Introduction
To Otorhinolaryngology
Basic History & Physical Exam

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Know your lecturer

- MD University of Jordan- Amman 2012
- Otolaryngology residency – Jordan University Hospital- Amman 2018
- Jordanian Board of Otolaryngology – Jordanian medical council 2018
- Royal college Membership and Diploma of ORL-HNS – UK - 2019
- FRCSc (Facial plastic surgery) – University of Toronto – Toronto – Canada (2020-2023).

- The importance of obtaining a thorough **History and physical examination** cannot be underestimated. In many cases, a carefully conducted clinical evaluation can elucidate the **diagnosis.** in others, it is critical for directing further evaluation and for avoiding unnecessary testing

- **Otolaryngology–head and neck surgeons are** privileged in the extraordinary amount of information that can be ascertained by a meticulous physical examination, because pertinent structures are easily accessed, and extended evaluation tools that include **fiber optic endoscopes** are readily available.

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Obtaining the history
Inquire about chief complaints

The presence or absence of **pain** should be elicited at every office visit.

- **Location and Radiation**
- **Timing: Onset, Frequency & Duration**
- **Quality and/or Characteristics**
- **Quantity and/or Severity**
- **Aggravating Factors**
- **Alleviating Factors**
- **Associated Factors/Manifestations**
- **Underlying Concern and/or Perception**

Obtaining the history
Review patient History

1. **Medical history :**

(previous emergency department visits, hospitalizations, and health problems)

2. **Surgical history :**

A complete surgical history is important, to anticipate anatomic alternations, and to assess anesthetic risks that may be encountered, should further surgical treatment be undertaken.

Obtaining the history
Review patient History

Obtaining the history
Review patient History

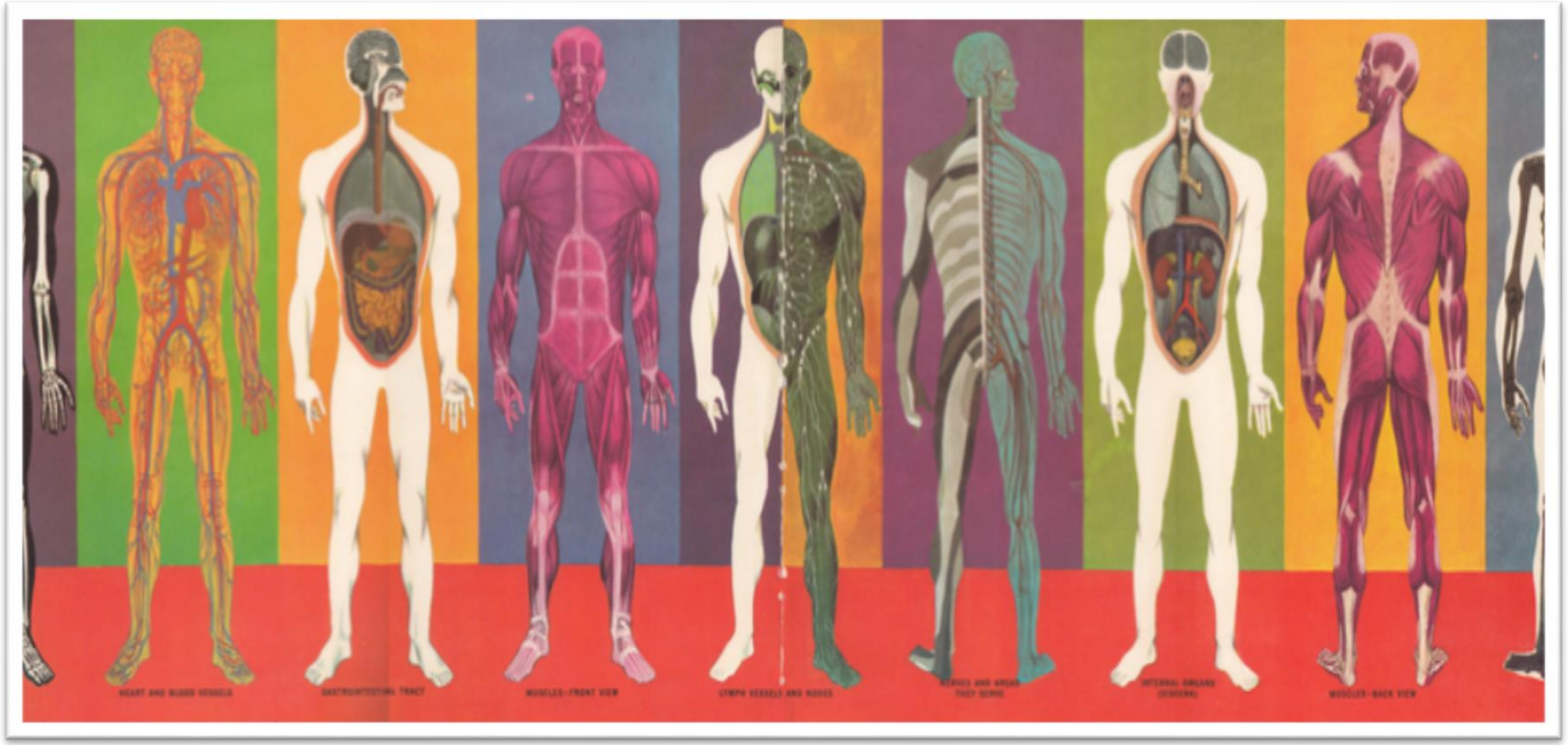
Social History :

1. Exposure to **Tobacco**.
2. **Alcohol** consumption (the amount consumed, frequency, choice of beverage, and duration of use)
3. Recreational and intravenous (**IV) drug** use.
4. **sexual history.**
5. **Occupational** and vocational exposures to potential carcinogens and noise.
6. A history of prior **irradiation**, method of treatment (implants, external beam, or by mouth), and dosage should be ascertained.
7. An understanding of the patient's living environment and available **social support** is significant in assessing postoperative needs Assessment of the patient's ability to perform critical activities of daily living is equally important. One frequently utilized tool, especially in head and neck cancer patients, is the Karnofsky Performance Status Scale .

TABLE 4-1. Karnofsky Performance Status Scale

Definition	%	Criteria
Able to carry on normal activity and to work; no special care is needed	100	Normal; no complaints; no evidence of disease
	90	Able to carry on normal activity; minor signs or symptoms of disease
	80	Normal activity with effort; some signs or symptoms of disease
Unable to work; able to live at home, care for most personal needs; a varying amount of assistance is needed	70	Cares for self; unable to carry on normal activity or to do active work
	60	Requires occasional assistance; able to care for most personal needs
	50	Requires considerable assistance and frequent medical care
Unable to perform self-care; requires equivalent of institutional or hospital care; disease may be progressing rapidly	40	Disabled; requires special care and assistance
	30	Severely disabled; hospitalization is indicated, death not imminent
	20	Very sick; hospitalization necessary; active supportive treatment necessary
	10	Moribund; fatal processes progressing rapidly
	0	Dead

Obtaining the history
Review of systems



Obtaining the history
Review of patient records

- The first step in gathering the patient history begins before the patient sets foot in the clinic with a **thorough review of patient records.**

- First, a review of available **chart notes** from the referring physician should elucidate the clinical reasoning that prompted the patient's visit.

- It is very helpful to obtain copies of previously obtained **radiographic images** to review. Although the reading radiologist's reports are valuable, there is no substitute for a personal review of all relevant imaging by the otolaryngologist.

Obtaining the history
Review of patient records

- If previous operations have been performed, review of the **operative reports** is invaluable.

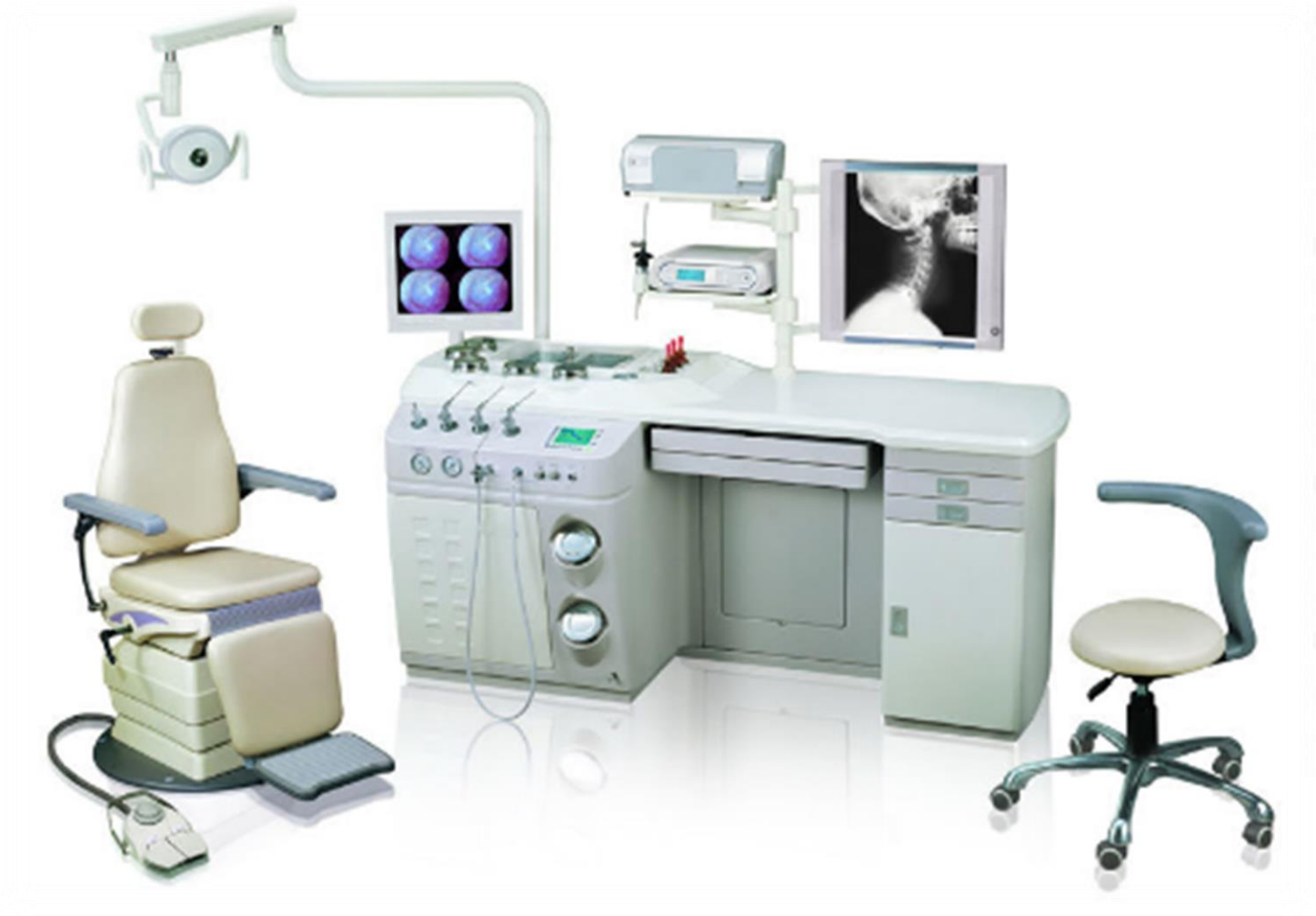
- It is important to examine **pathology reports** and, especially for malignant and unusual lesions, to obtain the original pathologic slides for review by the pathology department for a second opinion.

- Finally, **laboratory values** can provide much information and should be carefully reviewed. .

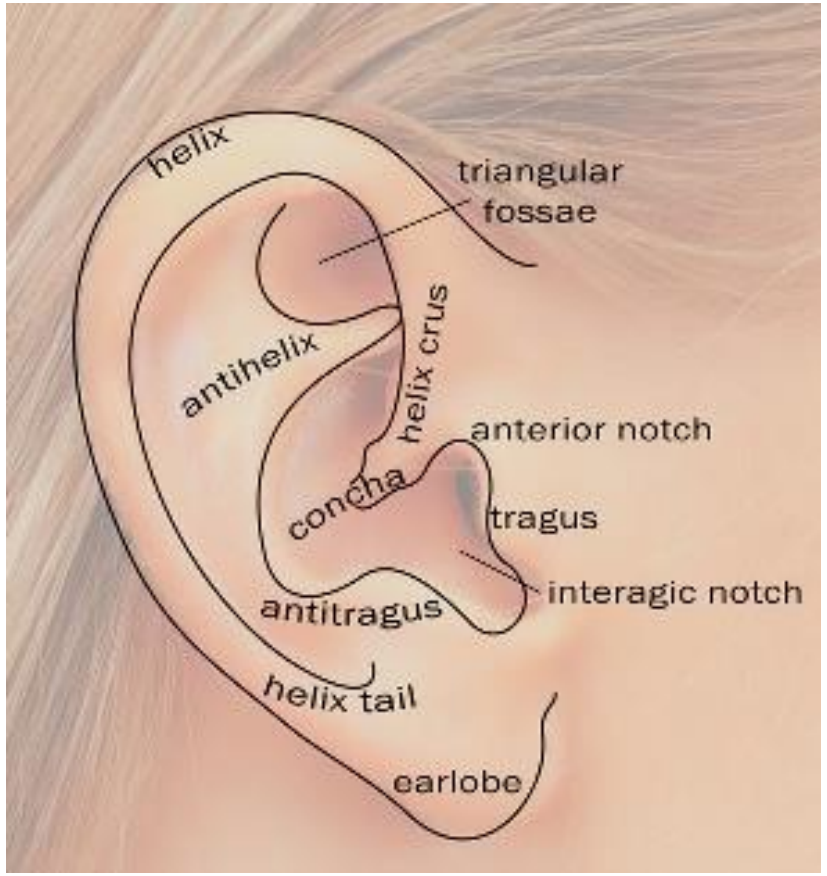
Physical Exam

Introduction to basic principles

ENT treatment unit

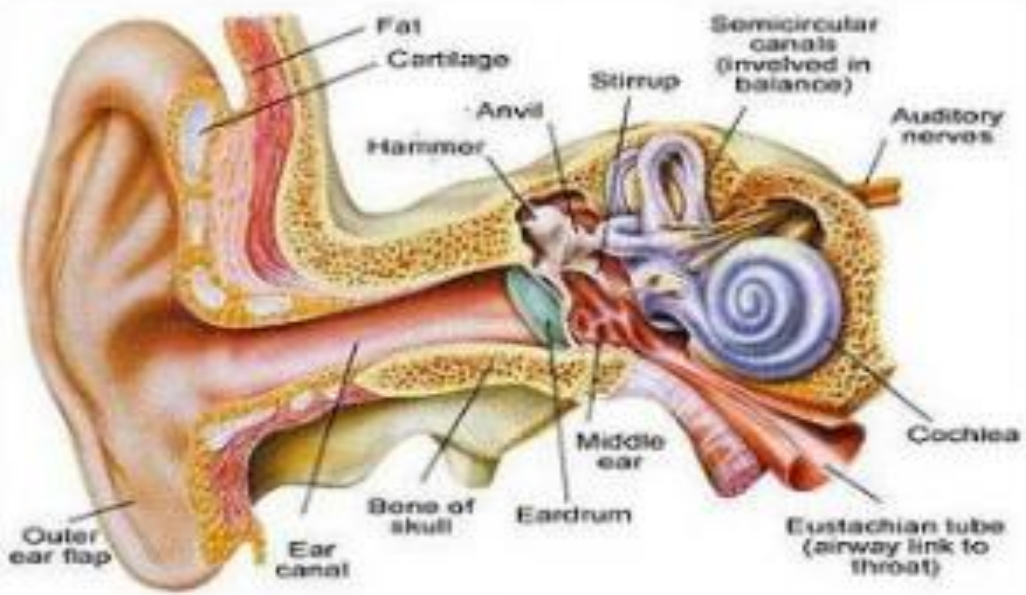


Ear examination

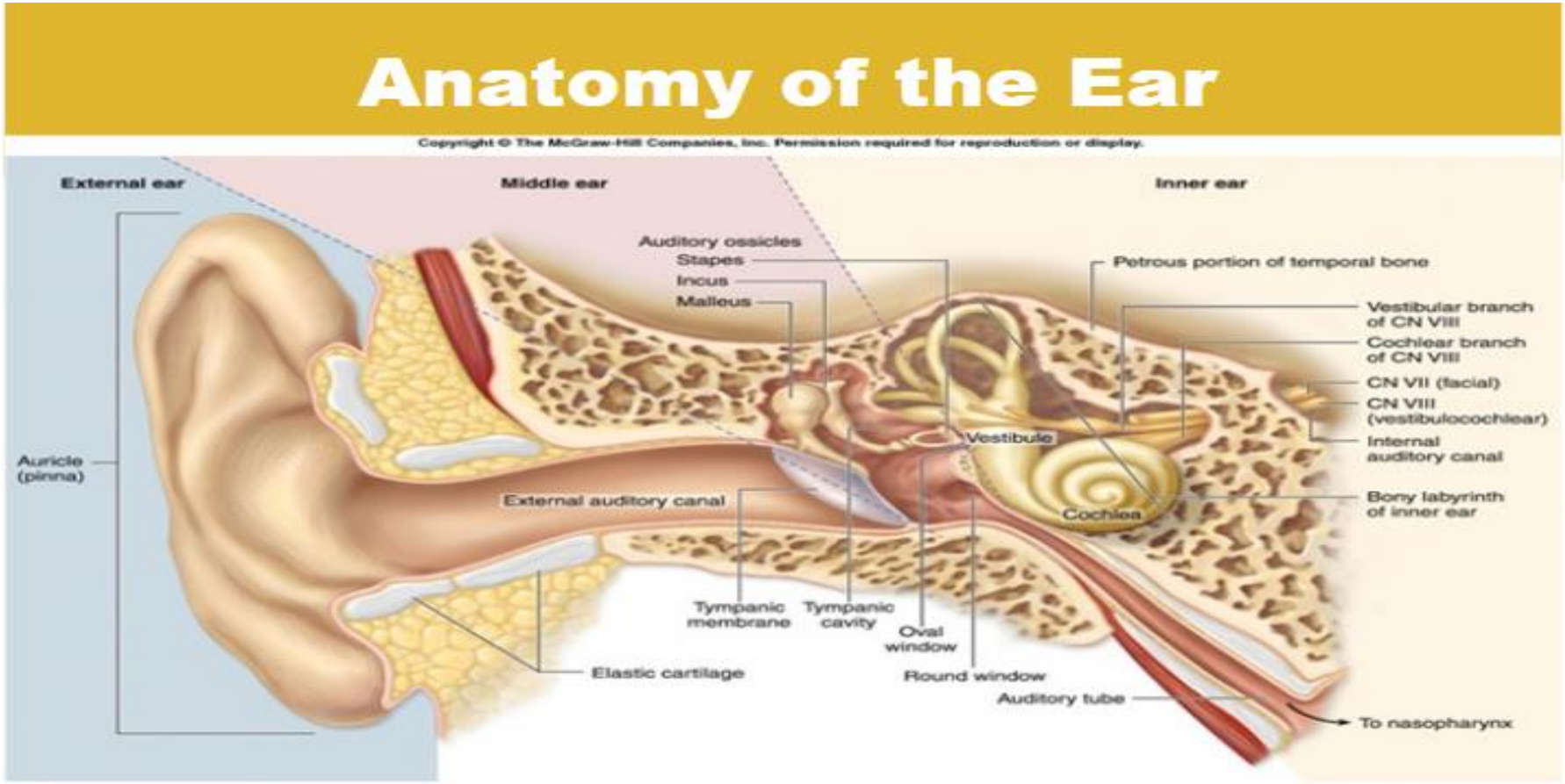


Ear symptoms

- A patient with ear disease presents with one or more of the following complaints:
  - 1. Hearing loss.
  - 2. Tinnitus.
  - 3. Dizziness or vertigo.
  - 5. Earache.
  - 4. Ear discharge.
  - 6. Itching in the ear.
  - 7. Deformity of ear pinna.
  - 8. Swelling around the ear.



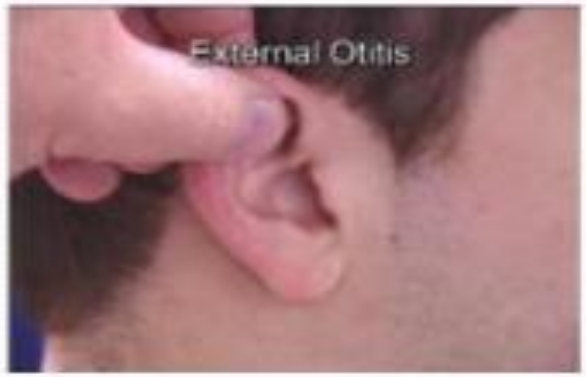
Ear Examination



- An ear exam can note any abnormalities in the external ear, tympanic membrane, and the middle ear

Examination of ear pinna

- **Inspection**
  - size (microtia, macrotia);
  - shape (cauliflower ear);
  - position (bat ear).
  - redness (PERICHONDRITIS);
  - swelling (haematoma, SEBACIOUS CYST);
  - vesicles in concha and retroauricular groove (herpes zoster);
  - ulceration or neoplasm.
  - sinus (preauricular sinus).
- **Palpation ;**
  - **Fluctuation**
    - (hematoma or abscess)
  - **Tenderness**
    - (furunculosis)



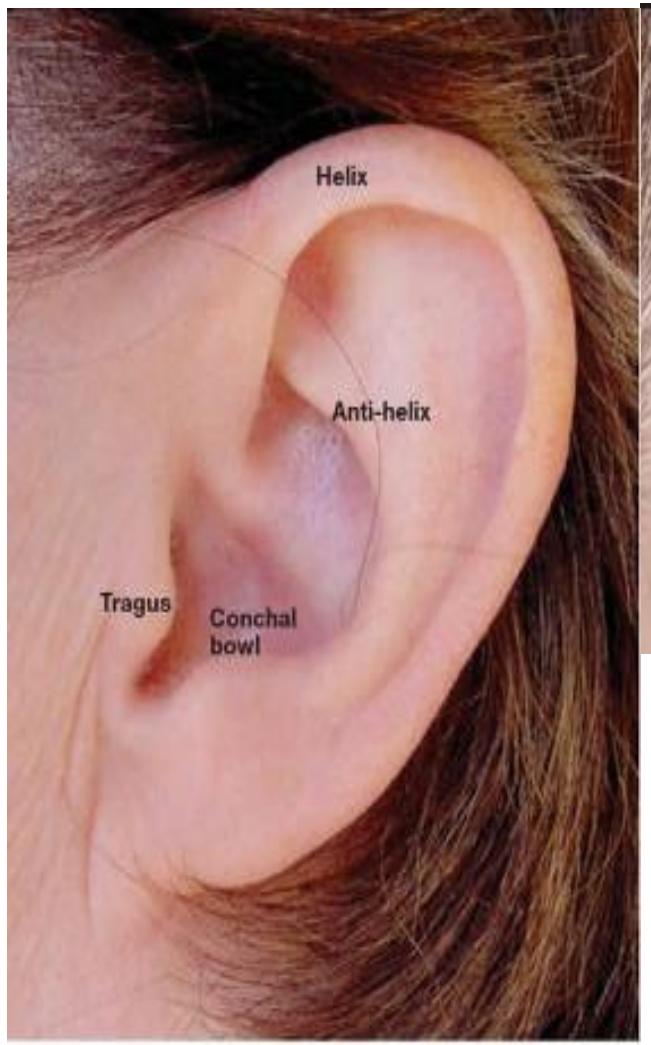
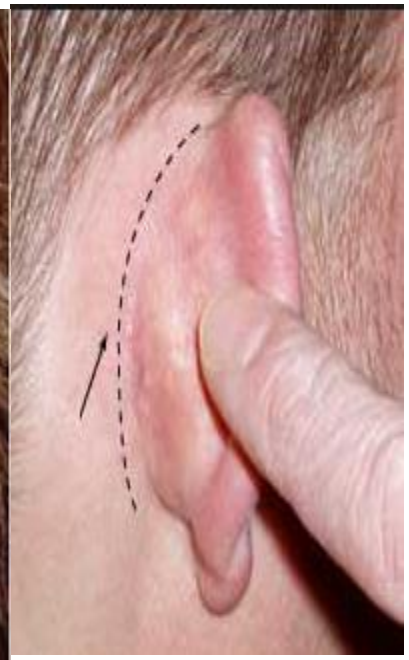
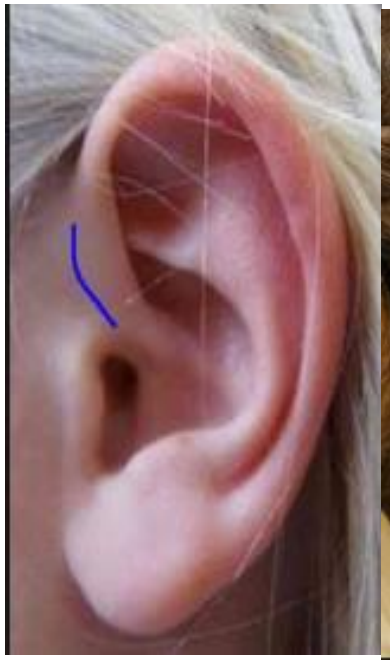
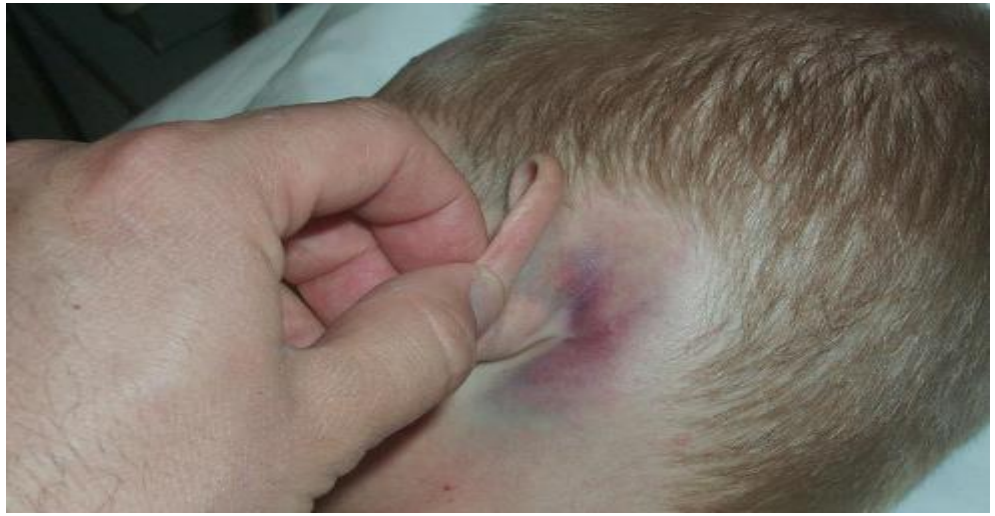
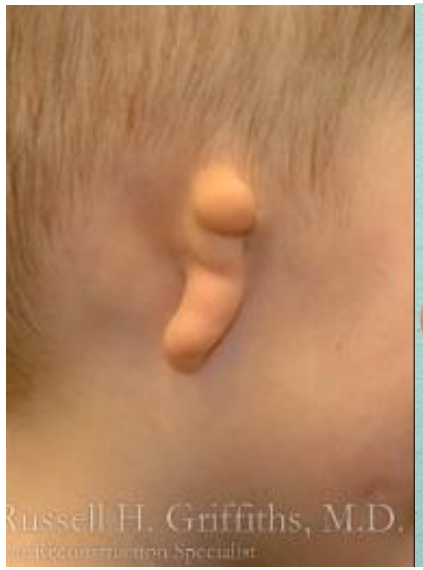


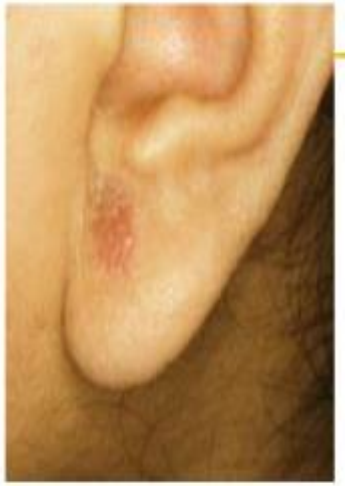
Figure 235.1 Anatomy of the ear (pinna).



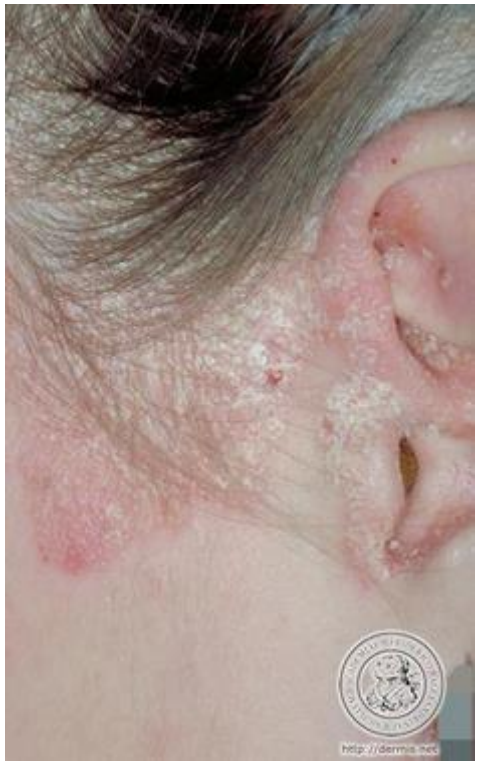




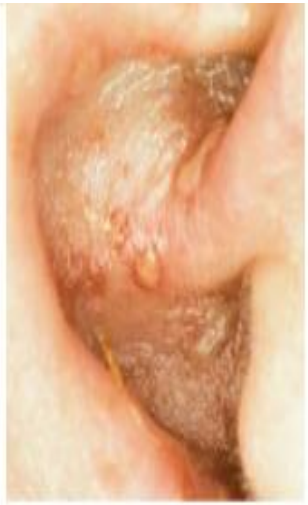


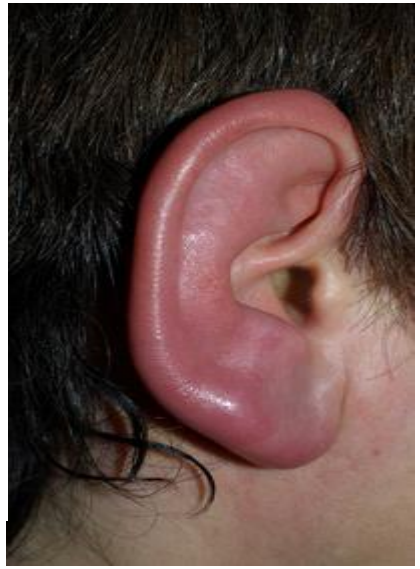


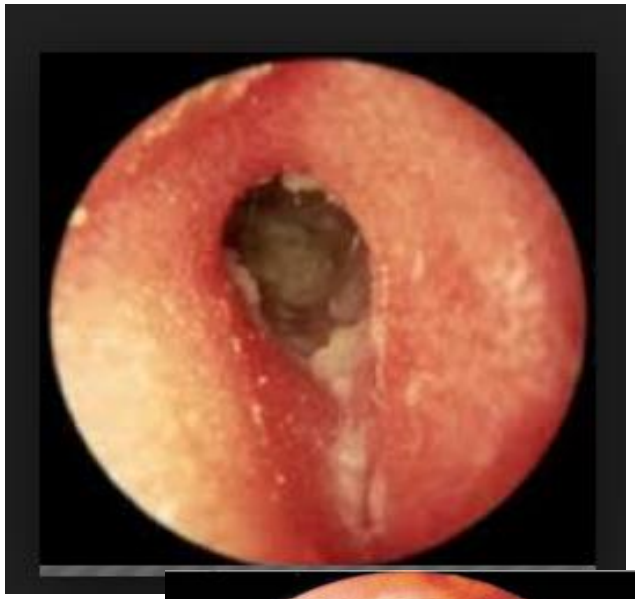
Contact dermatitis

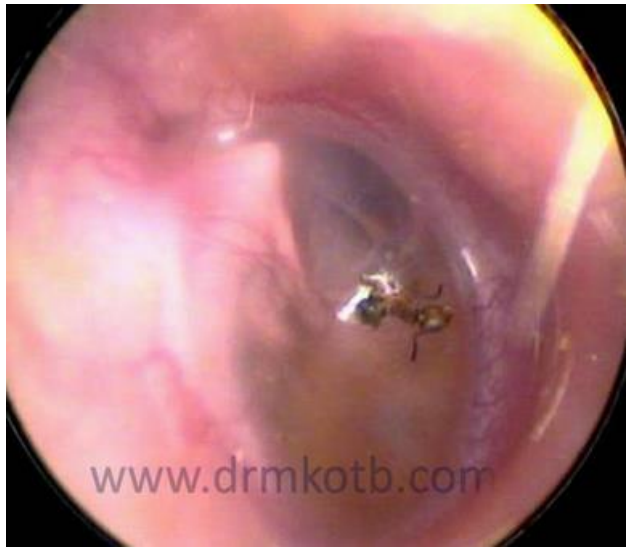


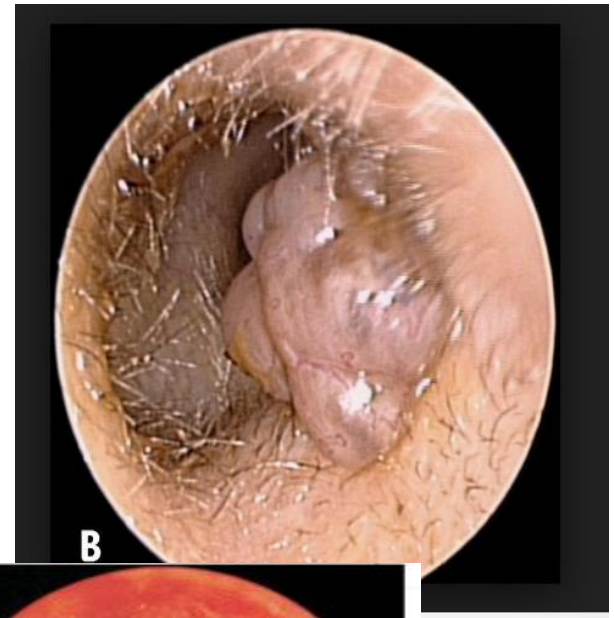
Early herpes zoster (shingles). Herpes zoster is an acute localized cutaneous infection of a sensory dermatome by the *Varicella zoster* virus. It first appears as a series of pustules.

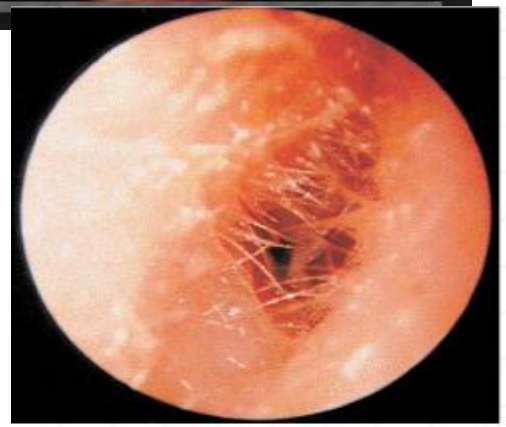




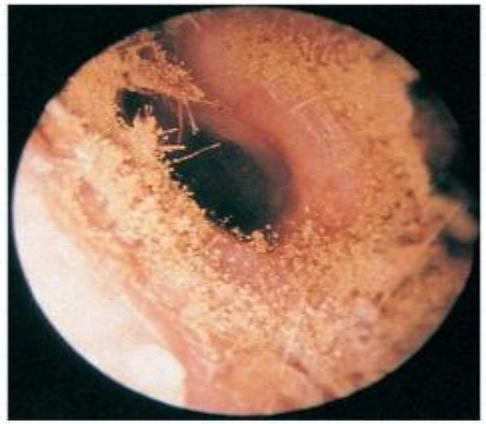




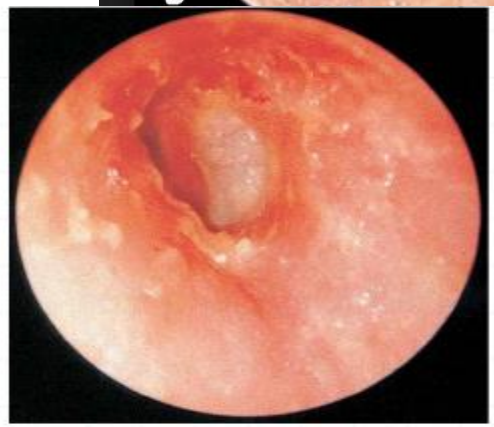




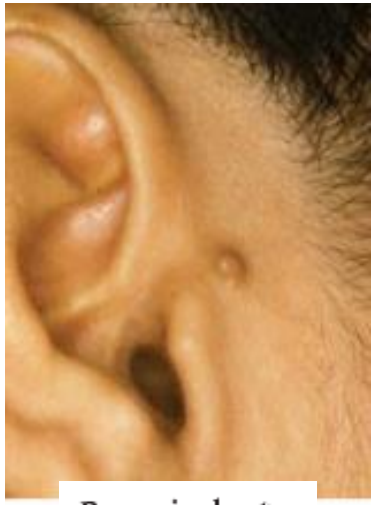
Otitis externa



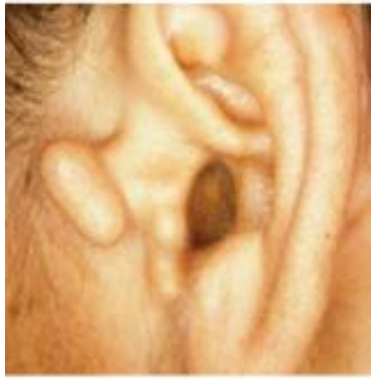
Fungal otitis externa



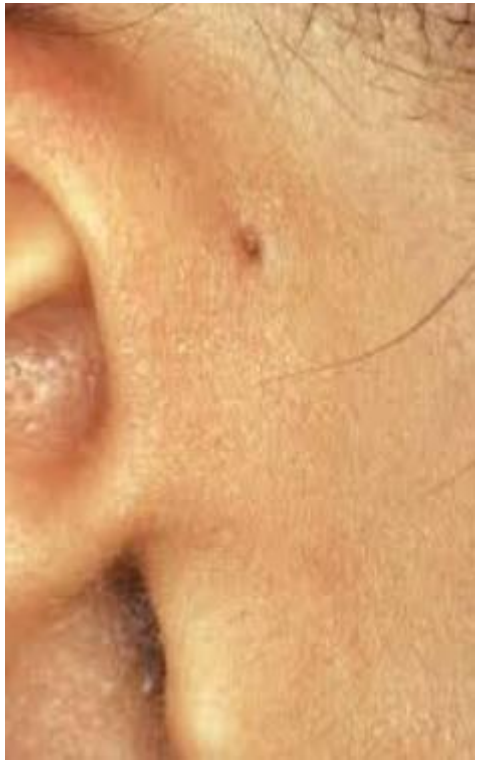
Chronic otitis externa

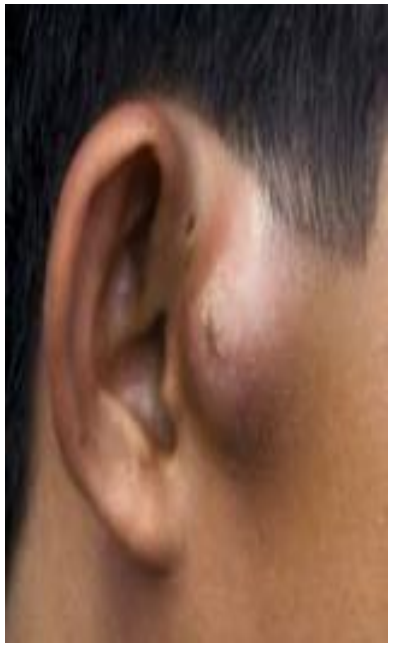


Preauricular tag.



Accessory auricle.





Infected preauricular sinus.

lesions consistent with skin cancer should be noted and warrant biopsy.

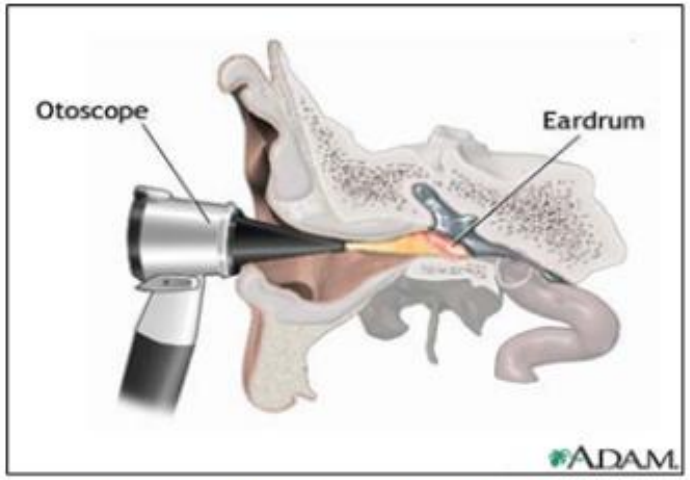
Examination of external auditory canal

Step 1: Have the patient sit down

- Have the patient sit down (May be best for the patient to sit on the desk so the ear is in a convenient position for the doctor)
- Have the patient slightly tilt his head away from the doctor
- Start with the “good” ear – one without problems or infections (if any)

Ear Examination

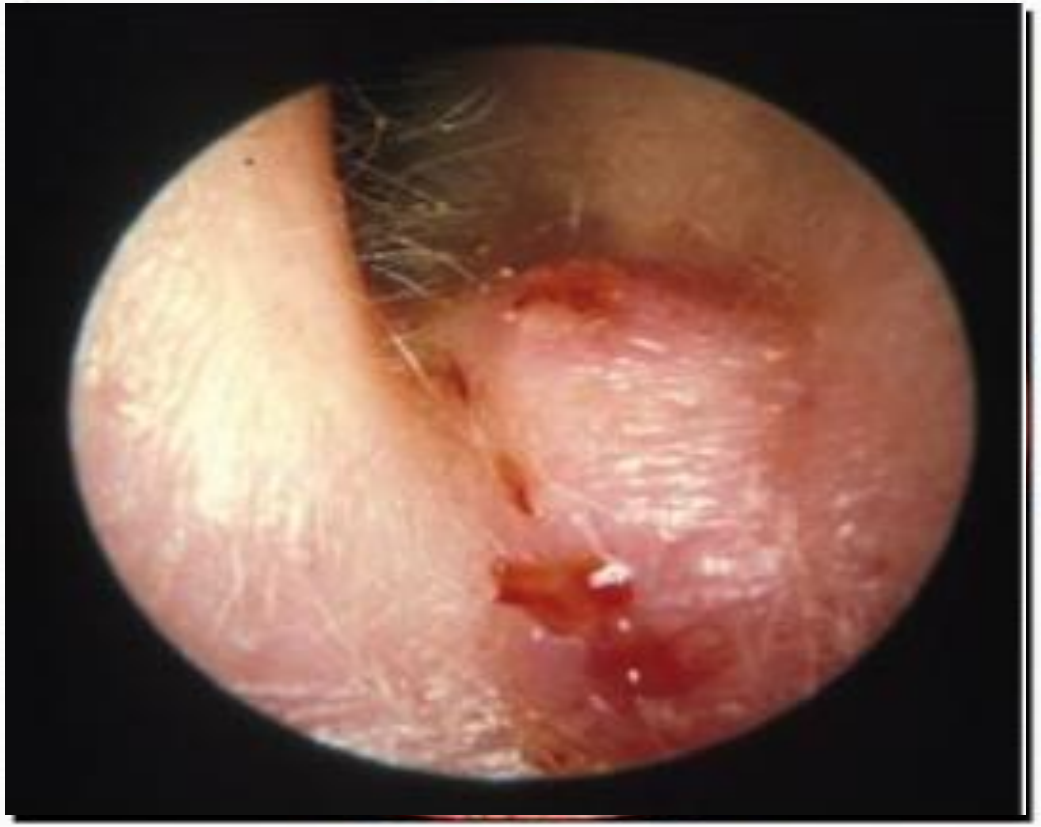
Step 2: Holding the otoscope



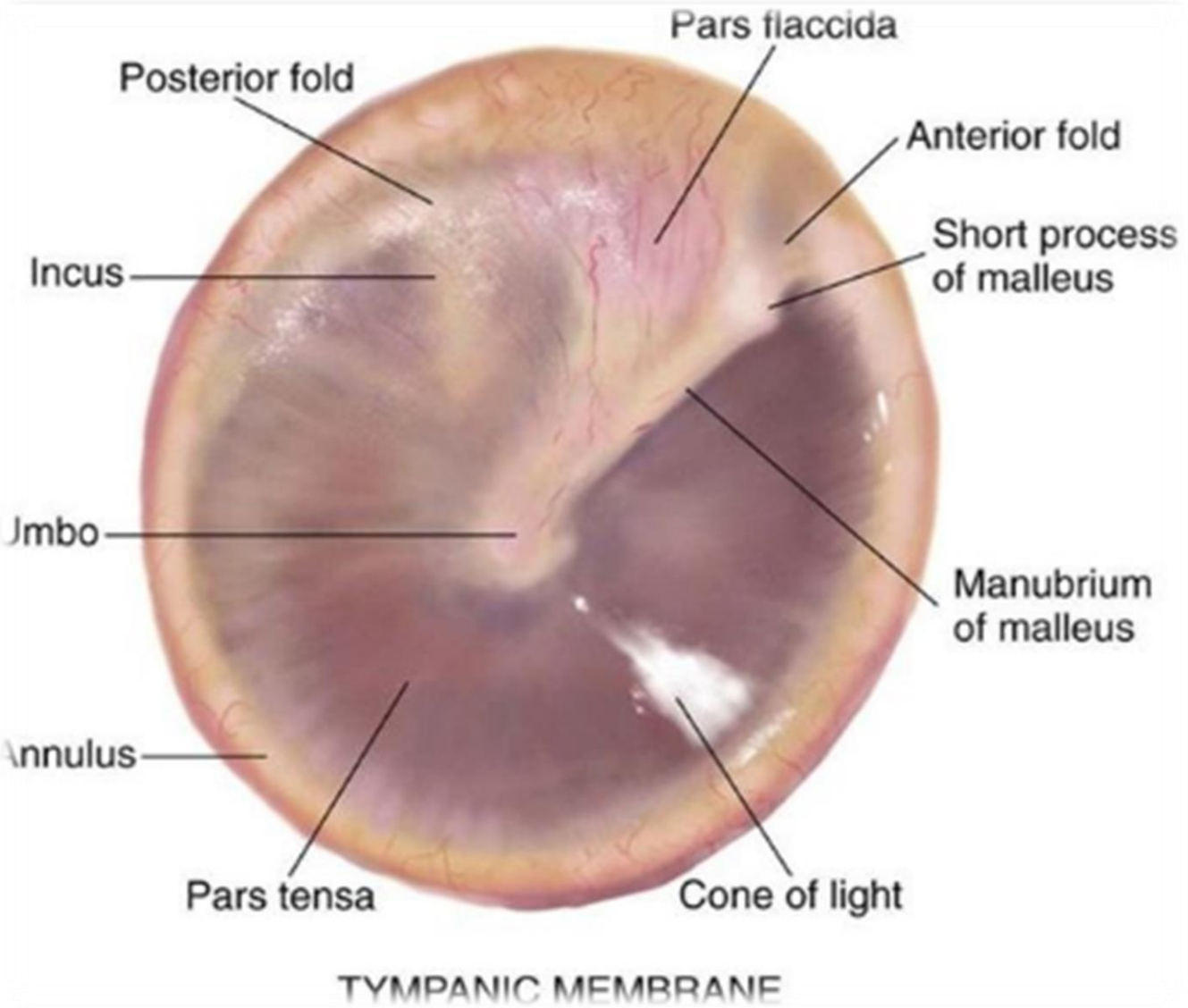
- Hold the otoscope in one hand and turn on the light
- Gently insert the speculum into the ear
- With the other free hand, gently pull up, out, and/or forward on patient's ear to straighten out the ear canal for easy viewing

Examination of external auditory canal

- The pinna is pulled upwards and backwards
- Inspection
  - size of meatus (narrow or wide),
  - swelling
    - furuncle,
    - Aural Polyp
    - Tumour
  - contents of lumen
    - wax,
    - Otitis Externa
    - fungal
    - discharge
    - ***FB***

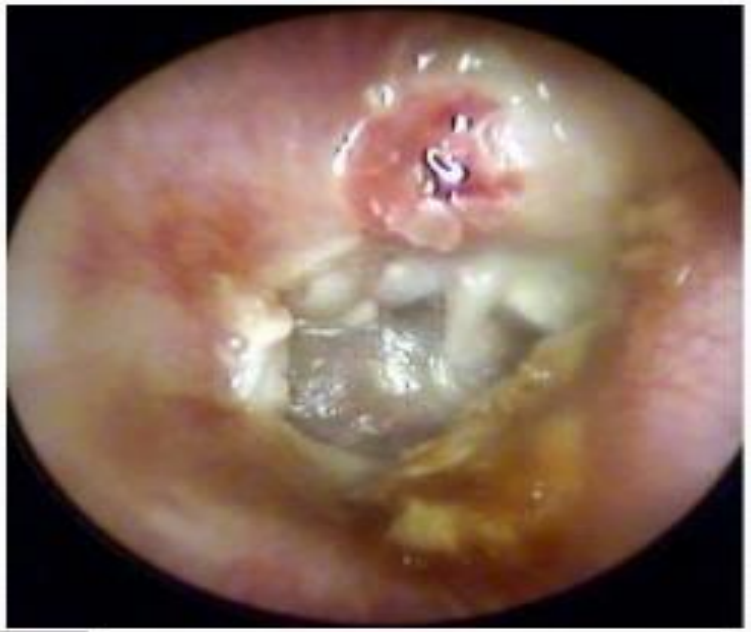


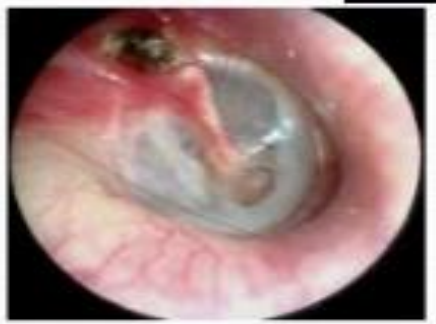
Tympanic Membrane Examination

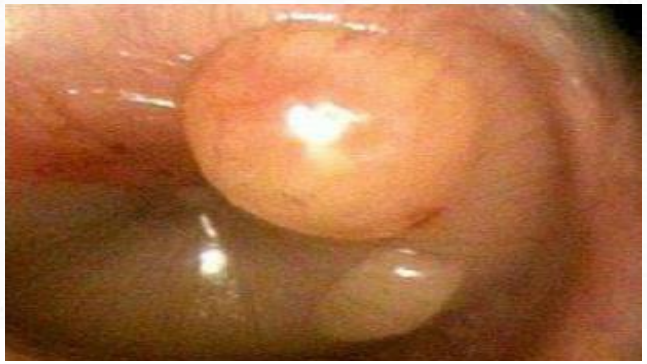


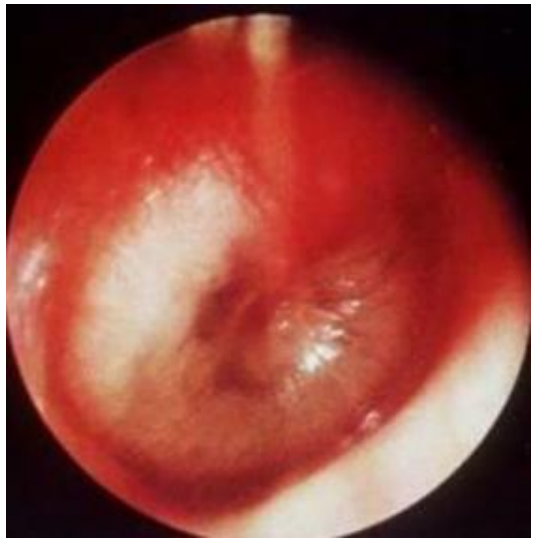
Tympanic Membrane Examination

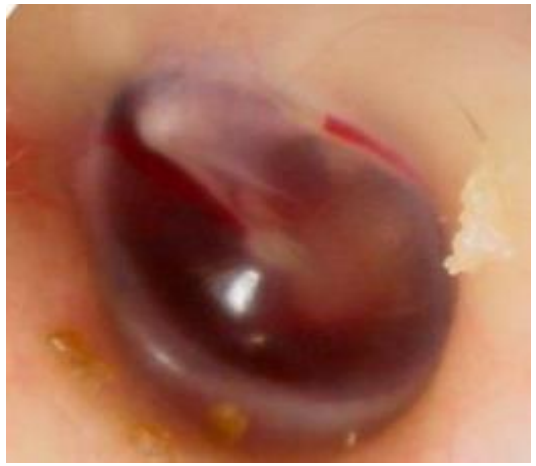
- Normal tympanic membrane is pearly white in colour and semitransparent
- . A tympanic membrane is examined for:
  - (a) Colour. Red and congested in acute otitis media, bluish in secretory otitis medici or haemotympanum. A chalky plaque is seen in tympanosclerosis.
  - (b) Position. Tympanic membrane may be retracting or bulging.
  - (c) Surface of tympanic membrane.
    - show bullae , or
    - Perforation
    - Cholesteatoma





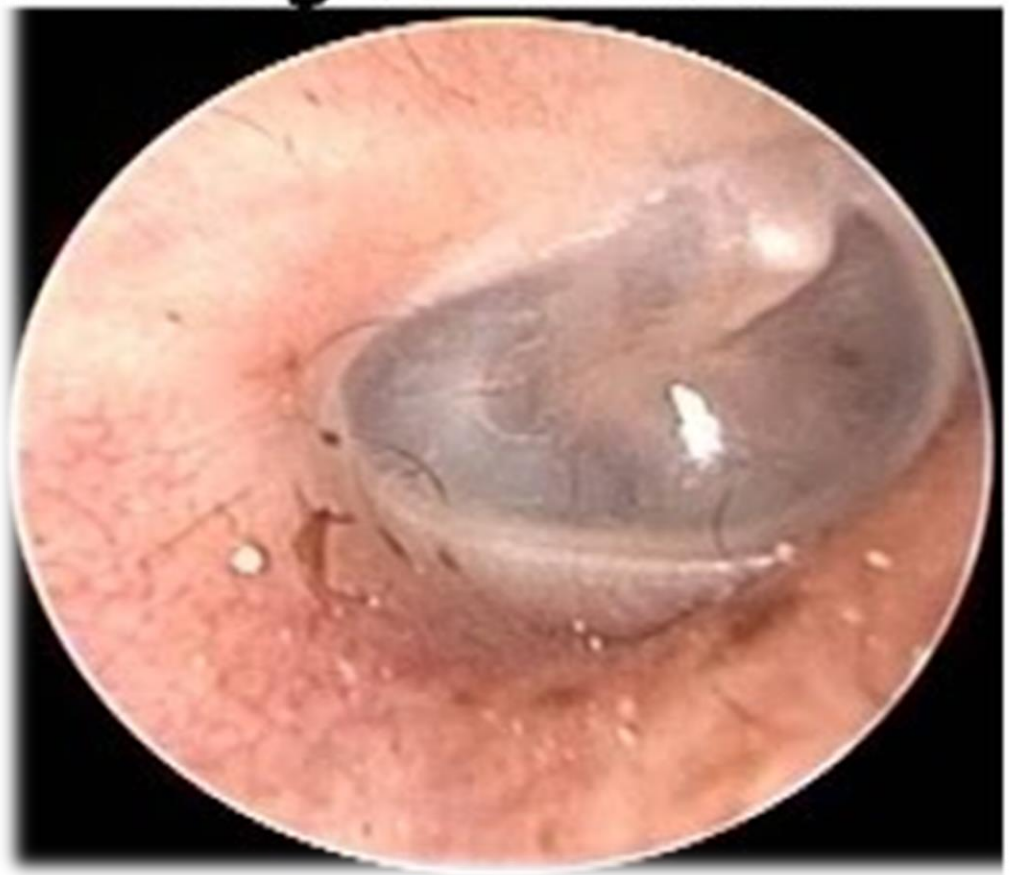




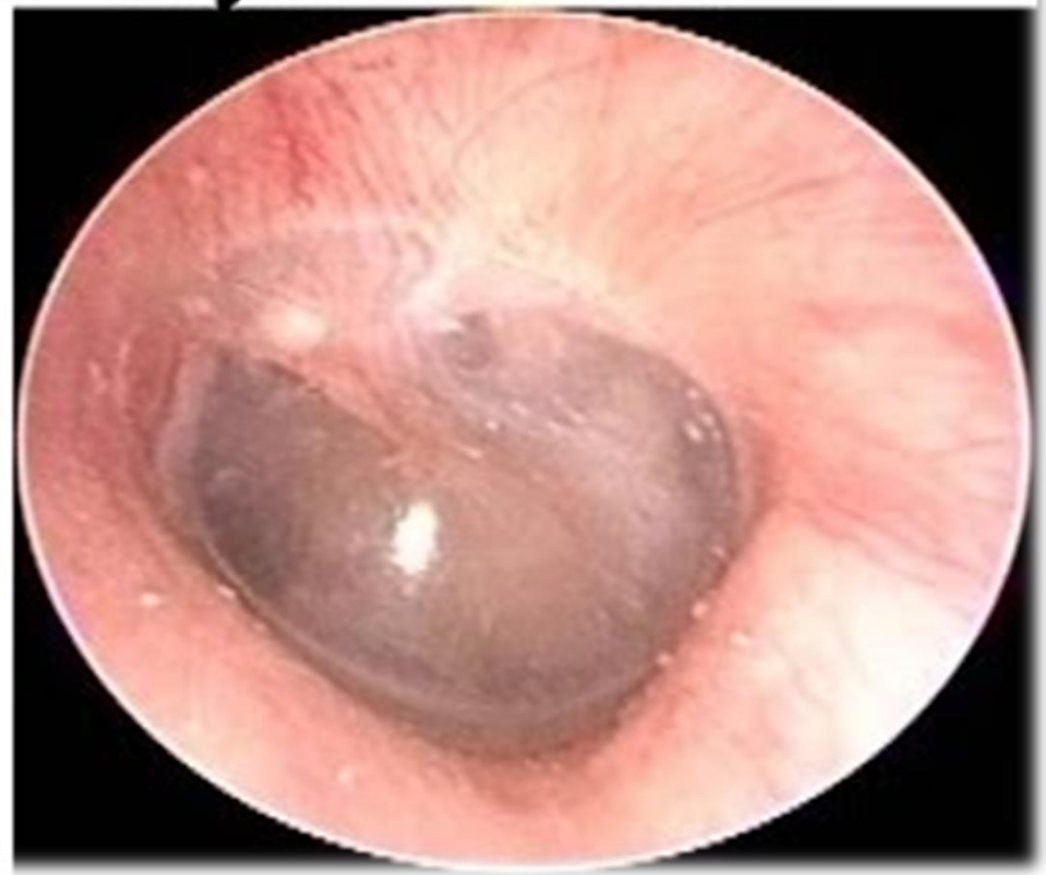


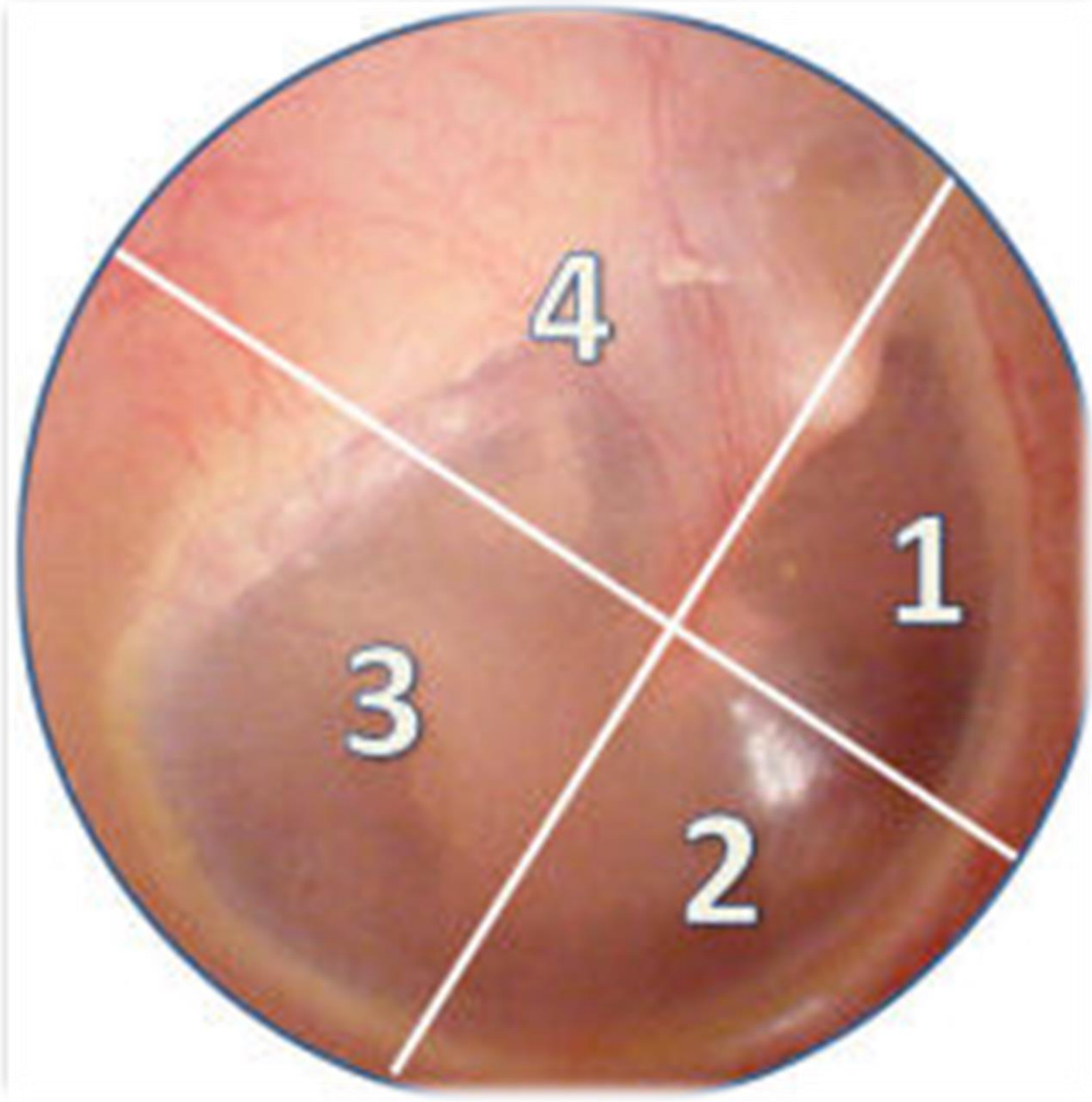
Normal Eardrum

Right Eardrum



Left Eardrum

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1
3
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Ear Examination (The external auditory canal) wax production, indications of removal

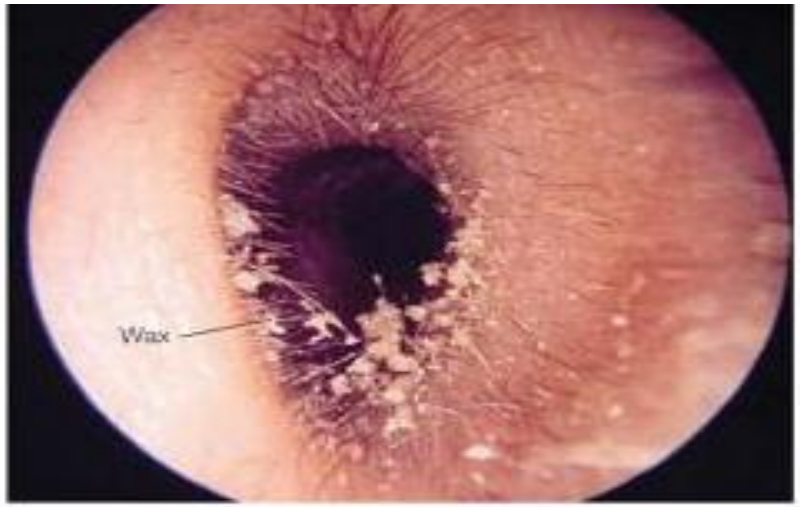


Figure 235.5 Wax on the tips of external canal hairs.

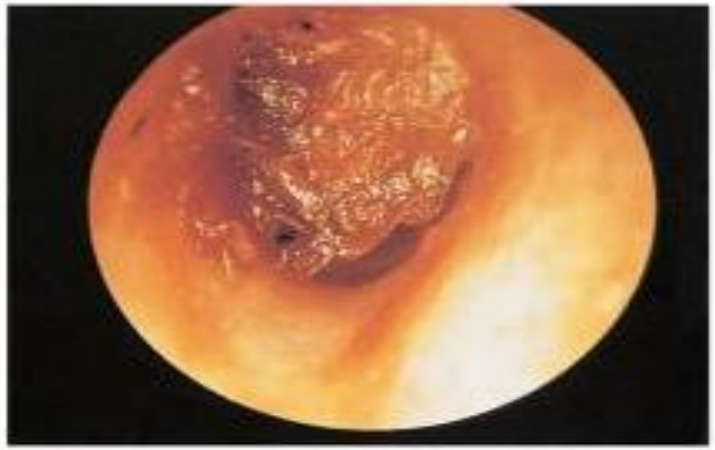


Figure 235.6 Wax totally obscuring view of right tympanic membrane. Associated hearing impairment is unlikely.

- Difficulty in examining the full tympanic membrane
- As part of the workup for conductive hearing loss
- Prior to taking the impression for hearing aid fitting
- Suspected external ear canal pathology
- As part of grommet insertion or middle ear surgery (preoperatively or preoperatively)
- Patient request

Ear Examination (The external auditory canal)
Ear toilet

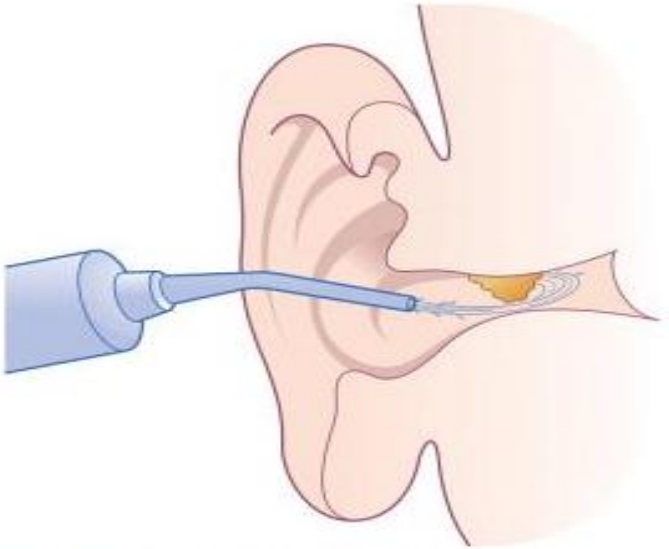
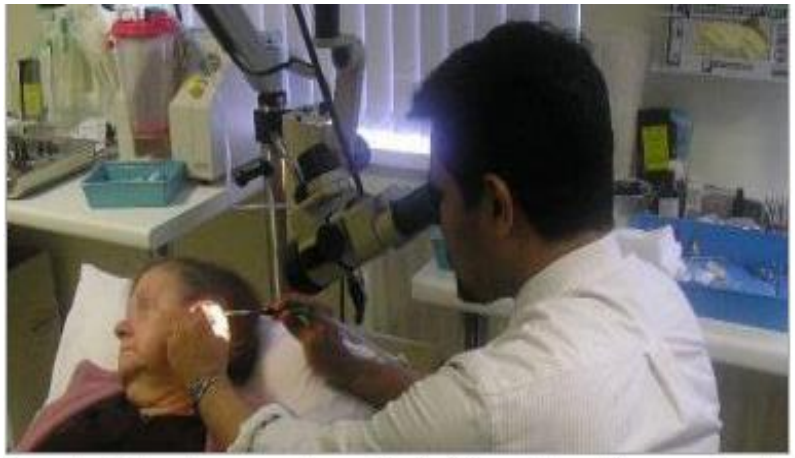
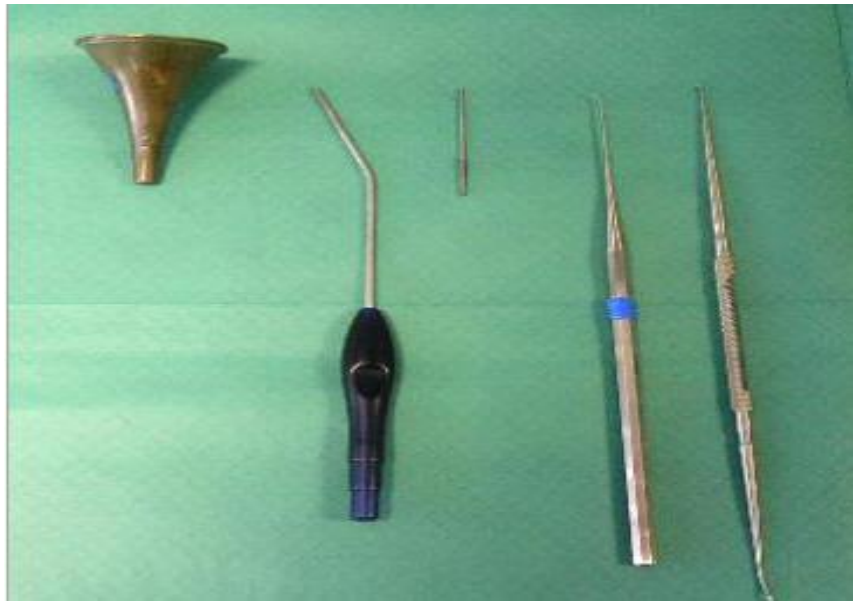
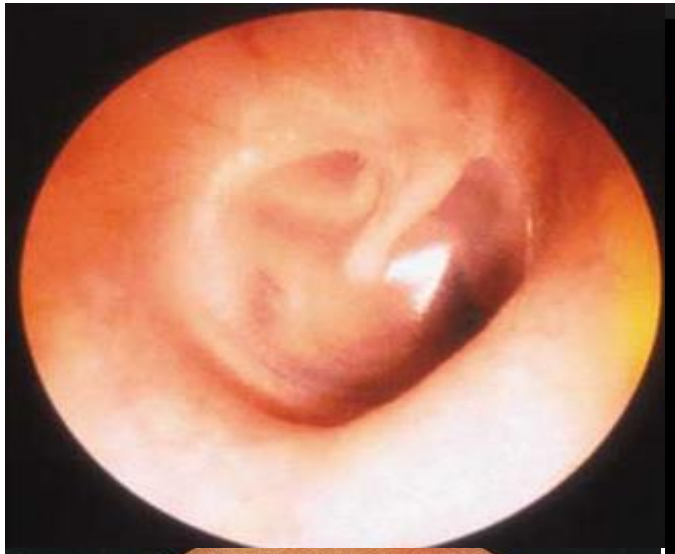


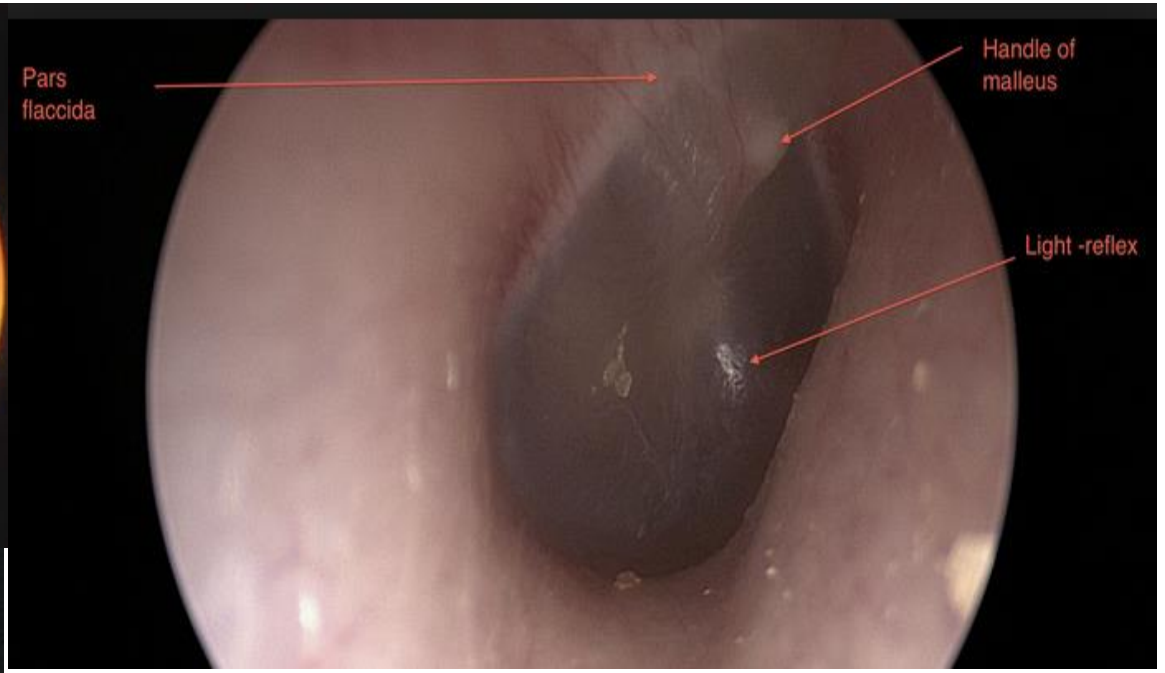
Figure 235.7 Wax syringing. The water bypasses the wax and is reflected by the tympanic membrane to expel the ear wax.

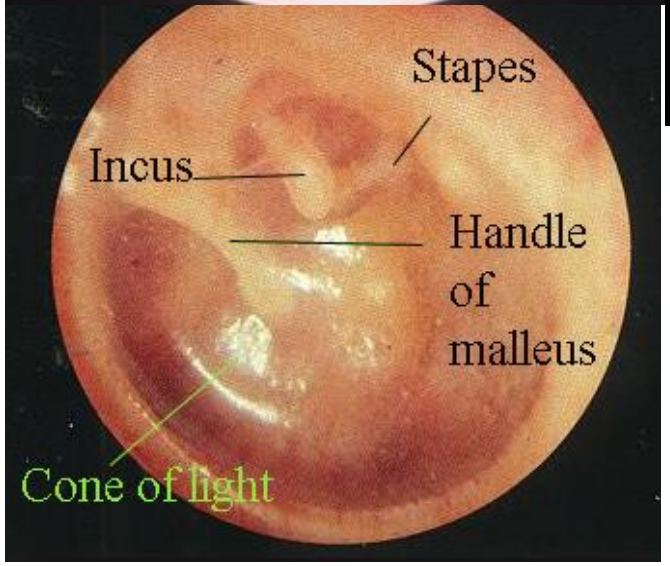


Correct patient and care provider positioning is important and improves visualization of the external canal and tympanic membrane.









The normal tympanic membrane should be pearly white and translucent, which allows examination of the structures of the middle ear, including the promontory and round window. The stapes and Eustachian tube opening are visible in some ears.

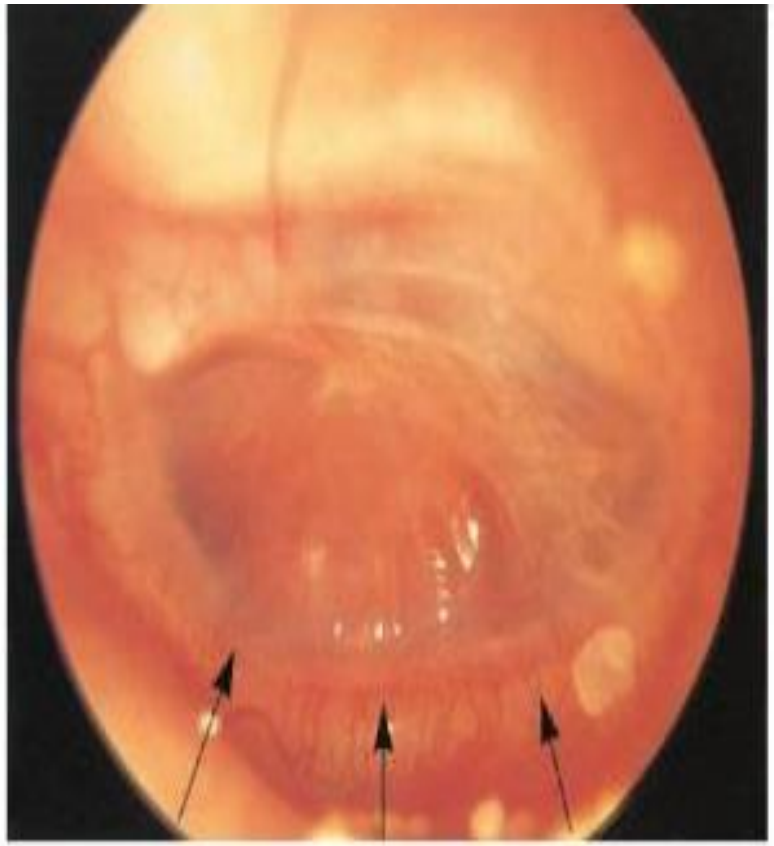


Figure 235.15 Severely retracted position of malleus handle in otitis media with effusion (left ear). As retraction develops, a neoannular fold may form (arrows).

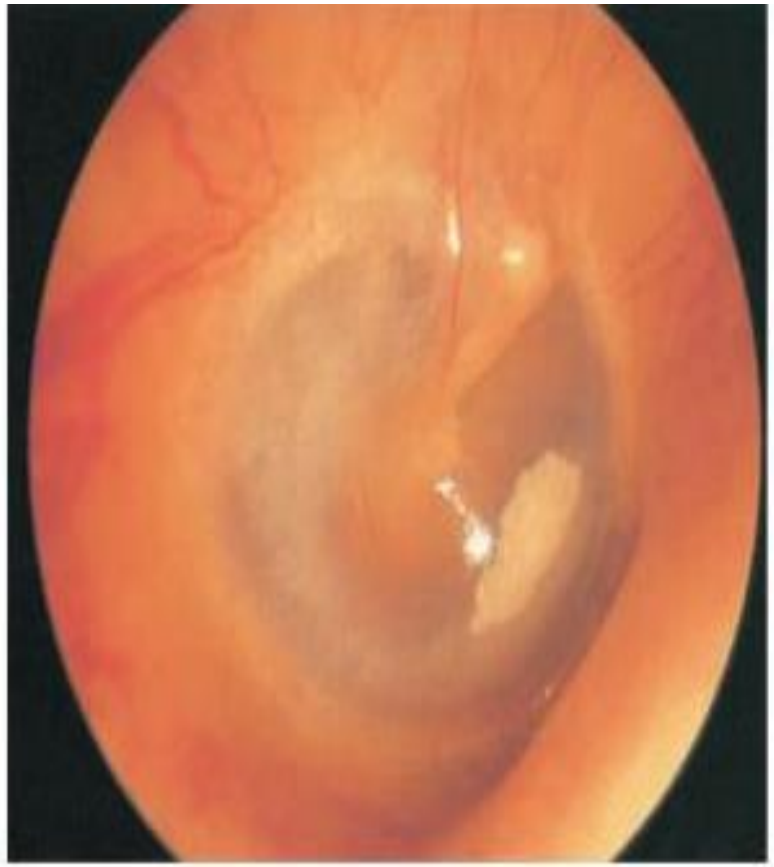


Figure 235.17 Chalk patch on anterior pars tensa (right ear).

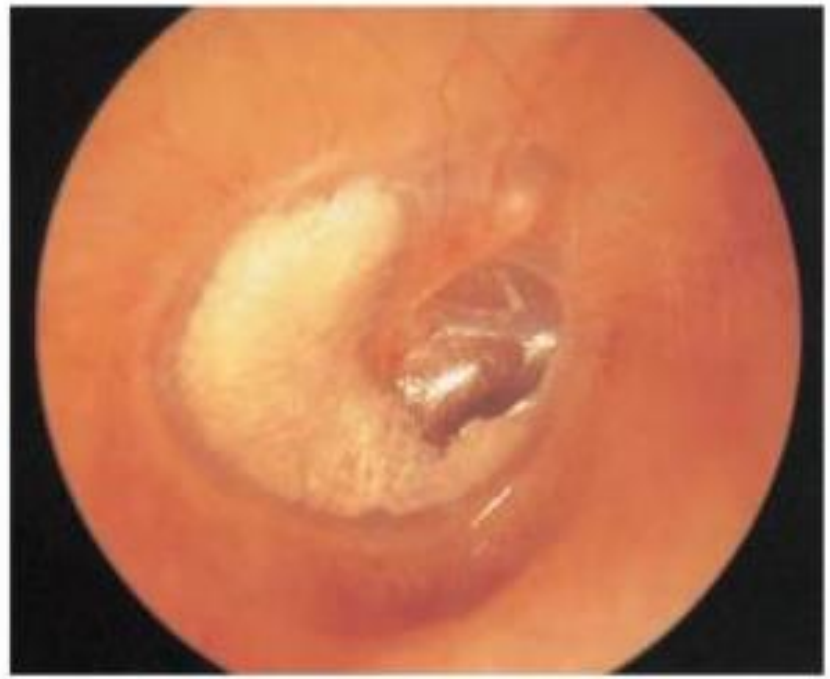


Figure 235.16 Tympanosclerotic plaques, extending from posterior to inferior. Remainder of tympanic membrane scarred (right ear).

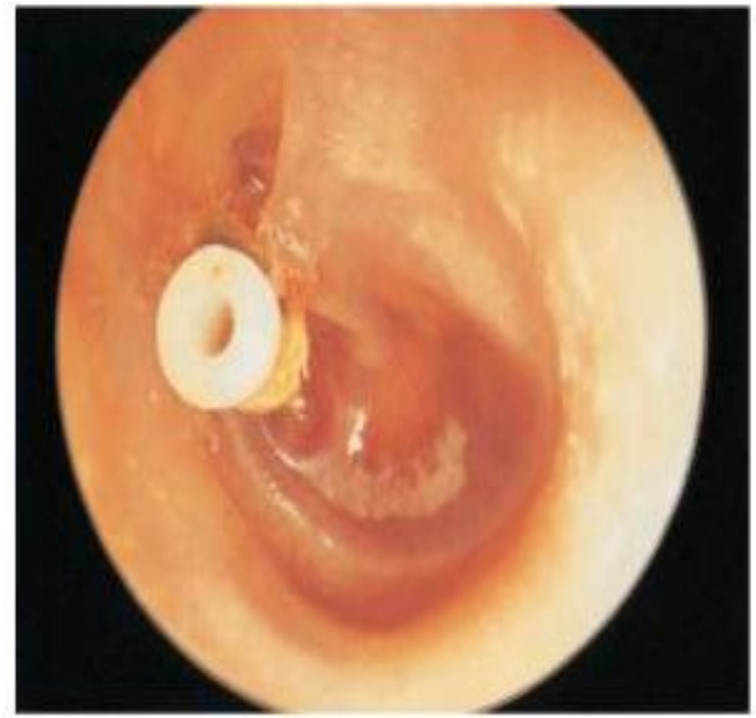
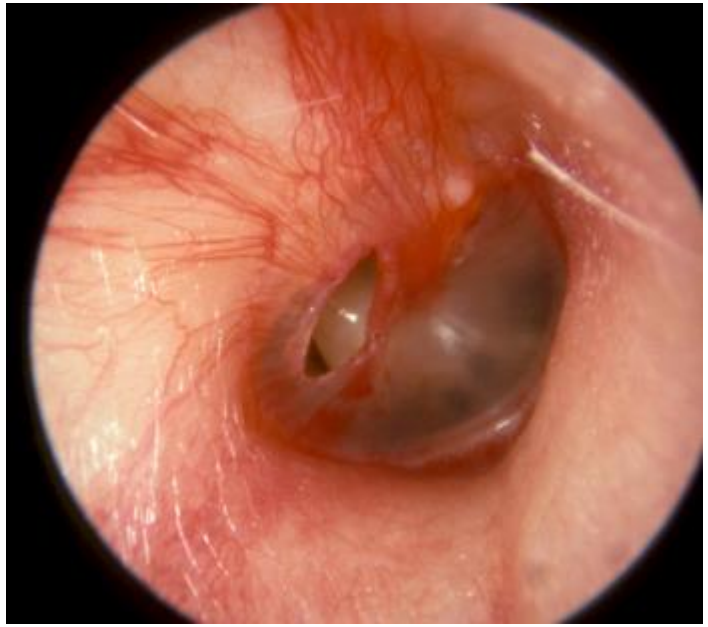
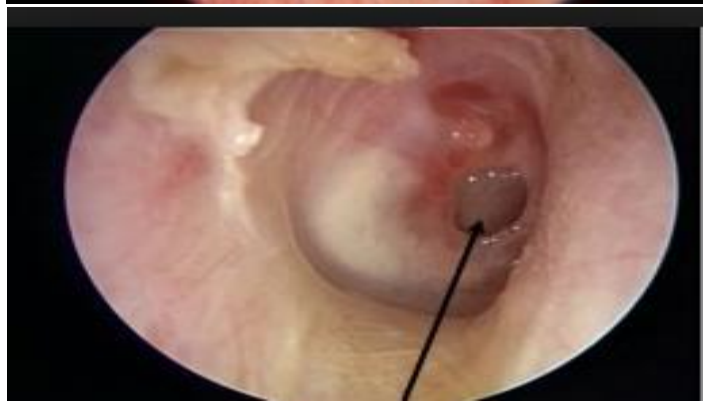


Figure 235.18 Extruded ventilating tube with otoscopic recurrence of middle ear fluid. Left ear retracted and yellow.





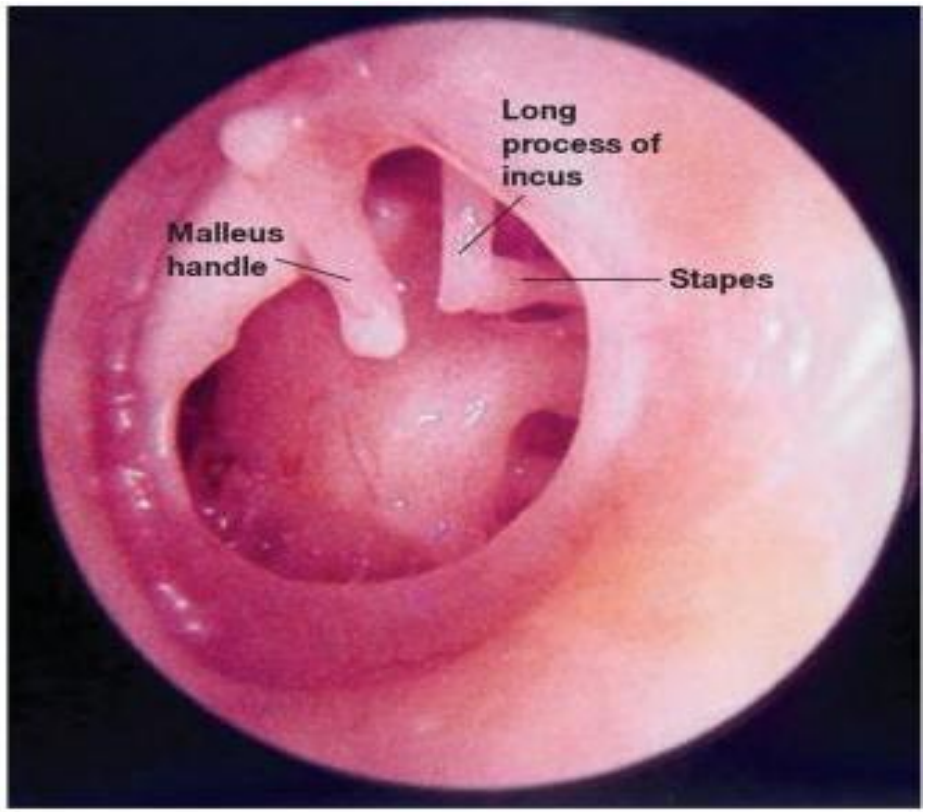
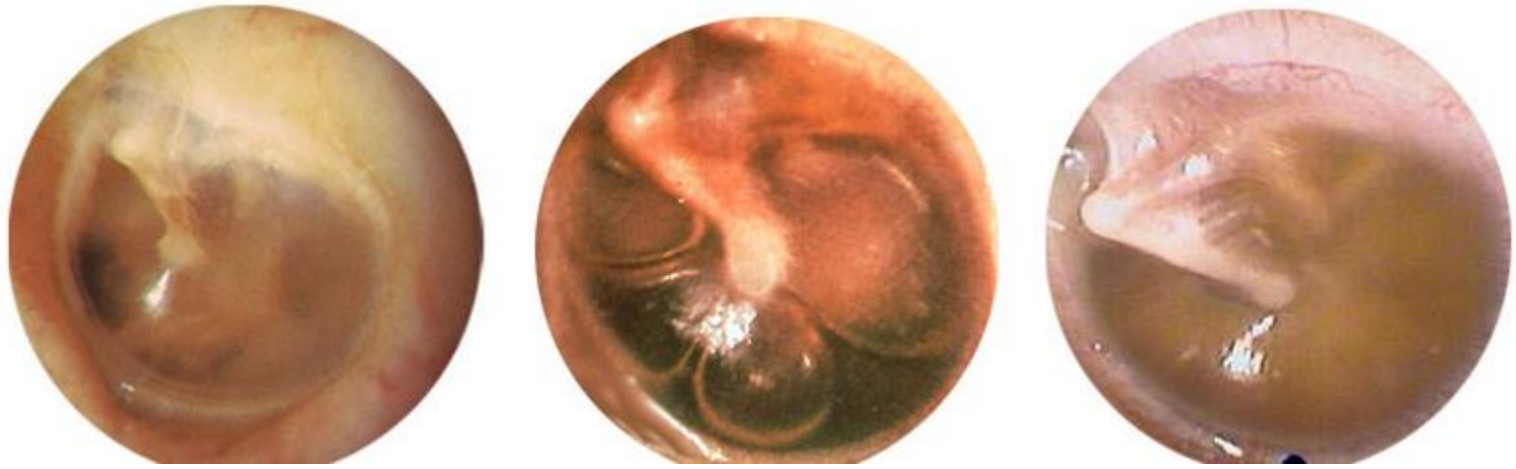
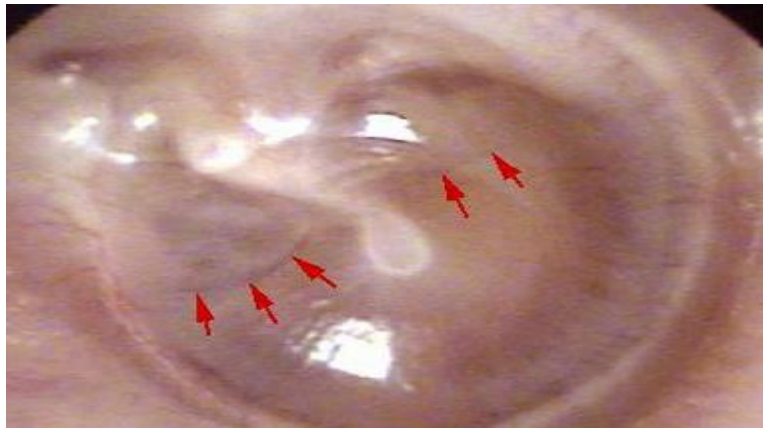
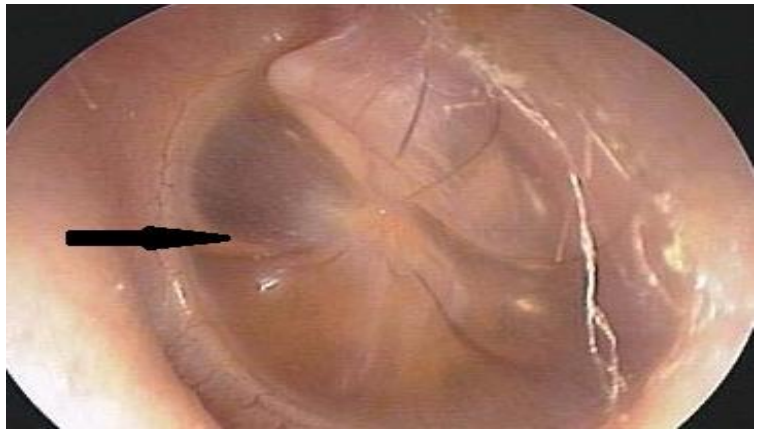


Figure 235.19 Perforated tympanic membrane with visible ossicular chain.







The middle ear should be assessed for the presence of any fluid. Serous effusions often appear as amber fluid, sometimes with air-fluid levels or air bubbles. Mucoid effusions will appear to be a dull gray color, with loss of the typically visualized middle ear landmarks, and the tympanic membrane will often be retracted.

Tuning fork tests

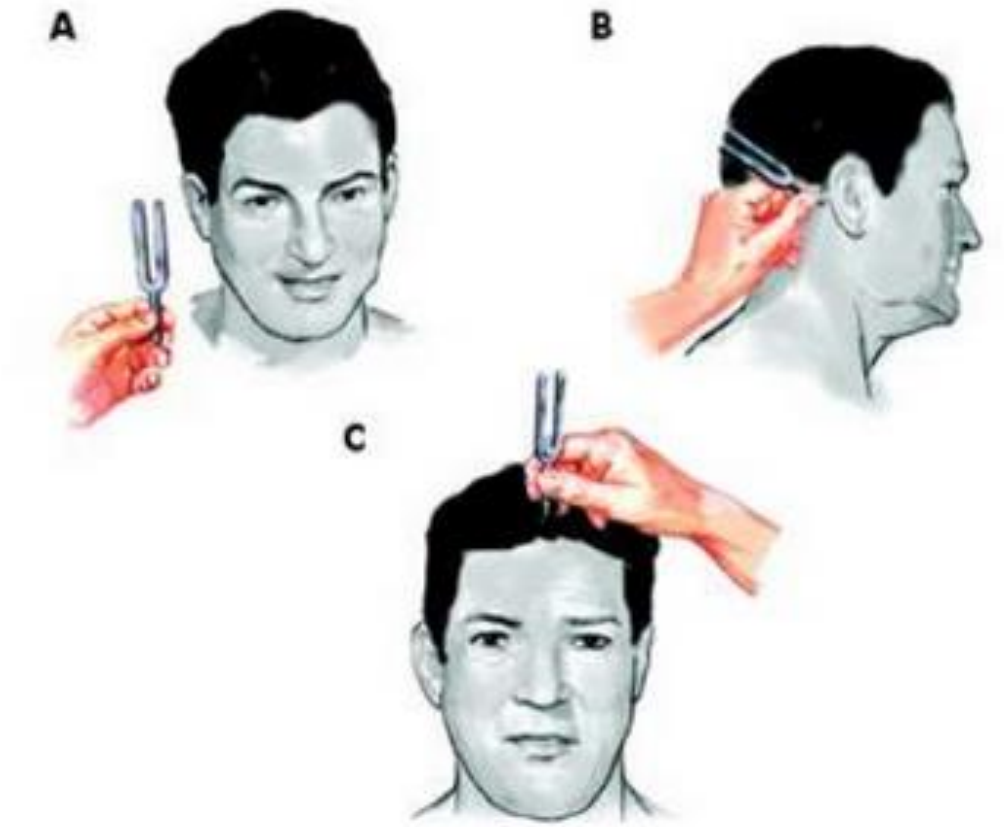


Fig. 4.1 Tuning fork tests. (A) Testing for air conduction. (B) Testing for bone conduction. (C) Weber test.

TABLE 4-3. Tuning Fork Testing*

Weber	Weber "Negative"	Weber Right	Weber Left
Patient response	"Sound is midline."	"Sound is louder on the right."	"Sound is louder on the left."
Interpretation	Bone-conducted sound equal in both ears	Unilateral right conductive hearing loss; unilateral left sensorineural hearing loss	Unilateral left conductive hearing loss; unilateral right sensorineural hearing loss
Rinne	**Rinne "Positive"**	**Rinne "Negative"**	**Rinne "Equal"**
Patient response	"Sound is louder when the fork is by the canal."	"Sound is louder when the fork is on the mastoid process."	"Sound is equal."
Interpretation	Air conduction louder than bone conduction; normal	Bone conduction louder than air conduction; conductive hearing loss	Air and bone conduction equal

*Begin with a 512-Hz fork; then include 256- and 1024-Hz forks.

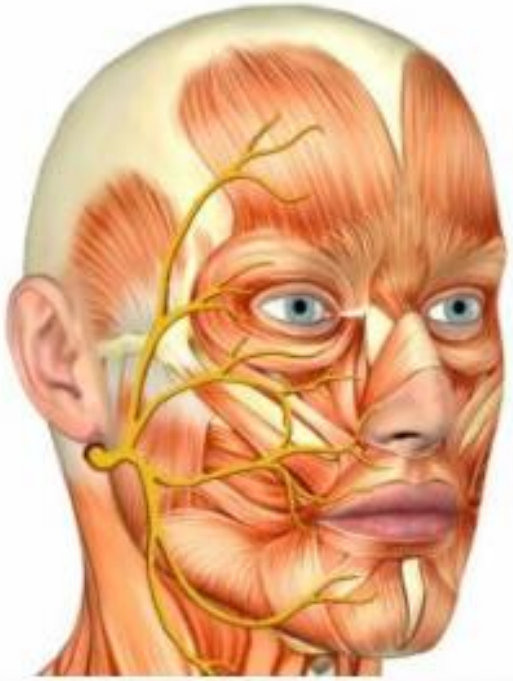
TABLE 4-4. Tuning Fork Assessment of Degree of Hearing Loss

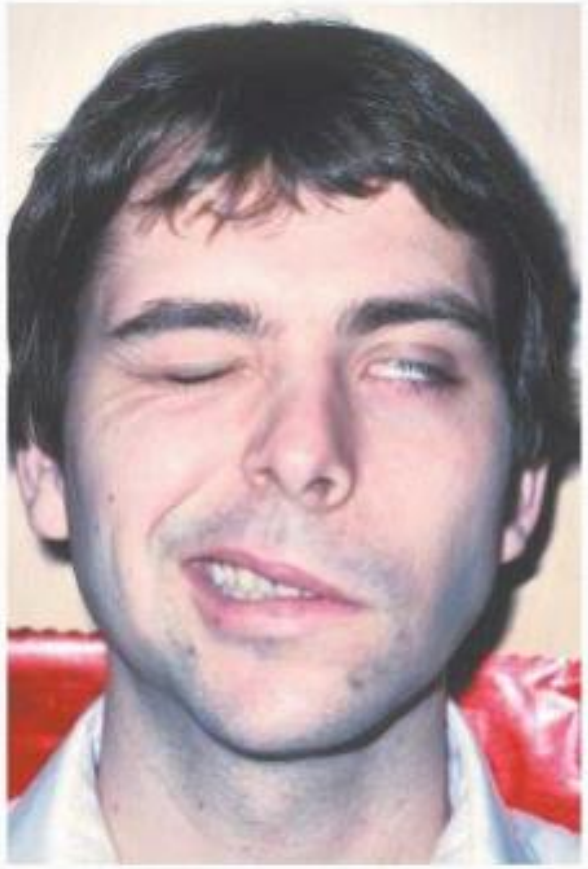
Hearing Loss	256 Hz	512 Hz	1024 Hz
<15 dB	+	+	+
15-30 dB	–	+	+
30-45 dB	–	–	+
45-60 dB	–	–	–

+: positive Rinne, air conduction > bone conduction.
–: negative Rinne, bone conduction > air conduction.

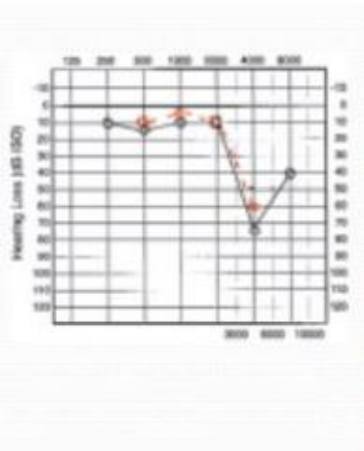
Examination of facial nerve

- Paralysis of facial nerve may co-exist with disease of the ear,

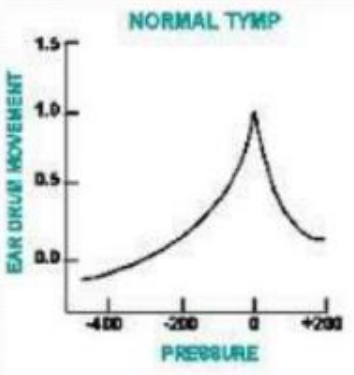


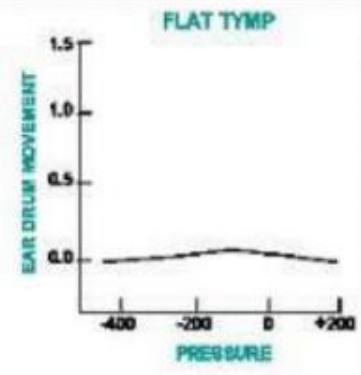


Auditory and vestibular exam



- Tympanogram

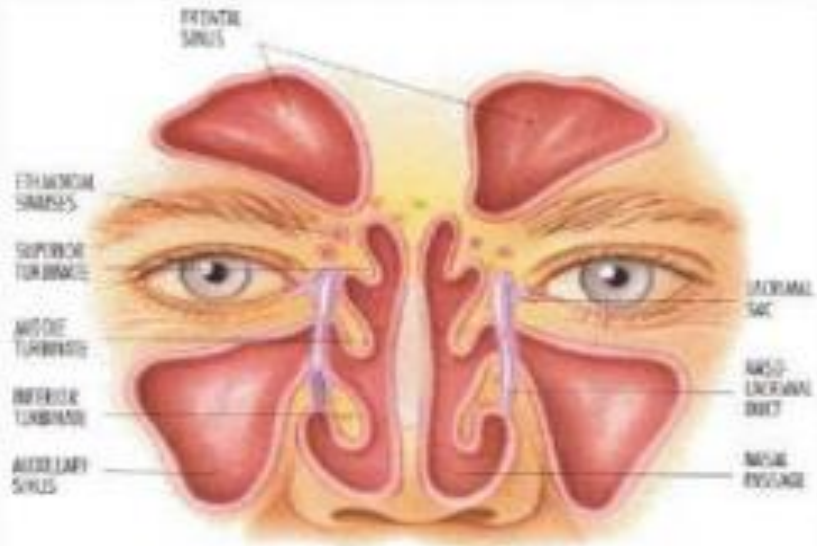




Nose Examination

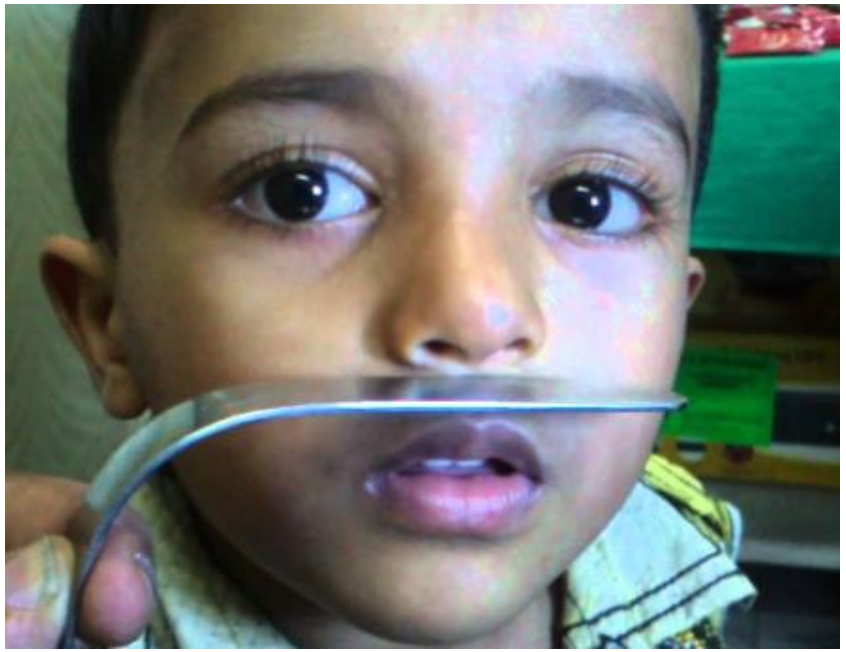
Symptoms of the nose and paranasal sinuses

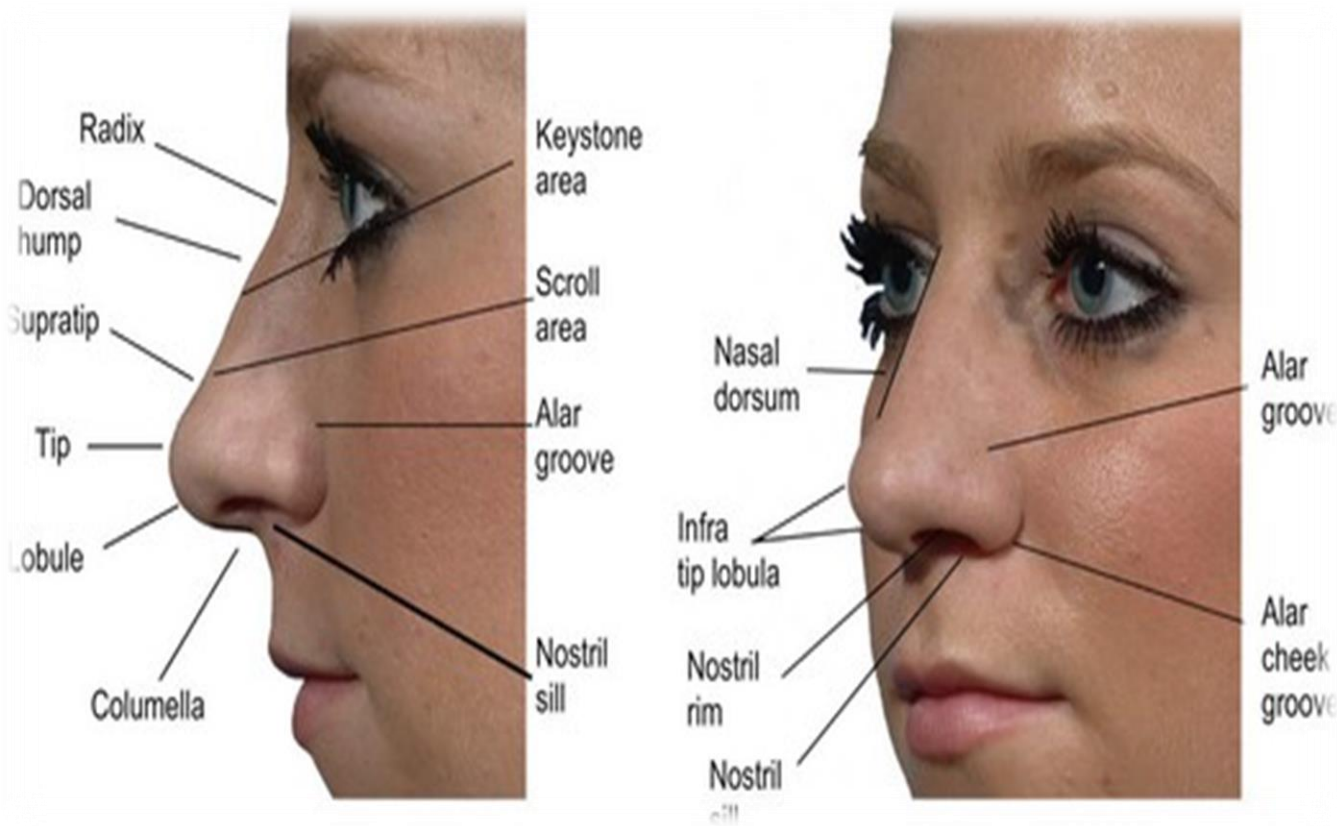
- A patient with nose disease presents with one or more of the following complaints:
  - 1. Nasal obstruction.
  - 2. Nasal discharge.
  - 3. Post-nasal drip.
  - 4. Epistaxis.
  - 5. Sneezing.
  - 6. Headache or facial pain.
  - 7. Swelling or deformity.
  - 8. Disturbances of smell.
  - 9. Snoring.
  - 10. Change in voice (hyper- or hyponasality).



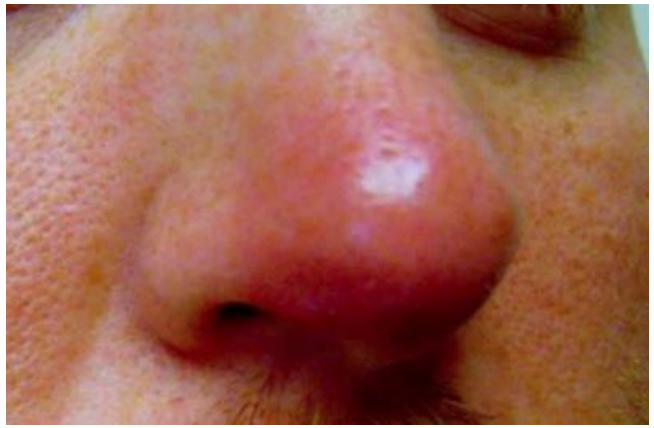
Nose examination

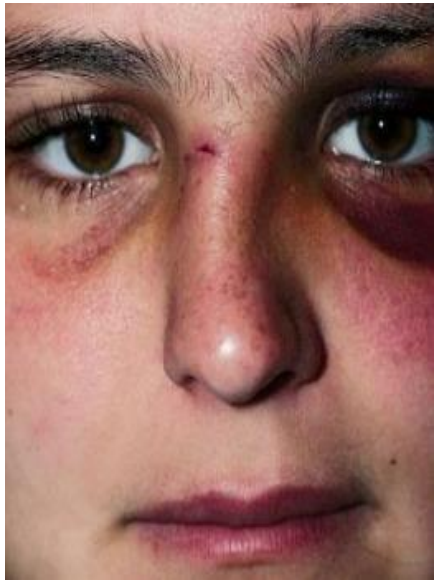
- Inspection
- Nasal patency test

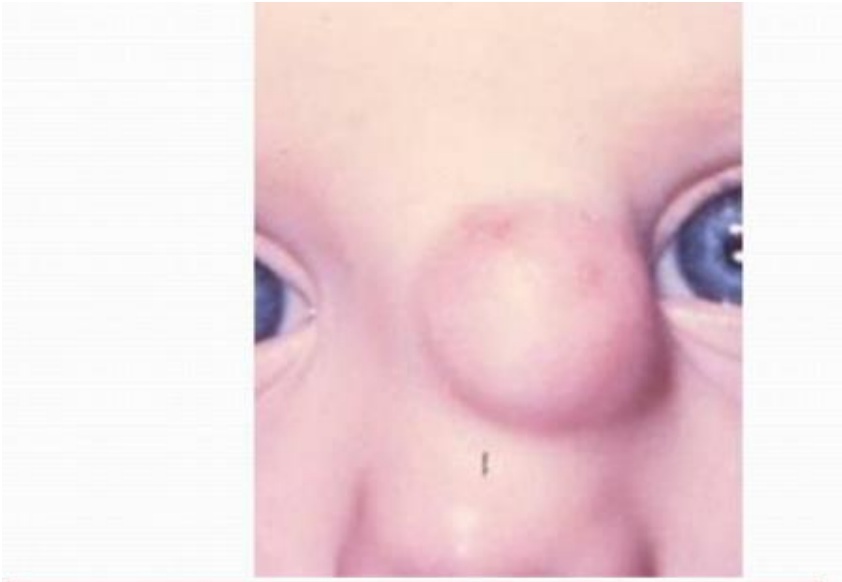




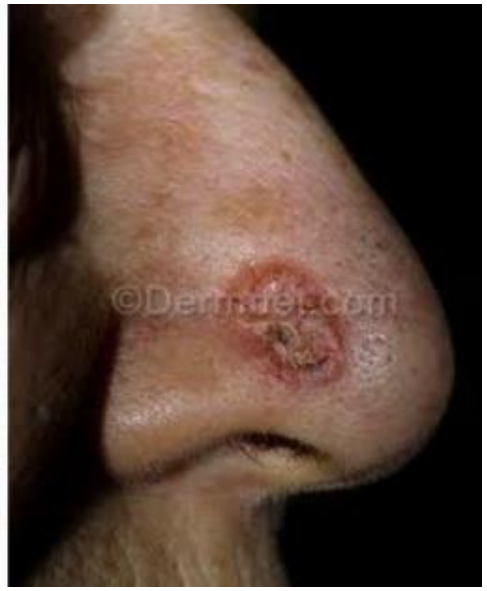
Inspection





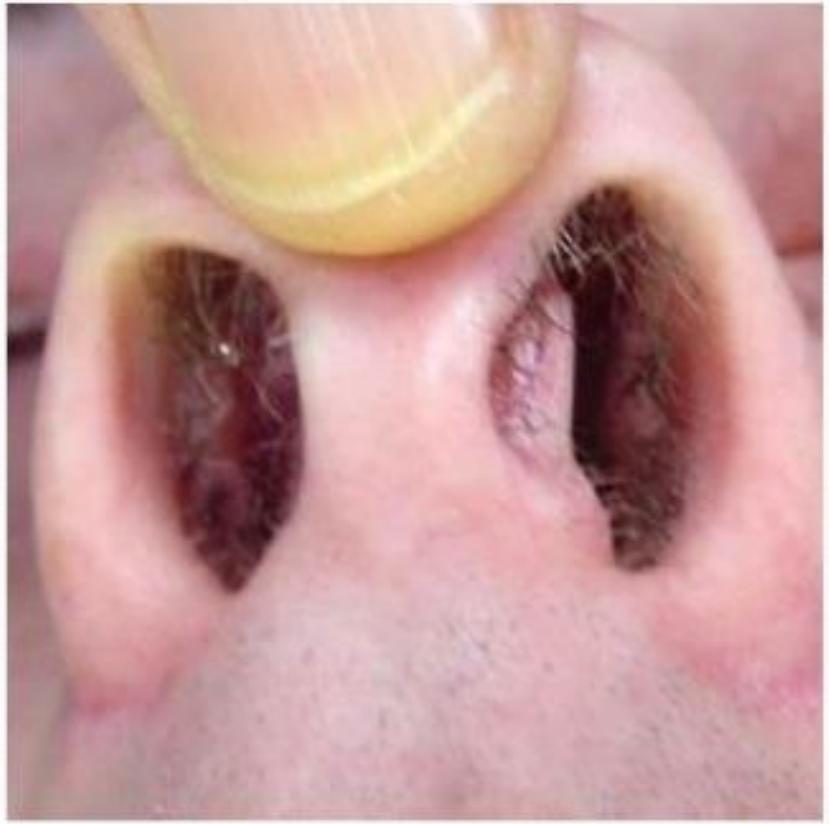


non-neoplastic lesion consisting of neuroglial tissue without the communication to the central nervous sytem

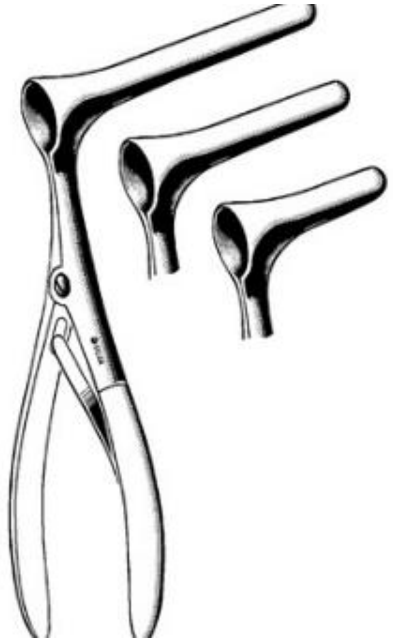


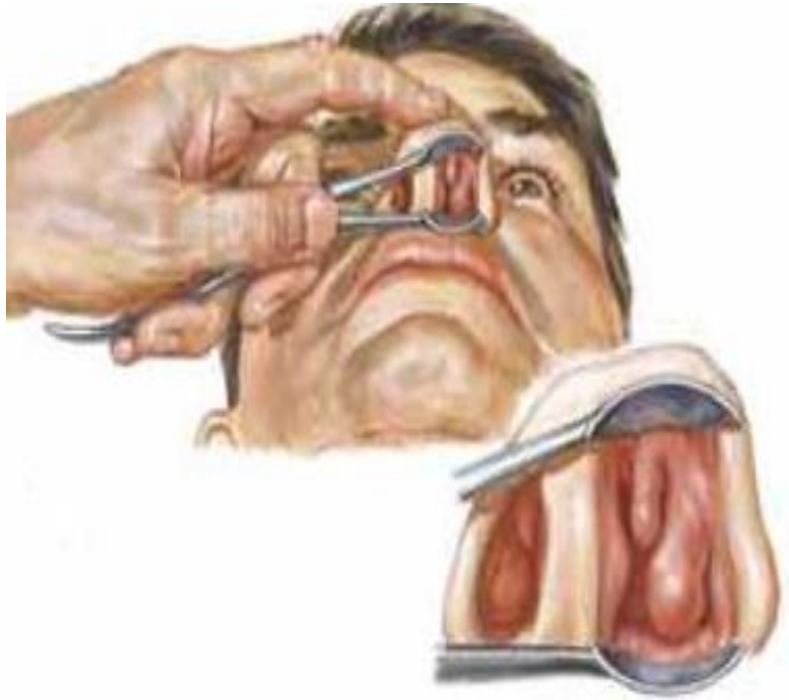
Thumb examination of nasal vestibule

- It can be easily examined by tilting the tip of nose upwards.

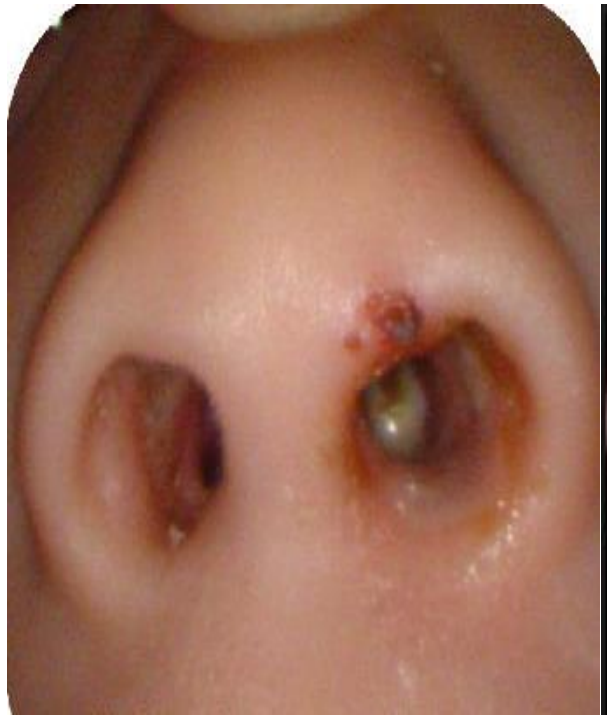


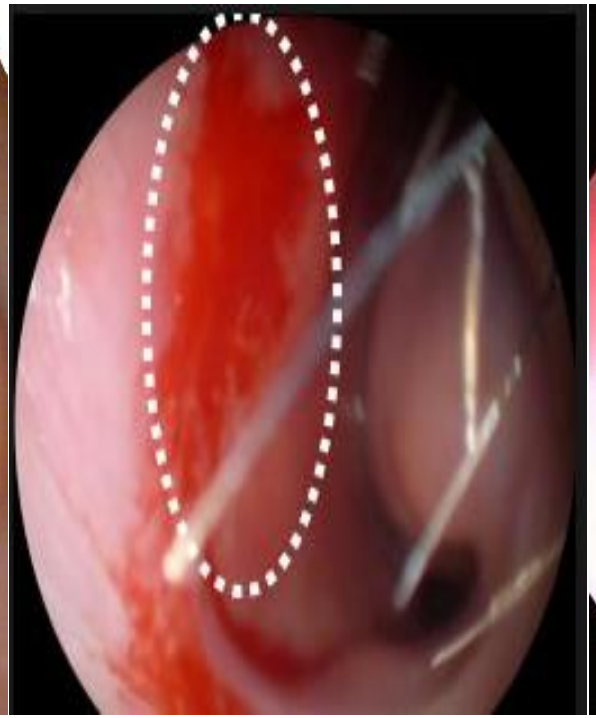
Nose examination (Anterior Rhinoscopy)

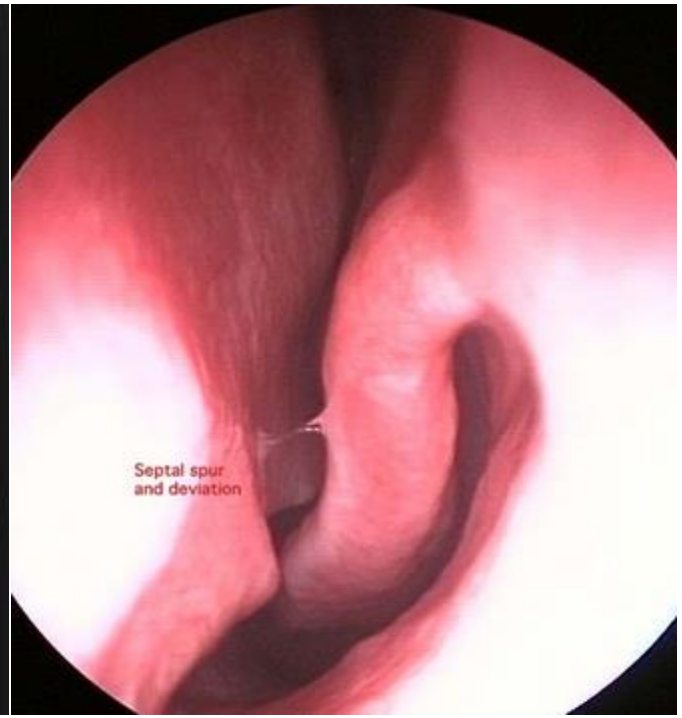


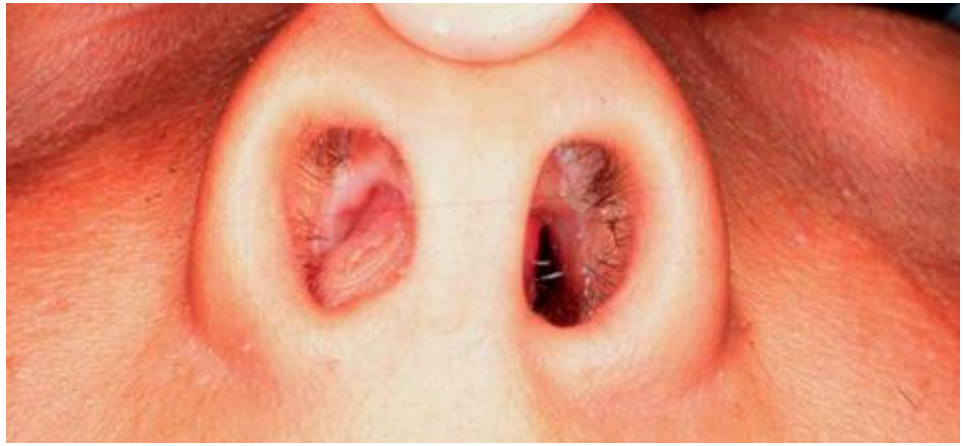


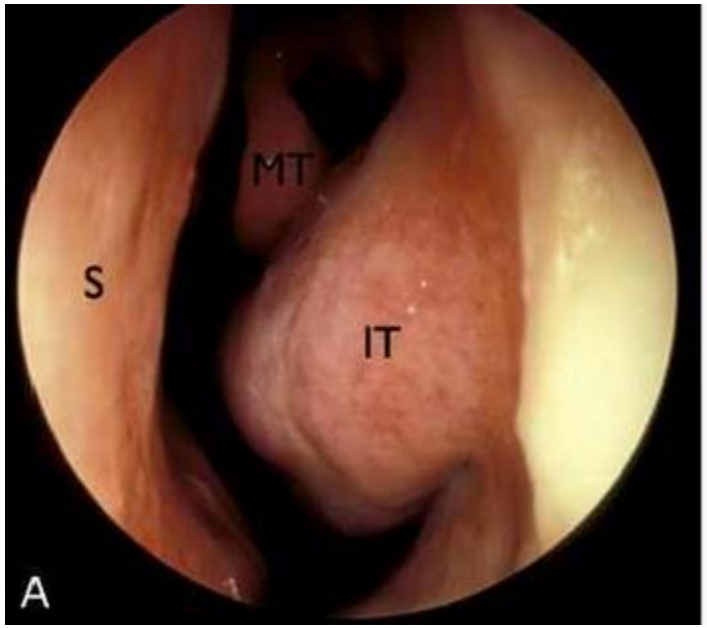
- Anterior rhinos copy using a headlamp and nasal speculum allows assessment of the nasal septum and inferior turbinates.
- The speculum should be directed laterally to avoid touching the sensitive septum with the metal edges.






Septal spur
and deviation

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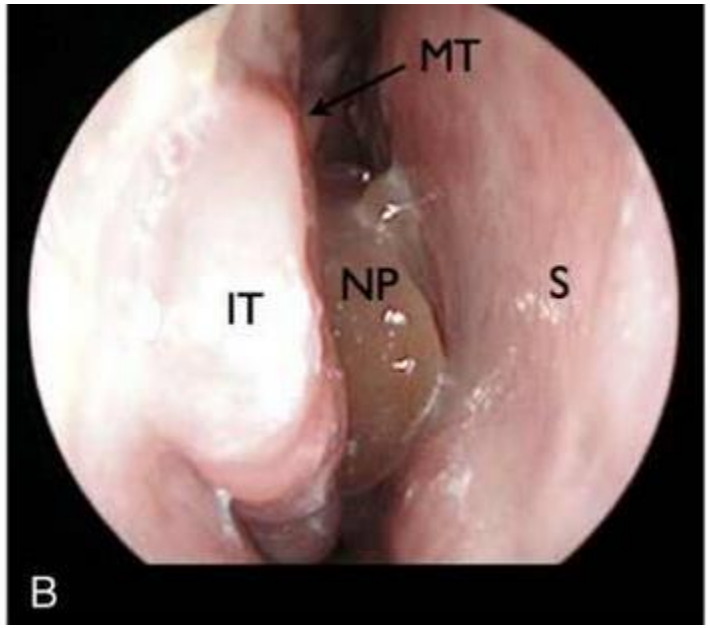
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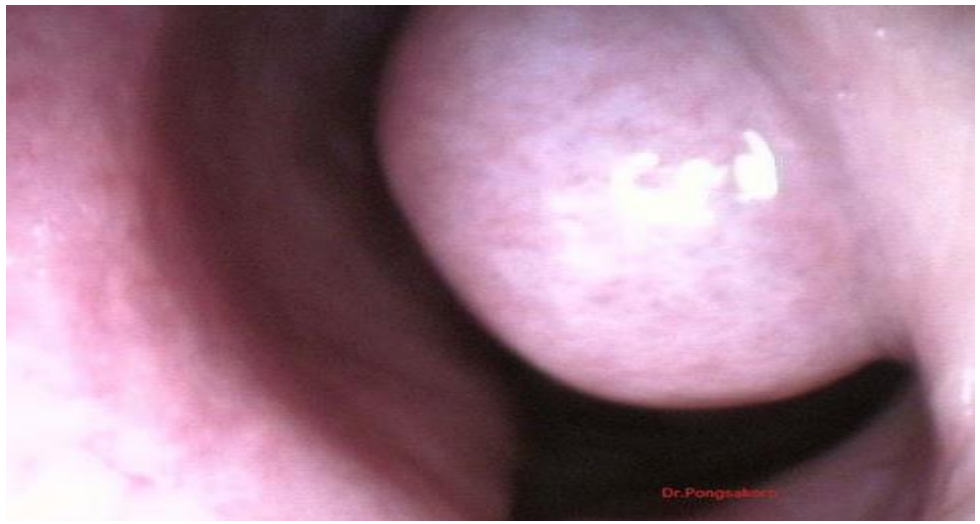
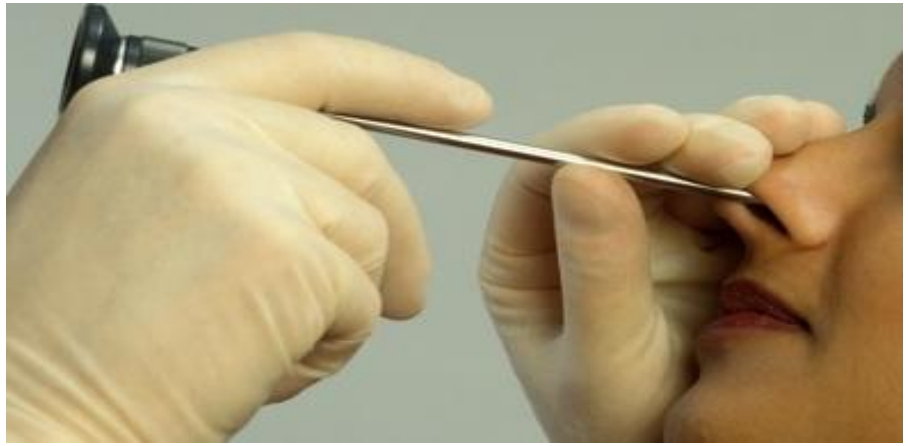
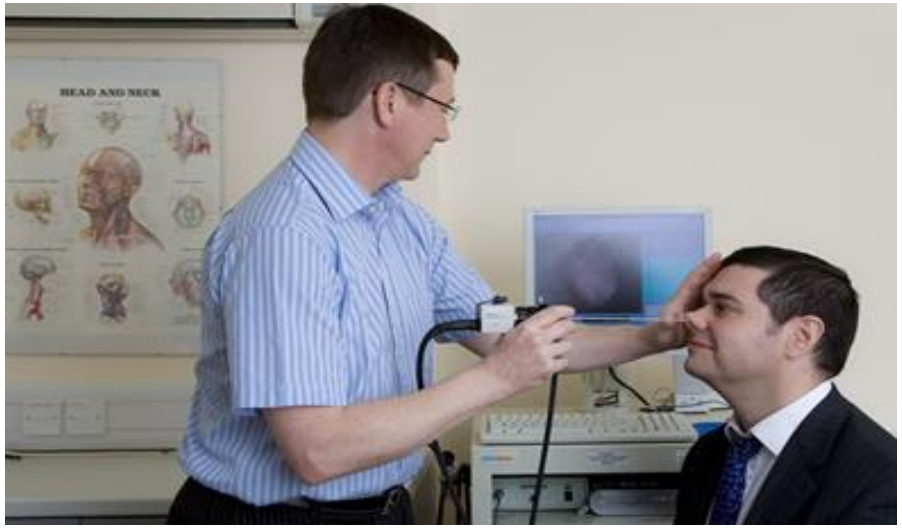


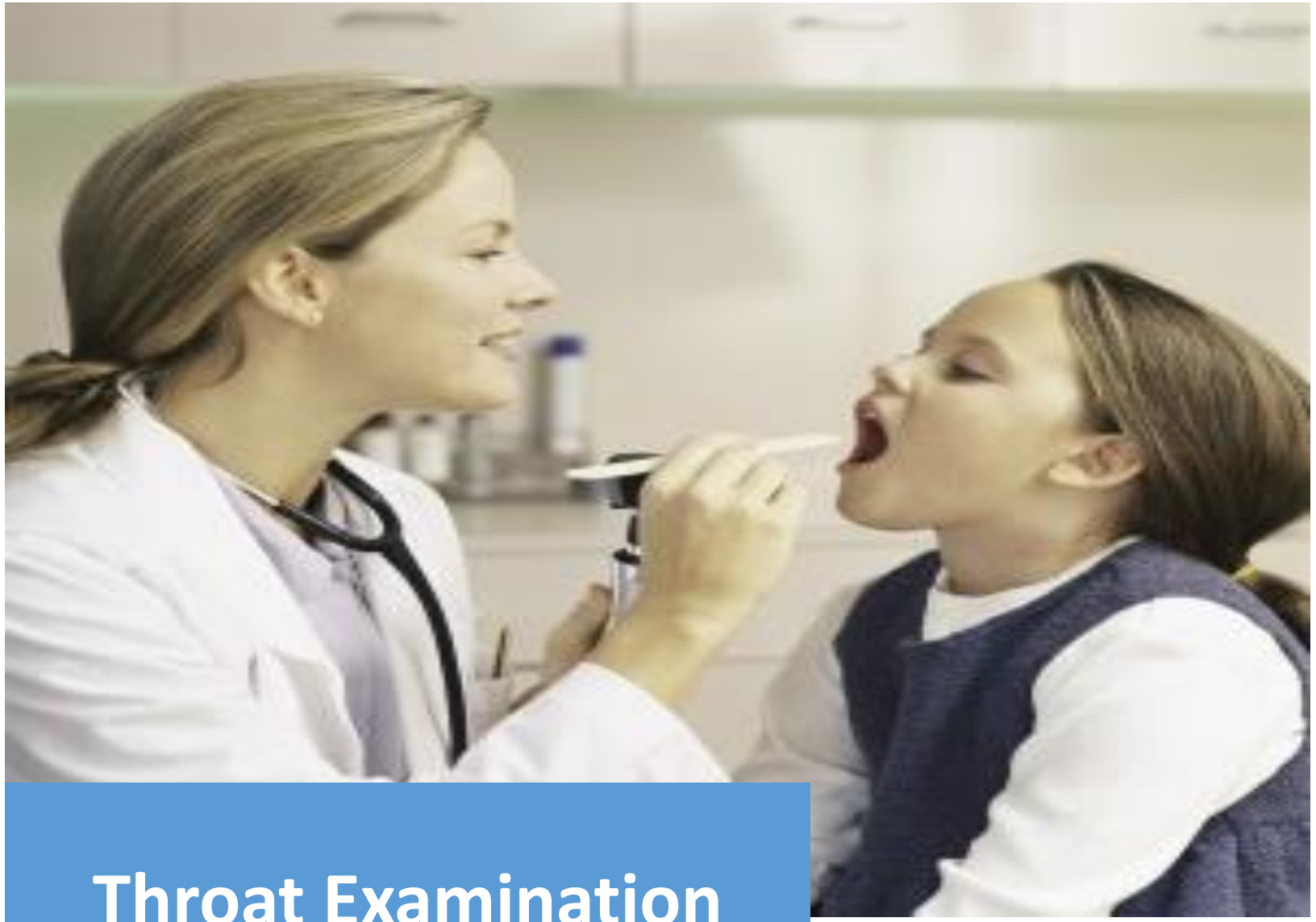
Nose examination (Nasal Endoscopy)

- Rigid endoscopes : allows thorough examination of even the most posterior portions of the nasal cavity but carries a risk of laceration in an uncooperative patient.

- Flexible fiber optic scopes : can also be used and are safer in young children and other unpredictable patients, but these often provide inferior optics and are less able to be directed into the lateral and superior aspects of the nasal cavity.



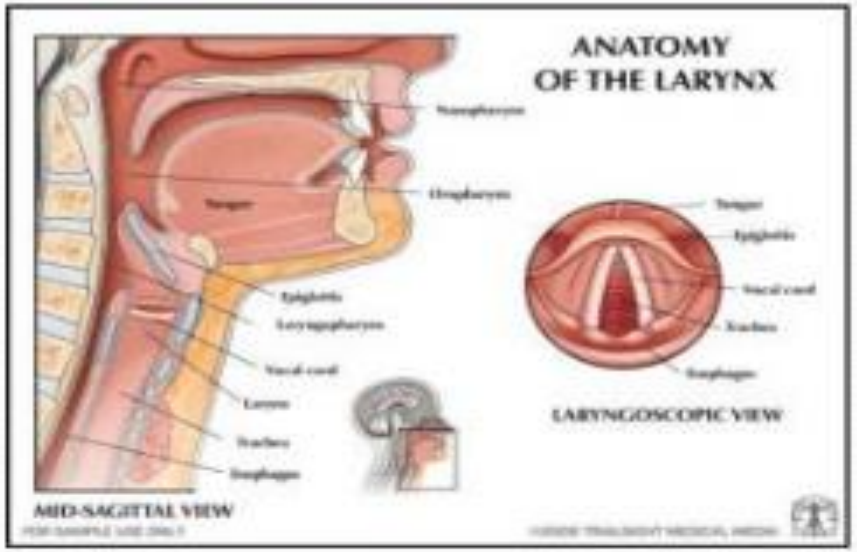




Throat Examination

Symptoms of the pharynx and the larynx

- A patient presents with one or more of the following complaints:
  - Sore throat.
  - Odynophagia (painful swallowing),
  - Dysphagia (difficulty in swallowing).
  - Earache.
  - Disorders of voice, e.g. hoarseness
  - Halitosis (bad smell from the mouth).
  - Respiratory obstruction.
  - Repeated ckaking of throat.
  - Cough and expectoration.
  - Mass in the neck .
  - Disturbance of salivation.
    - Xerostomia or Excessive salivation.
  - Disturbance of taste
  - Trismus.
  - Lesion on oral cavity.



Throat Examination

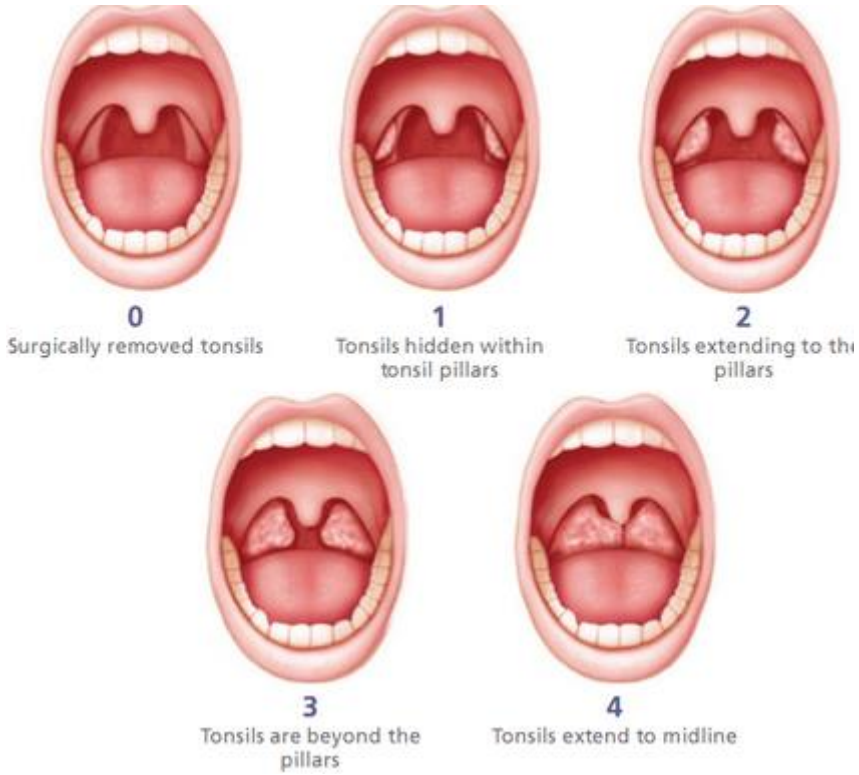
- The lips and oral commissures should be carefully inspected for any lesions concerning for carcinoma.
- Note any fissures or cracking consistent with angular stomatitis or cheilosis.

- **Open the mouth , notice :**

1. Trismus
2. Teeth and gingiva and occlusion
3. The dorsal, ventral, and lateral surfaces of the tongue for induration or ulcerative lesions.
4. The buccal mucosa (thrush, leukoplakia, Erythroplakia, Aphthous ulcers,)

Throat Examination (The Oropharynx)

- **Tonsil size :** **(The Brodsky scale)** reasonable intraobserver and interobserver reliability.



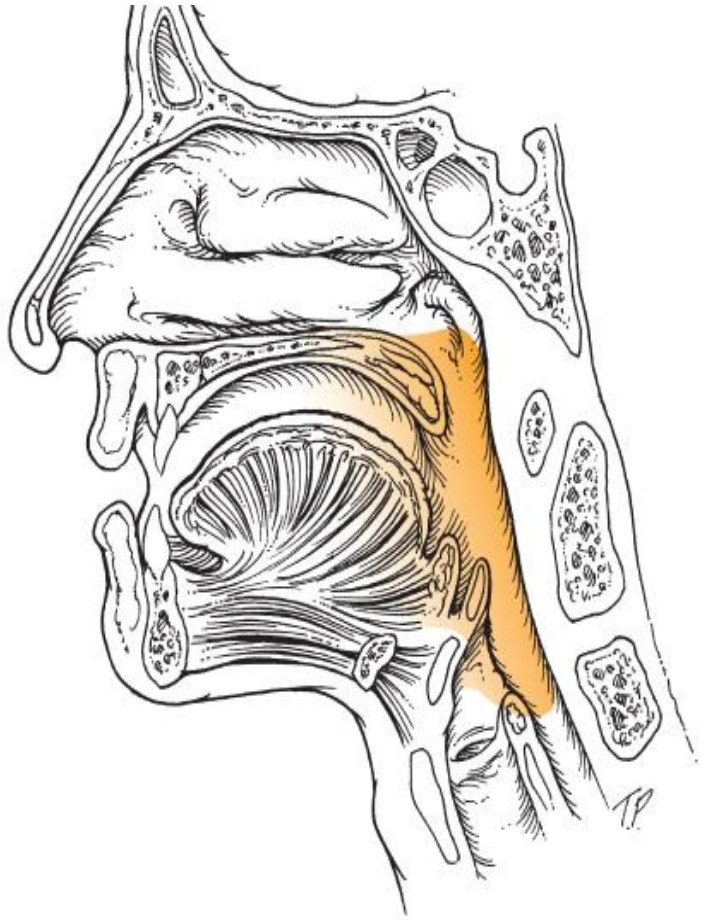
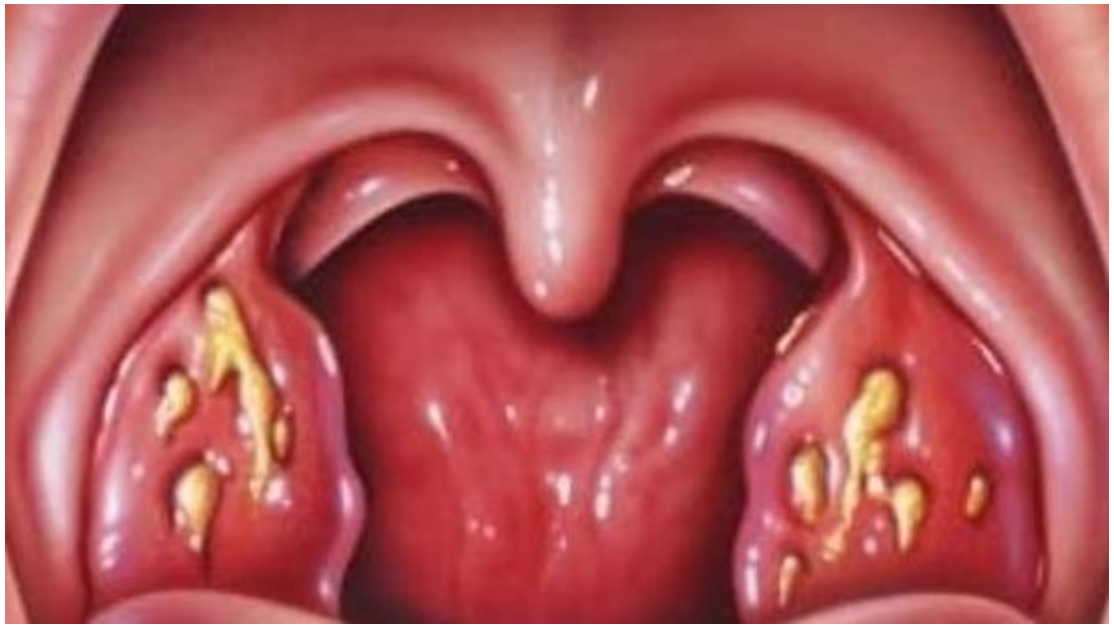
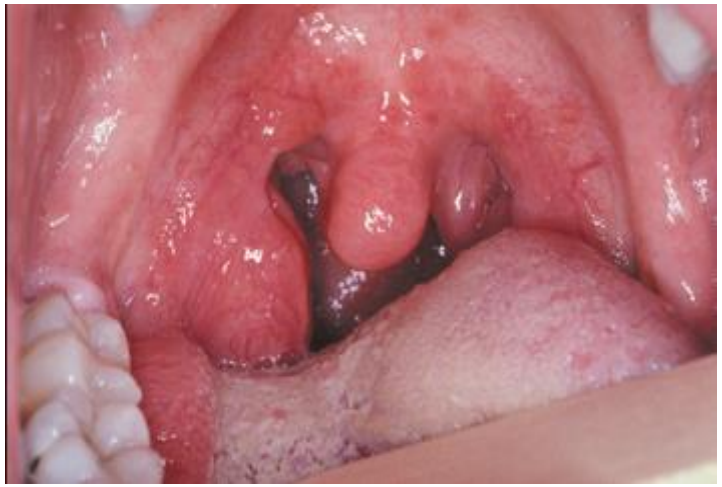
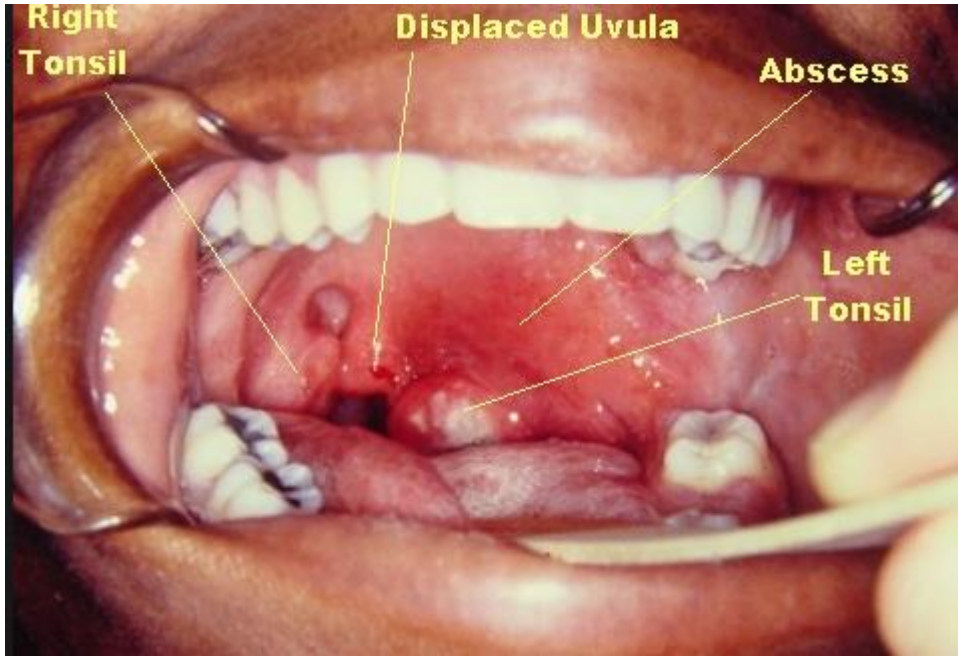


FIGURE 4-2. The oropharynx, which includes the posterior third of the tongue, soft palate, tonsillar pillars (anterior and posterior), lateral and posterior pharyngeal wall, and vallecula.

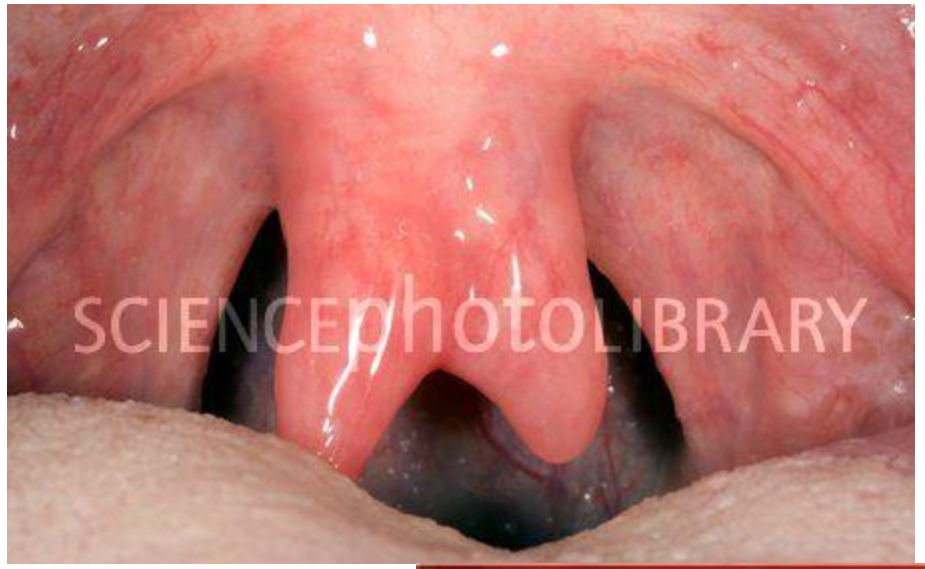
Throat Examination (The Oropharynx)

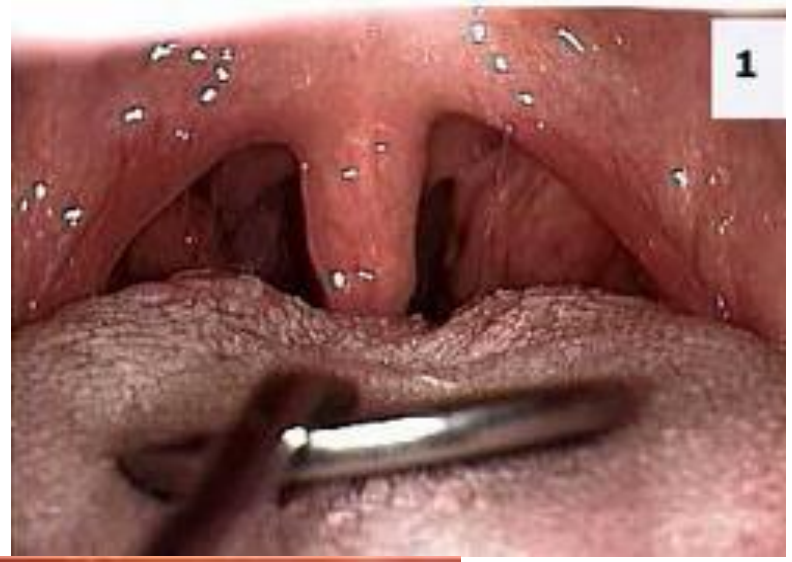


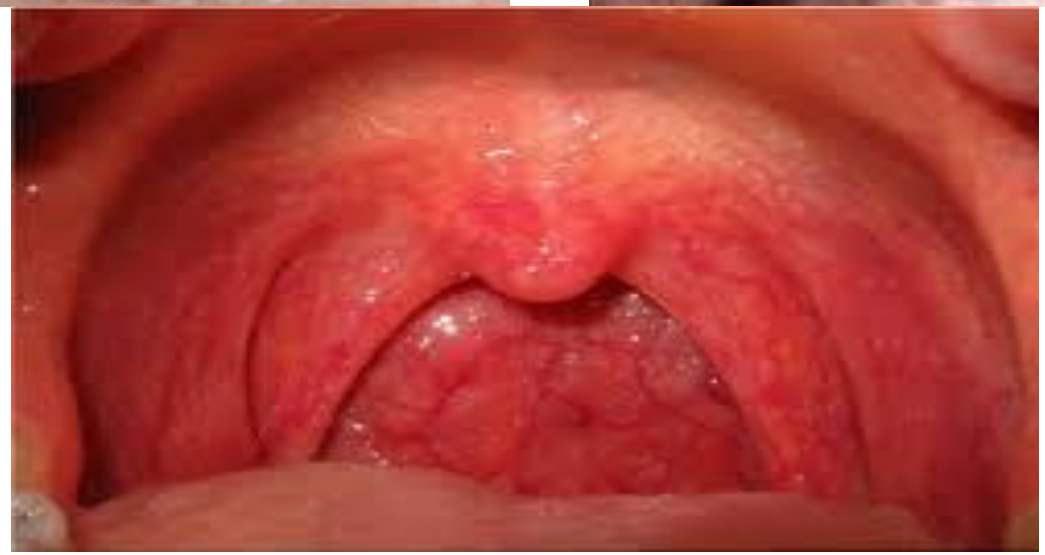




Throat Examination (The Oropharynx)





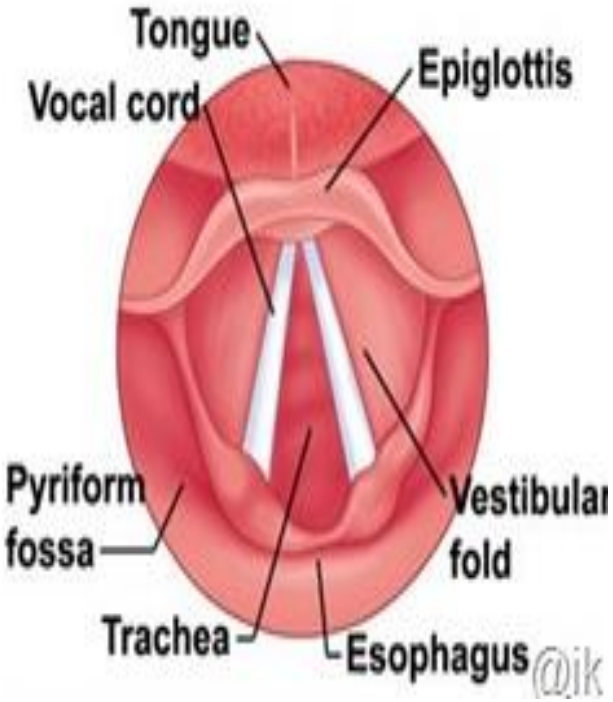


Throat Examination (indirect laryngoscopy)

- The patient’s tongue is pulled forward by the examiner, who grasps the tongue with a gauze sponge.
- The examiner’s middle finger is extended to retract the patient’s upper lip superiorly, and a dental mirror is warmed to prevent fogging and is placed in the oropharynx to elevate the uvula and soft palate to view the larynx

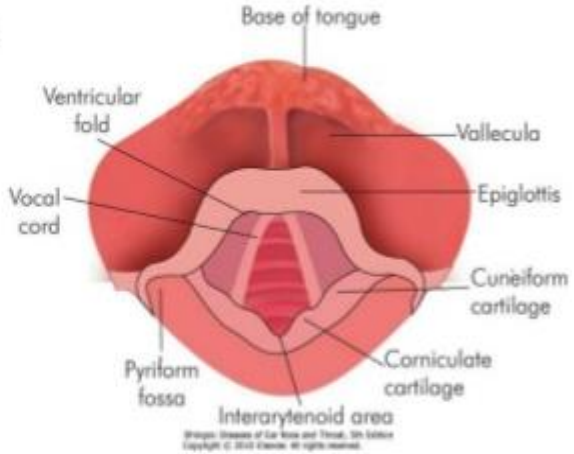
FIGURE 4-4. The indirect laryngeal mirror examination.

Throat Examination (indirect laryngoscopy)

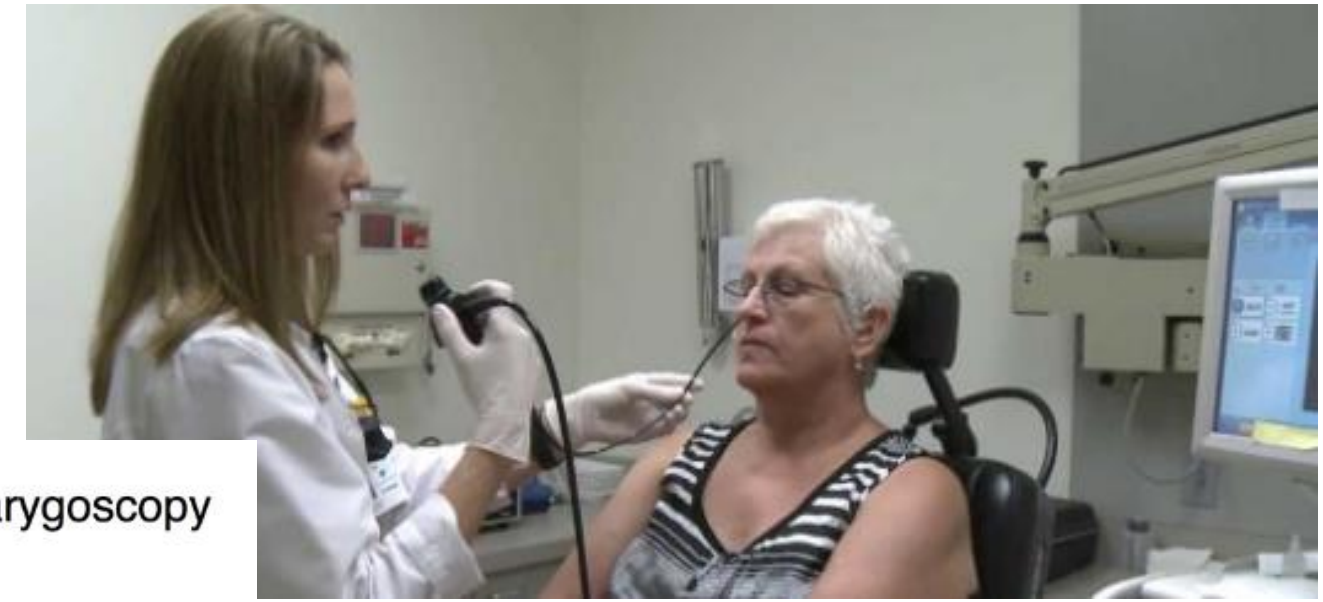


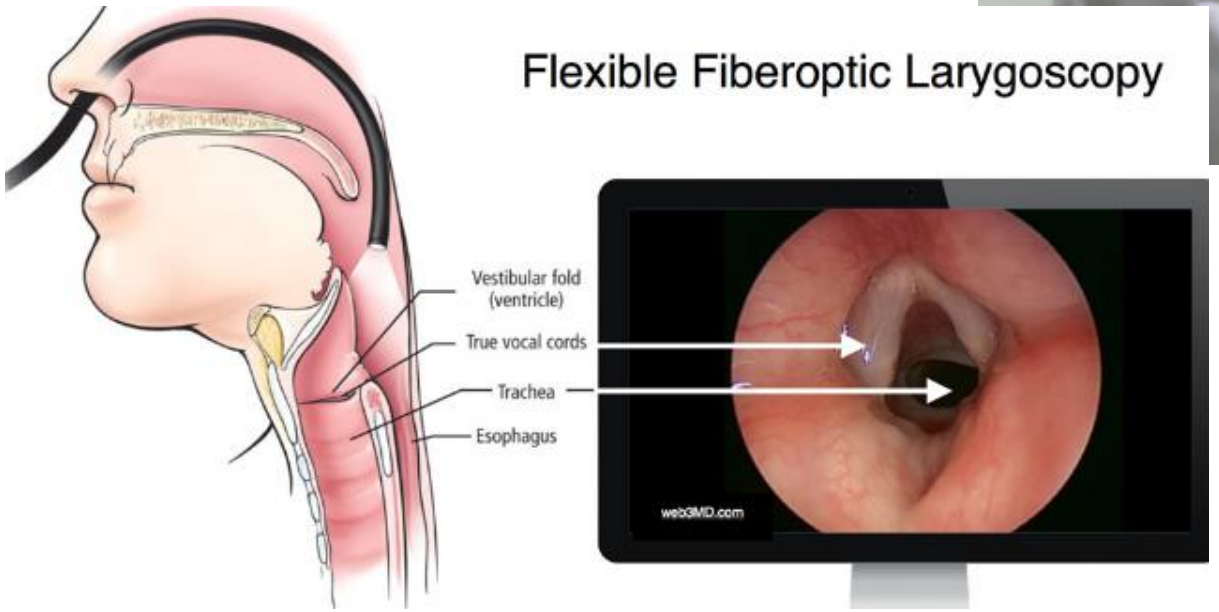
Structures seen on indirect laryngoscopy (in order):

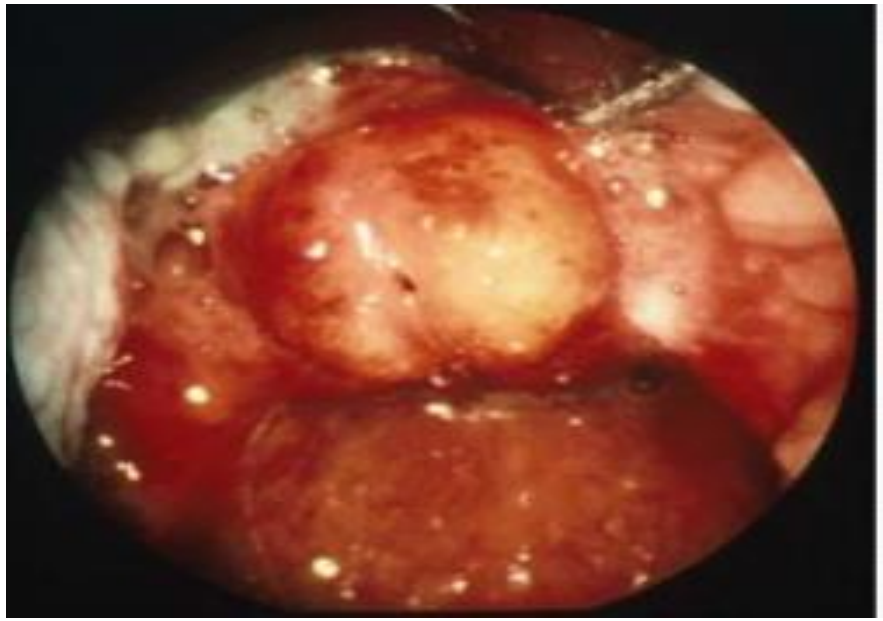
- oropharynx
  - Base of the tongue (posterior one-third of the tongue)
  - Vallecula
  - Median and lateral glossoepiglottic folds
- Laryngopharynx
  - Pyriform fossae
  - Post cricoid region
  - Posterior wall
- Larynx
  - Epiglottis
  - Pharyngoepiglottic folds
  - Aryepiglottic folds
  - Arytenoids
  - False vocal cords
  - True vocal cords
  - Tracheal rings

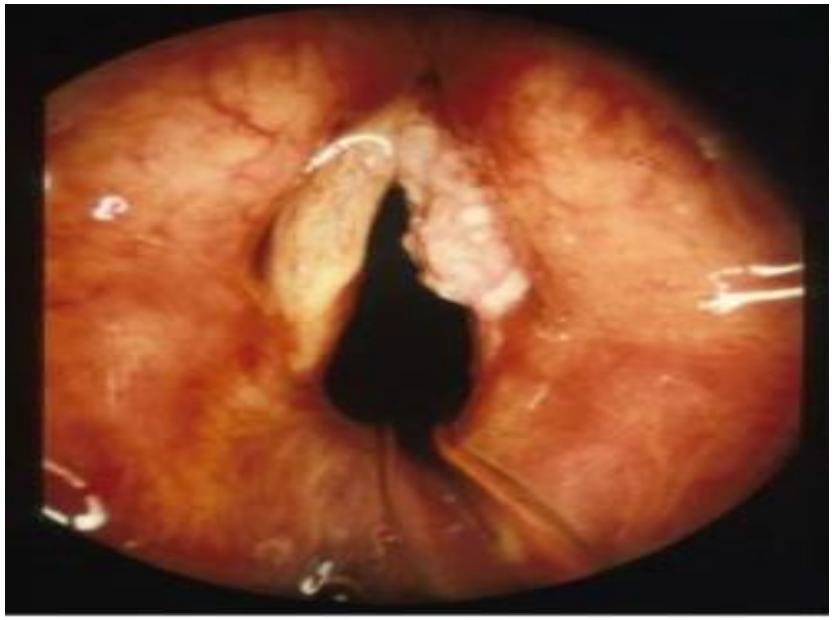


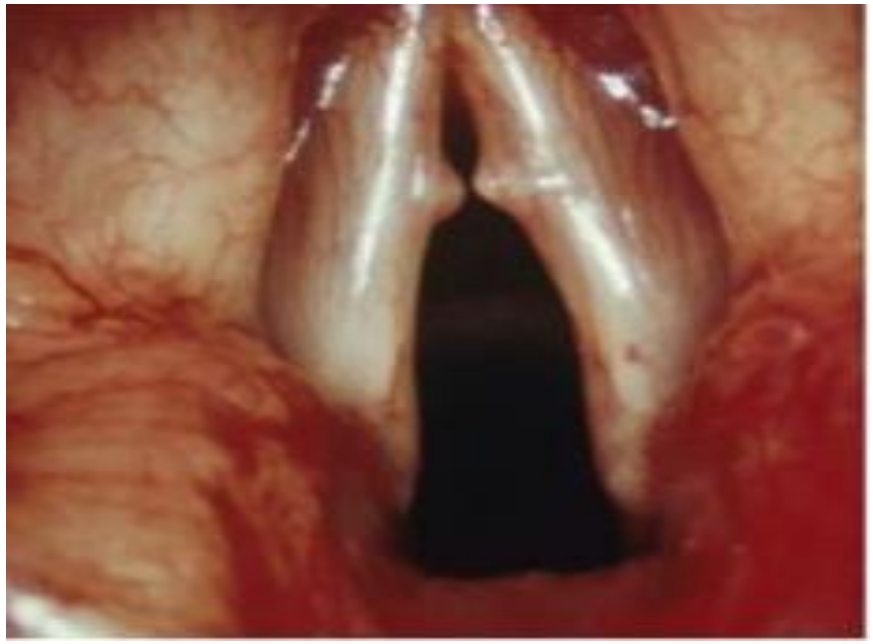
Fiber optic Nasopharyngolaryngoscopy

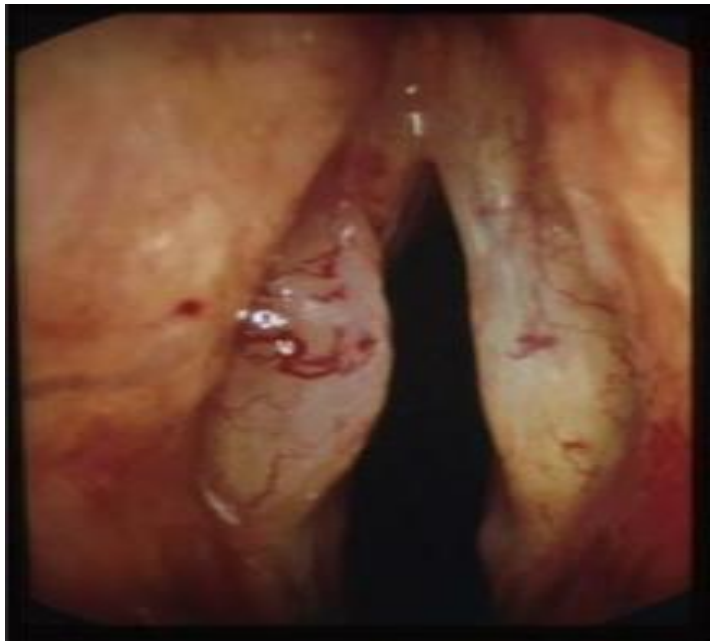












Neck Examination

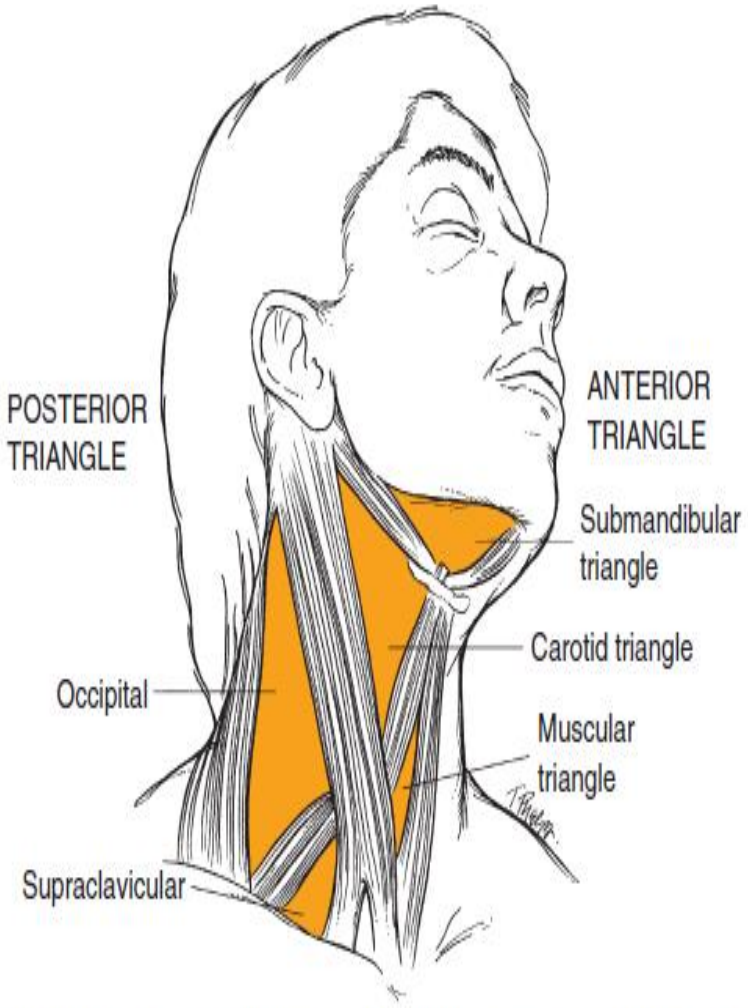


FIGURE 4-6. Triangles of the neck. The anterior triangle is divided from the posterior triangle by the sternocleidomastoid muscle.

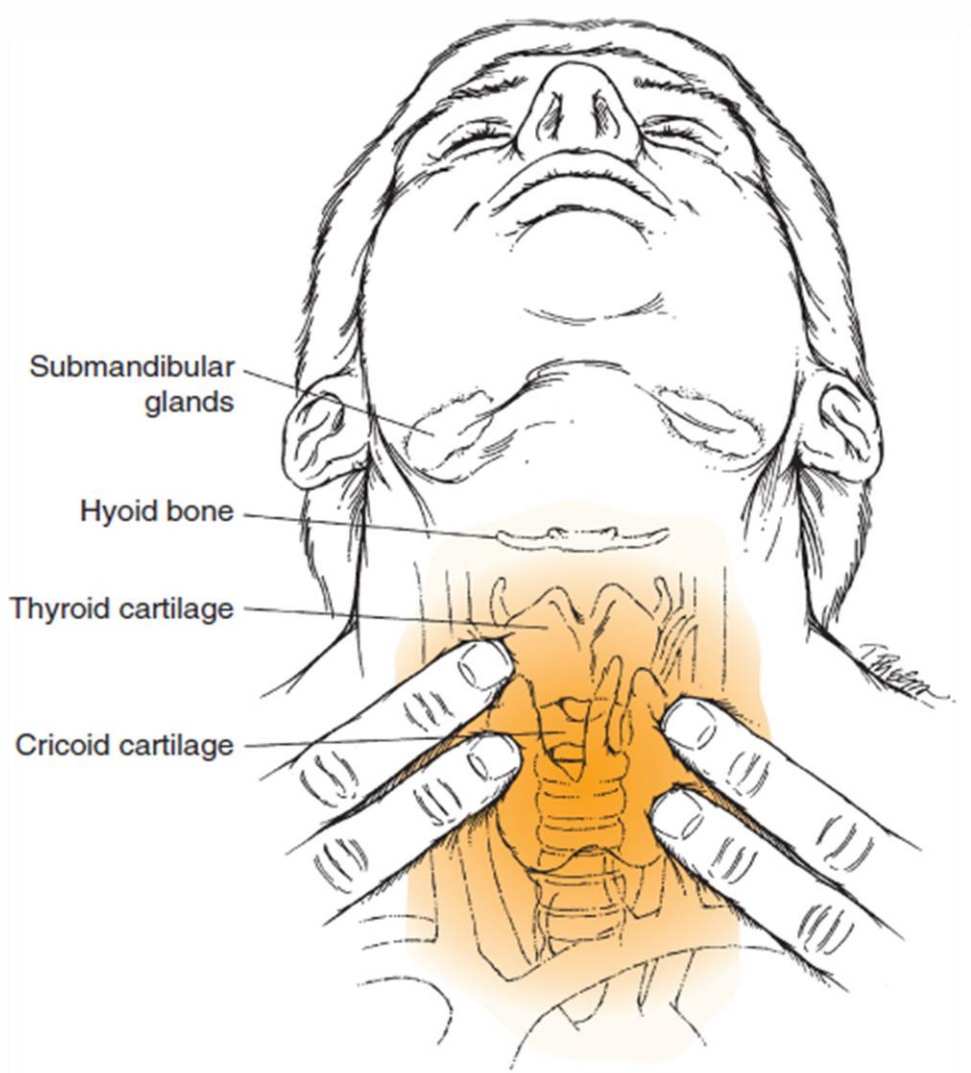
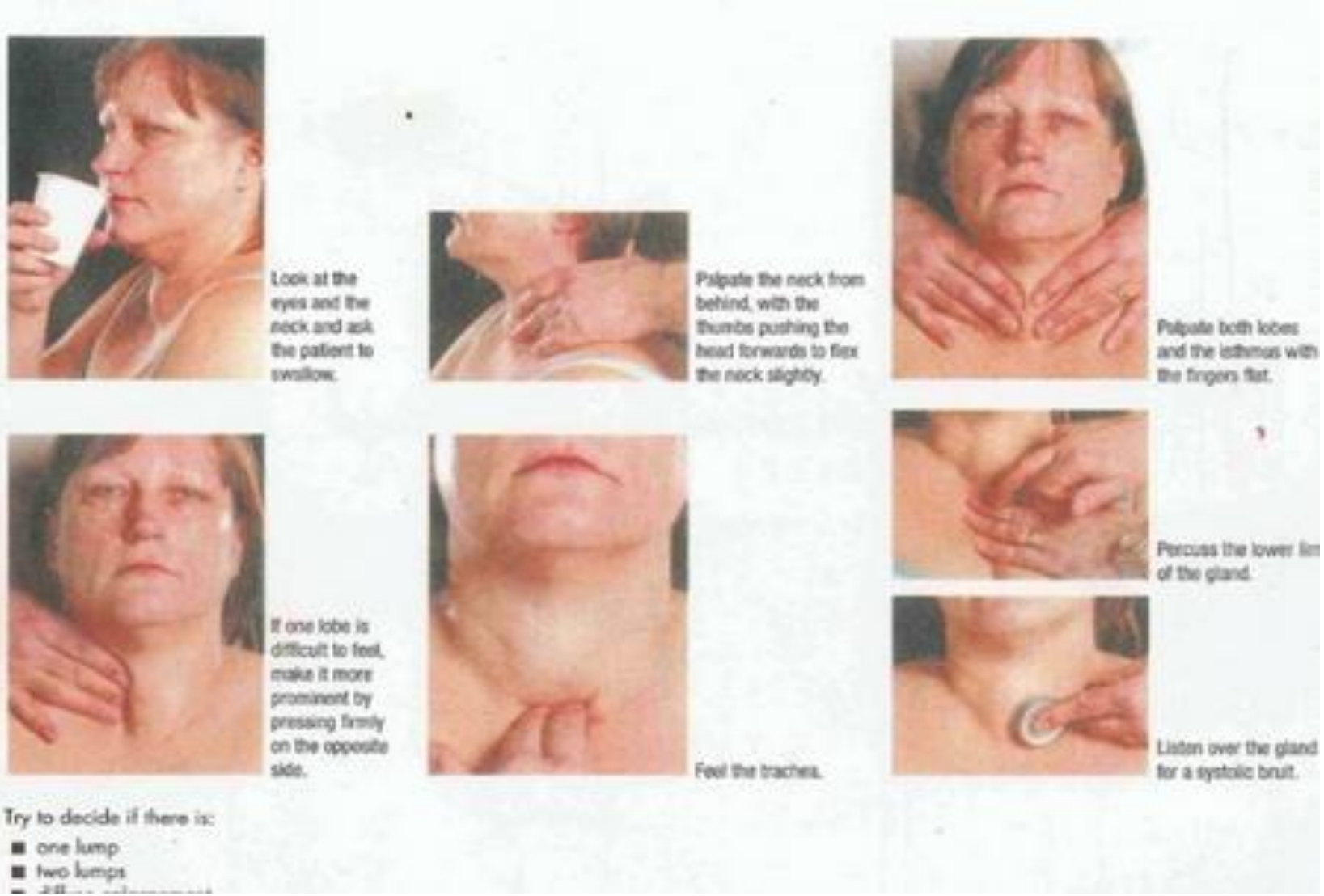


FIGURE 4-5. Basic anatomy of the anterior neck. Visualize structures while performing neck examination.

Thyroid examination



Neck Examination

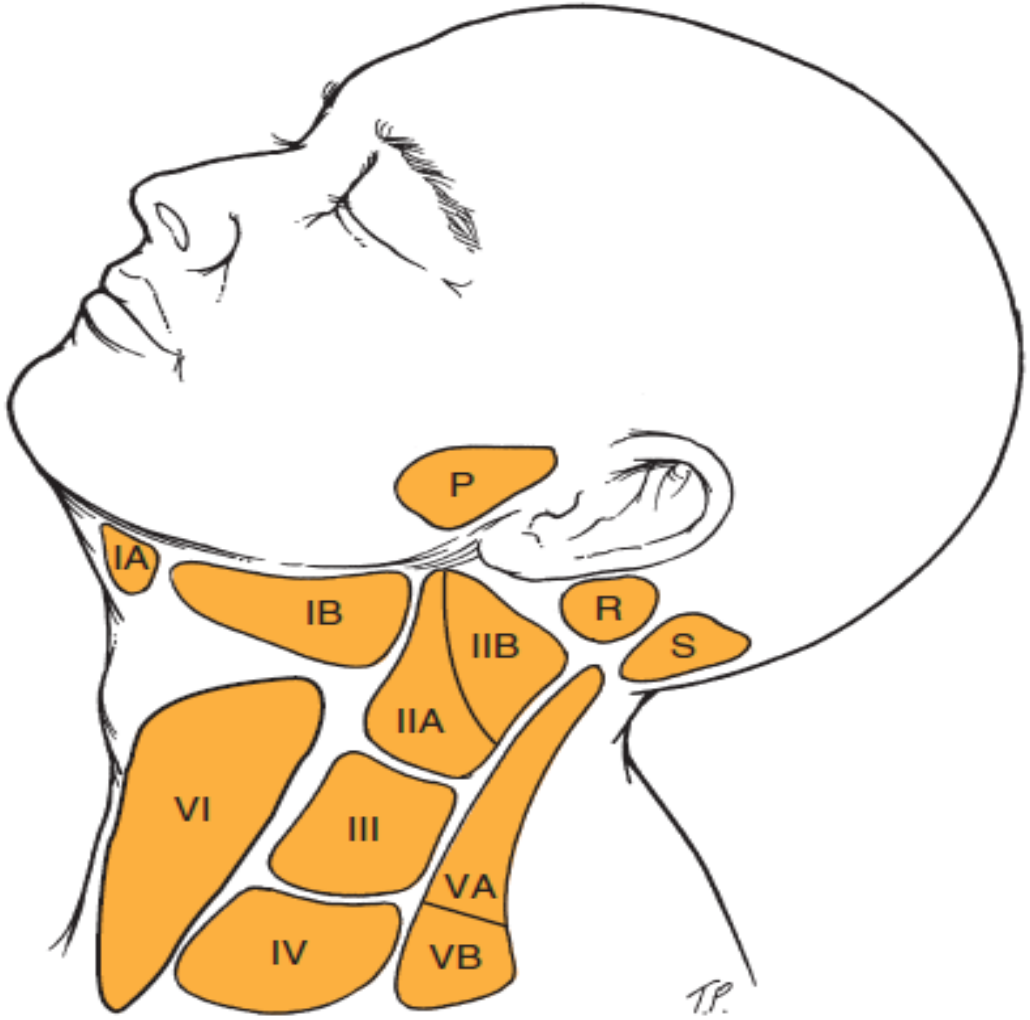


FIGURE 4-7. Lymph node regions of the neck.

Neurological examination

Thank you