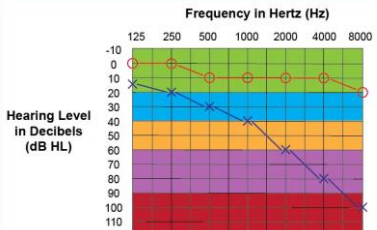
- sensitive when intensity is > 20 dB --> Hearing loss

↳ if it was without Air-Bone gap --> Sensorineural

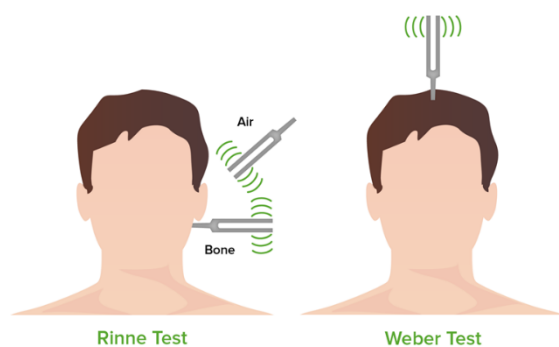
↳ if it was with Air-Bone gap (it's considered gap when it's > 10 dB) --> Conductive or mixed

audiogram	Finding
	Normal Hearing
	Rt. Conductive Hearing loss
	Rt. Sensorineural Hearing loss at high frequencies
	Rt. Mixed Hearing loss Or Rt. Sensorineural Hearing loss at high frequencies and Rt. Conductive hearing loss.

 A	- Rt. Conductive Hearing loss - Carhart notch on 2000 Hz (a depression in bone-conduction audiogram of otosclerosis patients). - possible cause? Otosclerosis
 B	- Lt. Conductive Hearing loss - possible cause? COM
	- Bilateral <u>Sensorineural</u> Hearing loss at <u>high frequencies</u> - most possible cause? Age-related
	- Rt. <u>Sensorineural</u> hearing loss at <u>low frequencies</u> - Dx.? Meniere's disease 
	- Bilateral Sensorineural Hearing loss at 4000 Hz. - most possible cause? Noise-induced
	- This represents an Audiogram for 2 patients: ____ : Normal Hearing ----- : Bilateral Noise-induced sensorineural Hearing loss at 4000 Hz.
	- Lt. Mixed Hearing loss - Normal hearing in Rt. ear.

	- Rt. Conductive Hearing loss
	- Lt Mixed hearing loss Or Lt. Sensorineural Hearing loss at high frequencies and Lt. Conductive hearing loss.
	- Rt. Mixed hearing loss
	- Normal hearing in Rt. Ear - Lt. Sensorineural Hearing loss at low frequencies - Most likely Dx.? Meniere's disease in Lt ear
	- Normal hearing in Rt. Ear - Lt. Sensorineural Hearing loss at high frequencies

● Rinne and Weber tests (evaluate hearing ability)



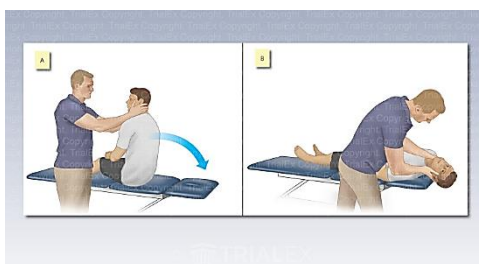
Hearing loss	Rinne test (Conduction)	Weber test (Localization)
None	Air > bone	Midline
Sensorineural		Normal ear
Conductive	Bone > air	Affected ear

Question ...

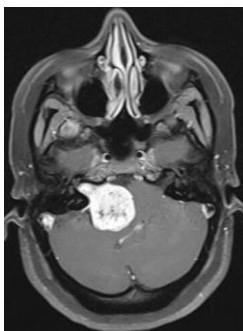


- How would you interpret this result? **Pure Tone Audiometry**
- What is the diagnosis? **Rt. PROFOUND sensorineural Hearing loss**

Last but not least, know these 2 bits of information ...



- What is this test? **Dix-Hallpike maneuver**
- what does it diagnose? **Benign paroxysmal positional vertigo (BPPV)**, tiny calcium crystals called otoconia come loose from their normal location on the utricle, a sensory organ in the inner ear. So they flow freely in the fluid-filled spaces of the inner ear, including the semicircular canals.
- Which canal is the Dix-Hallpike test for? **posterior semicircular canals**
- What is the opposite maneuver? **Epley maneuver**; by encouraging the crystals to move back where they belong.

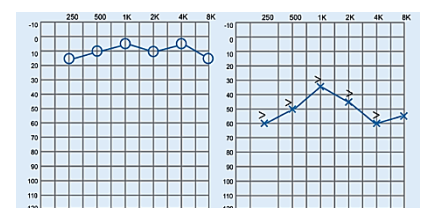


- What's the name of the imaging modality? **Axial brain MRI**
- Diagnosis? **Acoustic Neuroma (grows out of the ear canal and into the cerebellopontine angle)**
- Treatment? **Surgical excision & radiotherapy.**

● Past paper Questions

1. A 55 YO man complaining of vertigo & episodes of fluctuating hearing loss ...

- Name of this test? **Pure Tone Audiometry**
- Diagnosis? **Left ear Meniere's disease (Lt. sensorineural Hearing loss)**
- Mention 2 treatment options?
 - 1. Lifestyle modification (low salt diet, limit alcohol intake)**
 - 2. diuretics.**



2. A 20-year-old complaining of ear fullness for 2 days after swimming.

- Diagnosis? **Wax impaction**
- Treatment? **Suctioning of the wax (also wax-softening ear drops and syringing with NS)**



3. A patient with a history of ear itching.

- Diagnosis? **Otomycosis**
- Organism? **Aspergillus**
- Treatment? **Alcohol irrigation, Aural toileting and topical antifungal ear drops.**
- Duration of treatment? **3 wks**



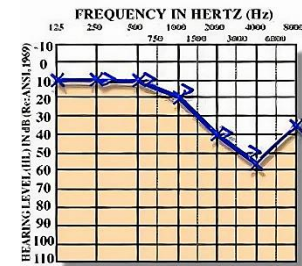
4. A patient with decreased hearing...

- Diagnosis? **Otitis media with effusion**
- What are 2 other organs you should examine other than the ear? **Nose and Nasopharynx**



5. A 35 YO complaining of decreased hearing

- Diagnosis? **Lt. Noise-induced Sensorineural Hearing loss**
- Important things to ask about in the history? **Occupation**



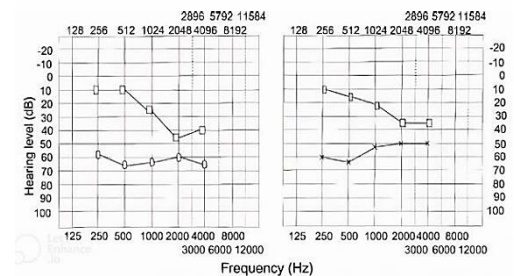
6. A patient presented to the clinic complaining of ear discharge that is foul smelling.

- Diagnosis? **Cholesteatoma**
- Treatment? **Surgical excision + mastoidectomy + Tympanoplasty**
- Complication?
 - Intra-temporal (petrositis, facial paralysis, labyrinthitis)
 - intracranial (lateral sinus thrombosis, meningitis, abscess formation).



7. According to the audiogram ...

- Diagnosis? **Otosclerosis**
- What is the name of this test? **Pure tone audiometry**
- What is the type of hearing loss? **Bilateral Conductive hearing loss, as hearing loss progresses, a sensorineural component is sometimes seen, resulting in a mixed hearing loss.**



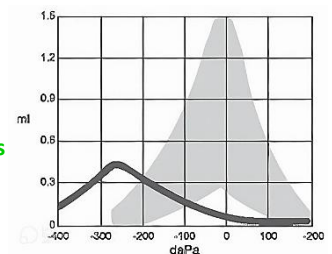
8. According to the picture

- Name of the procedure? **Syringing**
- Name one indication? **Wax removal**
- Name one contraindication? **Tympanic membrane perforation.**



9. According to the picture ...

- What is the name of this test? **Tympanometry**
- What does this measure? **Middle ear function**
- What is the pathology in this graph? **Eustachian tube dysfunction**
- What is the most common cause of this pathology? **Adenoid hypertrophy (mc), nasopharyngeal mass**



10. A patient presented to the clinic complaining of ear discharge that is foul smelling ...

- Diagnosis? **Cholesteatoma**
- Treatment? **Surgical excision + mastoidectomy + Tympanoplasty**
- Which ear is the affected in this picture? **Right ear**



11. A 1 YO baby presents with irritability & high grade fever

- Diagnosis? **Mastoiditis**
- Treatment? **IV antibiotics + tympanostomy tube or Mastoidectomy in severe or refractory cases.**



12. According to the picture ...

- Diagnosis? **Tympanic membrane perforation**
- Most common cause of this case? **Middle ear infection.**



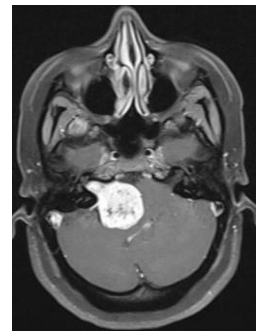
13. According to the picture ...

- What's the name of this procedure? **Dix Hallpike maneuver**
- Which ear is being tested in this picture? **The left ear**
- Which organ does it test? **Posterior semicircular canals**
- What's the diagnosis if the test is positive? **BPPV**



14. According to the picture ...

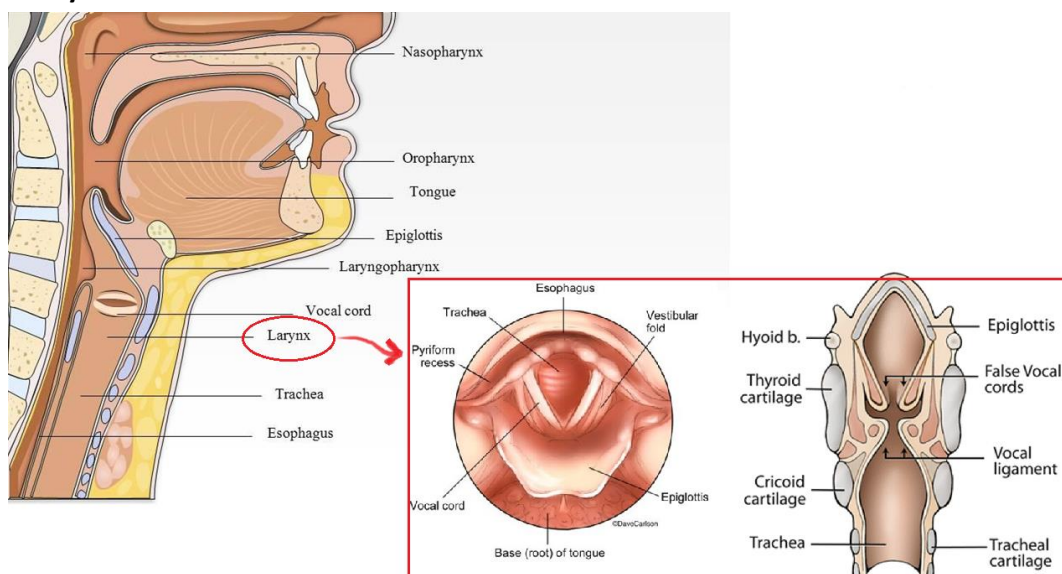
- What's the name of the imaging modality? **Brain MRI, axial cut**
- Diagnosis? **Acoustic neuroma**
- Treatment? **Surgical excision & radiotherapy.**



----- End of Otology :) -----

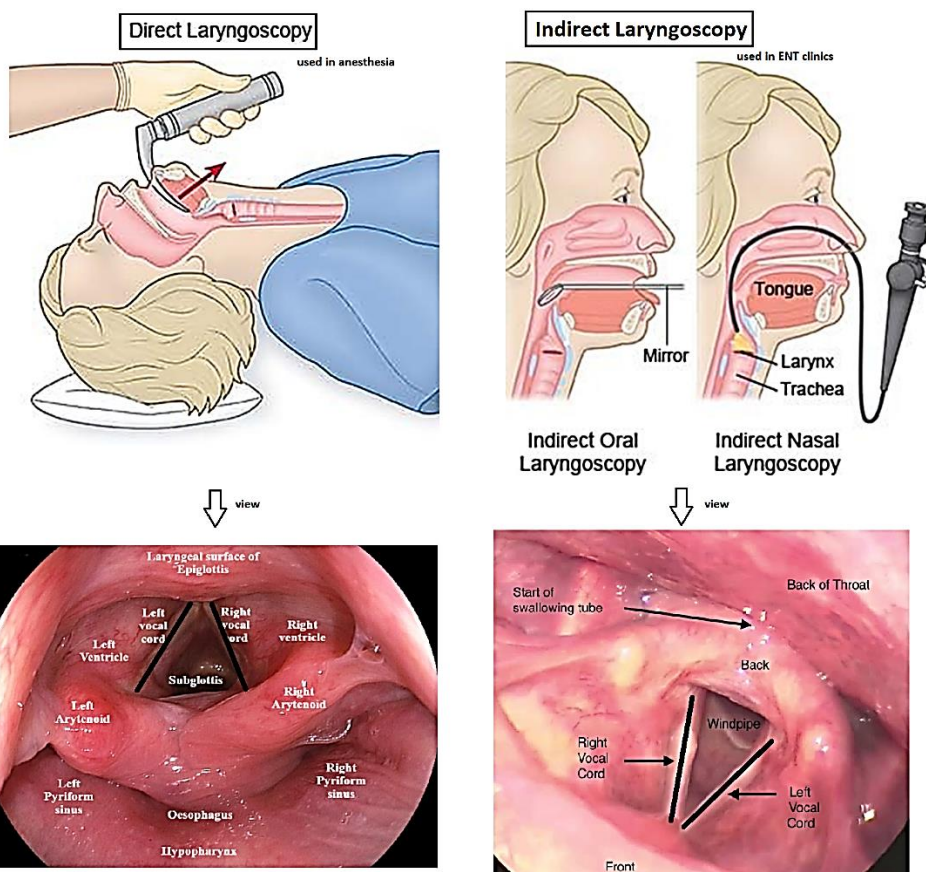
Laryngology + Head & Neck

● Larynx anatomy

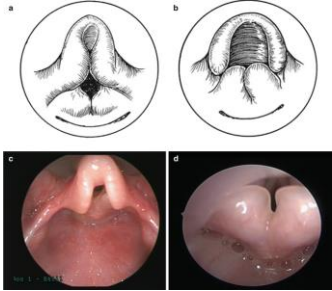
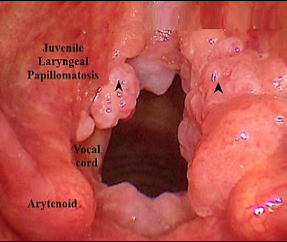
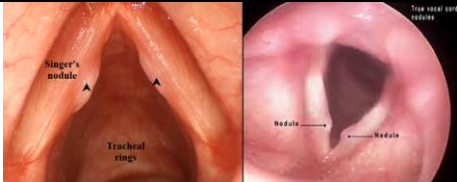


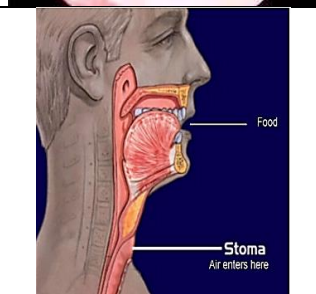
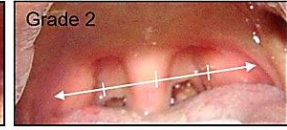
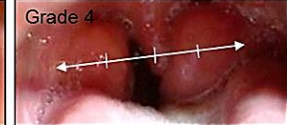
● Laryngoscopy

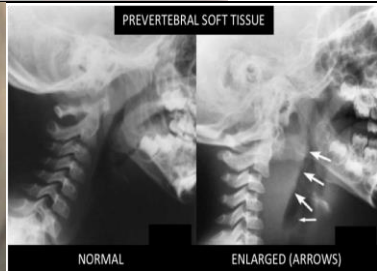
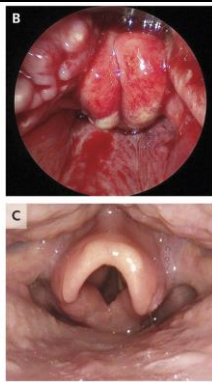
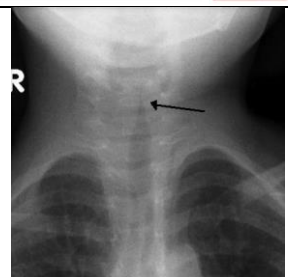
↳ 2 methods:



Laryngoscope	Finding(s)
	- Normal Anatomy of Larynx: 1. Epiglottis 2. Lt. Arytenoid 3. Lt. vocal cord 4. inter-arytenoid tissue 5. Glottis 6. pyriform sinus (mc site of hypopharyngeal ca) 7. aryepiglottic fold

	Case: A new born baby, C/O stridor during sleep (supine position) - Dx? <u>Laryngomalacia</u> - what is this sign? Omega-shaped epiglottis - Prognosis? Good, its symptoms peak around 6 mo and resolve spontaneously around the age 12-24 mo - Management? Observation, medical Tx., if not improved the do Supraglottoplasty surgery.														
	- Dx.? <u>Subglottic Stenosis</u> - Likely causes? Prolonged intubation - Tx.? Repair Surgery														
	- Dx.? <u>Laryngeal Papillomatosis</u> - causative organism? human papillomavirus (HPV) types 6+ 11. - Tx.? Surgical removal - why tracheostomy is contraindicated in this case? To avoid virus dissemination into lower respiratory system.														
	- Dx.? <u>Singer's nodules</u> (bilateral benign nodules on the anterior part of vocal cords) - cause? Over-exhaustion of voice - Tx.? Voice rest + hydration + voice therapy + PPI (due to the associating LPR)														
	- Dx.? <u>Polyp</u>, originating from the Rt. Vocal cord														
	<u>Laryngitis</u> due to LPR - Management: - Lifestyle modifications (Avoid food 2 hours before sleeping, Avoid smoking, coffee) - PPI <table border="1" data-bbox="783 1480 1477 1984"> <thead> <tr> <th>GERD</th><th>LPR (silent)</th></tr> </thead> <tbody> <tr> <td>Accompanied by esophagitis and/or heartburn</td><td>Esophagitis or heartburn is rarely present عشان هيك يسمي ارتداد مريء صامت</td></tr> <tr> <td>Reflux is nocturnal or in supine position</td><td>Reflux during daytime or in upright position</td></tr> <tr> <td>Abnormal esophageal motility and prolonged esophageal acid exposure</td><td>Intermittent episodes of reflux</td></tr> <tr> <td>Dysfunction of the lower esophageal sphincter</td><td>Dysfunction of the upper esophageal sphincter</td></tr> <tr> <td>Throat related symptoms are sometimes present</td><td>Leads to throat related symptoms and damage to the laryngopharyngeal epithelium</td></tr> <tr> <td>- comes with chest pain, bloating stomach, tooth enamel decay</td><td>- after post-nasal drip - comes with SOB</td></tr> </tbody> </table> Both cause: chronic cough, Regurgitation and Difficulty swallowing.	GERD	LPR (silent)	Accompanied by esophagitis and/or heartburn	Esophagitis or heartburn is rarely present عشان هيك يسمي ارتداد مريء صامت	Reflux is nocturnal or in supine position	Reflux during daytime or in upright position	Abnormal esophageal motility and prolonged esophageal acid exposure	Intermittent episodes of reflux	Dysfunction of the lower esophageal sphincter	Dysfunction of the upper esophageal sphincter	Throat related symptoms are sometimes present	Leads to throat related symptoms and damage to the laryngopharyngeal epithelium	- comes with chest pain, bloating stomach, tooth enamel decay	- after post-nasal drip - comes with SOB
GERD	LPR (silent)														
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		- Most likely Dx.? SCC mass on Lt. vocal cord - investigation? Biopsy (to determine type), CT or MRI (to determine stage) - Tx.? Surgery (laryngectomy) + Radiotherapy + chemotherapy
		After total laryngectomy and replacing a stoma at the base of neck. - How pt. is able to speak after total laryngectomy? By placing Voice prosthesis valve. - problems of stoma: - source of infection - needs heat and moisture exchanger (HME)
    		Grading of Tonsillar Hypertrophy, by Brodsky grading scale: 0 --> Tonsils Within tonsillar fossa (pillars) 1 --> tonsils occupy ≤25% of the oropharyngeal width 2 --> tonsils occupy 25-50% of the oropharyngeal width 3 --> tonsils occupy 50-75% of the oropharyngeal width 4 --> tonsils occupy > 75% of the oropharyngeal width
		- Dx.? Acute (follicular) Tonsillitis - Tx.? Oral Antibiotics, if not improved then admit for IV antibiotics
		- Dx.? Chronic Tonsillitis - causes? Chronic tonsils infection due to Reflux or chronic nasal obstruction.
 		- Dx.? Peritonsillar abscess - cause? After tonsillitis or URTI. - Associated symptoms? trismus - Tx.? Incision and drainage
 		- Dx.? Membranous tonsillitis (white membrane on tonsils) - Cause? Acute mononucleosis by EBV - what Antibiotic is contraindicated? Amoxicillin (increases symptoms) - associated symptoms? Lymphadenopathy and rash
		Case: old age, smoker (risk factors of ca) - Dx.? Oropharyngeal SCC

			- Dx.? <u>Tongue SCC</u>
			- Dx.? <u>Palate SCC</u>
		Case: pt. C/O trismus, dysphagia, odynophagia and had a previous sore throat, he done X-ray that shows prevertebral soft tissue thickening - Dx.? <u>Retropharyngeal abscess</u>	
		- Dx.? <u>Epiglottitis</u> - X-ray sign? thumb sign	
			- Dx.? <u>Croup</u> - X-ray sign? steeple sign

● Neck masses

			- Dx.? <u>Parapharyngeal abscess</u> - mention other possible DDx? - Brachial cyst - Lipoma - Lymphadenopathy - Tx.? Incision and drainage
		Branchial Cyst	- Dx.? <u>Branchial cyst</u> - site? along border of the sternocleidomastoid muscle.
			- Dx.? <u>Cystic Hygroma (lymphangioma)</u> - site? posterior cervical triangle

		- Dx.? <u>thyroglossal duct cyst</u> - Site? Midline in the region of the hyoid bone.
		- <u>Goitre</u>

● Past paper Questions

1. An infant presented with inspiratory stridor. This is his fiber-optic laryngoscopy during the inspiratory phase ...

- Diagnosis? **Laryngomalacia**
- Prognosis? **Good prognosis (they usually resolve on their own at the age of 1 year)**



2. A 23-year-old came complaining of sore throat & odynophagia.

- Diagnosis? **Follicular tonsillitis**
- After a week if there's no improvement after taking antibiotics, & there's trismus, what's the most likely diagnosis? **Peritonsillar abscess**



3. According to the picture...

- Diagnosis? **Peritonsillar abscess**
- Presenting symptoms? **Severe sore throat, dysphagia, very high spiking fever, trismus, hot potato voice and dehydration.**
- Best investigation to confirm the diagnosis? **Needle aspiration of the abscess site**
- What is the most important thing to do for treatment? **Drainage of the abscess**
- What is the most important complication? **Blockage of the airway/sepsis**



4. According to the picture ...

- Diagnosis? **Squamous cell carcinoma of the tongue**
- How to confirm the diagnosis? **Biopsy**
- Treatment? **Excision & radiotherapy.**



5. According to the picture ...

- Diagnosis? **Left facial nerve palsy**
- What is the best medical treatment? **Corticosteroids**



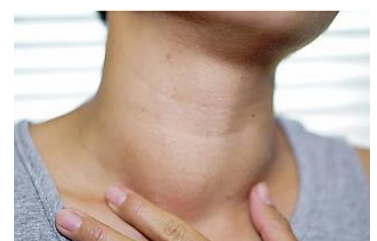
6. A patient with a history of an URTI presented with the following ...

- Diagnosis? **Peri-orbital cellulitis**
- Treatment? **IV antibiotics (anti-streptococcus antibiotics).**



7. According to the picture ...

- What are 3 structures of head & neck that could be affected? **Nasopharynx, thyroid and nose.**
- First step in diagnosis? **Ultrasound then FNA**



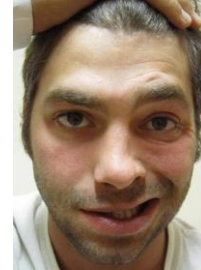
8. According to the picture...

- What is the best first investigation? **Ultrasonography**
- What is the best next step for investigation? **FNA & biopsy**



9. According to the picture ...

- Diagnosis? **Right facial nerve palsy**
- What is the best medical treatment? **Corticosteroids.**



10. according to the picture ...

- Diagnosis? **Follicular tonsillitis**
- 3 other differential diagnoses? **Infectious mononucleosis, diphtheria or scarlet fever**
- 2 lines of treatment? **IV antibiotics, tonsillectomy if indicated.**



11. according to the picture ...

- Diagnosis? **Thyroglossal duct cyst**
- Treatment?
 - 1. resolution of any infection.**
 - 2. Sistrunk operation: Surgical removal of the cyst and the central part of hyoid bone body; to avoid its recurrence.**



12. A 11-year-old child with a neck mass, night sweats, & liver mass.

- Diagnosis? **Lymphoma**
- Best investigations? **Ultrasound & FNA**



----- End of Laryngology and Head & Neck :) -----

The End
موفقين



Reminder of the GREATEST team of ALL time !