

Disease of Ear, Nose, Throat and Head & Neck



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謝麗君

2017/12/15



Today We Must Learn~

■ Ear:

- Auricle
- Auditory canal
- Tympanic membrane (otoscope)
- Middle ear (otoscope)
- 檢耳鏡操作
- 模具組判讀

■ Nose:

- Nasal septum
- Inferior /middle turbinate
- 頭鏡操作
- 前鼻鏡使用



Today We Must Learn~

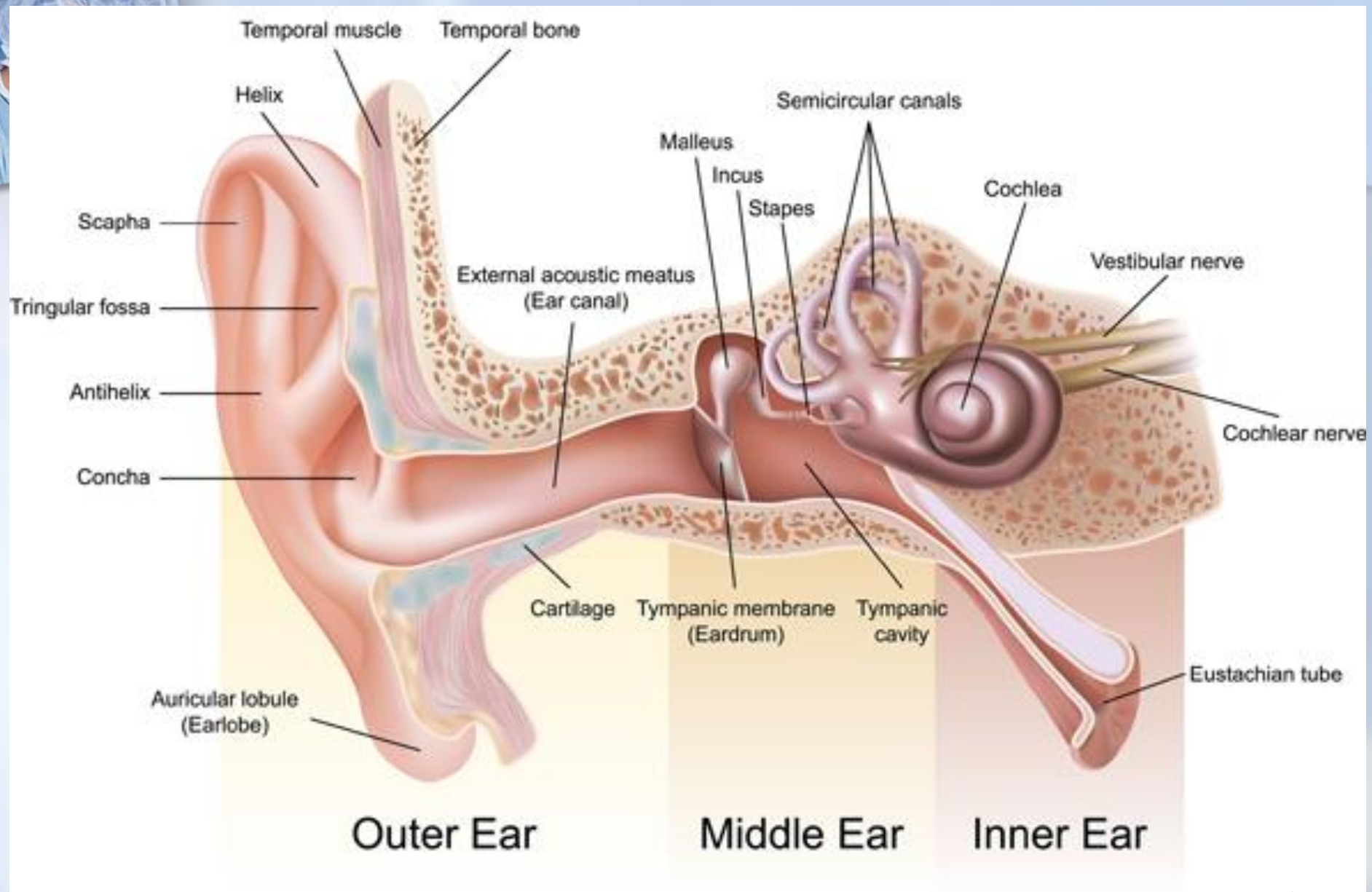
- Oral cavity:
 - Uvula
 - Hard and soft palate
 - Posterior pharyngeal wall and tonsils
 - Stenson's duct, Wharton's duct orifice
- Neck
 - Hyoid bone, thyroid cartilage, cricoid cartilage
 - Thyroid
- Major salivary gland



檢耳鏡的使用



使用耳鏡speculum的原則，使用最適合中的最大



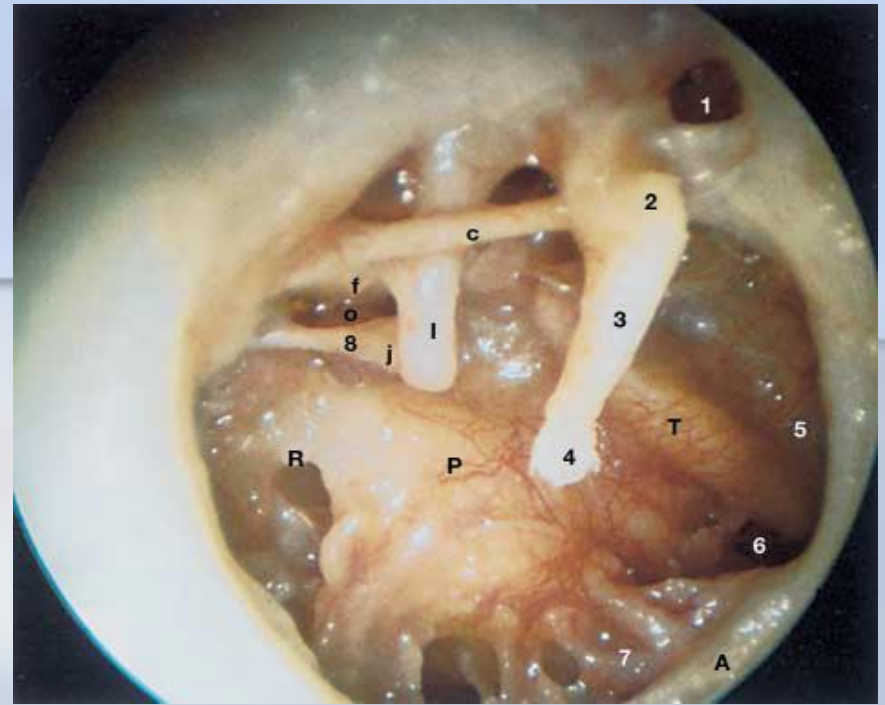
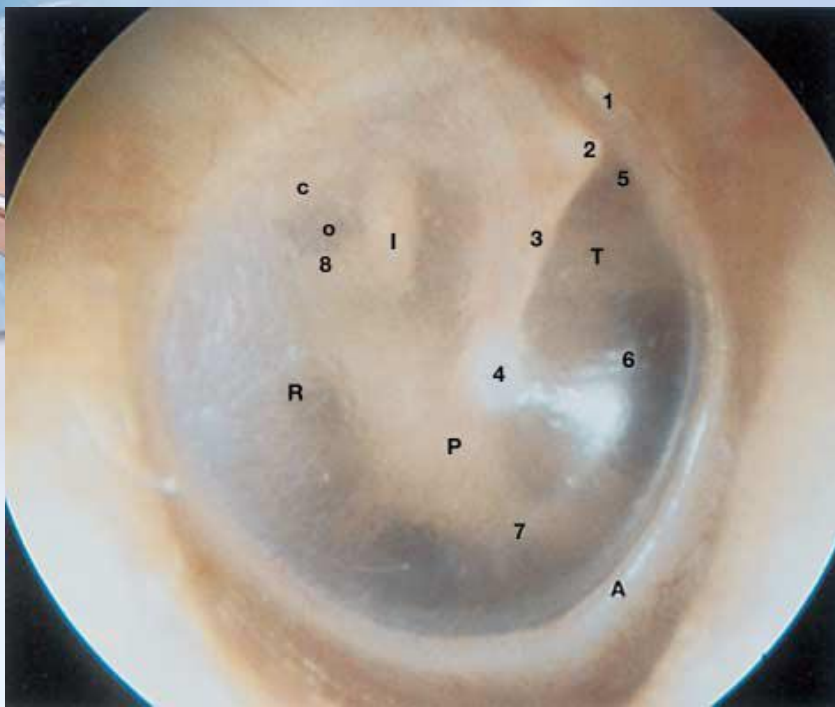


Fig. Normal tympanic membrane of right ear:

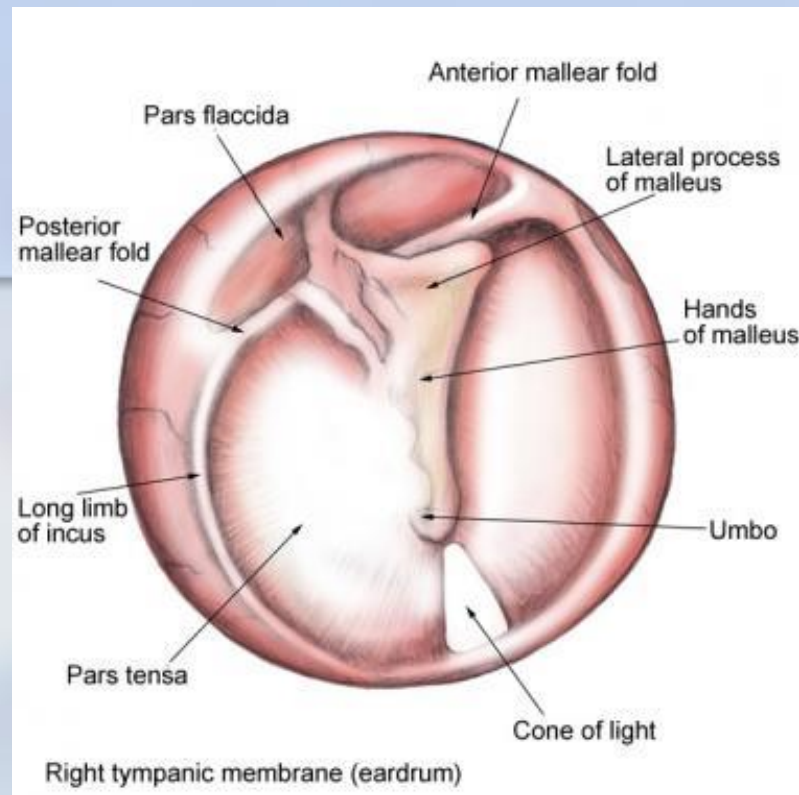
1. Pars flaccida;
2. Short process of malleus;
3. Handle of malleus;
4. Umbo;
5. Supratubal recess;
6. Eustachian tube orifice
(just to right of light reflex);
7. Hypotympanic air cells;
8. Stapedius tendon;

- C . Chorda tympani;**
I. Incus;
P. Promontory;
o. Oval window;
R. Round window;
T. Tensor tympani;
A. Annulus

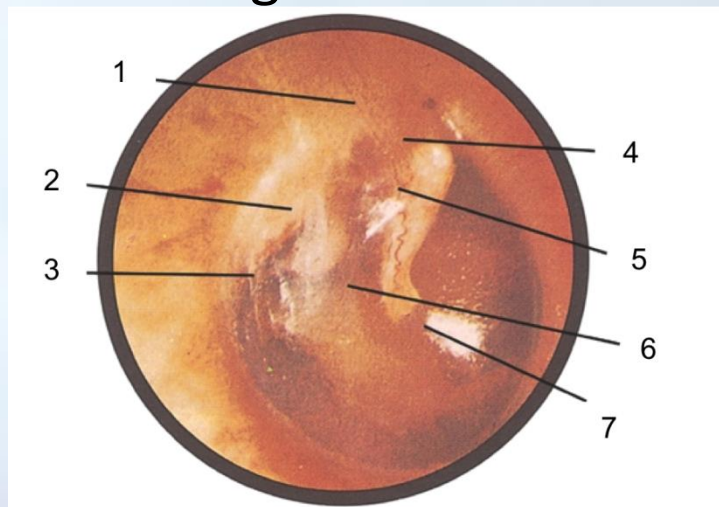


Ear Drum

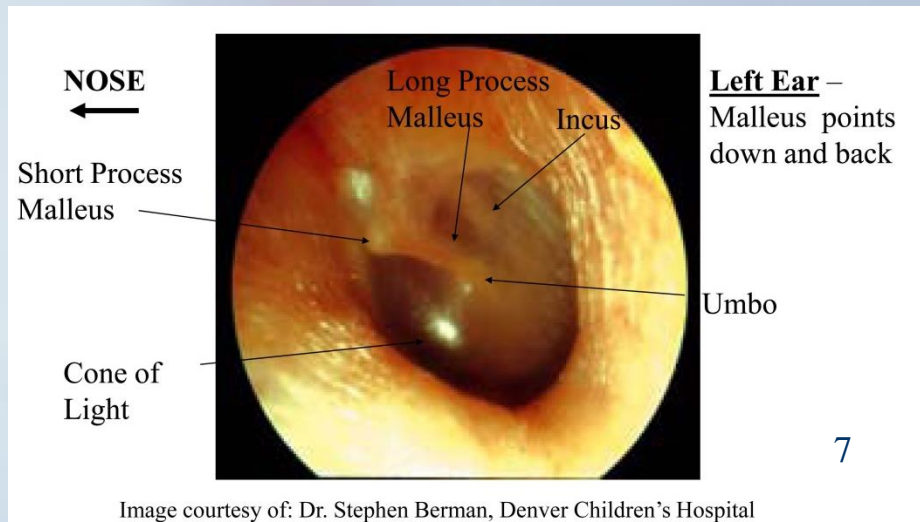
- 分辨左右邊耳膜
 - Handle, lateral process 走向
 - 光椎
 - E tube



Right ear



Left ear





Ear-related Infection

1. Acute otitis externa (AOE)
2. Otomycosis
3. Otofuruncles
4. Perichondritis
5. Malignant Otitis Externa (MOE)
6. Herpes Zoster Oticus
7. Otitis Media
8. Ear drum perforation
9. Otitis media with effusion



1. Acute Otitis Externa (AOE)

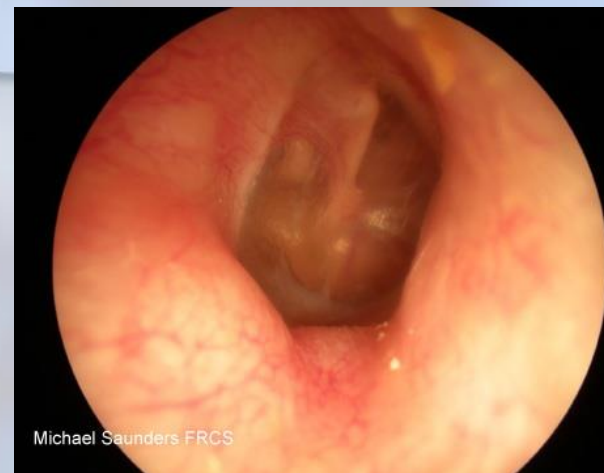
- An inflammation of outer ear and ear canal
- Swimmer's ear
- Pathogen
 - Staphylococci
 - Streptococci
 - Pseudomonas aeruginosa
 - Proteus mirabilis
 - Various gram-negative bacilli





Treatment of AOE

- Mild:
 - cleaning + antibiotic otic drop
- Moderate:
 - insert a wick into the canal and instill drops
- Severe:
 - anti-pseudomonas eardrops + oral ABX
→ IV ABX





2. Otomycosis 耳道黴菌

- Pathogen: Aspergillus, candida most common
- Treatment: local cleaning, anti-fungus ear drop





3. Otofuruncles

- Acute localized infection of hair follicle
- Lateral 1/3 of external ear canal
- Pathogen
 - *Staphylococcus aureus*
- Symptoms
 - Localized pain, pruritus, hearing loss, otorrhea





4. Perichondritis

- Infection of perichondrium of auricle
- Etiology
 - **trauma** to auricle, ex: ear piercing, op, hematoma ...
 - Spontaneous, ex: Immunocompromised patient (DM)
- Pathogen
 - Most common: **Pseudomonas**
- Symptoms:
 - pain over auricle and deep in canal, pruritus, pus discharge

Perichondritis: Signs

- Erythema
- Edema
- Tender auricle
- Induration
- Advanced cases
 - Crusting & weeping
 - Involvement of soft tissues





5. Malignant otitis externa (MOE)

- Beginning as infection of external ear canal, then extension into bony ear canal
- Progressive **osteomyelitis** of temporal bone and skull base
- Immunocompromised: DM, HIV
- **Pseudomonas**, most common
- Life – threatening





6. Herpes Zoster Oticus Ramsay Hunt Syndrome

- Early:
 - burning pain in one ear, headache, malaise and fever
- Late (3 to 7 days):
 - vesicles,
 - facial paralysis (60-90%)
 - vertigo, hearing loss, tinnitus
- Facial n. degeneration
 - may over 3 weeks,
 - recovery rate: 50% less than Bell's palsy
- CN-5.7.8.9.10.11.12

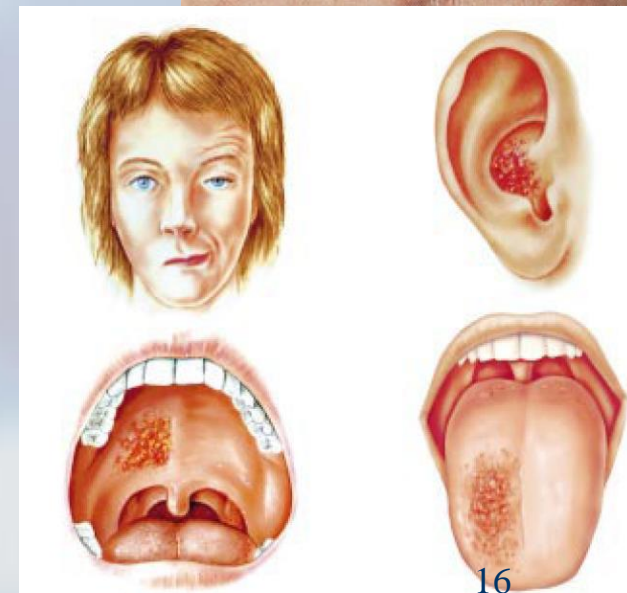


Figure 1 Clinical features of Ramsay Hunt syndrome. Note peripheral facial weakness characterised by a widened palpebral fissure and decreased forehead wrinkling and smile on the right, often associated with vesicles in the ipsilateral ear, on the hard palate, or on the anterior two thirds of the tongue.

Table 1. Facial nerve grading system of House and Brackmann.¹⁸

I Normal	Normal in all areas
II Mild dysfunction	Gross observation: Slight weakness noticeable on close inspection; may have very slight synkinesis At rest: Normal symmetry and tone Motion Forehead: Moderate to good function Eye: Complete closure with minimum effort Mouth: Slight asymmetry
III Moderate dysfunction	Gross observation: Obvious but not disfiguring difference between two sides; noticeable but not severe synkinesis, contracture, and/or hemifacial spasm At rest: Normal symmetry and tone Motion Forehead: Slight to moderate movement Eye: Incomplete closure with effort Mouth: Slightly weak with maximum effort
IV Moderately severe dysfunction	Gross observation: Obvious weakness and/or disfiguring asymmetry At rest: Normal symmetry and tone Motion Forehead: None Eye: Incomplete closure Mouth: Asymmetric with maximum effort
V Severe dysfunction	Gross observation: Only barely perceptible motion At rest: Asymmetry Motion Forehead: None Eye: Incomplete closure Mouth: Slight movement
VI Total paralysis	No movement

Grades I and II are considered positive outcomes, Grades III and IV characterize moderate dysfunction, and Grades V and VI describe poor results.



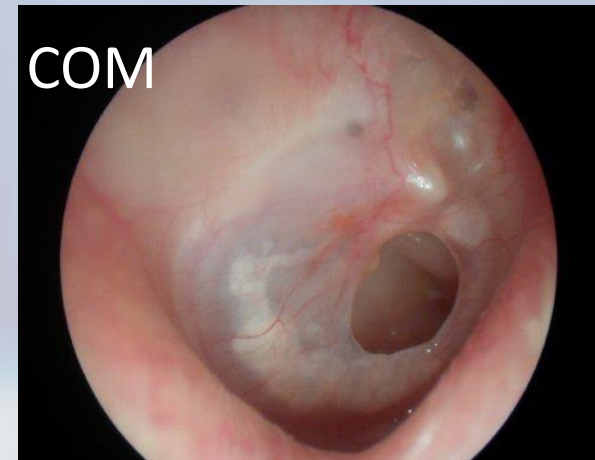
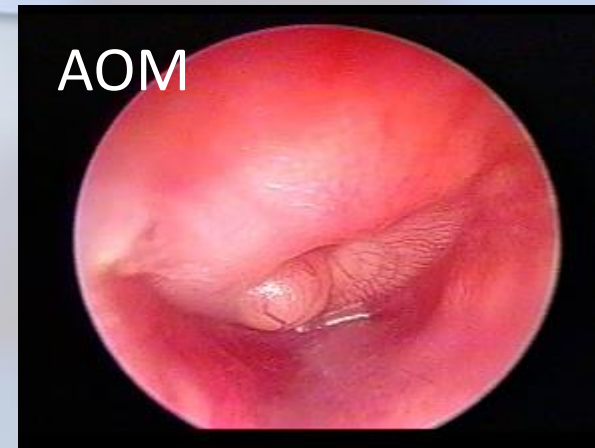
Treatment of Herpes Zoster Oticus

- Antiviral agent
 - (1) Acyclovir
 - Oral: 800mg (q4h, 5 times daily) 7-10 days
 - IV: 2 vials q8h (10mg/kg q8h) 7 days
 - (2) Famcyclovir 500mg 7-10 days
- Oral steroid
 - Prednisone (60 mg daily for 5-7 days)
- Corneal protection
- Analgesics



7. Otitis Media

- Inflammation of the middle ear
- May also involve inflammation of mastoid, petrous apex, and perilabyrinthine air cells
- Classification:
 - Acute OM: < 3 weeks
 - Subacute OM: 3 weeks to 3 months
 - Chronic OM: > 3 months





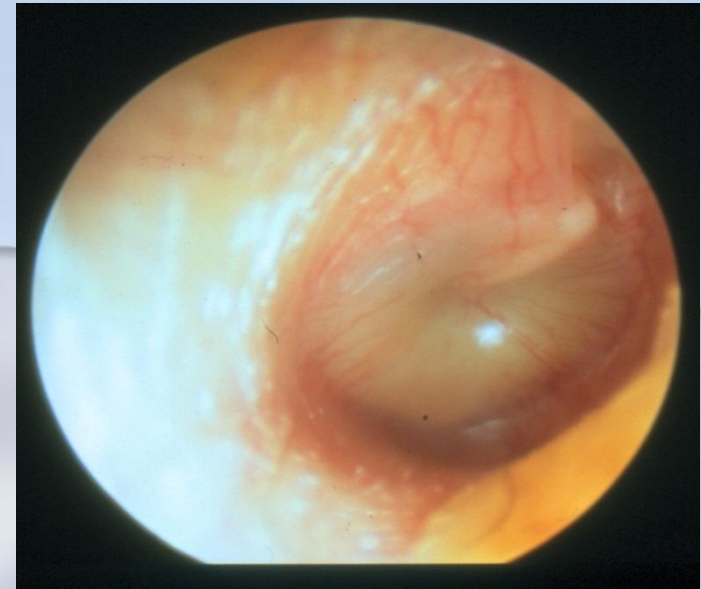
Pathogen of AOM

■ Virology

- RSV , Rhinovirus,
Parainfluenza virus,
Influenza virus

■ Microbiology

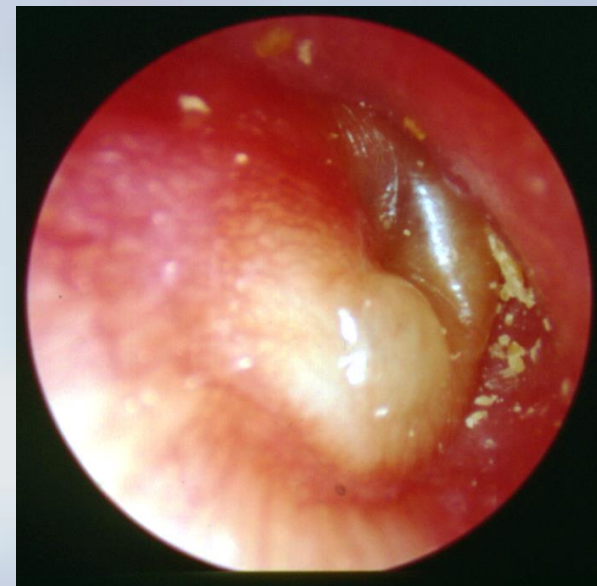
- *S. pneumoniae* : 30-35 %
- *H. influenzae* : 20-25 %
- *M. catarrhalis* : 10-15 %





Treatments of AOM

- Antibiotics:
 - (1) Amoxicillin
 - (2) Augmentin
 - (3) Cefuroxime
- Analgesics
- Oral decongestant, antihistamine ?
 - Intranasal decongestant
- Local treatment
- Myringotomy 耳膜切開





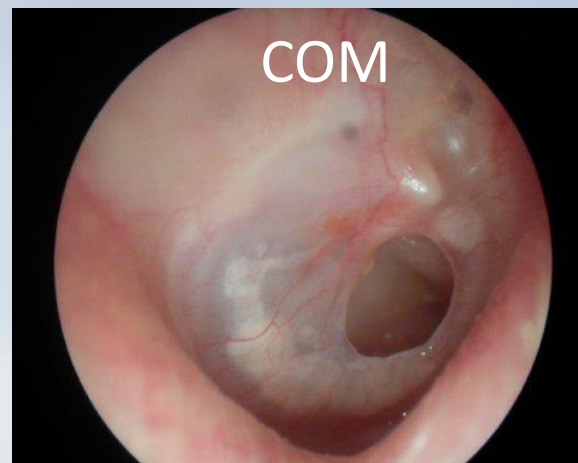
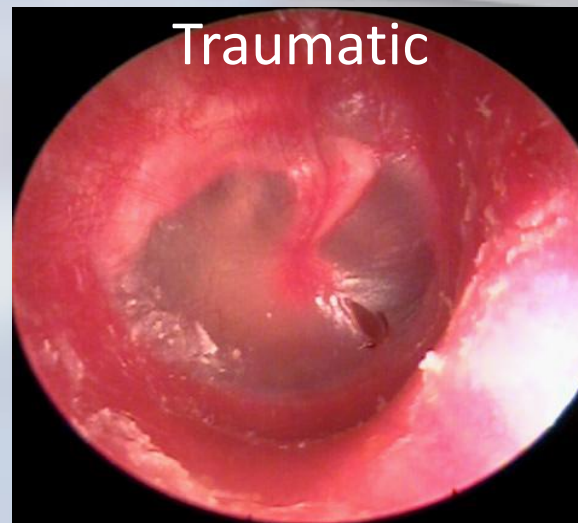
Complications of AOM

- Drum perforation
- Mastoiditis
- Bezold's abscess
 - an abscess in sternocleidomastoid muscle, subperiosteal abscess
- Facial palsy
- CNS: meningitis, brain abscess



8. Ear Drum Perforation

- Traumatic
 - 三角形破孔
 - 多會自癒
 - Tx: keep ear dry,
avoid squeezing
no need of antibiotics
- Chronic otitis media
 - 圓形、鈣化斑塊
 - Tx: topical antibiotics
tympanoplasty



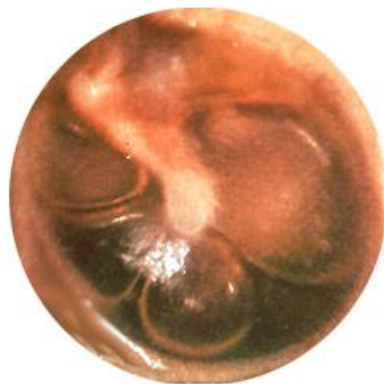


9. OME (otitis media with effusion)

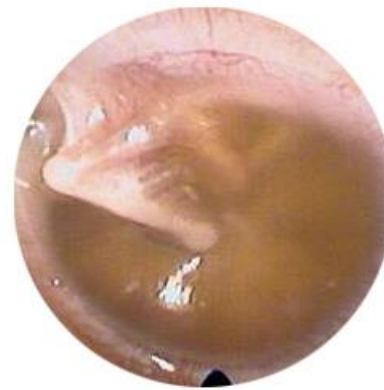
- PE.: 耳膜完整, 耳膜顏色成琥珀色
- 症狀: 聽力損失最常, 耳鳴, 耳悶感
- Tx: > 3 months → 中耳通氣管放置
通氣管平均 6-12 months 會脫落
- 大人單側中耳積水, 務必檢查鼻咽以排除鼻咽癌



Normal Ear
(no fluid)



Some Fluid
(air-fluid levels)



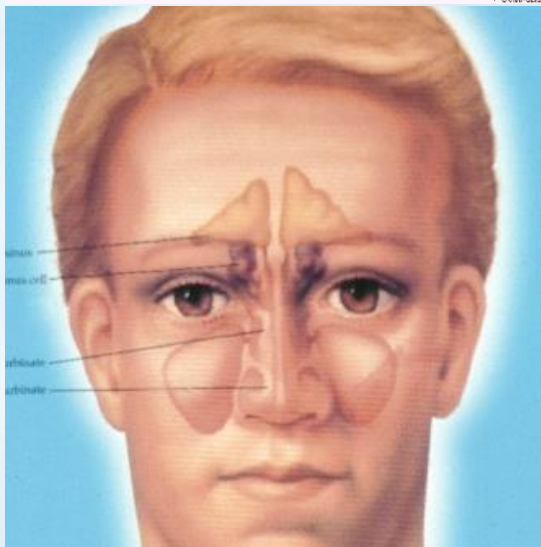
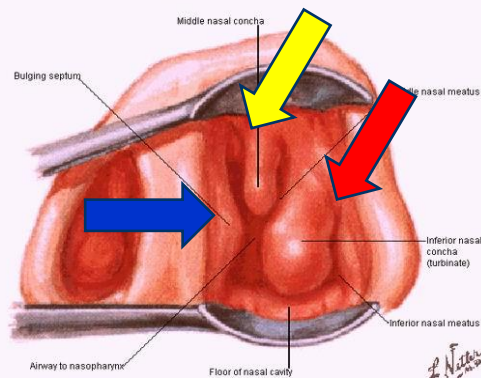
Effusion
(full of fluid)



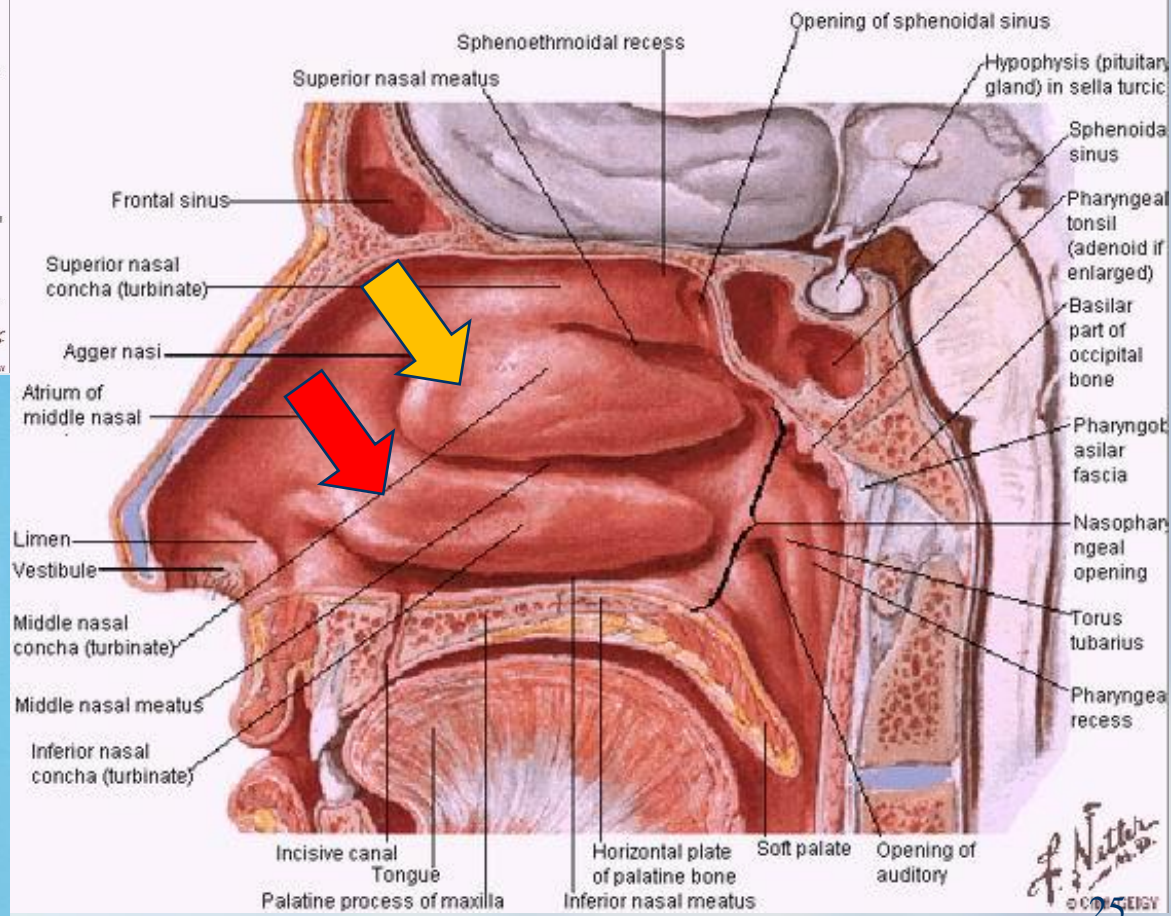


Nose

Nasal Cavity
Speculum View



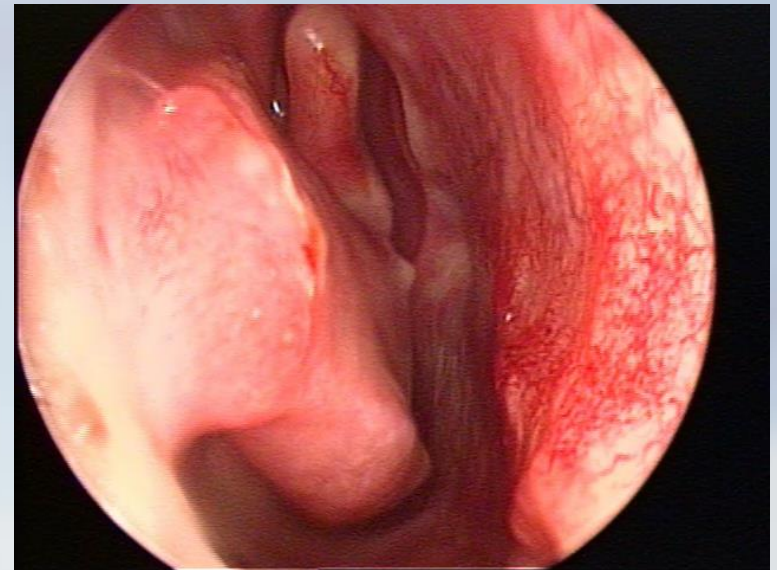
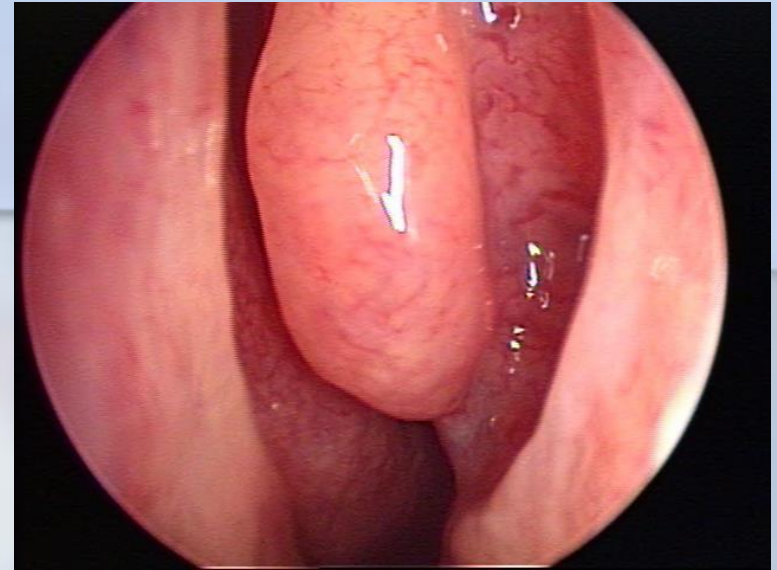
Lateral Nasal Wall





Function of Nose

1. Respiration
 - protect lower airway
2. Sensory
 - olfactory receptor
3. Immunology
4. Resonance
 - 鼻音過重
 - 鼻音過輕





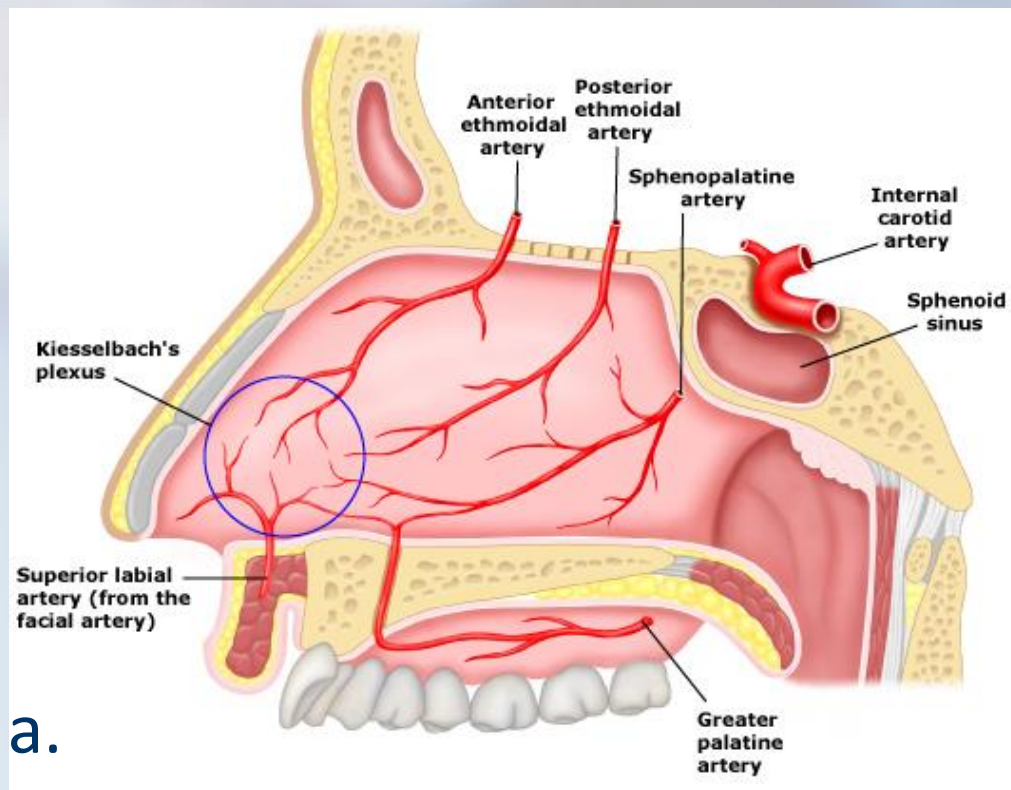
Nose-related Disease

1. Epistaxis
2. Nasal bone fracture
3. Deviated nasal septum
4. Sinusitis
5. Nasopharyngeal carcinoma (NPC)



1. Epistaxis

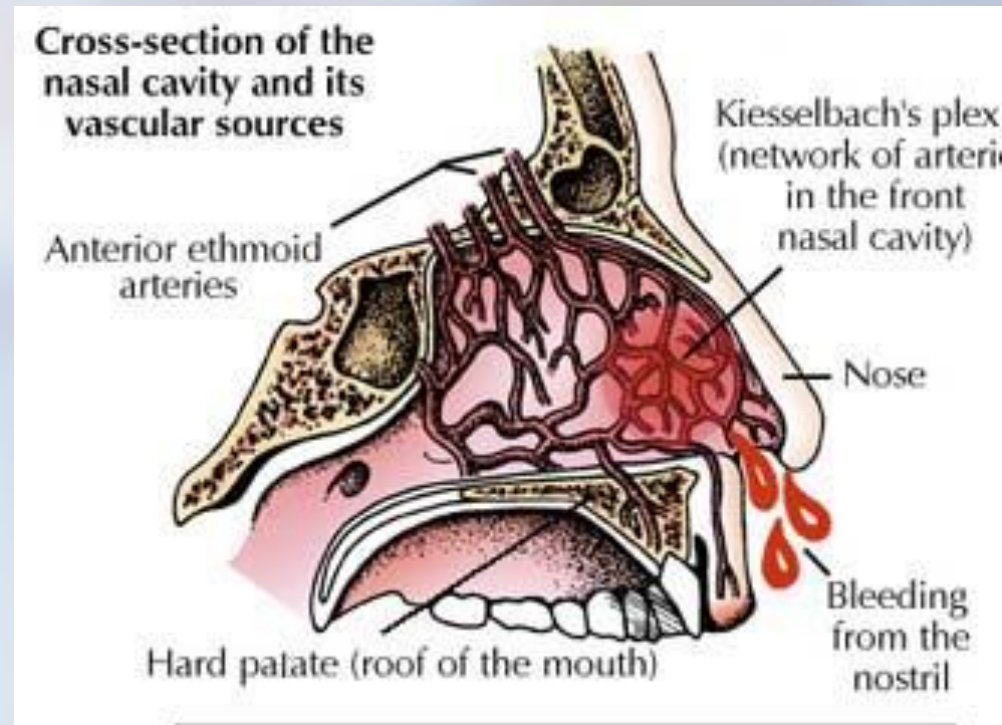
- Nose blood supply:
 - **External carotid a.:** sphenopalatine a., greater palatine a., pharyngeal a., sup. labial a.
 - **Internal carotid a.:** ant. & post. ethmoid a.





Anterior Epistaxis

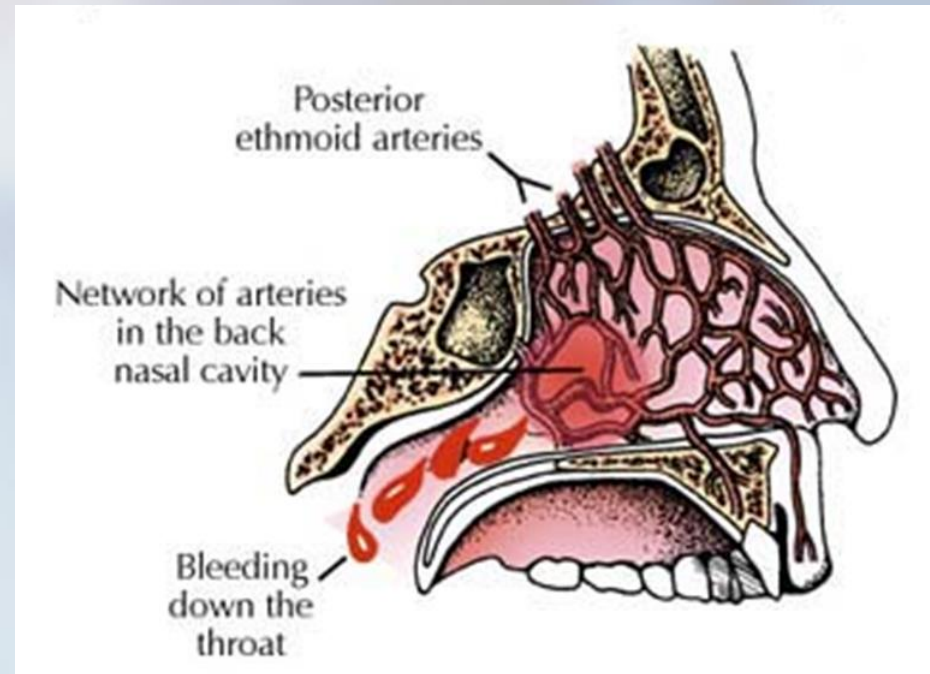
- **Kiesselbach's area**, 又稱 little's area, 鼻中隔前端
- 90-95% of all episodes,
- Younger
- typically less severe
- 與Allergy有關





Posterior Epistaxis

- **Woodruff's Plexus**
- Older age
- More serious massive bleeding
- Posterior ethmoid a.
Pharyngeal & post. Nasal a.
a. of sphenopalatine a.





Etiology

■ Local factors

- Allergic rhinitis
- Trauma
- Structural deformities
- Infectious/Inflammatory
- Iatrogenic
- Neoplasm (NPC s/p R/T..)
- Foreign Bodies

■ Systemic factors

- Hypertension
- Vascular
- Anticoagulants
- Drugs-NSAID
- Hepatic/Renal failure



Etiology and Age

- Children—foreign body, nose picking, coagulopathy
- Adults—trauma, idiopathic
- Middle age—tumors
- **Old age—hypertension**



Initial Management

- Physical exam
 - Control of hypertension
- Laboratory exam
 - (Hb, Bleeding profile, PT, APTT, Platelets)
- Correction of coagulopathies
 - Ex: thrombocytopenia
- Radiologic studies



Local Treatment (Medical)

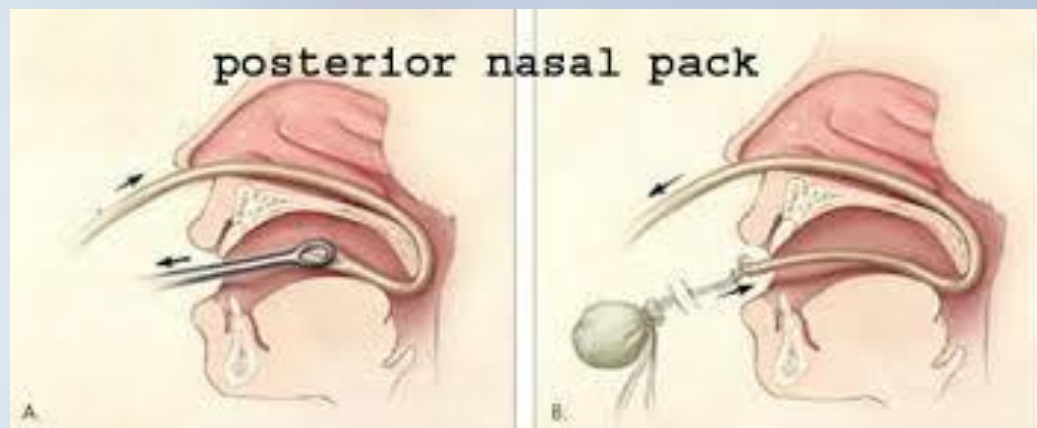
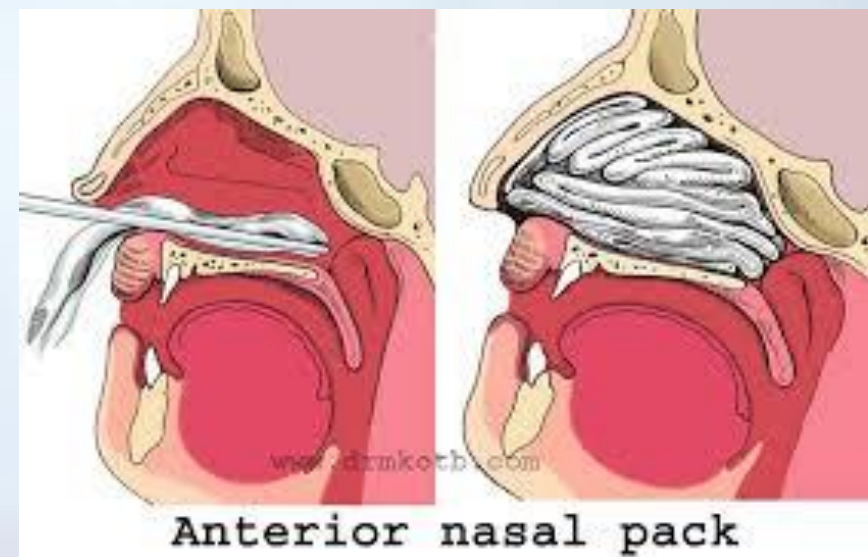
- Anesthetics, Bosmine/Xylocaine gauze
- TAA after LA (Silver Nitrate, chromic acid)
- Surgicel / Gelfoam
- Merocele, Nasopore





Anterior & Posterior Packing

- Vaseline gauze packing (with gentamycin Oint)
- Foley catheter (No.16 or 18) + Vaseline gauze packing
- Admission
- Prophylactic ABx





Other Management (Surgical)

- Endoscopic electrical cauterization
- Embolization
- Ligation of vessels
 - Sphenopalatine artery
 - Ethmoid artery
 - Maxillary artery
 - External carotid artery

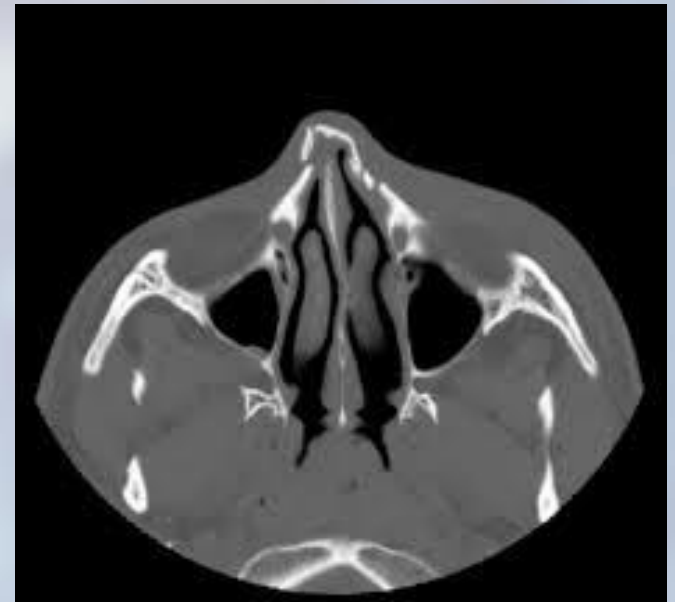
2. Nasal Bone Fracture

- Mostly from vehicles accident, sport injury
- PE: most important
- X-ray
 - Fracture line
- Look for common associated injuries
 - dental fracture, ocular trauma, CSF fistula (may several days later)





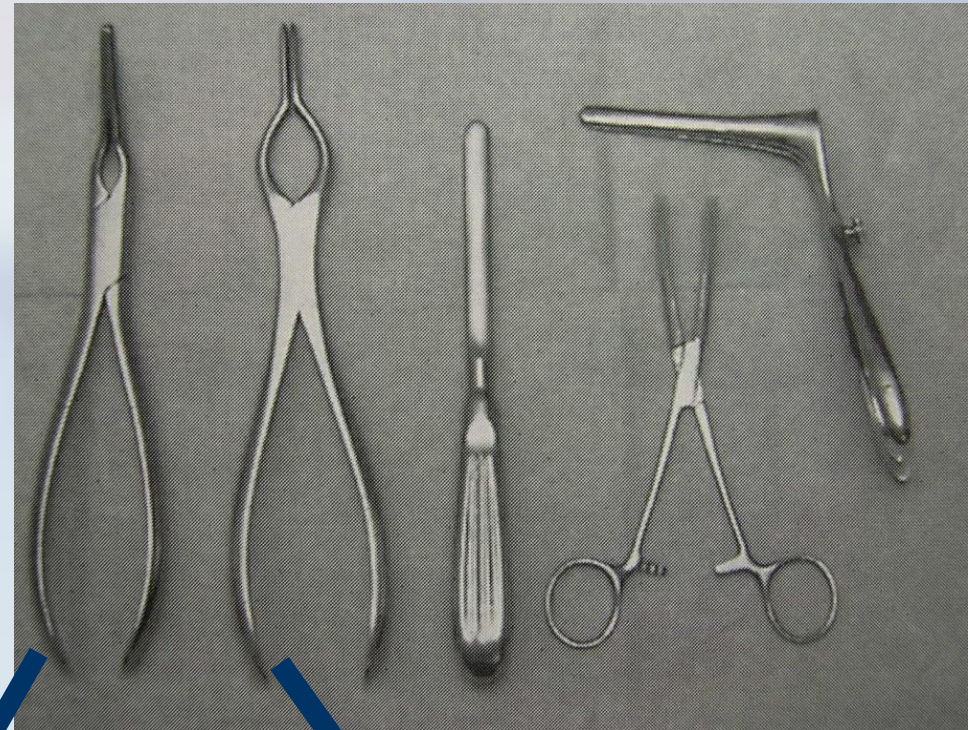
Nasal Bone Fracture





Treatments

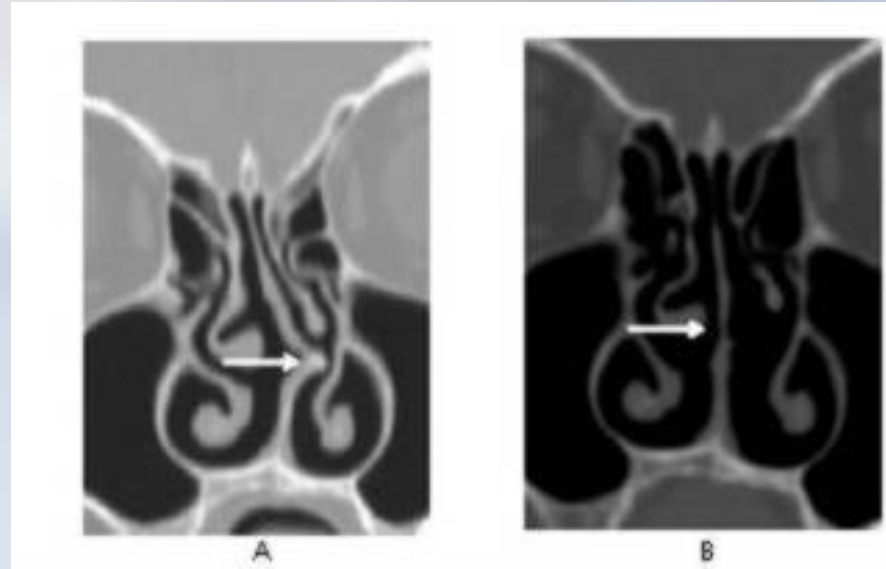
- Stop epistaxis
- Closed or open reduction
- Within 3-7 days (Swelling diminished)
- Asch forceps, Walsham's forceps



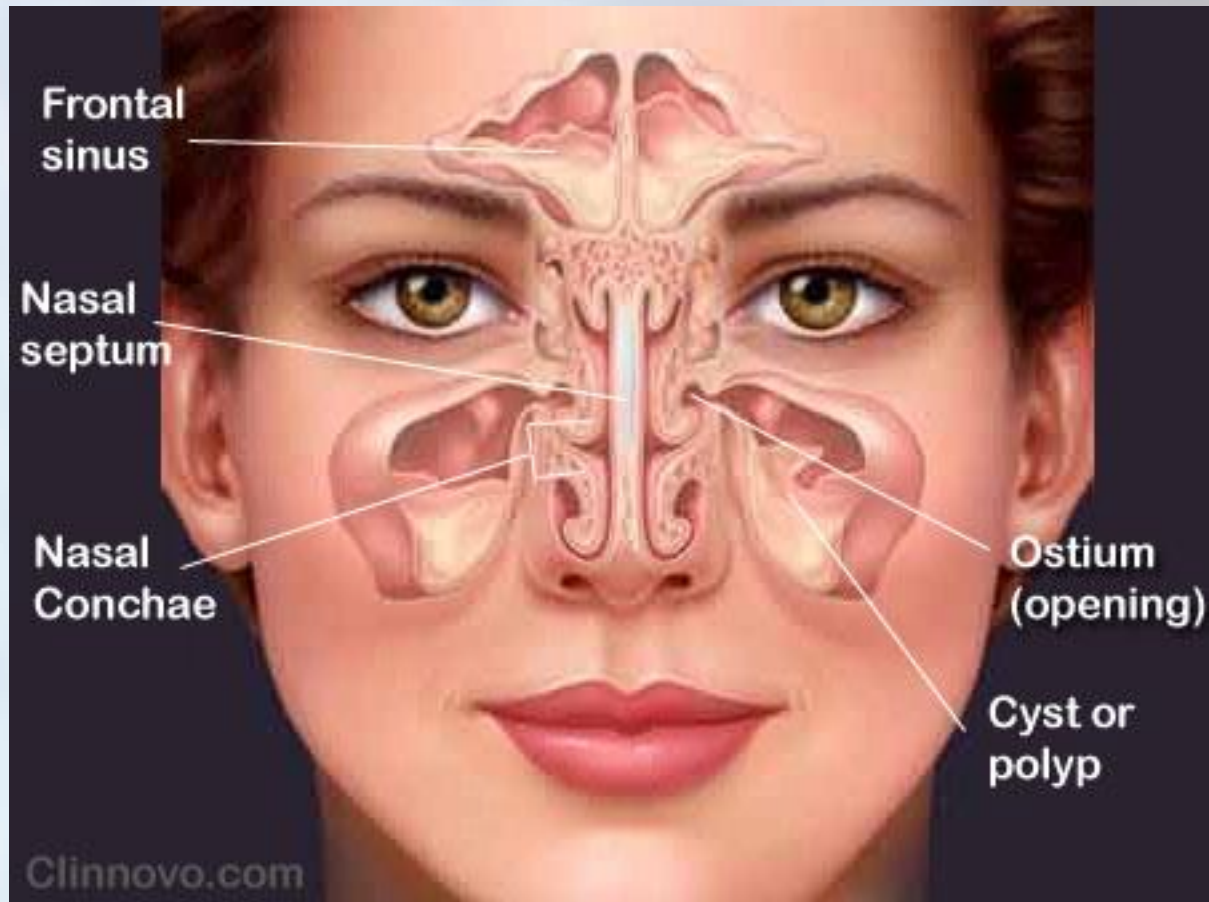
Asch forceps

Walsham's forceps

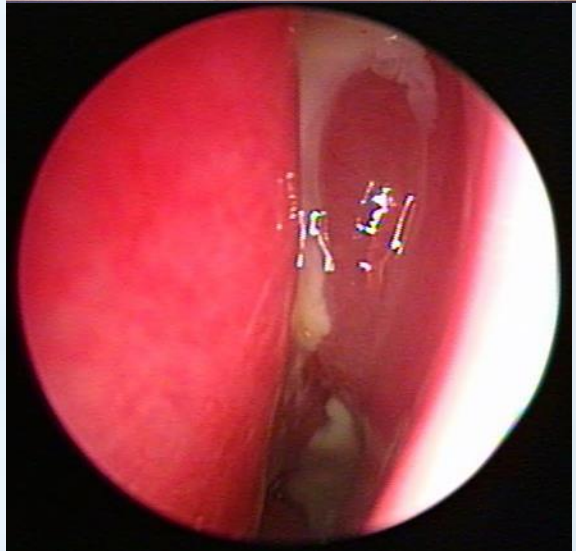
3. Deviated Nasal Septum



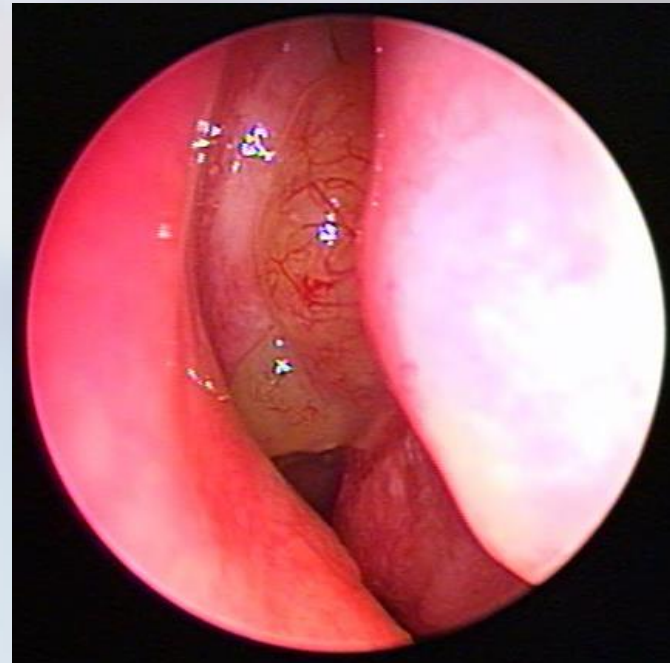
4. Sinusitis



Sinusitis



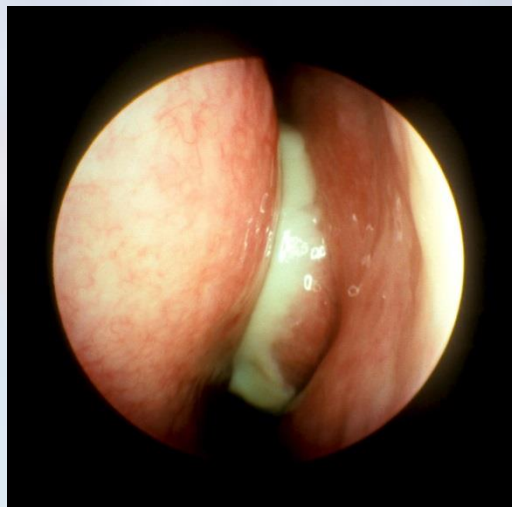
Acute rhinosinusitis



Chronic rhinosinusitis /c
nasal polyp



Diagnosis of Sinusitis



症狀：

鼻塞、黃鼻涕
頭痛、鼻臭味...

Sinus CT

Sinus X ray (Water's view):

hazy



Sinusitis

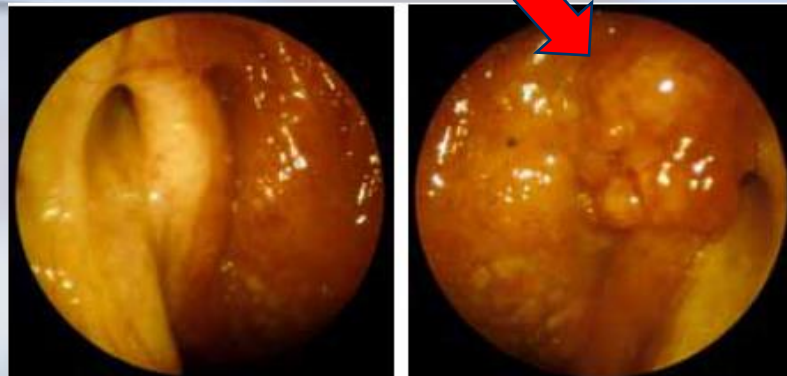


Endoscopic sinus surgery



5. Nasopharyngeal carcinoma (NPC)

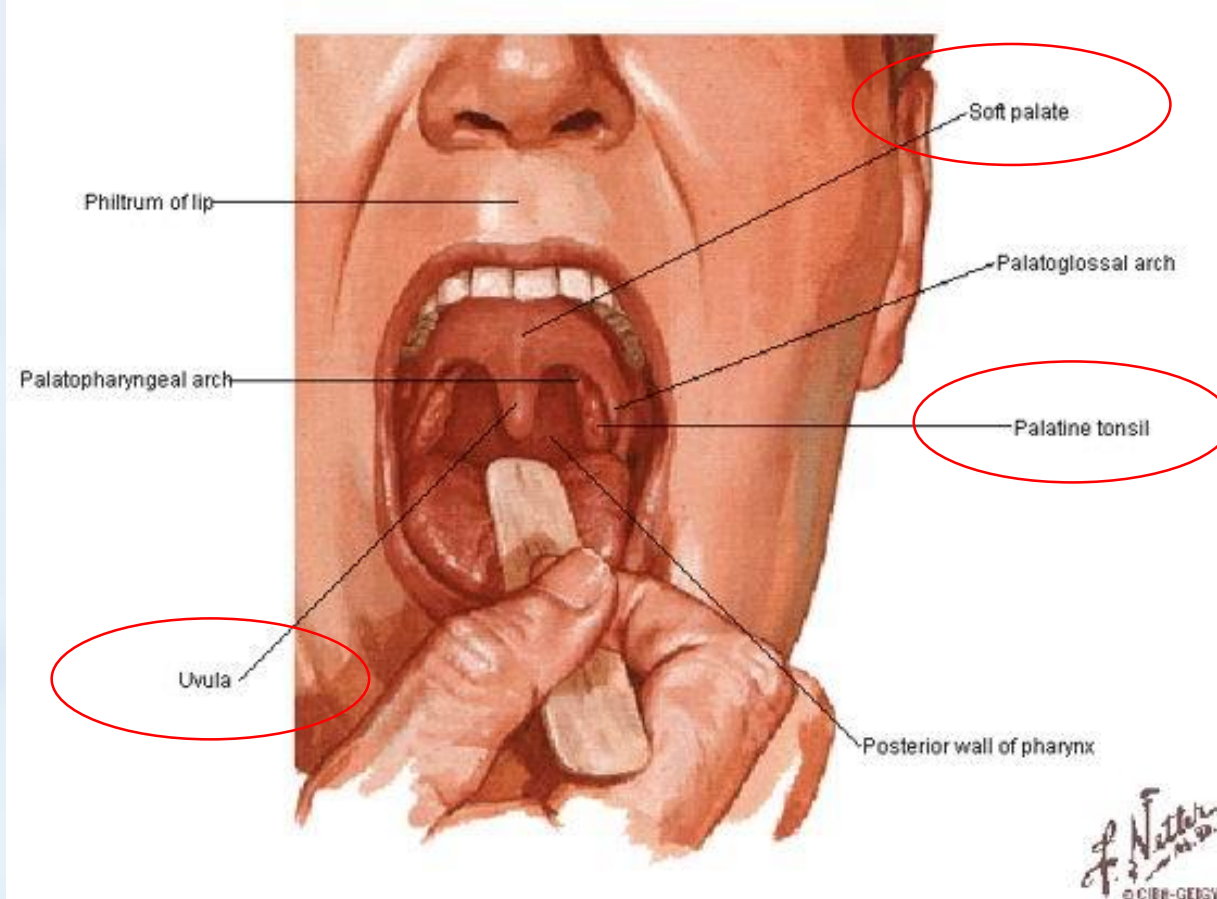
- 最常好發 fossa of Rosenmuller
- 最常見症狀: painless neck mass
 - others: NO, ND, epistaxis, OME, headache, diplopia, facial pain and numbness
- cranial nerve involvement: 13-30%
- Male: female= 3:1, median age: 50 y/o
- Current Tx: radiotherapy為主, or CCRT





Oral cavity

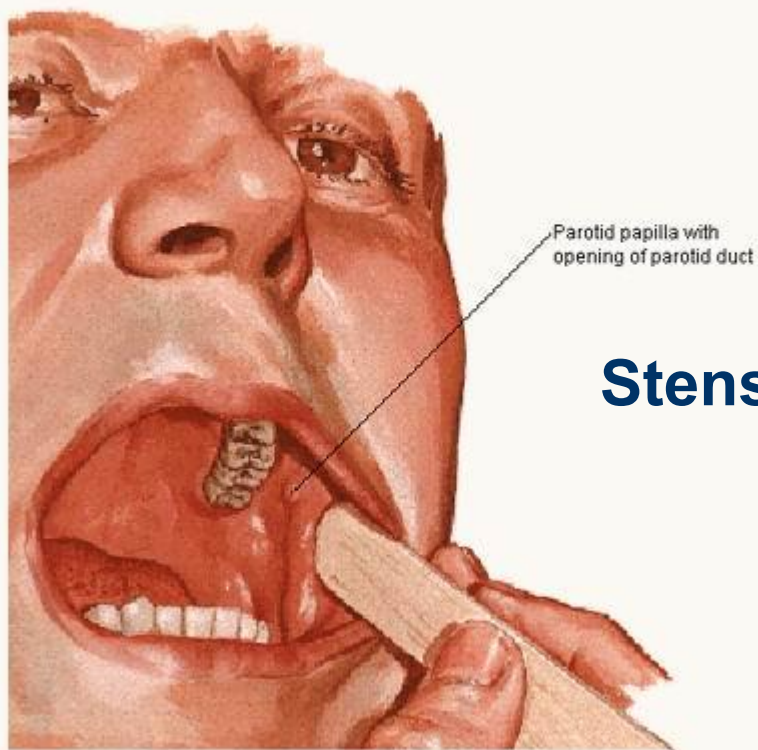
Inspection of Oral Cavity Dorsum of Tongue and Palate





Inspection of Oral Cavity

Lateral Oral Vestibule



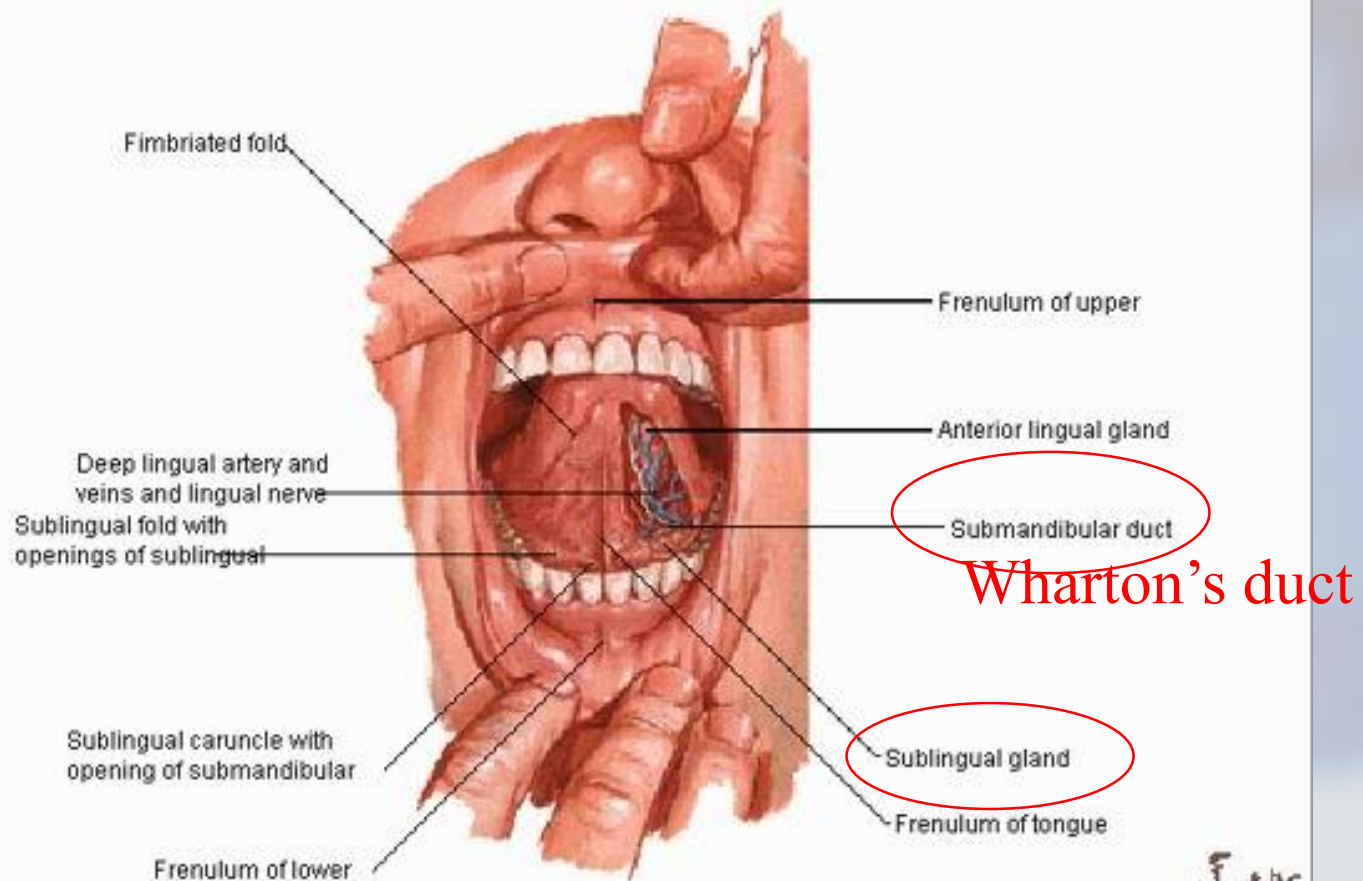
Stenson's duct orifice

F. Netter
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Inspection of Oral Cavity

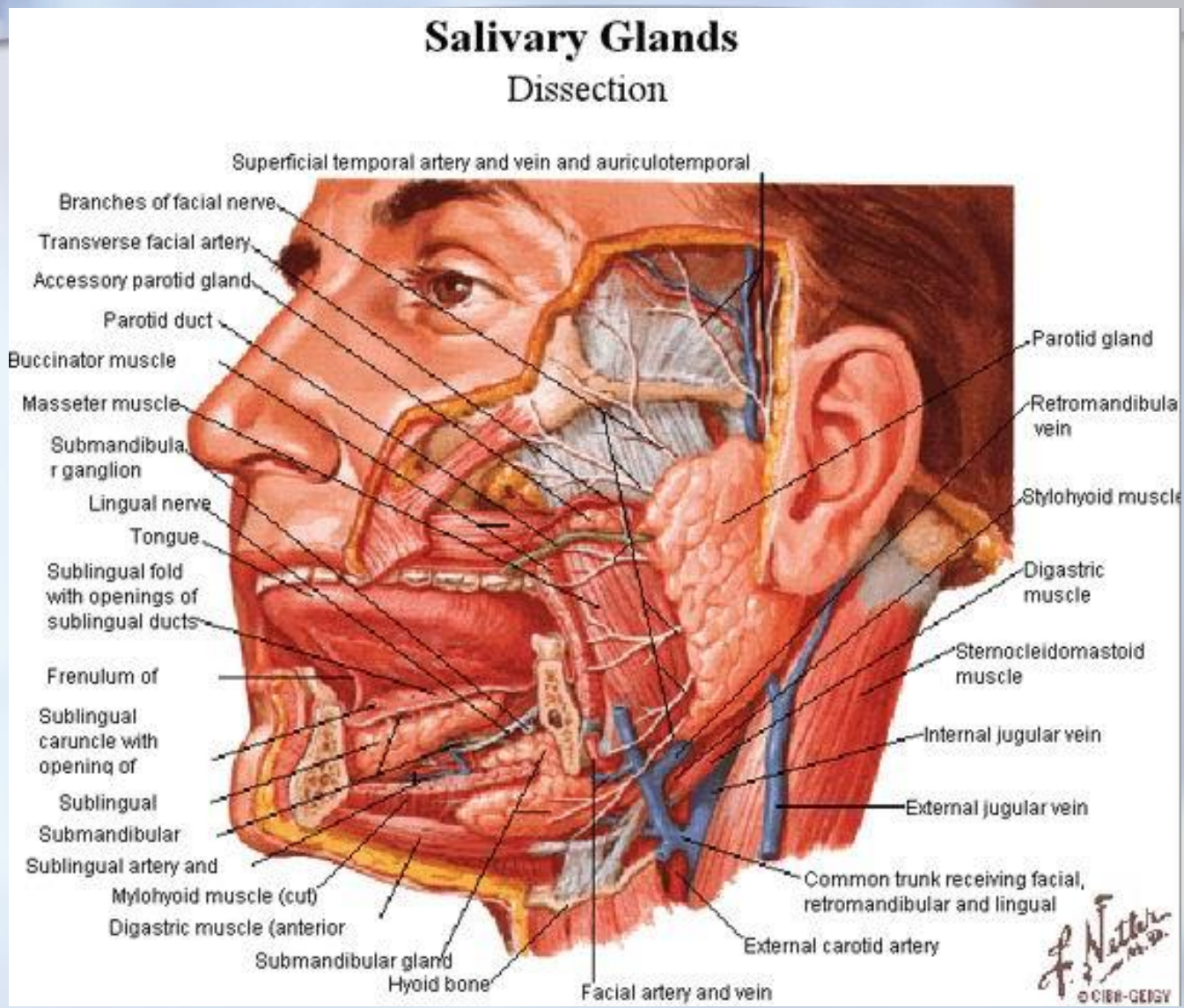
Sublingual Region - Anterior Vestibule



F. Netter
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Major Salivary Gland



Tonsillar Hypertrophy



Acute Tonsillitis





Acute Tonsillitis

post pillar erythema swelling >> odynophagia



Acute Pharyngo-tonsillitis





Oral candidiasis

Thrush 鵝口瘡





Aphthous ulcer

口瘡



Chronic oral ulcer





Oral Ulcers



疱疹性

口瘡

Herpetic gingivostomatitis





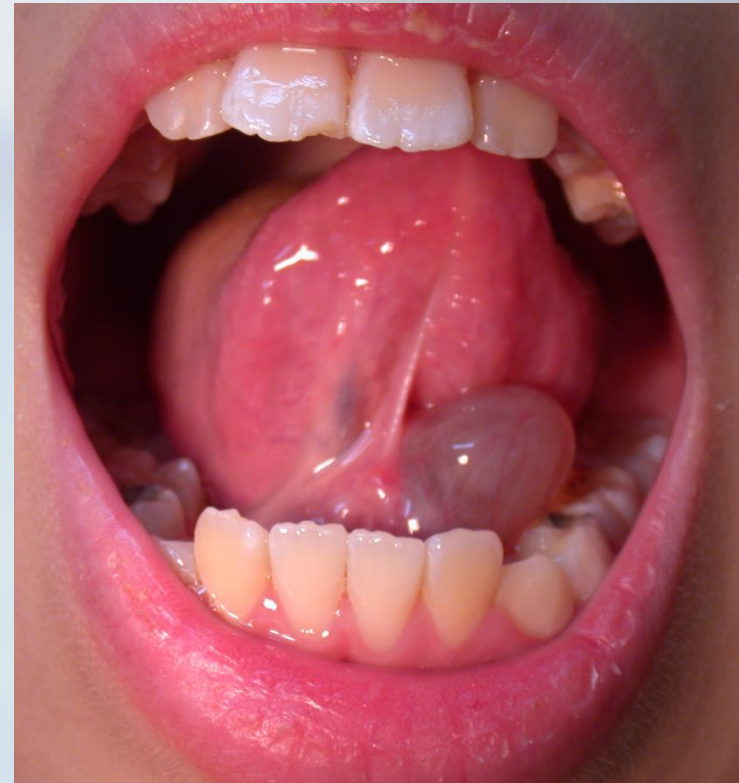
Mucocele of minor salivary gland





Plunging Ranula

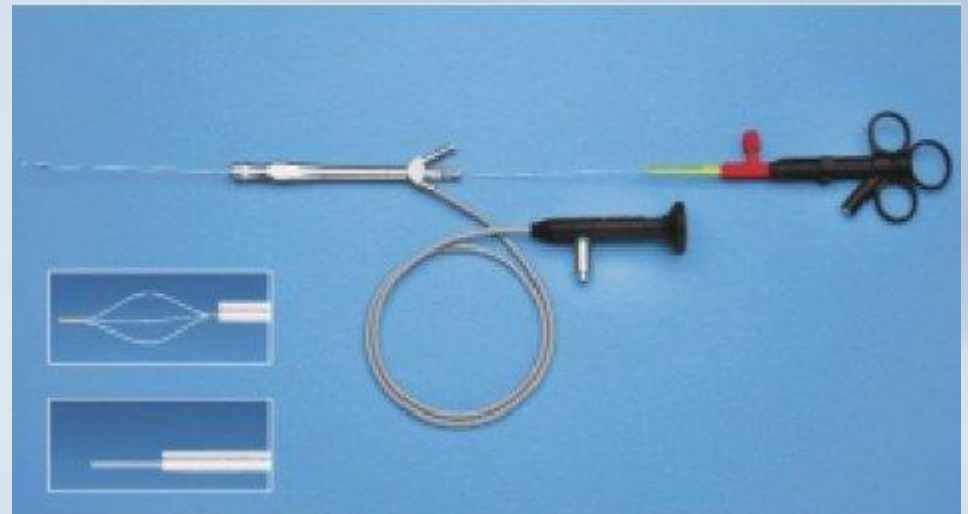
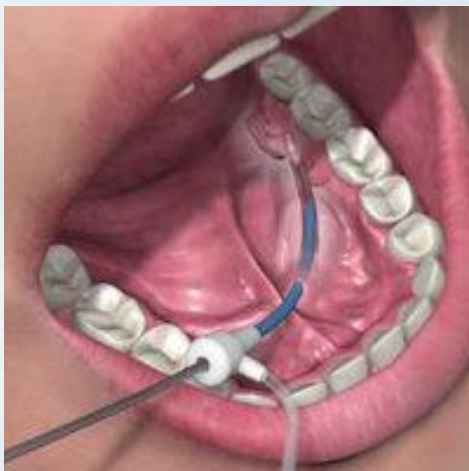
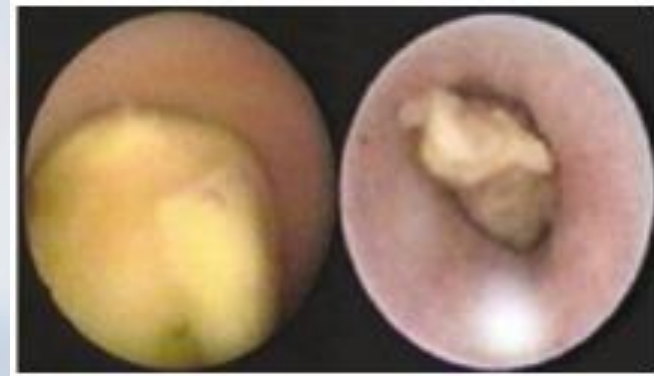
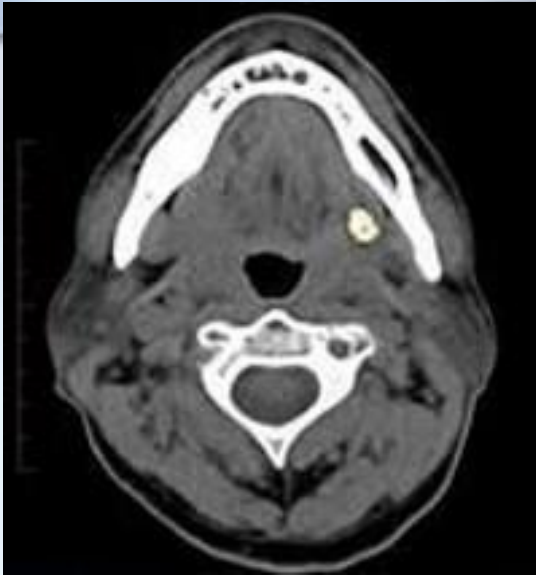
Mucous extravasation from blocked sublingual gland (pseudocyst)



Wharton's Duct Stone



Sialoendoscope





Neck

- Neck mass
- Neck lymph node
- Thyroid exam



Neck Mass

- 腫瘤型 (neoplastic)
- 發炎型 (inflammatory)
- 先天型 (congenital)



Neck Mass vs. Age

- Most common cause
 - 0-15 yrs : inflammatory
 - 先天性腫瘤或囊腫僅佔1%
 - 發炎型卻涵蓋80%以上
 - 15-40 yrs: inflammatory
 - >40 yrs: neoplastic



Congenital Neck Mass

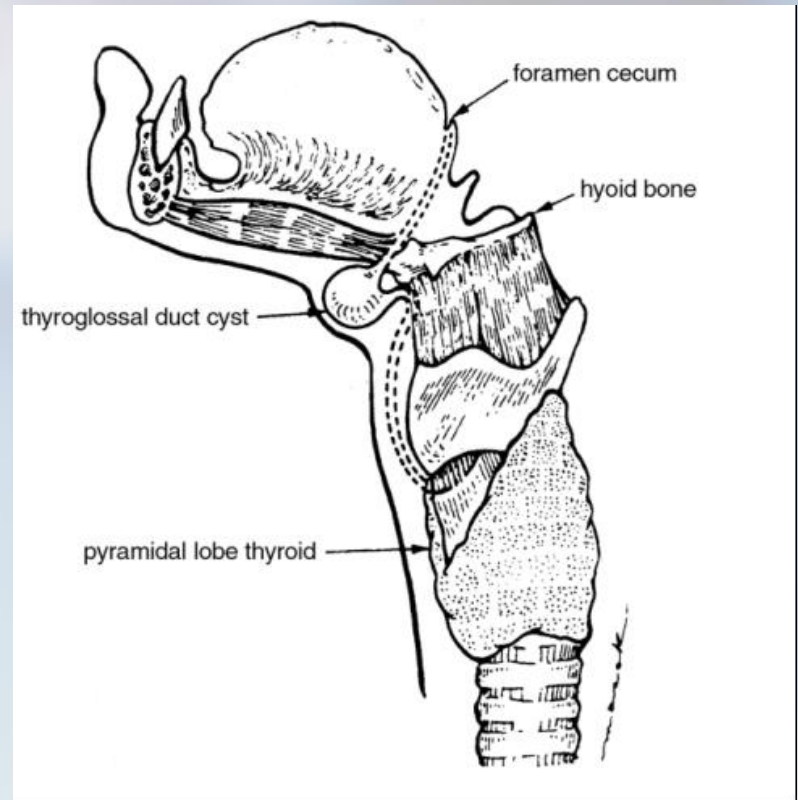
- Thyroglossal duct cyst
- Brachial cyst
- Dermoid cyst



Thyroglossal Duct Cyst

- Thyroid embryology:
- foramen cecum
 - hyoid bone
 - trachea 前方

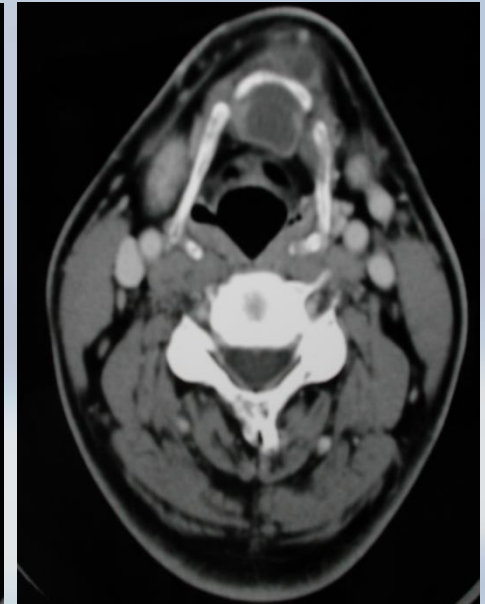
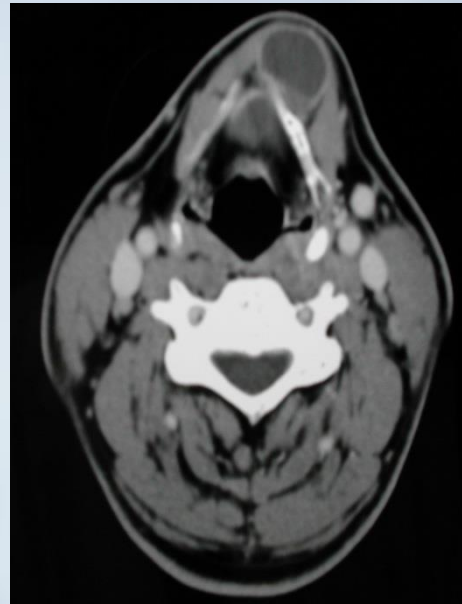
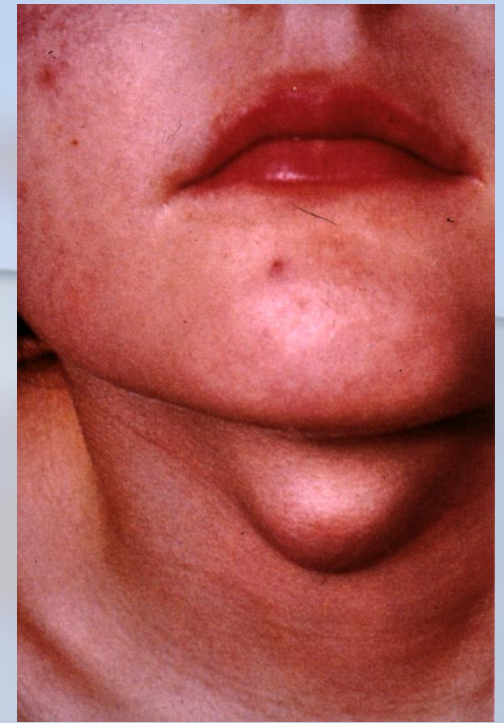
移行路徑退化不全而成



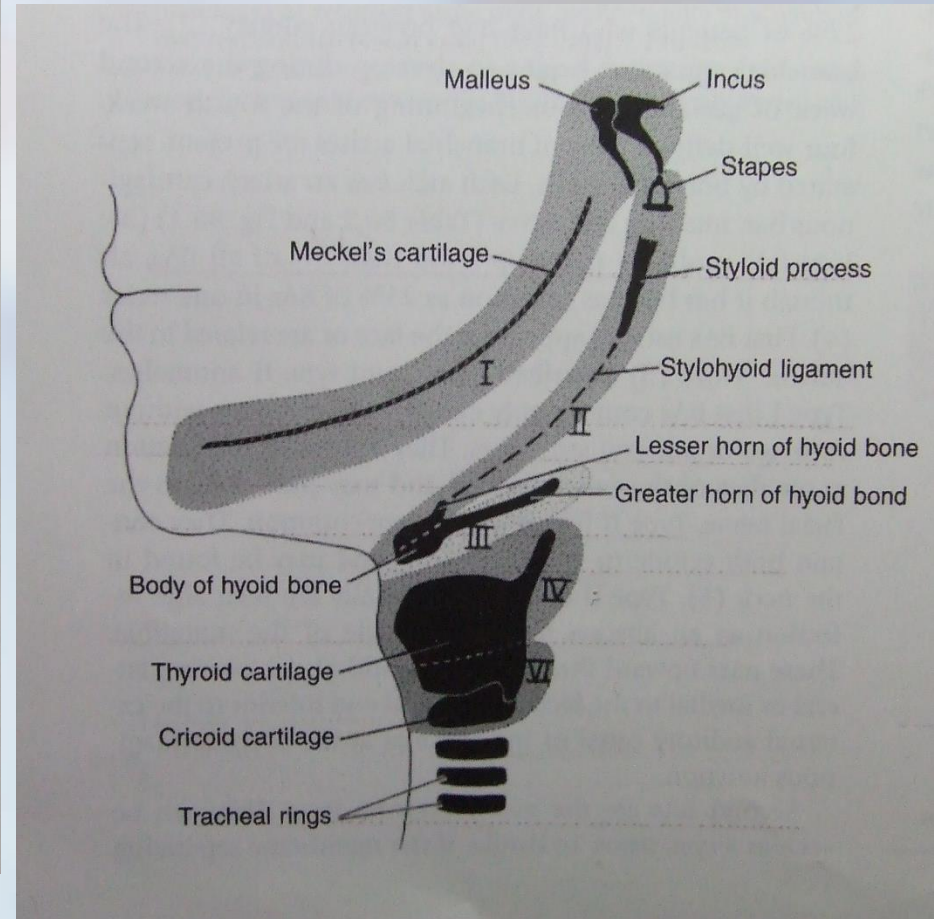
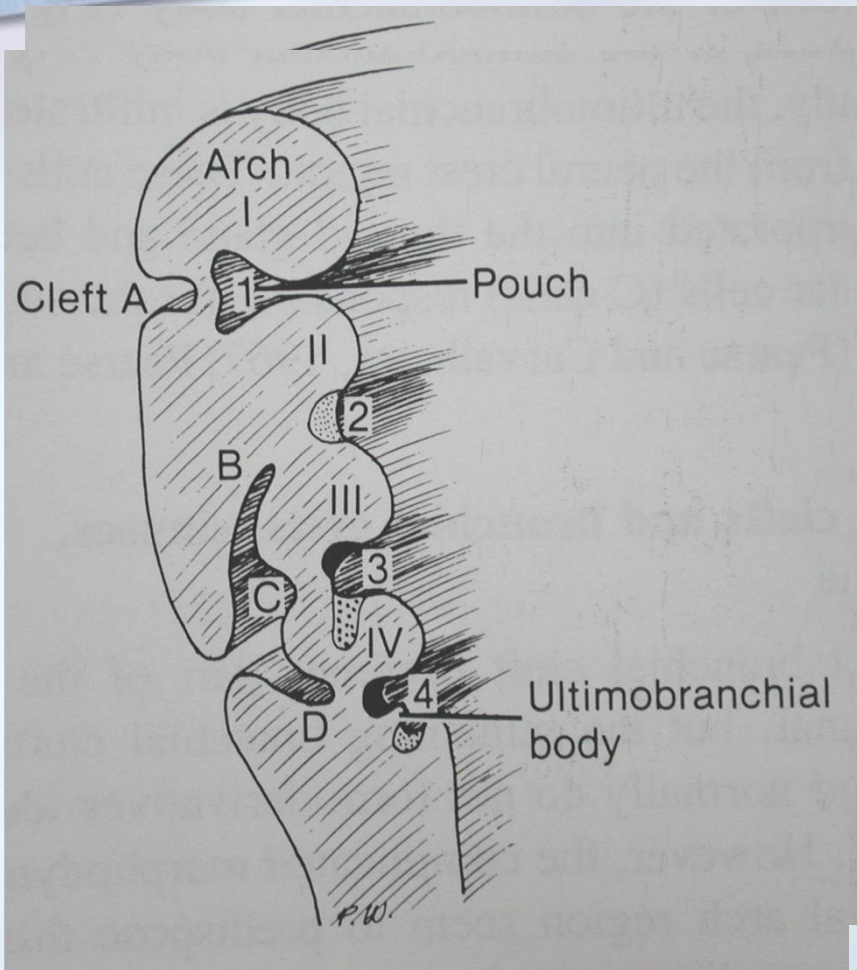


Thyroglossal duct cyst

- Congenital cyst, midline
- Elevate while swallowing
- Ectopic thyroid
- Op: Sistrunk op
- Carcinoma: rare



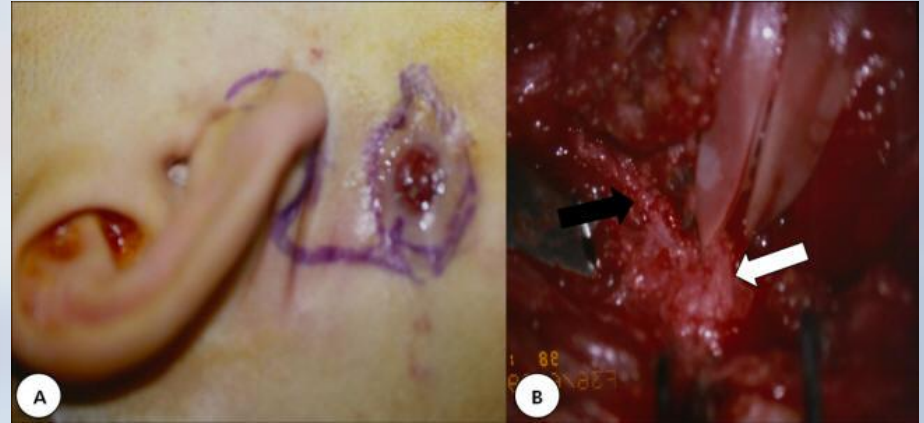
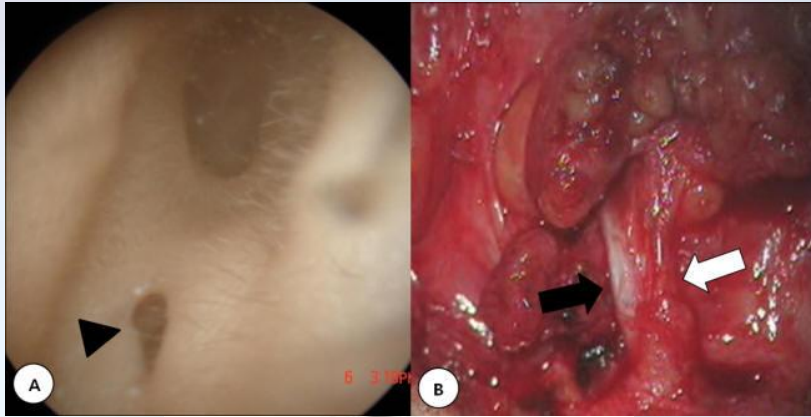
Brachial anomaly (BA)



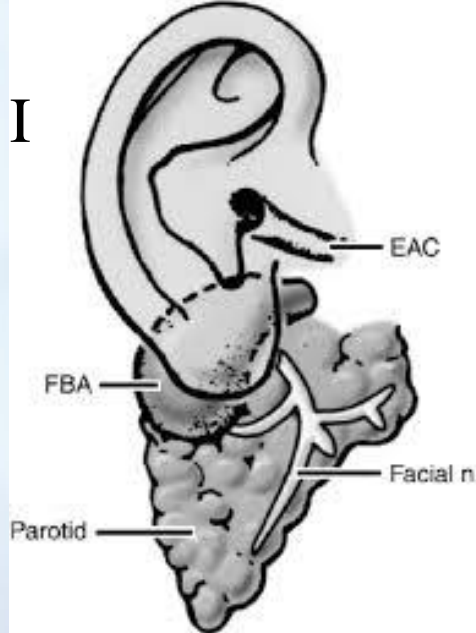


1st Brachial Cleft Cyst

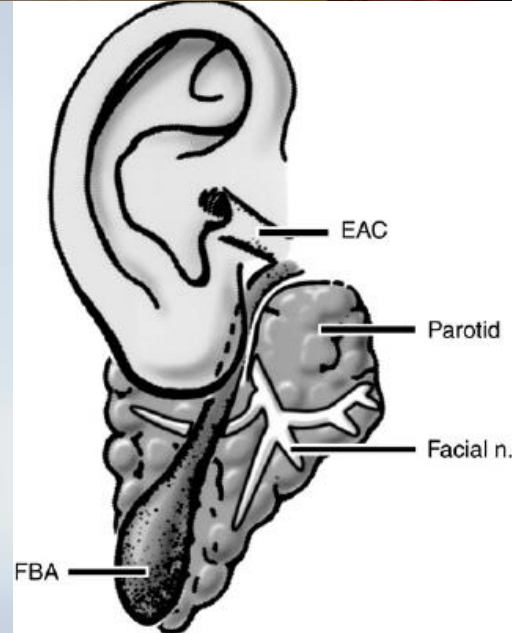
Very Rare



Type I

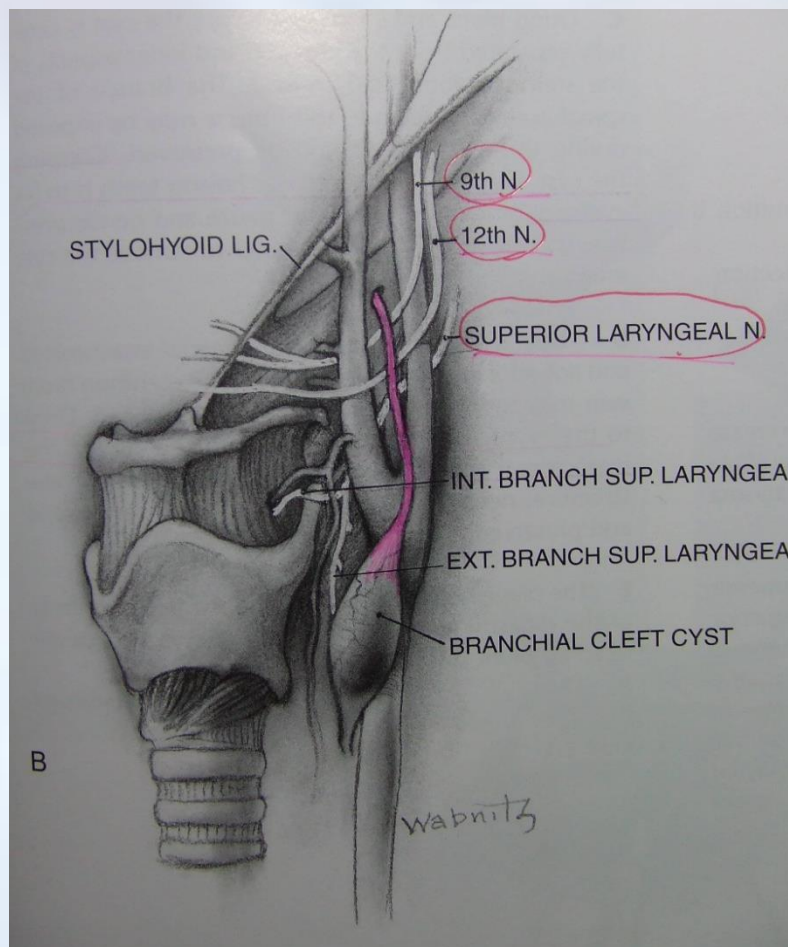


Type II



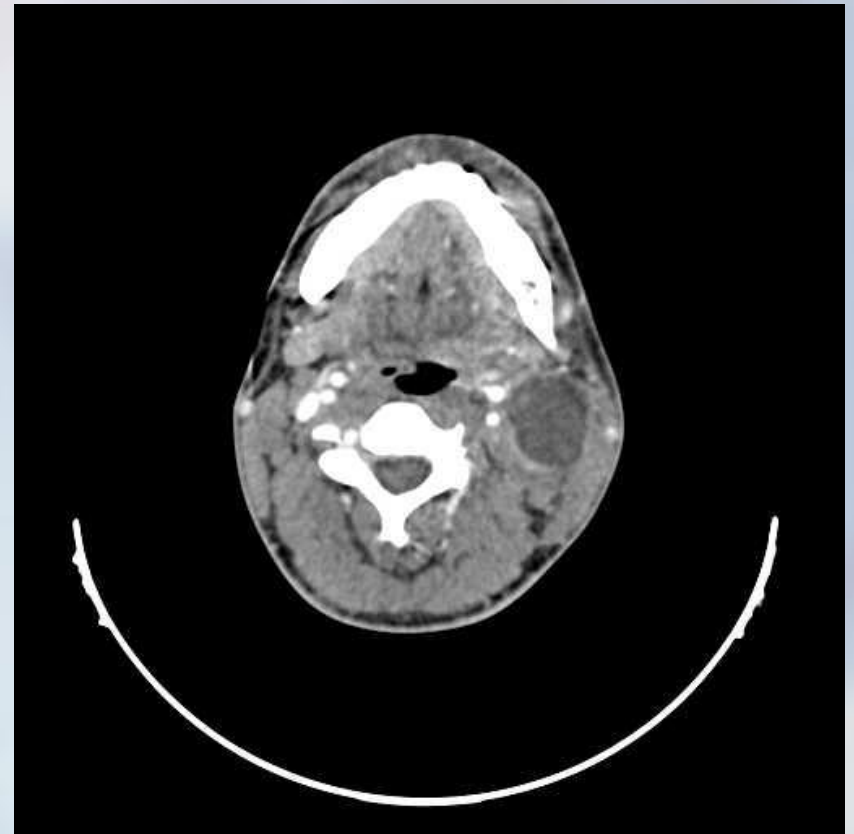


2nd Brachial Cleft Cyst



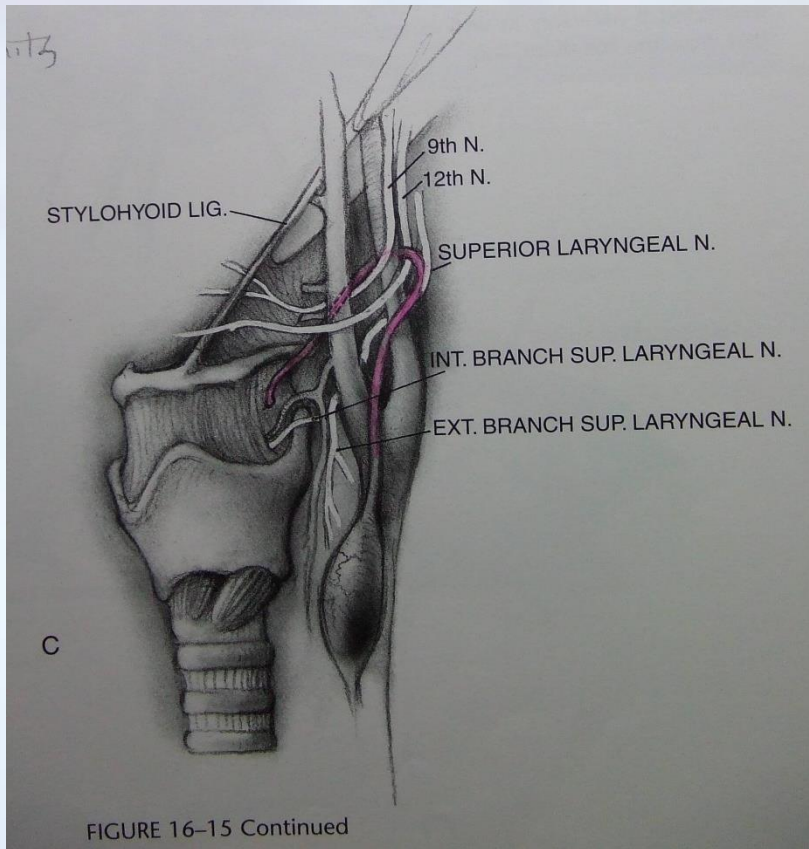
- Most common
- Ant. to SCM
- Tract:
 - Sup. to 9th, 12th CN
 - between ICA & ECA,
 - end in tonsillar fossa

2nd Brachial Cleft Cyst





3rd Brachial Cleft Cyst



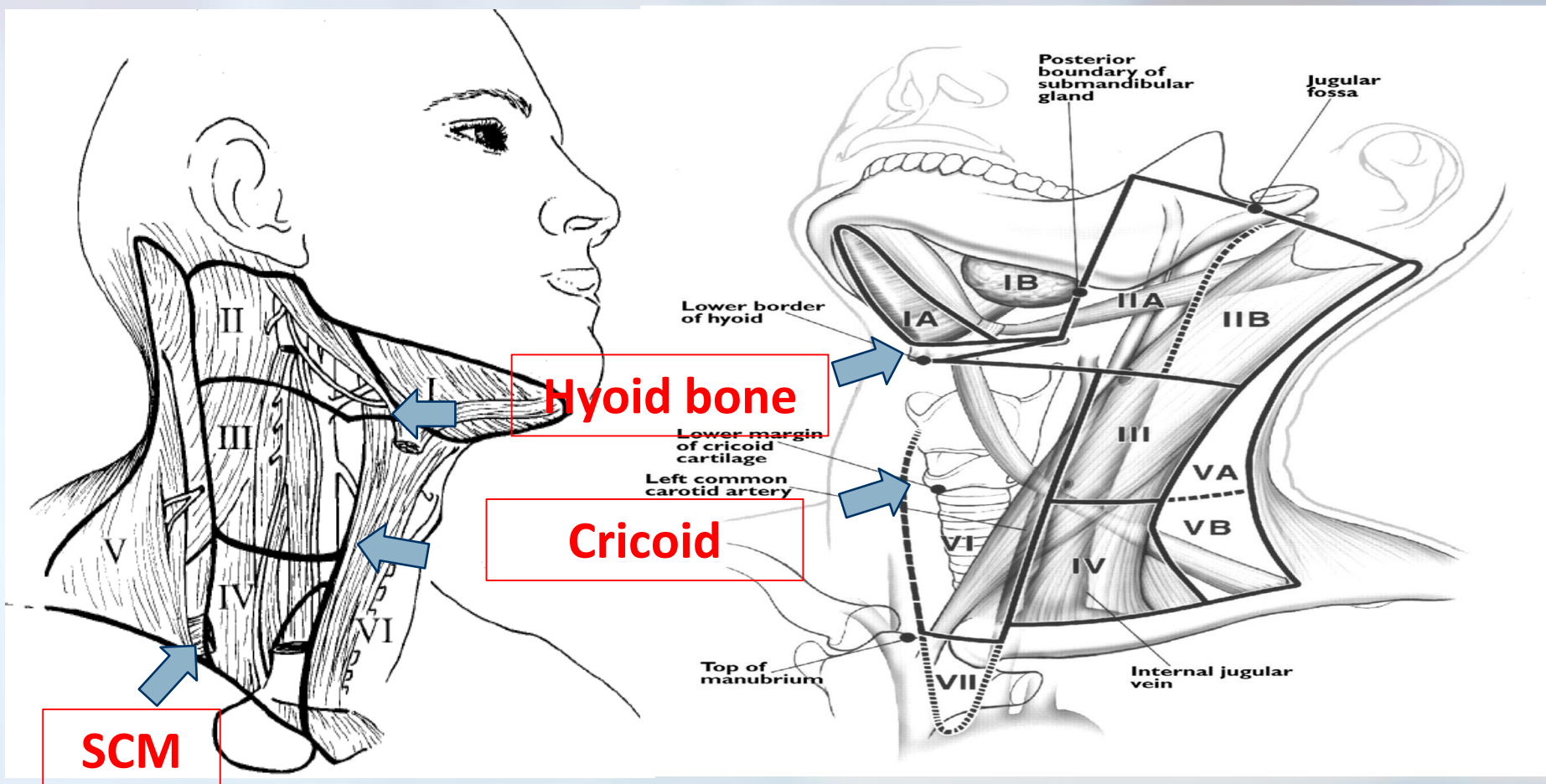
- Rare
- Lower in neck, ant. to SCM
- Tract:
 - Behind ICA
 - between CN. 9th, 12th
 - end in thyrohyoid membrane
 - or pyriform sinus



Neck Lymph Node Approach

- Physical Examination
 - Complete head and neck exam (visualize & palpate)
 - Emphasis on **location, size, mobility** and **consistency**
- General principle
 - Further endoscopic evaluation to R/O H & N malignancy /c neck metastasis

Neck level





頸部腫瘤檢查的原則

分為五項

- 位置
- 腫瘤大小
- 腫瘤和深層組織的關係
- 觸摸腫瘤內容物感覺
- 疼痛與否



腫瘤位置

- 醫學上把頸部分為前後三角區域
- 前三角區的內頸靜脈區的淋巴腺為淋巴灌注旺盛區
- 後三角區淋巴腺多為發炎而已



腫瘤大小

- 直徑若大於2公分應特別注意
- 臨床上（AJCC）腫瘤小於2公分為N1,若為惡性應該會持續長大
- 1988 Radiology : 0.88cm length indicated malignancy (信賴度 85%)



腫瘤和深層組織的關係

- 腫瘤在觸摸時，若固定於深層組織，惡性比率較高



腫瘤觸摸

- 腫瘤在觸摸時，腫瘤內容物若尖硬如石頭，則可能是急性出血或惡性
- 腫瘤若有彈性，可能為纖維瘤
- 腫瘤若軟如棉花糖，應該是良性
- 腫瘤若內有水分，屬於良性囊腫



疼痛與否

- 腫瘤在觸摸時，如果有疼痛的感覺，多半是發炎引起。
- 而無痛的腫瘤反而要小心。



綜論

- 頸部惡性腫瘤多半是由其他部位癌症遠端轉移或是頭頸部癌症頸部轉移而來
- 尤其是左側頸部要特別注意
 - left supraclavicular lymph node (Virchow's node) 為惡性腫瘤的表徵



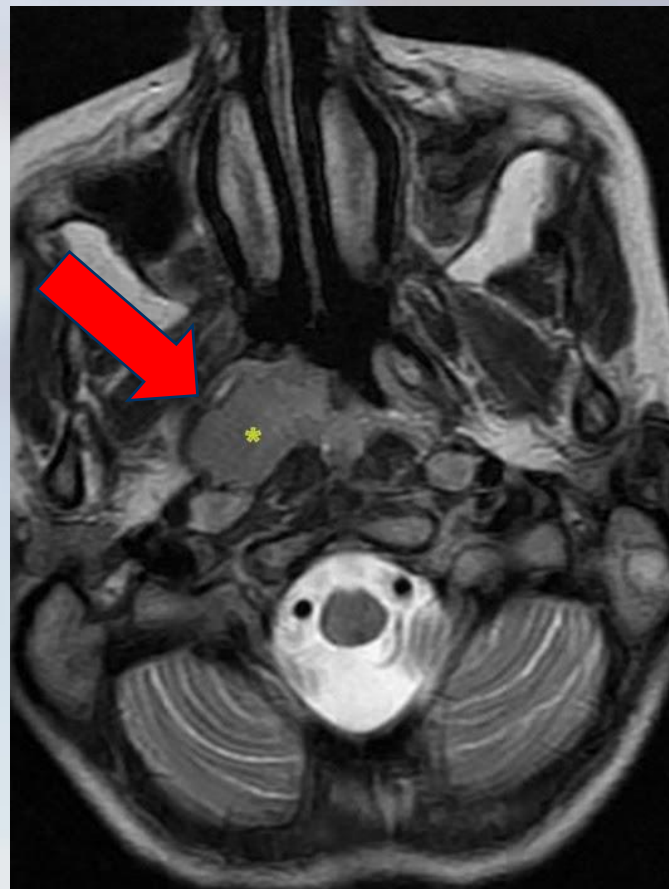
綜論

- 頸部惡性腫瘤常源自鼻咽癌,舌癌,肺癌,惡性淋巴瘤
- left supraclavicular lymph node 應考慮上消化道(如食道癌,胃癌),下消化道(如直腸癌),子宮頸癌等惡性腫瘤的遠處轉移或
- *頸部結核菌感染*

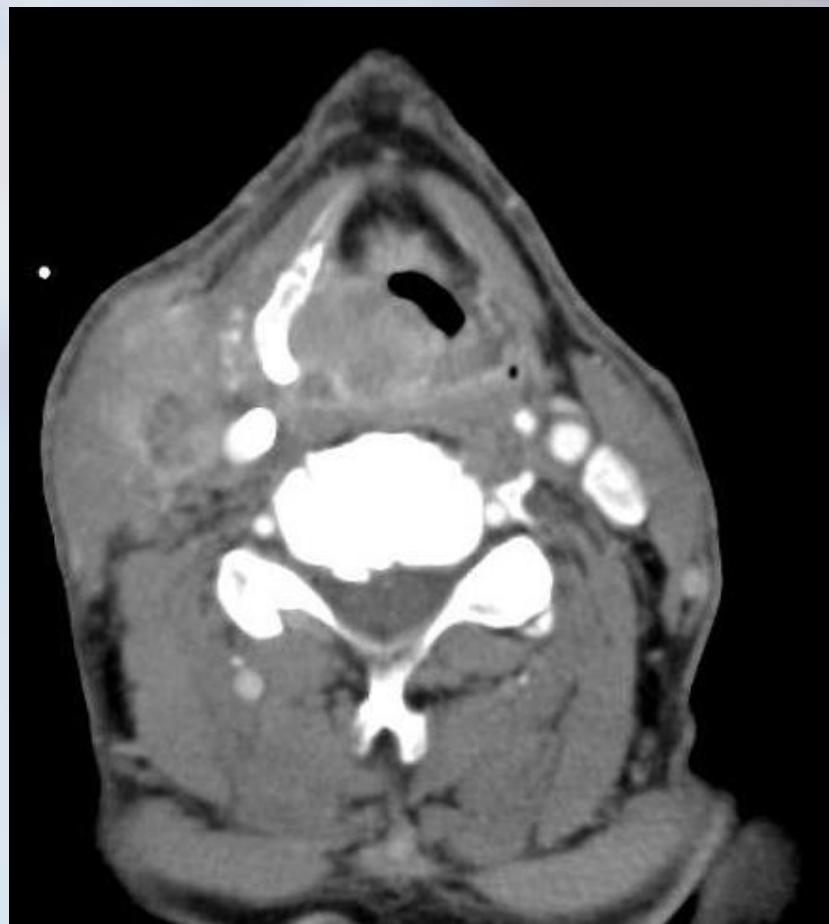
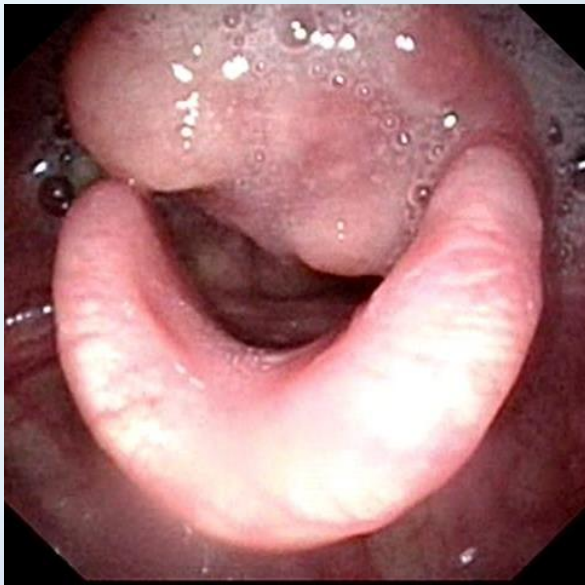
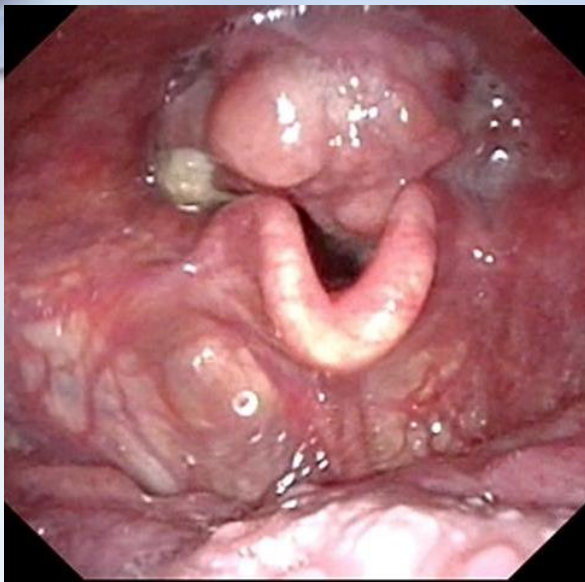


例子：鼻咽癌

High level II LN metastasis



例子：下咽癌



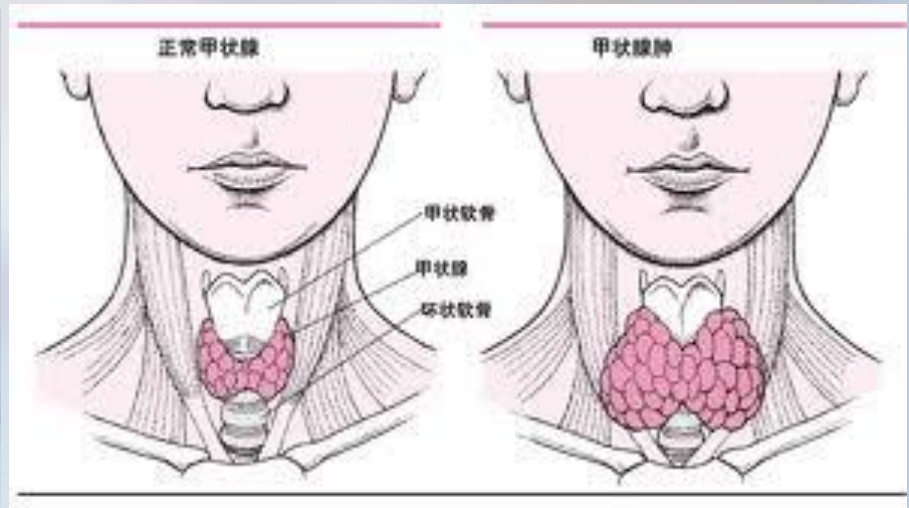
例子



Lymphoma Cause Lump On Back Of Neck



Thyroid



Thyroid Exam

