The Ear, Nose, and Throat Exam

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Disclosures

- We have no funding or financial interest in any product featured in this presentation. The items included are for demonstration purposes only.

- We have no conflicts of interest to disclose.

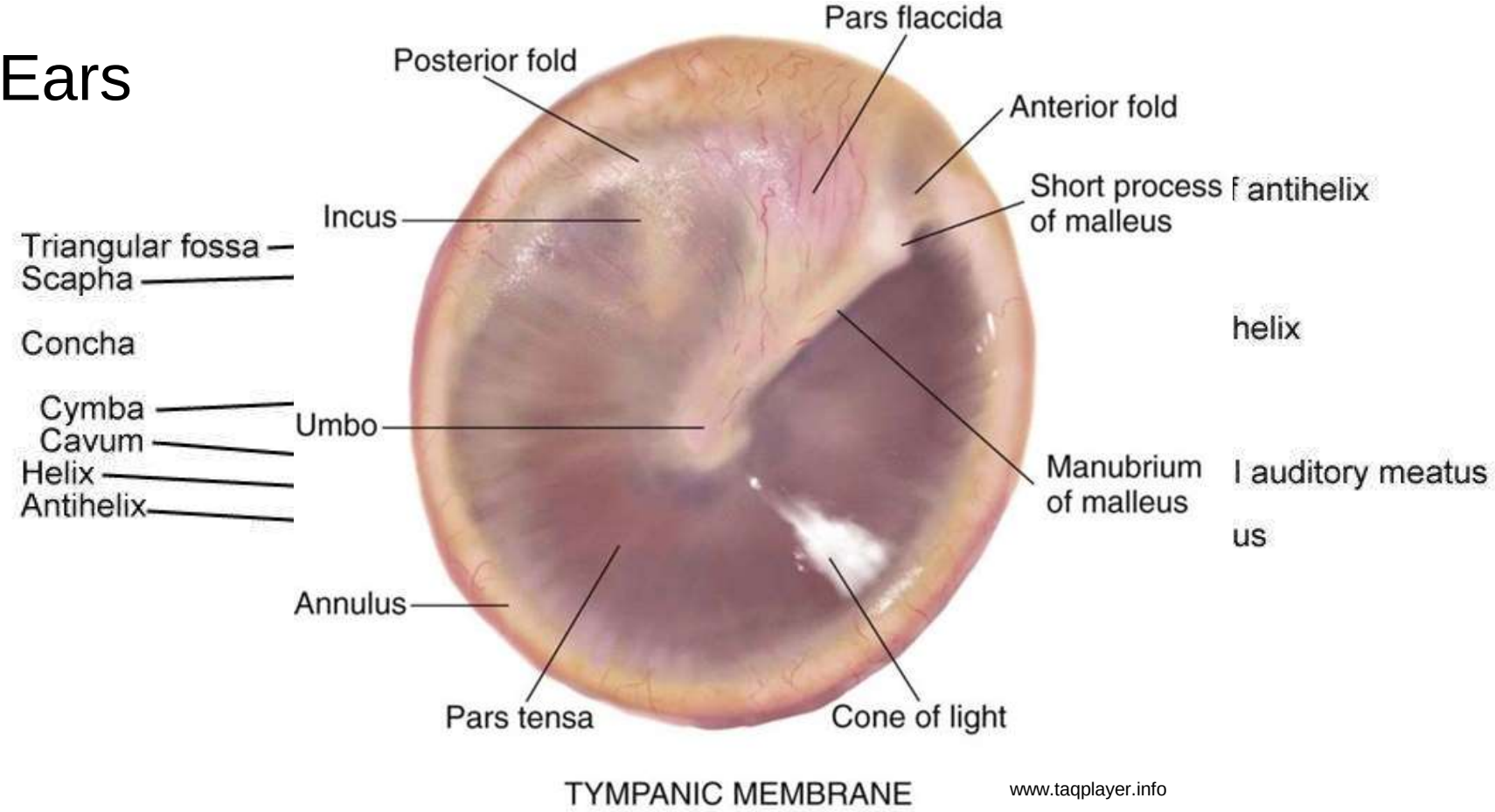
Overview

- Overview of clinically oriented anatomy - presented in the format of the exam
- The approach
- The examination
- Variants of normal anatomy
- ENT emergencies
- Summary/highlights
- Questions

Anatomy

- The head and neck exam consists of some of the most comprehensive and complicated anatomy in the human body.
- The ear, nose, and throat comprise a portion of that exam and a focused clinical encounter for an acute ENT complaint may require only this portion of the exam.

Ears



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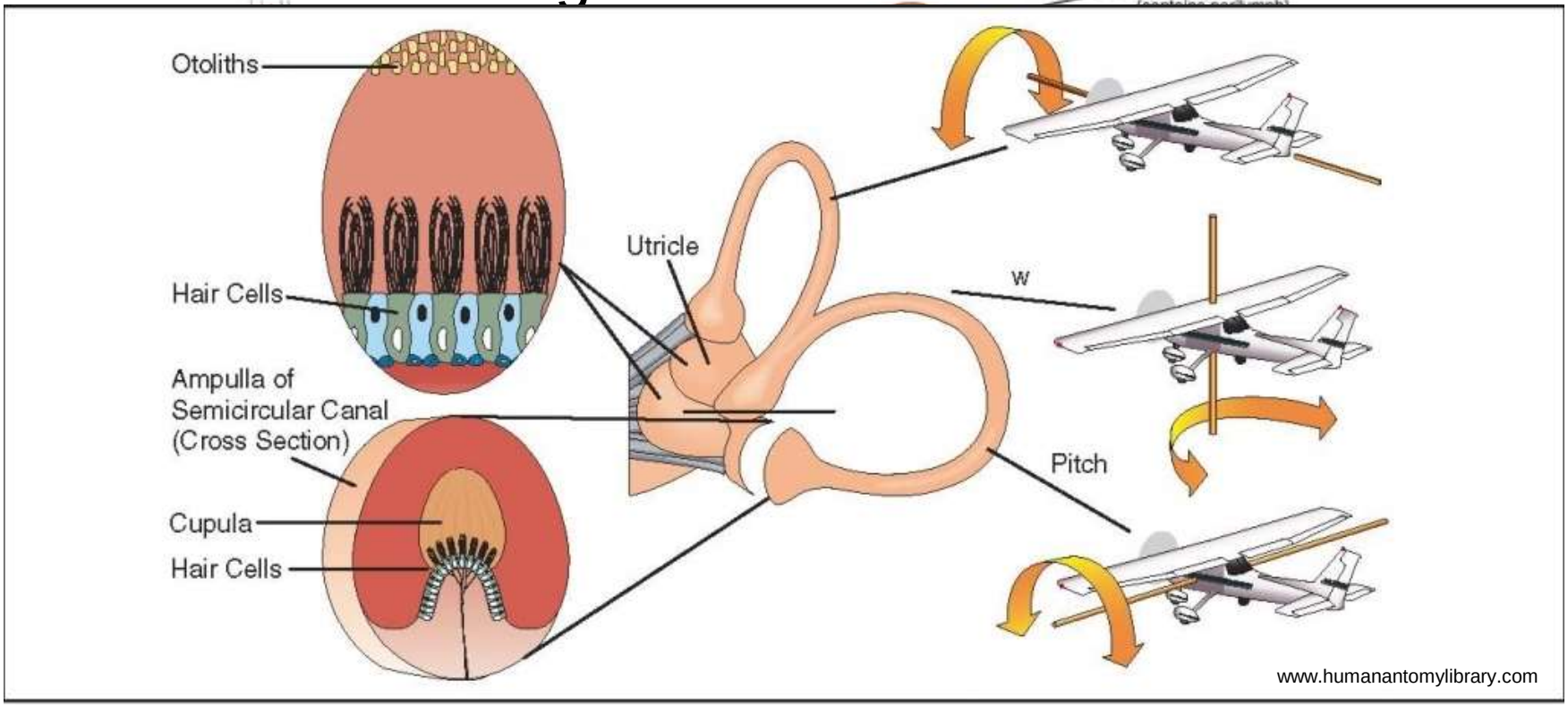
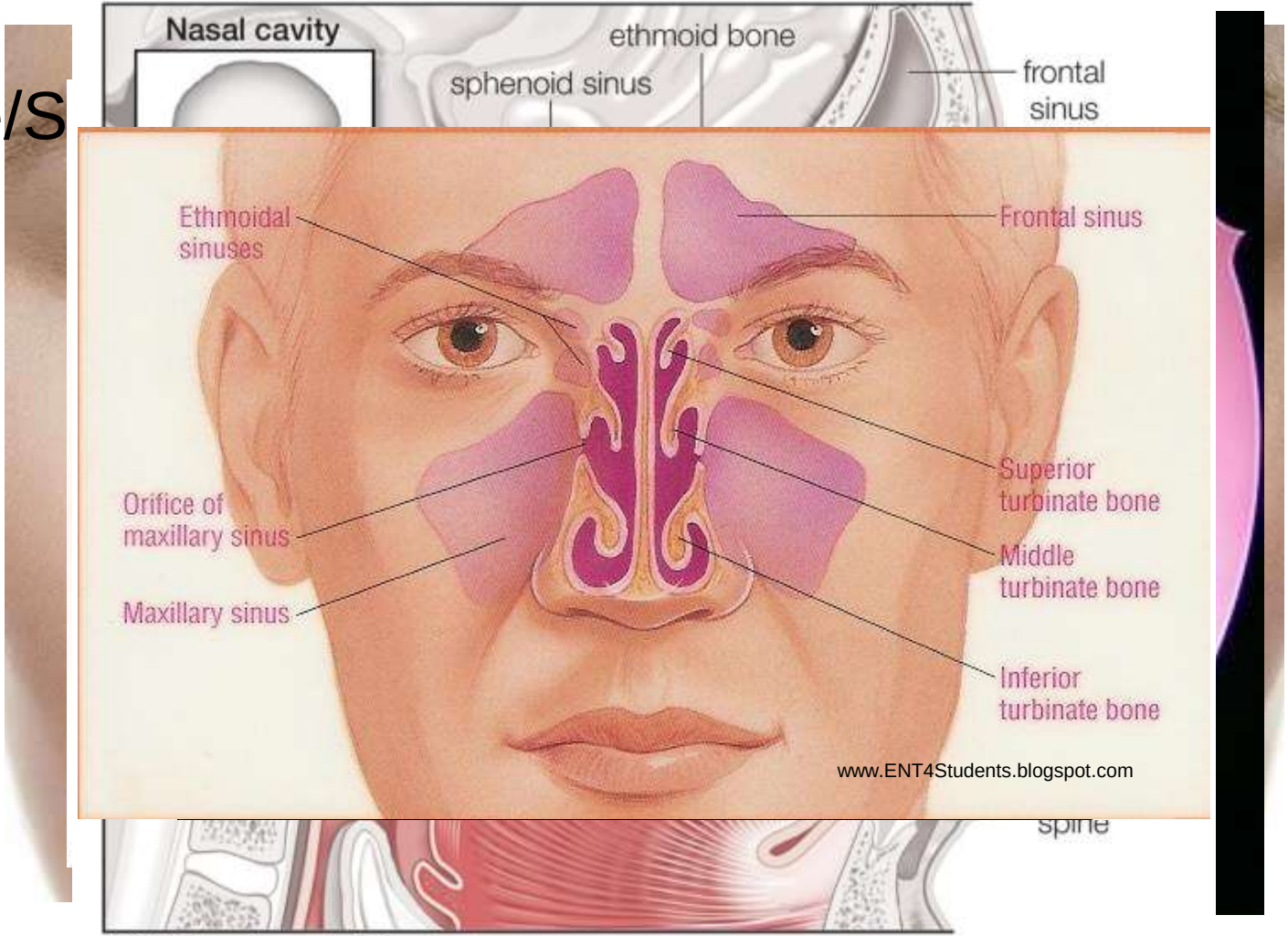
Ear – Vestibular organ



Nose/S


Nasal cavity
ethmoid bone
sphenoid sinus
frontal sinus
Ethmoidal sinuses
Frontal sinus
Orifice of maxillary sinus
Maxillary sinus
Superior turbinate bone
Middle turbinate bone
Inferior turbinate bone
www.ENT4Students.blogspot.com
spine
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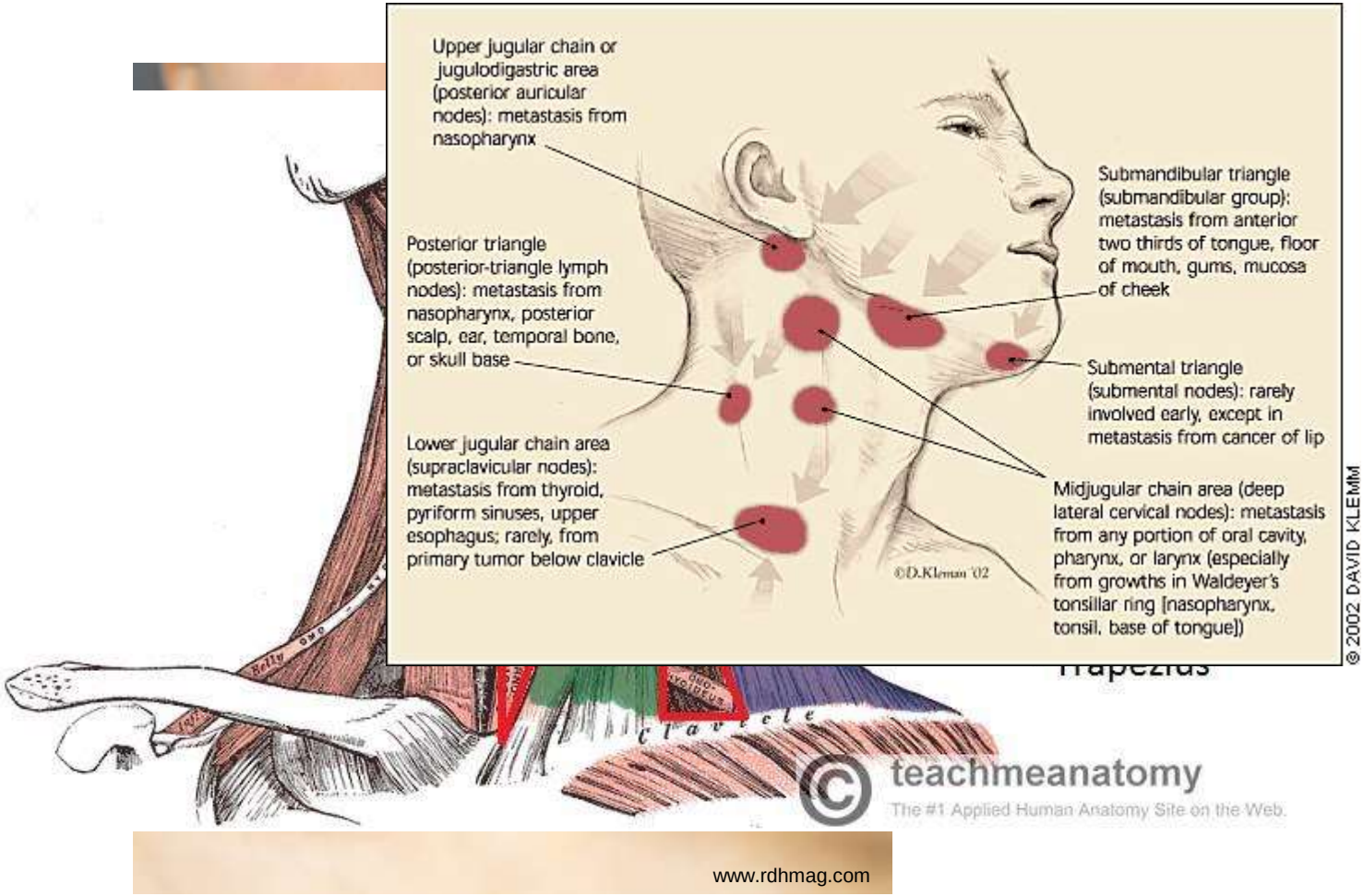
Oral cavity

Neck


Upper jugular chain or jugulodigastric area (posterior auricular nodes): metastasis from nasopharynx
Posterior triangle (posterior-triangle lymph nodes): metastasis from nasopharynx, posterior scalp, ear, temporal bone, or skull base
Lower jugular chain area (supraclavicular nodes): metastasis from thyroid, pyriform sinuses, upper esophagus; rarely, from primary tumor below clavicle
Submandibular triangle (submandibular group): metastasis from anterior two thirds of tongue, floor of mouth, gums, mucosa of cheek
Submental triangle (submental nodes): rarely involved early, except in metastasis from cancer of lip
Midjugular chain area (deep lateral cervical nodes): metastasis from any portion of oral cavity, pharynx, or larynx (especially from growths in Waldeyer's tonsillar ring [nasopharynx, tonsil, base of tongue])
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Trapezius
clavicle
teachmeanatomy
The #1 Applied Human Anatomy Site on the Web.
www.rdhmag.com

The Ear, Nose, and Throat exam

❑Perform in a standardized systematic way that works for you

❑Do it the same way every time, this mitigates risk of missing a portion of the exam

❑Practice the exam to increase comfort with performance and familiarize self with variants of normal

❑Describe what you are doing to the patient, describe what you see in your documentation

❑Use your PPE as appropriate

A question to keep in mind…

- T/F: The otoscope is the optimal tool for examining the tympanic membrane.

What you'll need:

www.welchallyn.com

www.welchallyn.com

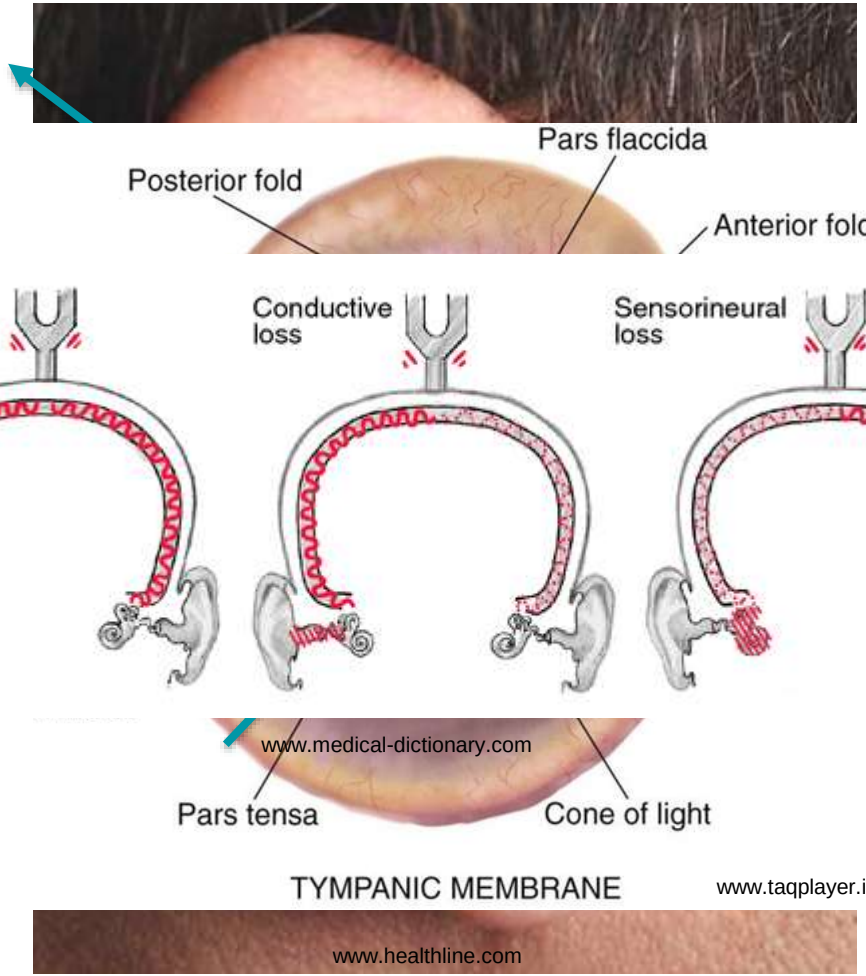
www.mkmedicalsuk.com

www.gloves4less.co.uk

www.selfcare-gloves.com

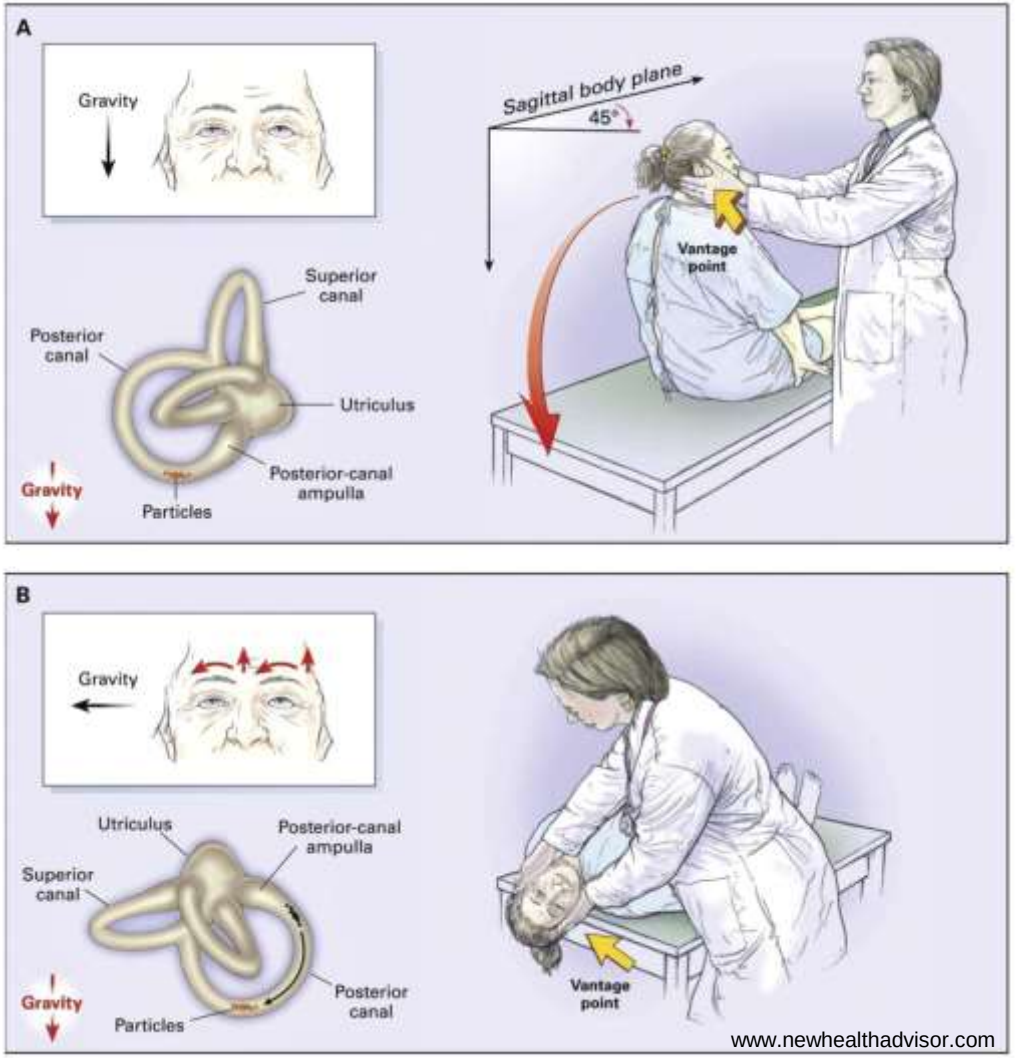
Ear exam

- Visually inspect auricle, make note of color/deformity
- Pull auricle posterosuperiorly
- Use otoscope with speculum t exam EAC and tympanic membrane
- Note color of canal and TM, retractions, perforations, effusion, tympanostomy tube
- Conduct tuning fork exam



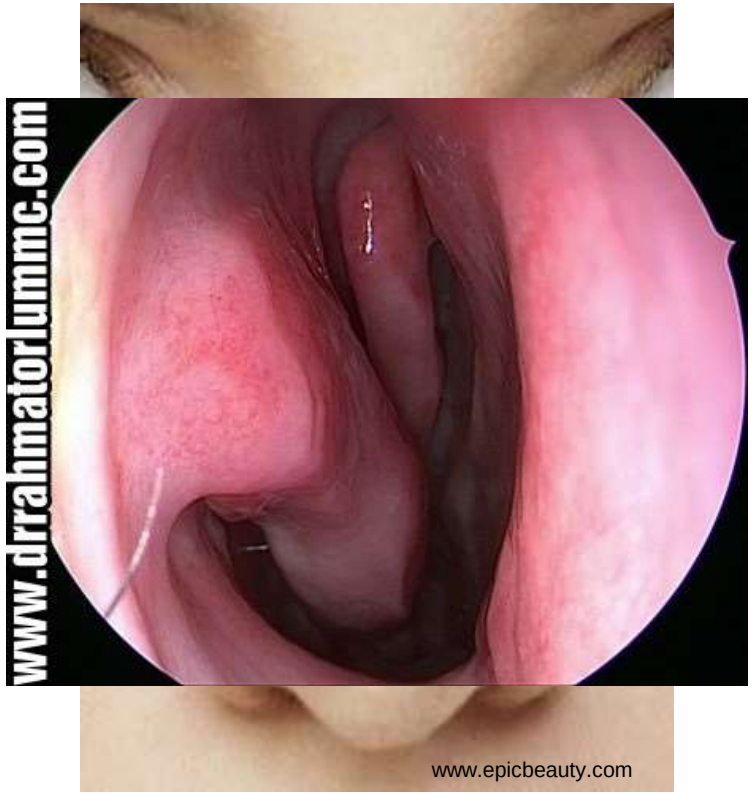
Vestibular exam

- ❑ Dix-Hallpike Maneuver
- ❑ For posterior semicircular canal BPPV
- ❑ Supine Roll Test
- ❑ Horizontal SCC BPPV
- ❑ Fukuda Step Test



Nasal exam

- ❑ Visually inspect the nose, make note of gross deformity
- ❑ Palpate nasal bones for step-off
- ❑ Use otoscope with speculum to visualize nasal mucosa
- ❑ Note color, swelling, deviation, mucus quality

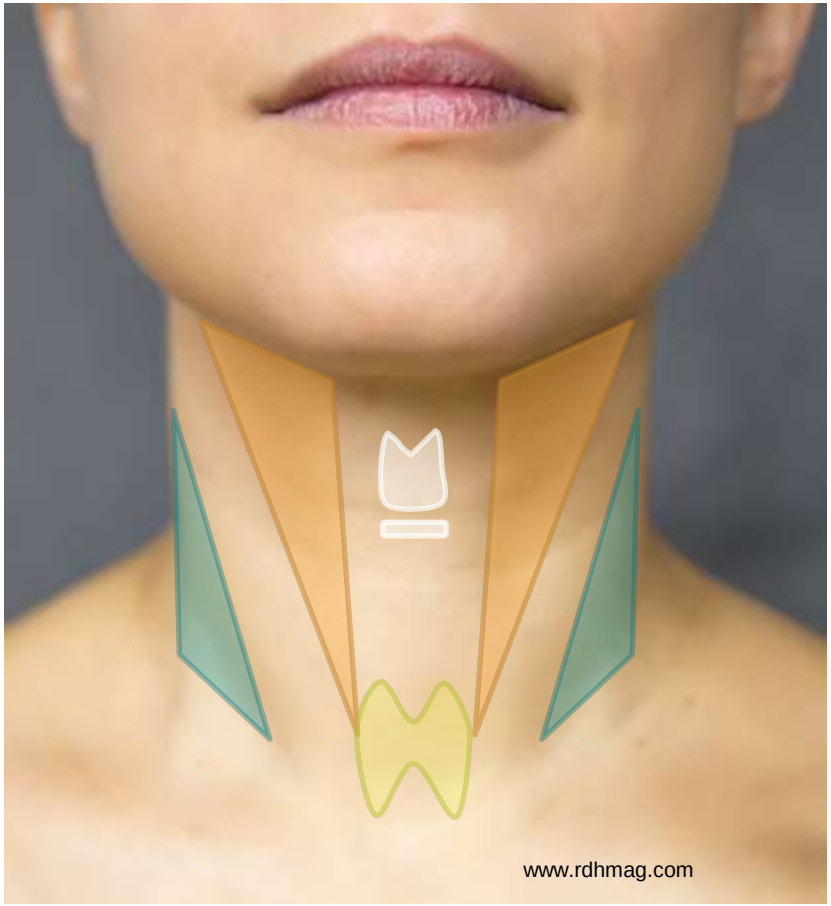


Oropharyngeal exam

- Using good light source, inspect oral cavity and oropharynx
- With tongue relaxed, use 1-2 tongue blades to press at base of tongue to expose palatine tonsils
- With incomplete oral opening, use a gloved hand to aid visualization of:
- Gingivobuccal sulcus, floor of mouth, retromolar trigone, and roof of mouth

Neck exam

- ❑Most sensitive when performed without gloves, however, must weight PPE benefit.
- ❑Palpate with pads of the fingers, rather than the tips
- ❑Glide over the pre-auricular, post-auricular, parotid, anterior and posterior triangles of the neck, include supraclavicular fossa
- ❑Palpate the thyroid gland



Questions to keep in mind…

- T/F: Sudden sensorineural hearing loss is an otolaryngologic emergency.
- T/F: A hard mass on the roof of the mouth is always a cause for concern.

Normal Variants

Torus Palatine

Osteoma

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Scenario 1

51 y/o male presents with acute onset of “ear stuffiness” and decreased hearing with tinnitus over past day. He has no imbalance. He had a URI about a week ago.

PMHx = HTN, Hypercholesterolemia

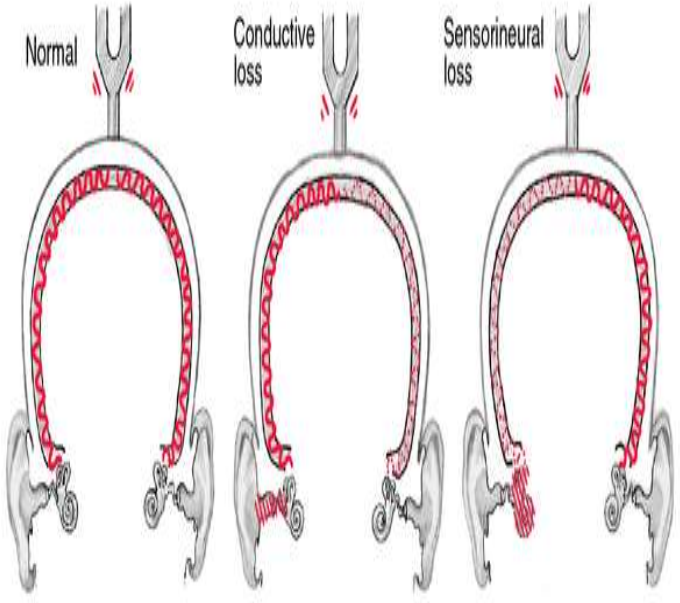
Meds = Atenolol, simvastatin

Occupation = machinist

PE = normal, weber lateralized to opposite ear, rhinne negative

Sudden Sensorineural Hearing Loss

- 20 cases /100,000 (1-2% bilateral)
- Predisposing factors = URI, cholesterol
- Etiology = viral infection vs. ischemic event vs. autoimmune?
- Management
  - Steroids (high-dose, short-term, d/c if no response)
  - Antivirals (controversial)



www.medical-dictionary.com

Scenario 2

27 year old female presents with 3 days history of progressive “droopy lip”. Her right eye has been bothering her and her right ear seems sensitive to loud noises. Avid hiker, lives in Maryland.

PMHx = None

Meds = None

PE = facial droop on the right side

Facial Nerve Paresis/Paralysis

- Multiple etiologies:
  - Infection (Lyme Disease)
  - Tumor (Vestibular schwannoma, brainstem tumor)
  - Idiopathic (Bell's Palsy – HSV infection?)
- Protection of the cornea which is at risk due to inadequate eye closure is the first priority!!
- Management
  - Determine cause (imaging, etc)
  - Steroids (high-dose, short-term, d/c if no response)
  - Antivirals (controversial)
  - Antibiotics (Lyme Disease)
- Prognosis
  - Poor - complete paralysis, rapid onset
  - Good – paresis, gradual onset

Scenario 3

10 y/o male s/p blow to nose by baseball during a game three days ago. Severe but brief nosebleed. Significant swelling over last three days now resolved revealing a “crooked nose”. No nasal obstruction.

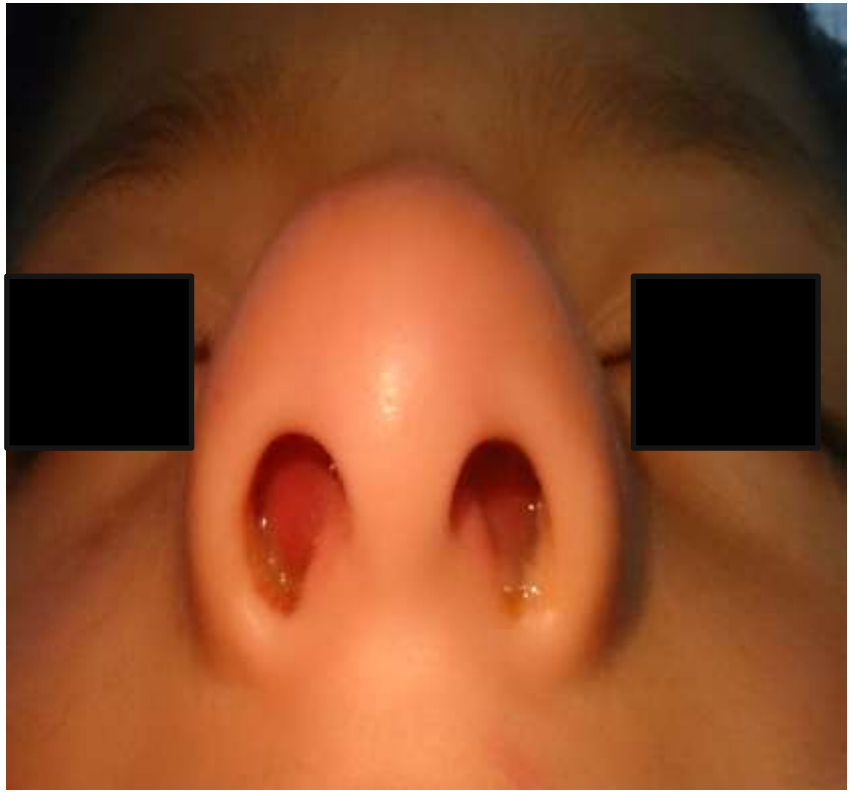
PMHx = none

Meds = none

PE = vision normal

Nasal Fractures

- AGAIN, Remember ABCDs!!! (Other injuries)
- Remember to assess vision!
- Must rule out Septal Hematoma
- Imaging studies NOT needed
- Management is purely cosmetic
  - Closed reduction- must be done within the first 10 days
  - Open reduction (at least 6 months later) for failed closed reduction or electively



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Scenario 4

88 y/o male presents with severe nosebleed. By report, started spontaneously. Has not responded to pressure. Has bled through “several tissues”

PMHx = HTN, CAD, no bleeding history, s/p coronary stenting

Meds = Atenolol, Norvasc, Flonase, Plavix, Aspirin

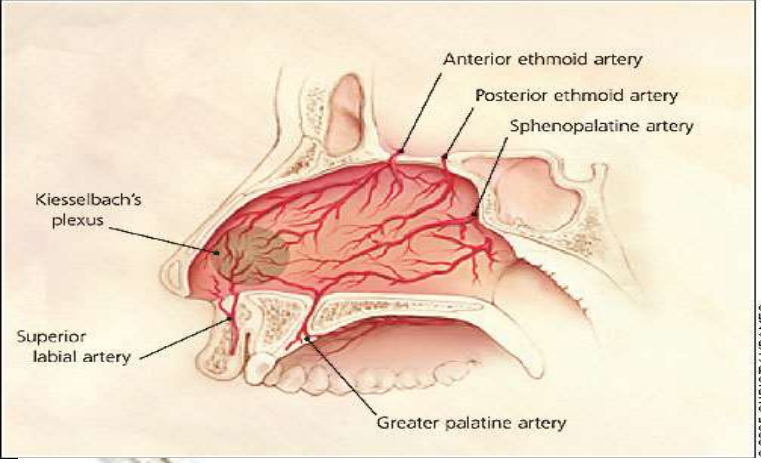
PE = tachycardia, pale, lethargic, nosebleed from right nostril

Epistaxis

- Remember ABCs!!! (“C” in this case)
- Resuscitate the patient first!
- Anterior versus posterior
  - Anterior = far more common (Digital trauma)
  - Posterior = rare, significant blood loss
- Consider contributing factors:
  - Meds (Plavix, coumadin, aspirin)
  - Clotting factors (DIC, platelets)

Hereditary Coagulopathy (Von Willebrand, Vitamin K deficiency)

- Management
  - Pressure
  - Afrin (vasoconstrictor)
  - Packing (Anterior versus Posterior)



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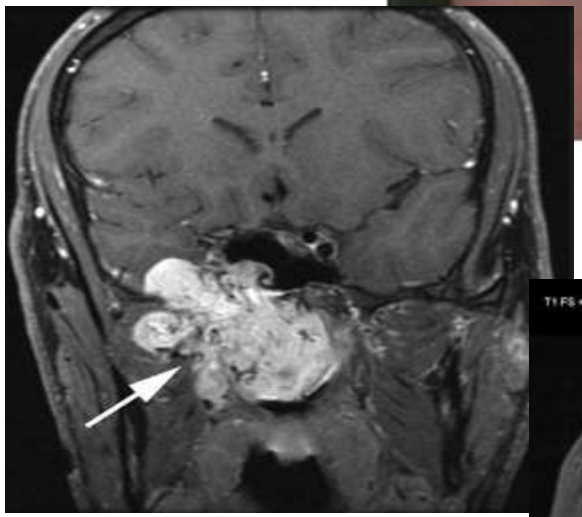
Juvenile Nasal Angiofibroma

● Epistaxis will usually not require ENT intervention unless posterior bleed

●One exception is teenage age males

●Rare tumor with first presenting symptoms unilateral Epistaxis

●All teenage males require flexible nasal endoscopy if presenting with epistaxis



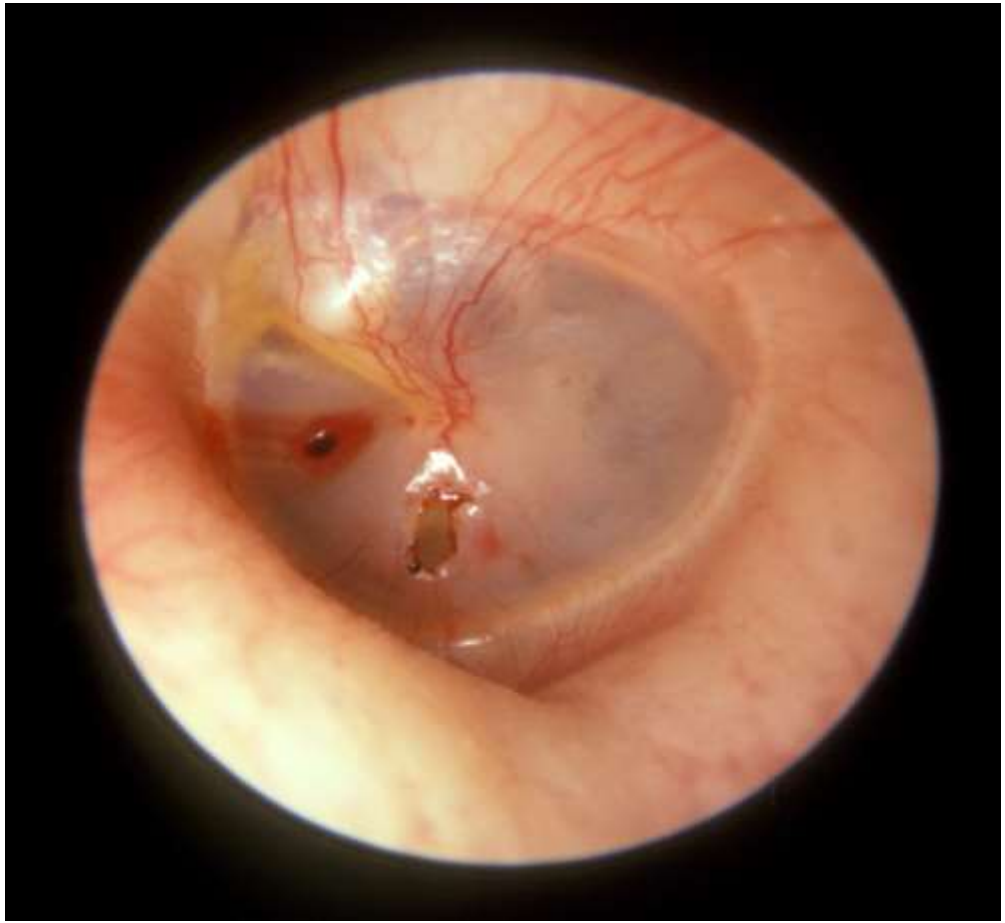
Scenario 5

52 y/o male who was cleaning his ear with a Q-tip when he felt sudden pain. Blood came form the ear and he felt some difficulty hearing but denies vertigo

PMHx = None

Meds = None

PE = see image



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Tympanic Membrane Perforation

- Direct trauma or barotrauma (Diving, weightlifting)
- 2 Main Features:
  - TM trauma – usually resolves if edges aligned
  - Middle Ear trauma – variable
- Management
  - Topical drops and water precautions – observe TM for spontaneous healing
  - Otherwise, perform tympanoplasty
  - If hearing loss/vertigo/nystagmus – explore ear surgically versus observation bedrest (Barotrauma)

Normal Ear Drum

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Acute Otitis Media

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Large Perforation with Cholesteatoma

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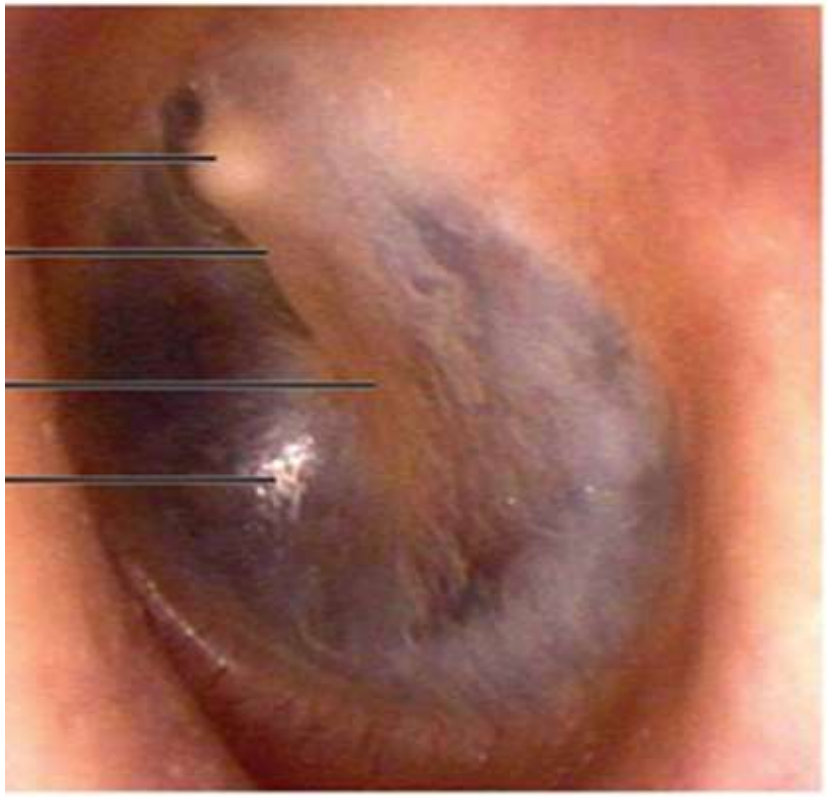

Hemotympanum

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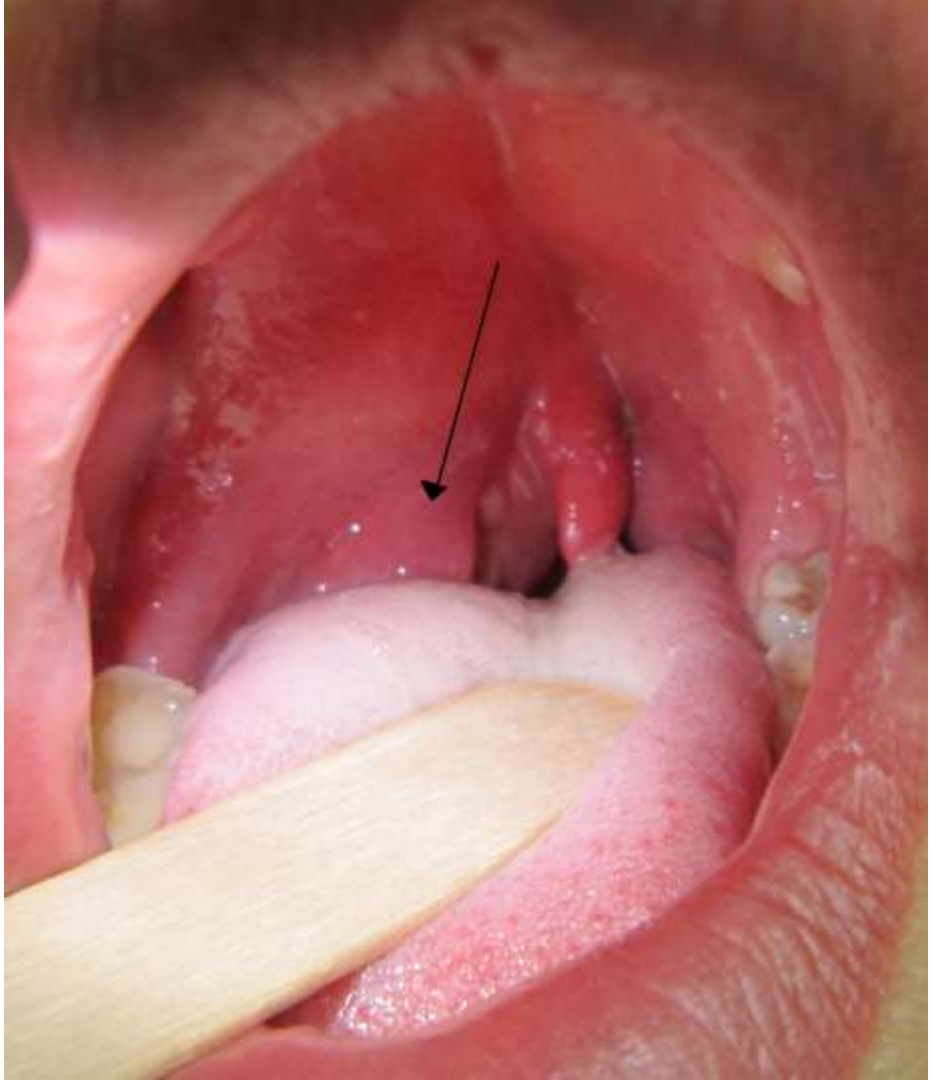
Scenario 6

21 y/o male presents with 5 days history of progressive right greater than left odynophagia. Given PCN by primary care three days ago. Drooling, cannot take PO

PMHx = none

Meds = none

PE = fever, tachycardia, trismus



Peritonsillar Abscess

- ABC Resuscitation
- Crucial Clinical components
  - Fever/pain/inflammation
  - Trismus
  - Palatal edema/asymmetry (Tonsil usually looks OK)
- Imaging only in pediatric patients

- Management
  - Incision and drainage- Gold Standard
  - Consider admission for IV hydration/antibiotics
  - Sometimes multiple I/D required
  - Consider Tonsillectomy after 6 weeks

Summary

- Conduct your ENT exam in a routine way each time and when you are uncertain of what you find, just describe what you see
- Airway, Breathing and Circulation are Paramount to all ENT emergencies and resuscitation
- Clinician recognition and understanding abnormal anatomy stems from extensive exposures to what normal looks like

References

Flint, P. W., & Cummings, C. W. (2014). *Cummings otolaryngology head & neck surgery 6e*

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