Benign Neck Masses
(excluding Thyroid)

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Neck masses

- **Defintion**: any abnormal enlargement, swelling, or growth between clavicles & mandible.
- **Lymphadenopathy** is the most common cause

Differential diagnosis

Skin and subcut-
sebaceous cyst, lipoma, fibroma
Lymphatics-
cystic hygroma,solitary lymphatic cyst
Lymph nodes-
inflammatory, neoplastic ,reticuloses
Blood vessels-
aneurysm, hemangioma, carotid body tumor
Nerves-
neurofibroma

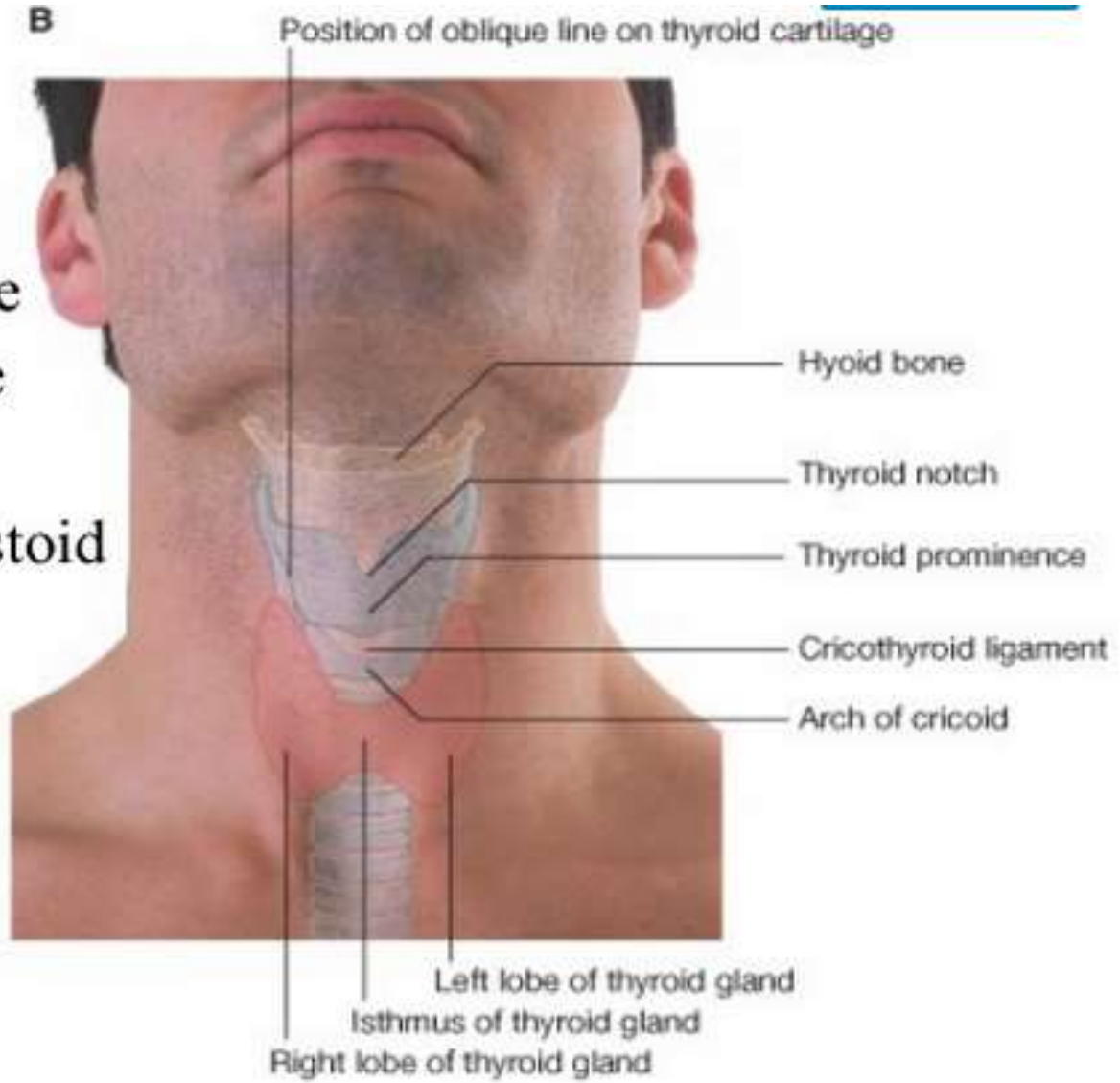
Differential Diagnosis

Thyroid-
inflammatory,neoplastic, autoimmune
Larynx-
laryngocele
Pharynx-
pharyngeal pouch
Branchial arch remnant-
branchial cyst
Thyroglossal duct remnant-
thyroglossal cyst
Salivary glands-
inflammatory , neoplastic,autoimmune

Surgical anatomy

Landmarks

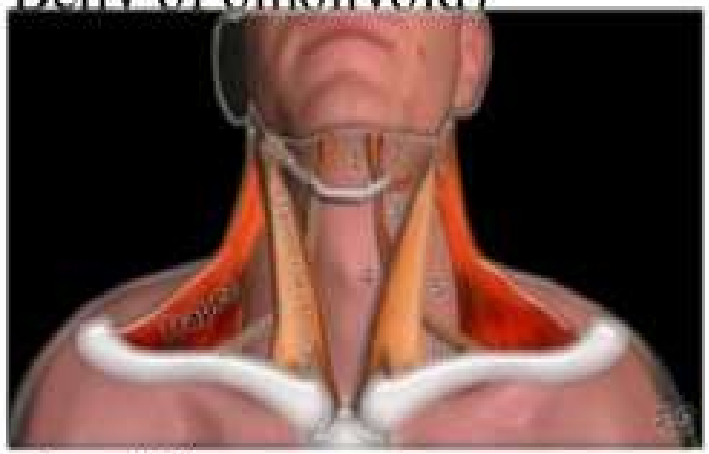
1. Hyoid bone
2. Thyroid cartilage
3. Cricoid cartilage
4. Trachea
5. Sternocleidomastoid muscles



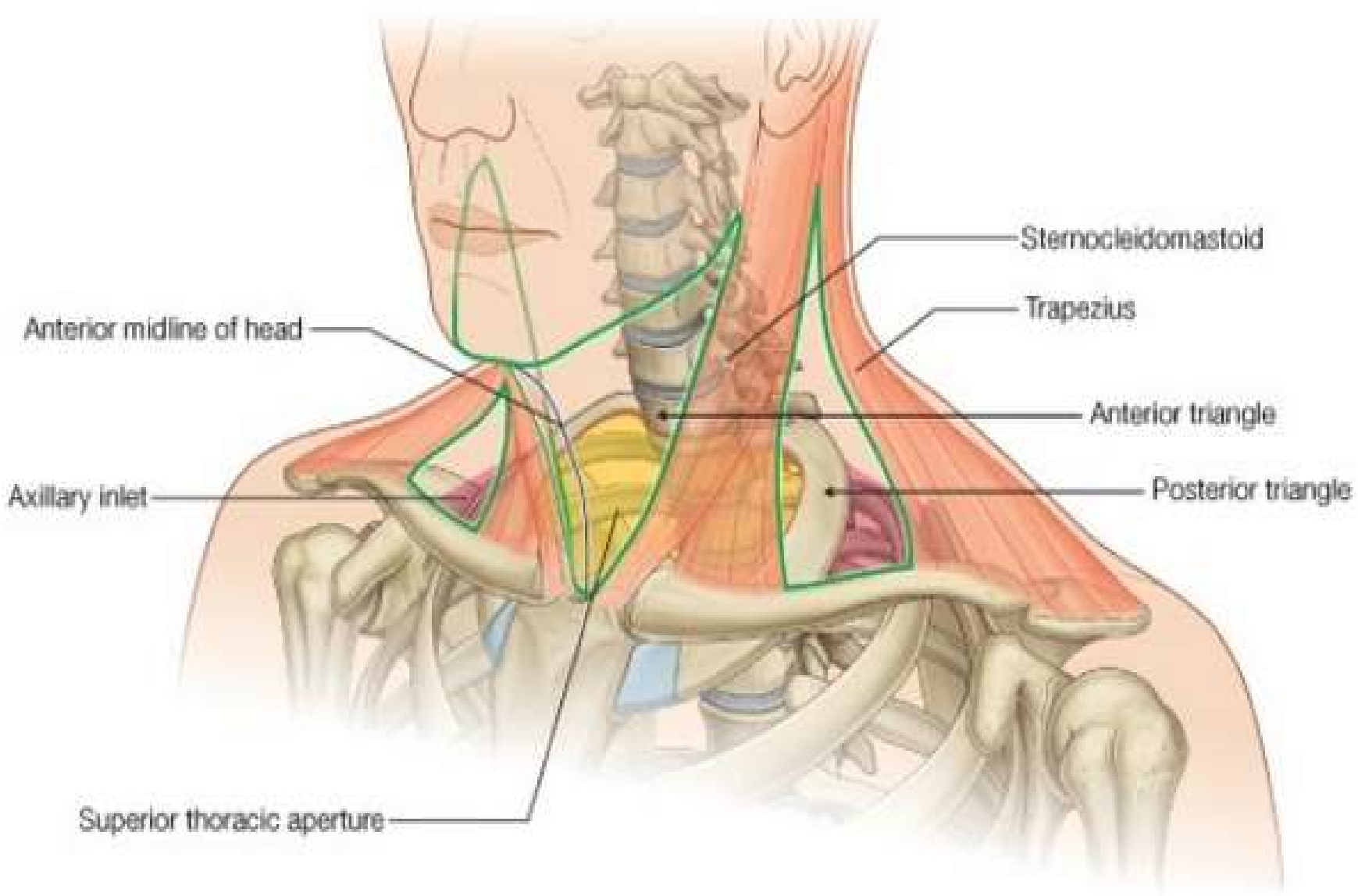
Anatomy of the neck

- The sternocleidomastoid muscle divides each side of the neck into 2 major triangles:

1. Anterior triangle (digastric & sup. Belly of omohyoid)
   - Submandibular triangle
   - Submental triangle
   - Carotid triangle
   - Muscular triangle



1. Posterior triangle (inf. Belly of omohyoid)
   - Occiptal triangle
   - Supraclavicular triangle


Sternocleidomastoid
Trapezius
Anterior midline of head
Anterior triangle
Axillary inlet
Posterior triangle
Superior thoracic aperture

Anterior triangle

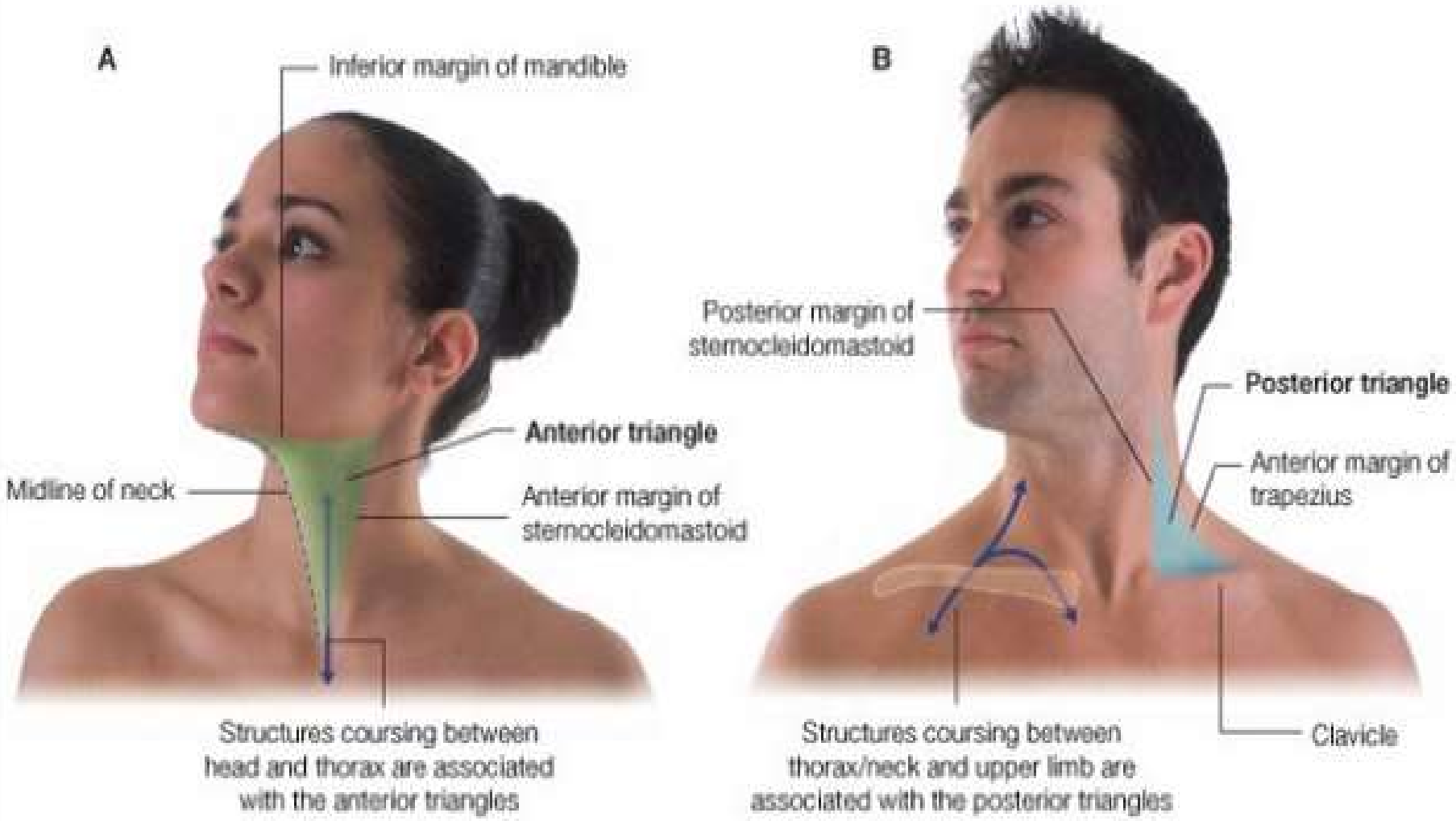
Borders:

1. Laterally: anterior border of the SCM
2. Medially: midline
3. Superiorly: lower border of the mandible

Posterior triangle

Borders:

- Anteriorly: posterior border of the SCM
- Inferiorly: clavicle
- Posteriorly: anterior border of trapezius muscle


A
Inferior margin of mandible
Anterior triangle
Midline of neck
Anterior margin of sternocleidomastoid
Structures coursing between head and thorax are associated with the anterior triangles
B
Posterior margin of sternocleidomastoid
Posterior triangle
Anterior margin of trapezius
Structures coursing between thorax/neck and upper limb are associated with the posterior triangles
Clavicle

Work up

- Exhaustive History

Age

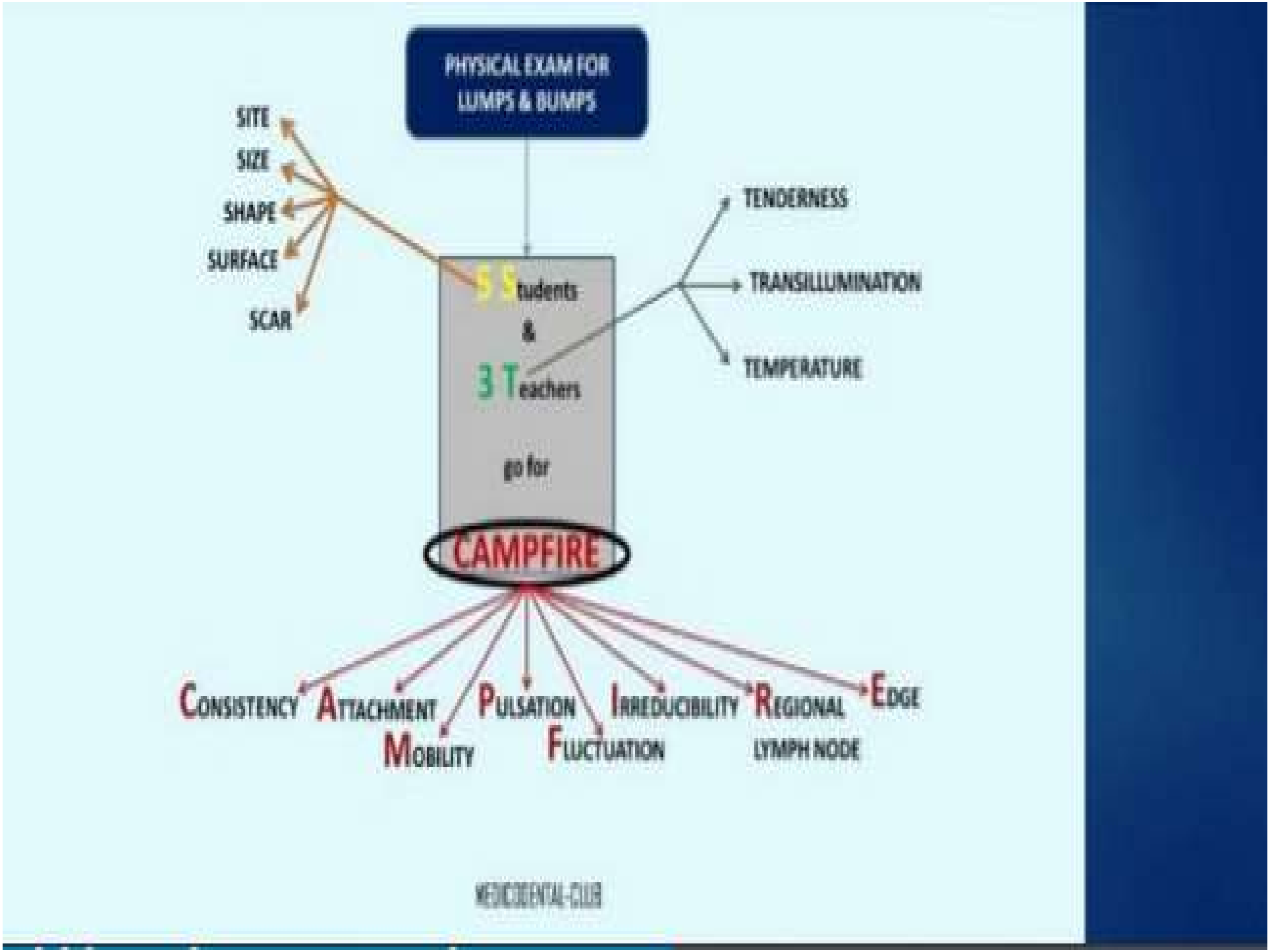
onset

Duration

Progression

I,N& T

Past &Family history


PHYSICAL EXAM FOR LUMPS & BUMPS
SITE
SIZE
SHAPE
SURFACE
SCAR
5 Students & 3 Teachers go for
CAMPFIRE
TENDERNESS
TRANSILLUMINATION
TEMPERATURE
CONSISTENCY
ATTACHMENT
MOBILITY
PULSATION
FLUCTUATION
IRREDUCIBILITY
REGIONAL LYMPH NODE
EDGE
MEDICODENTAL-CLUB

INVESTIGATIONS

- **Blood inv**

CBC

ESR

TFT

Throat swabs

Viral serology-HIV, EBV, CMV& Toxo

- **Imaging**

USG-cystic &solid

Chest xray

CT&MRI- determine extent of masses

- **FNAB& Open Bx**

Branchial cyst

- Occur in 2nd and 3rd decade of life
- Equal frequency in both male and female
- Affects upper neck, anterior to SCM
- Mostly due to anomalies of the 2nd pharyngeal arch
- Physical exam reveals smooth, round, flctuant, non-tender, non-illuminable mass
- May have a sinus or fistula
- Sinus discharging anteriorly at SCM externally or into the tonsillar fossa internally
- Rx: surgical excision.

Branchial Cyst

Thyroglossal duct cyst

- Mostly affects children
- From remnants of thyroid duct left by descent of developing thyroid gland
- Midline swelling, rounded in size about 2–4 cm
- Increases in size with upper respiratory tract infections
- Foramen caecum usually at the base of tongue attached to pyramid lobes of thyroid gland that usually involutes at 8th week of intrauterine life.
- Moves with protrusion of tongue as it is attached to base of tongue
- Rx: Sistrunk's operation; complete surgical excision including body of hyoid and core of tongue tissue.

Thyroglossal cyst

LYMPHANGIOMA

CYSTIC HYGROMA

- **Etiology**

  Congenital cystic lesion due to incomplete development, obstruction or sequestration of normal lymphatic system (jugular lymphatic sac)

  Associated with chromosomal anomaly

- **Age** - < 2 yrs (90%), can be present at birth
- **Site** - lower part of posterior triangle (rt) base of tongue, cheeks, supraglottis

- **C/F**
- Painless, slow growing, fluctuant, soft swelling, with indiscrete margins, partially reducible, varies in size, transilluminated, increase in size on coughing or crying
- If infected – painful and increase in size
- **Pathology** – contains multiple loculi of clear lymph

- **Complications**
- Stridor - if involve larynx, pharynx
- Respiratory difficulty
- Feeding problem
- Difficult labour
- **Diagnosis**
- Antenatal USG
- CT, MRI

- **Treatment**
- Tracheostomy if stridor
- Complete excision
- Sclerotherapy - Injection sclerosing agents like absolute alcohol, bleomycin, TCA

DERMOID CYST

- Head and neck - 7% of dermoid cyst
- **MC site** - floor of mouth post or lateral to frenulum, midline (submental)
- **C/F**
- Slow growing, painless cystic swelling, non transilluminated, can lead to difficulty in swallowing, speech and respiration
- Children and young adults, 10-15 yrs
- **Pathology** - contains epidermoid appendages like hair, hair follicles, sweat glands, sebaceous glands

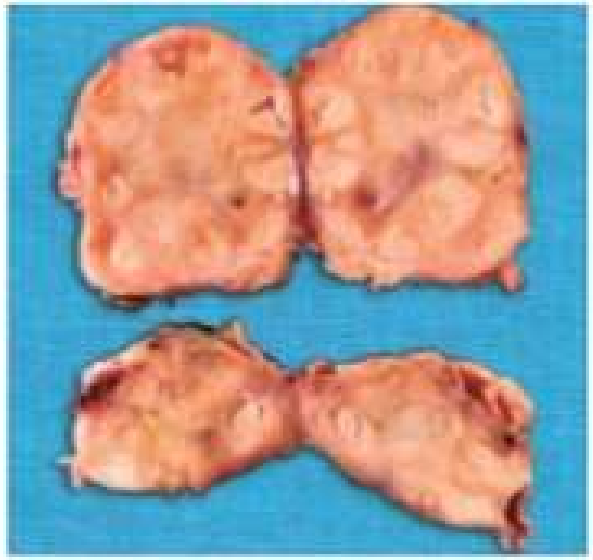
- **Types**
- **Sublingual - MC**
- Floor of mouth, above myelohyoid
- **Cervical**
- At submental triangle, below myelohyoid, double chin appearance
- **Diagnosis** - USG Neck
- **D/D** - sebaceous cyst - skin mobile in dermoid cyst over swelling
- **Treatment** - complete surgical excision

ACUTE CERVICAL LYMPHADENITIS

- U/L
- MC - young children (1-8 yrs)
- **Etiology** - due to focus of infection in tonsils, adenoids, dental, oral cavity
- JD lymph nodes
- **C/F** - fever, malaise, ln enlarged and tender
- **Diagnosis** - WBC count, USG
- **Treatment** - antibiotic therapy, surgical drainage of abscess

TUBERCULAR CERVICAL LYMPHADENITIS

- Chronic infection of lymph nodes due to Mycobacterium tuberculosis
- Route of infection - I/L tonsil, secondary to pulmonary TB, hematogenous
- **C/F**
- Painless, unilateral, gradual increase in size mostcommon seen in posterior triangle
- Evening rise of temp, night sweats, weight loss
- Stages
- Adenitis - enlarged ln
- Periadenitis - matted ln (2-3 ln)

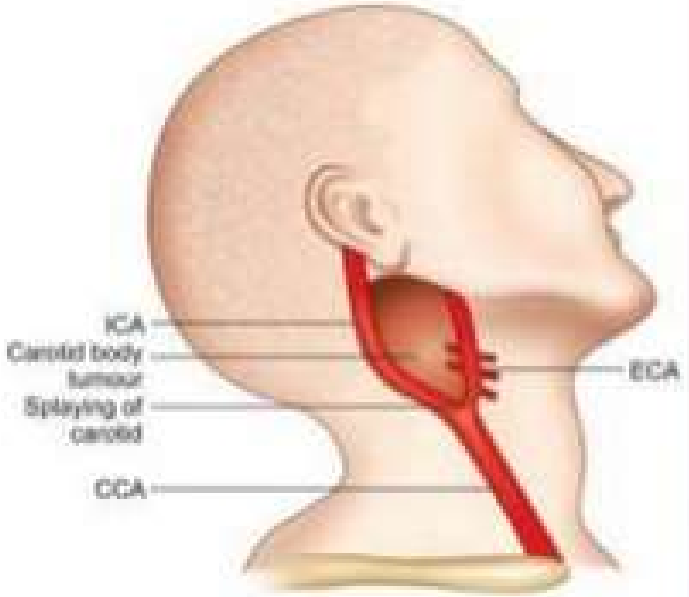


- Cold abscess – central caseation within ln
- Collar stud abscess (dumb bell shaped) – rupture of cold abscess, pus enters sup fascia below the skin
- Discharging sinus – pus ruptures through skin
- Diagnosis
- Mantoux test/ tuberculin skin test – positive(> 10 mm)
- USG – matted ln with central necrosis
- Chest X Ray PA view – pulmonary TB

- FNAC - granulomas, acid fast bacilli
- Excision biopsy
- C/S
- CBC
- **Treatment**
- ATT
- Complete excision along with surrounding fibrous capsule - if residual ln after ATT
- If active pulmonary TB - excision not done

CAROTID BODY TUMOURS

- **Carotid bodies** - chemoreceptor organs containing cells situated at bifurcation of CCA contain acetylcholine and catecholamine stimulated by increase pco2, decrease po2, increase H+ (higher altitudes)
- **Site** - carotid triangle at CCAbifurcation
- **Age** - mc 5th decade
- **Region** - high altitude areas like Tibet, Peru
- **Etiology** - chronic hyperplasia in high altitude areas -> carotid body hyperplasia
- Familial - 10% autosomal dominant



- C/F
- Painless slow growing swelling of many years duration in carotid triangle
- Pulastile
- Compressible - size decreases with carotid compression and increases on release of pressure
- Mobility from side to side and not up and down
- Bruit, thrill +
- Can extend to parapharyngeal space and oropharynx pushing the tonsil medially

- If large can cause pressure symptoms like dysphagia, change in voice
- Pressure on swelling can lead to faintness (carotid body syncope)
- Rare regional and distant metastasis
- **Diagnosis**
- Serum catecholamines
- 24 hrs urine vanellyl mandelic acid
- CECT
- MRI with gadolinum
- MRI angiography/ DSA

Lyre's sign - widening of angle/ splaying between ICA and ECA on angiography

Avoid FNAC, open biopsy as highly vascular

Treatment

- Younger age/ no metastasis/ fit - surgical resection by trans cervical approach
- Large tumours - do arterial embolization first to decrease bleeding

Elderly > 50 yrs/ metastasis/ unfit - RT

THANK YOU…..
for staying awake