General physical examination

- Your physical assessment of patients begins as soon as you see them.
- Your ability to perform a clinical examination can only be improved by frequent bedside practice.

- You can imagine the history taking as a polite smart interrogation.
- And the physical examination as an investigation; searching for clues to find the disease.

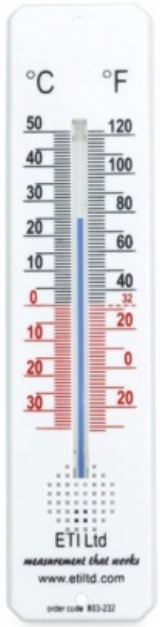
Equipment required for a full examination

- Disposable gloves
- Face mask
- Watch (seconds)
- Stethoscope
- torch
- Measuring tape
- Tendon hammer
- Tuning fork
- Wooden spatula

Measuring vital signs:

- Thermometer
- Sphygmomanometer
- Weighing scales
- Height-measuring device


1
2
3
60 in



Environment

- Quite, warm, clean room.
- Privacy.
- Good illumination.
- Chaperon.
- Hand disinfectant.

Beginning the examination

- Introduce your self.
- Hand-shake?
- Take permission for every step.
- Always explain what you are doing.
- Wash your hands before and after.

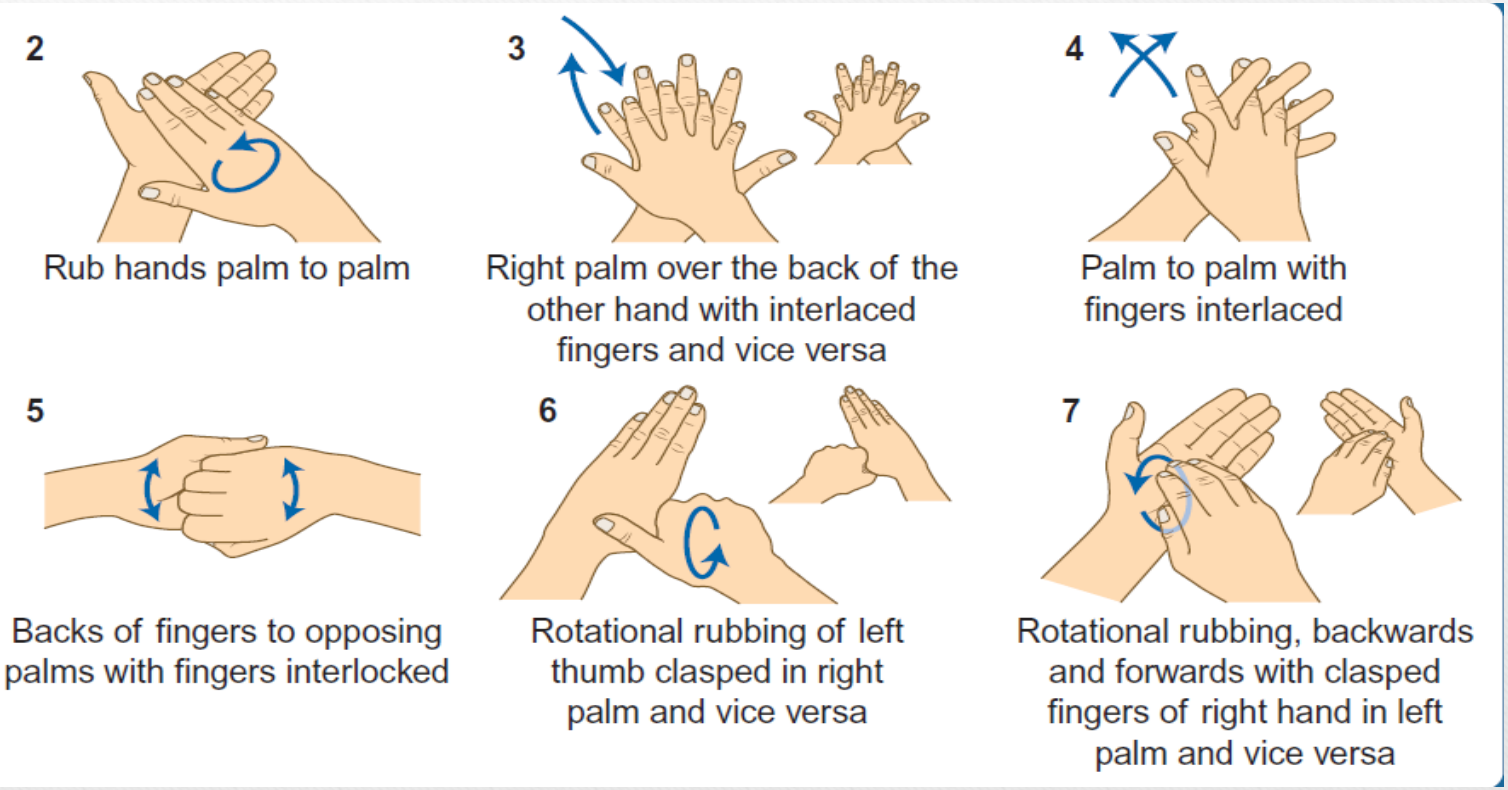
Privacy

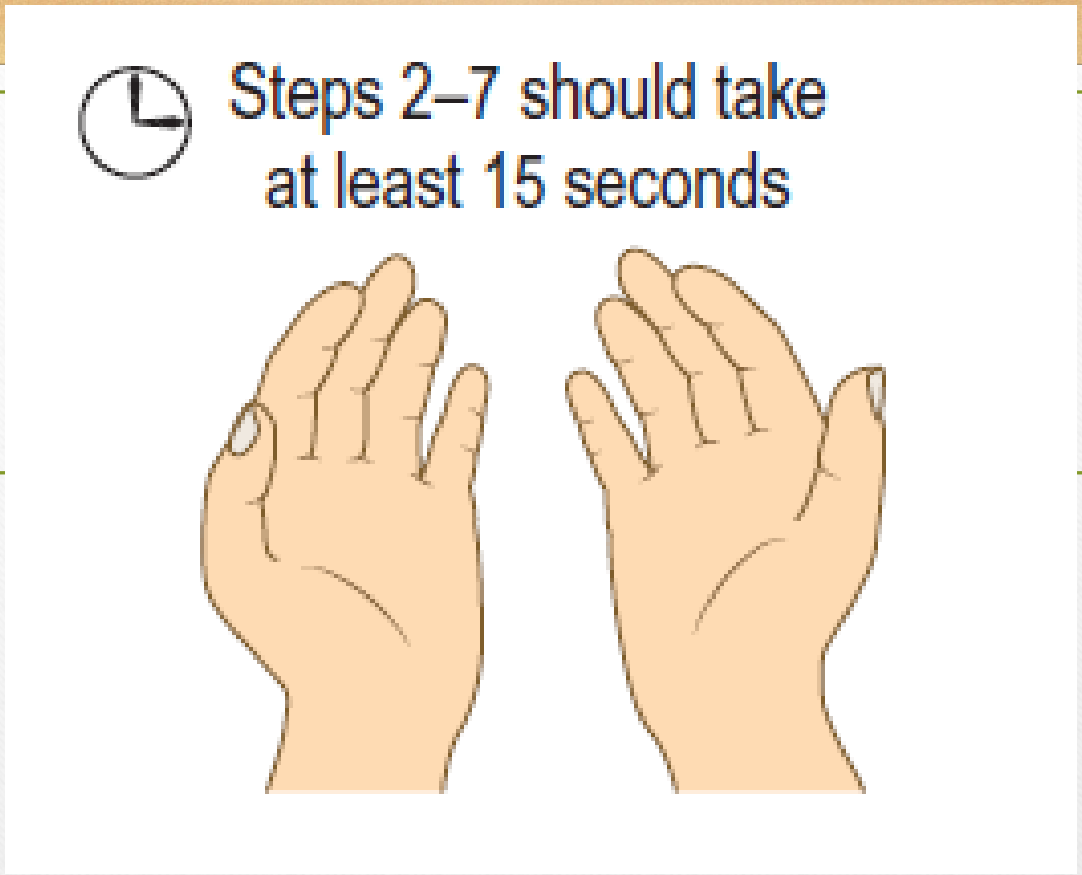
- Privacy is always essential.
- In lots of situations it's difficult to be in a closed room, so at least close the curtains.
- Chaperon is a must regardless of the patient's gender, especially while examining an intimate area.
- Parent's must be present while examining a child.

Exposure

- Exposure is essential for physical examination.
- Ask for exposure
- Respect the patient's feelings.
- Don't over-expose.
- Cover the patient with sheets so they don't get cold.

Hand wash


2
Rub hands palm to palm
3
Right palm over the back of the other hand with interlaced fingers and vice versa
4
Palm to palm with fingers interlaced
5
Backs of fingers to opposing palms with fingers interlocked
6
Rotational rubbing of left thumb clasped in right palm and vice versa
7
Rotational rubbing, backwards and forwards with clasped fingers of right hand in left palm and vice versa



- Hand washing is important in reducing infections
- Done by the application of **alcohol- based hand rubs** (ABHR) **without the addition of water**
- or by **handwashing with plain or medicated/antimicrobial soap and water.**

Sequence for performing a physical examination

You'll adapt your own sequence as you practice more and more.

Initial observation

- begins as soon as you see the patient.
- Recognize deteriorating, critically ill patient's.
- Early warning scoring systems are helpful assessing severity of the situation.
- They include assessment of vital signs: pulse, blood pressure, respiratory rate and oxygen saturations, temperature, conscious level and pain score.

If the patient is stable

- Observe and comment:
- 1- General look:
- Do they look well?
- Are they in stress, or pain?

General look

- 2- Clothing's:
- Socio-economic status
- Trauma?
- Self or family neglect

General look

- 3- Is there a medical equipment attached? Canula? Chest tube? Face mask? …
- Is he carrying a walking aid?
- Are there subcutaneous devices


DIABETIC

The handshake

- Always respect the patient's belief about handshake.

The Handshake

Features	Diagnosis
Cold, sweaty hands	Anxiety
Cold, dry hands	Raynaud's phenomenon
Hot, sweaty hands	Hyperthyroidism
Large, fleshy, sweaty hands	Acromegaly
Dry, coarse skin	Regular water exposure Manual occupation Hypothyroidism
Delayed relaxation of grip	Myotonic dystrophy
Deformed hands/fingers	Trauma Rheumatoid arthritis Dupuytren's contracture

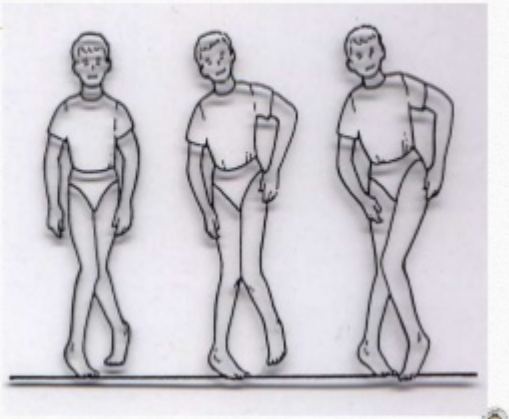
Gait and posture

- Use of a walking aid?
- Stable gait? Or there's imbalance?
- Is there a limp?
- Is the posture symmetrical?
  Is there a length discrepancy in limb?
- Abnormal spine structure?

An example

Scissoring Gait (crossed leg gait)

- Seen in cerebral palsy and paraplegia
- Legs are crossed due to adductor tightness



Facial expression

- Anxiety, anger, happiness, sadness?
- Apathetic.
- Facial deformities.
- Mouth deviation.
- Eyes, presence of epicanthal folds.
- Central cyanosis.

Speech

- Comment on tone, presence of hoarseness, stridor.
- Articulation of speech; dysarthria.
- language; dysphasia.
- Speed.

Approach for physical examination

- Inspection
- Palpation
- Percussion
- Auscultation

- Look
- Feel
- Move

Hands

- Look:
- Deformities.
- Signs of trauma.
- Color: peripheral cyanosis, tobacco stains, coal stain.
- Swellings.
- Nails.

Rheumatoid arthritis (acquired)

Traumatic hand deformity

Hands

- Feel:
- Always ask for presence of tenderness before.
- Temperature:
  cold: CHF, hypotension
  warm: COPD, hyperthyroidism
- lumps.
- Tenderness.

Nails

- Shape.
- Color; cyanosis, yellow nails, white nails.
- Capillary refill.
- Splinter hemorrhages.

Beau's lines

Leukonychia

Lindsay's nails

Onycholysis

Telangectasia

Koilonychia.

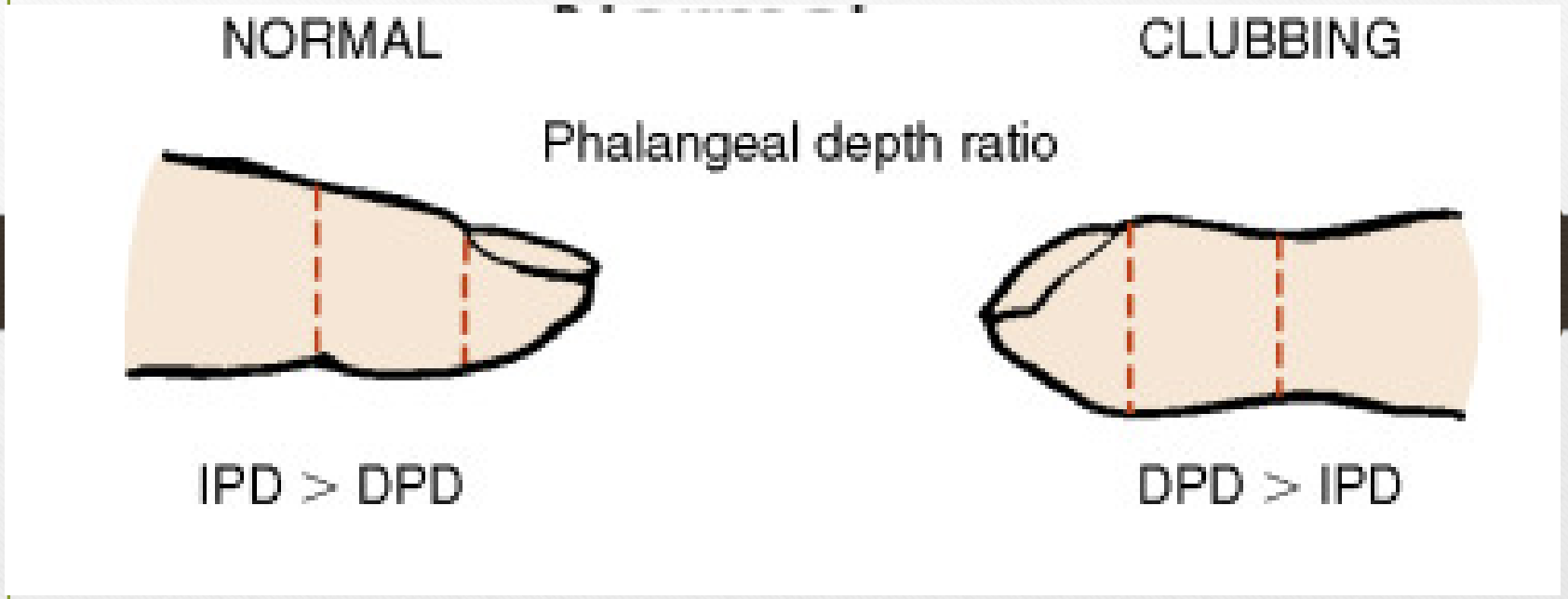
Onychgryphosis = ischemia

Yellow nails

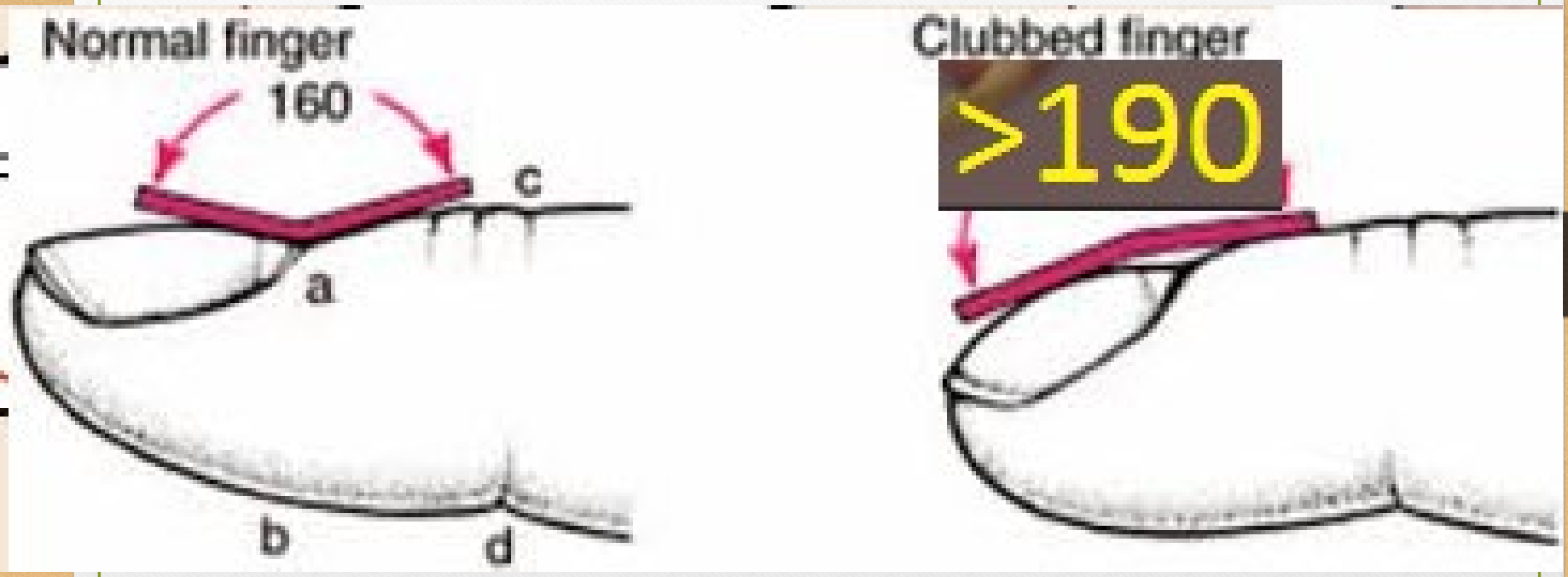
Clubbing

- Painless soft tissue **swelling** of the terminal phalanges and increased **convexity** of the nail.
- Many lung, liver, GI diseases causes clubbing.
- First examine the phalangeal depth .
- Then examine the hyponychial angel.
- Then examine the schamroth window.
- Finally assess for fluctuation.

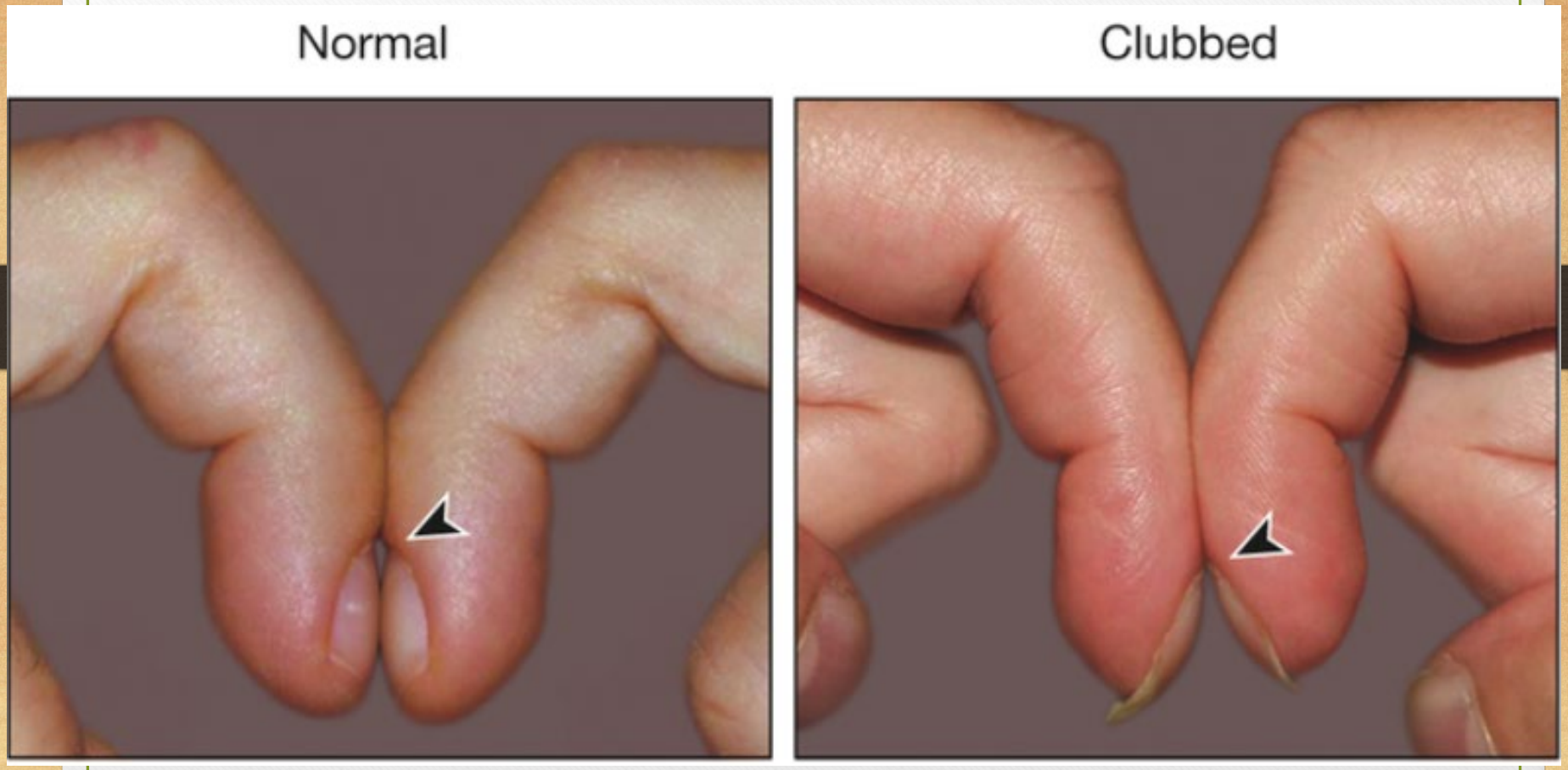
Phalangeal depth



Hyponychial angel



Schamroth's window sign



Nail fluctuation

Skin

- The skin should be exposed where appropriate and inspected carefully for any abnormalities of pigmentation.
- Disorders of skin are many
- Comment of abnormalities:
- Ulcers, abnormal pigmentation, masses.
- Jaundice, pallor, cyanosis.

Vitiligo

Hereditary Hemochromatosis

Skin masses/ulcers

Jaundice

- an abnormal yellow discoloration of the skin, sclera and mucous membranes.
- Best detected in the covered part of sclera.
- when serum bilirubin concentration rises above 3 mg/dL due to pathology in metabloic pathways.

jaundice

Cyanosis

- a blue discoloration of the skin and mucous
- membranes that occurs when the absolute concentration of deoxygenated haemoglobin is increased more than 5 g/dl
- Where to detect:

lips, mucous membranes, nose, cheeks, ears, hands and feet.

Cyanosis

- may be absent in anaemic or hypovolaemic patients despite the presence of hypoxia.
- Conversely
- cyanosis may manifest at relatively mild levels of hypoxia in polycythaemic patients.

Peripheral cyanosis

- seen in the distal extremities
- Maybe due to hypoxia, or:
- may simply be a result of cold exposure, when prolonged peripheral capillary flow allows greater oxygen extraction and hence increased levels of deoxyhaemoglobin.
- E.g. low cardiac output states, arterial disease and venous stasis or obstruction

Central cyanosis

- cyanosis can be seen in the lips, tongue and buccal or sublingual mucosa.
- can accompany any disease (usually cardiac or respiratory) that results in hypoxia and deoxyhaemoglobin concentration above (5g/dL).

Cyanosis

- Note :

- blue discoloration in the tongue : its central cyanosis

- blue discoloration in lips and distal extrimities : its peripheral cyanosis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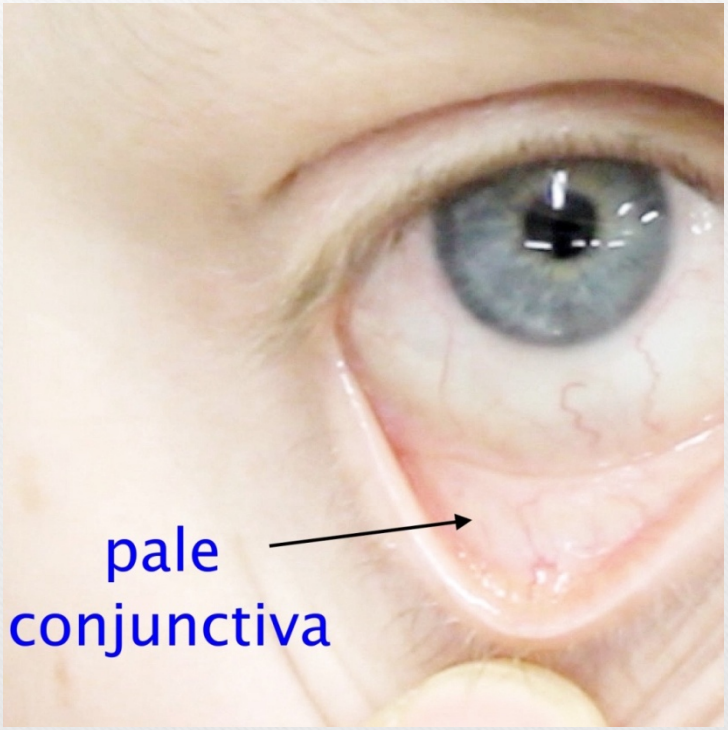
Pallor

- Occurs due to:
- Anaemia
- vasoconstriction due to cold exposure or sympathetic activation (e.g. hypotension).

Pallor

- Best sites to detect:
- conjunctiva specifically the anterior rim of lower eyelid.
- palmar skin creases
- face in general
- Nail-bed pallor; although diagnostic value is poor.


pale
conjunctiva

Tongue

- Look and move, Don't feel.
- Smooth tongue
- Large tongue
- Masses
- Wasting
- Deviation
- Fasciculations

Body habitus

- Weight
- Stature
- Hydration

Weight

- Measured in kilograms
- For standardization; we use BMI

Nutritional status	BMI non-Asian	BMI Asian
Underweight	<18.5	<18.5
Normal	18.5–24.9	18.5–22.9
Overweight	25–29.9	23–24.9
Obese	30–39.9	25–29.9
Morbidly obese	≥40	≥30

Obesity

- Caused by some diseases.
- Causes so many diseases
- gluteal–femoral obesity or the ‘pear shape’

Has better prognosis than ‘apple-shaped’ obesity.

Weight loss

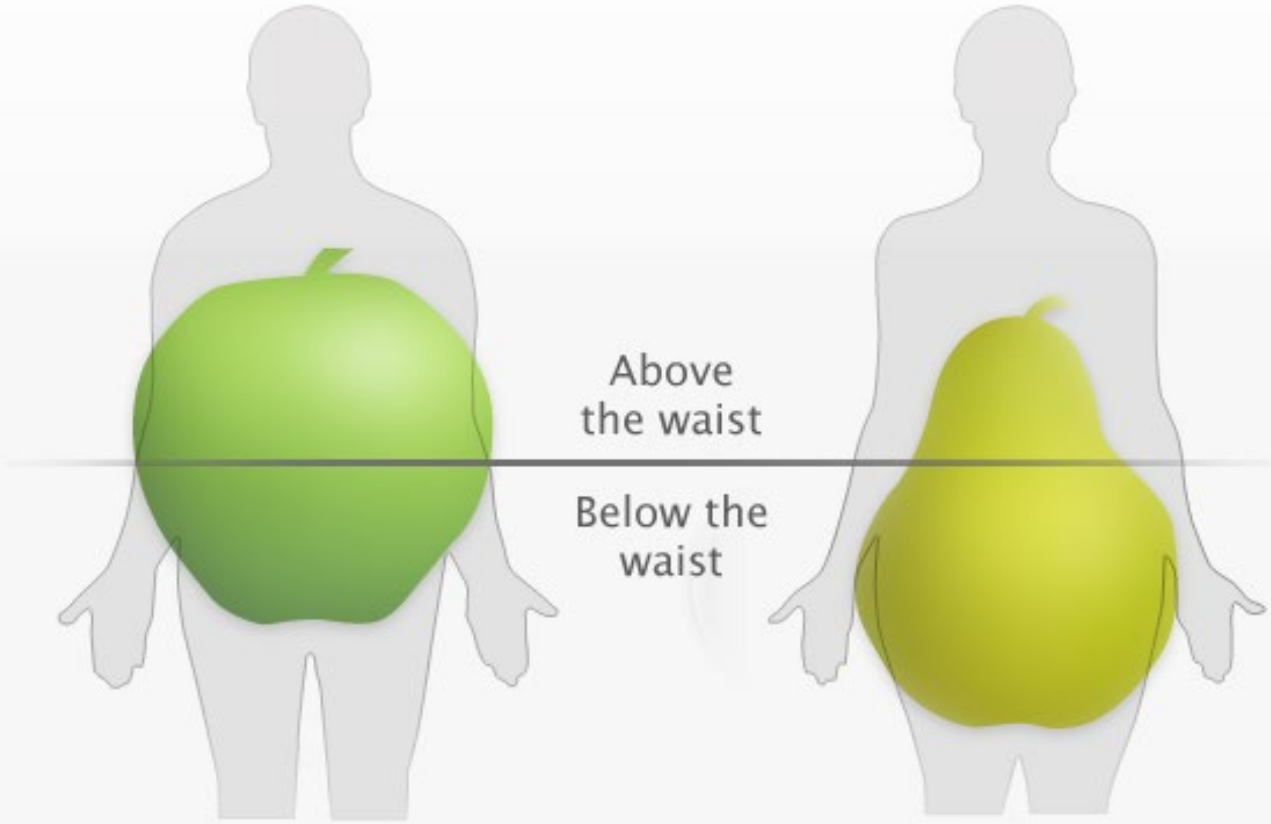
- Wt loss considered significant if :

1 - 10% over 6 months

2 - 5% over 3 months

3 - 2% over 1 month

Apple shape vs pear shape



Apple shape

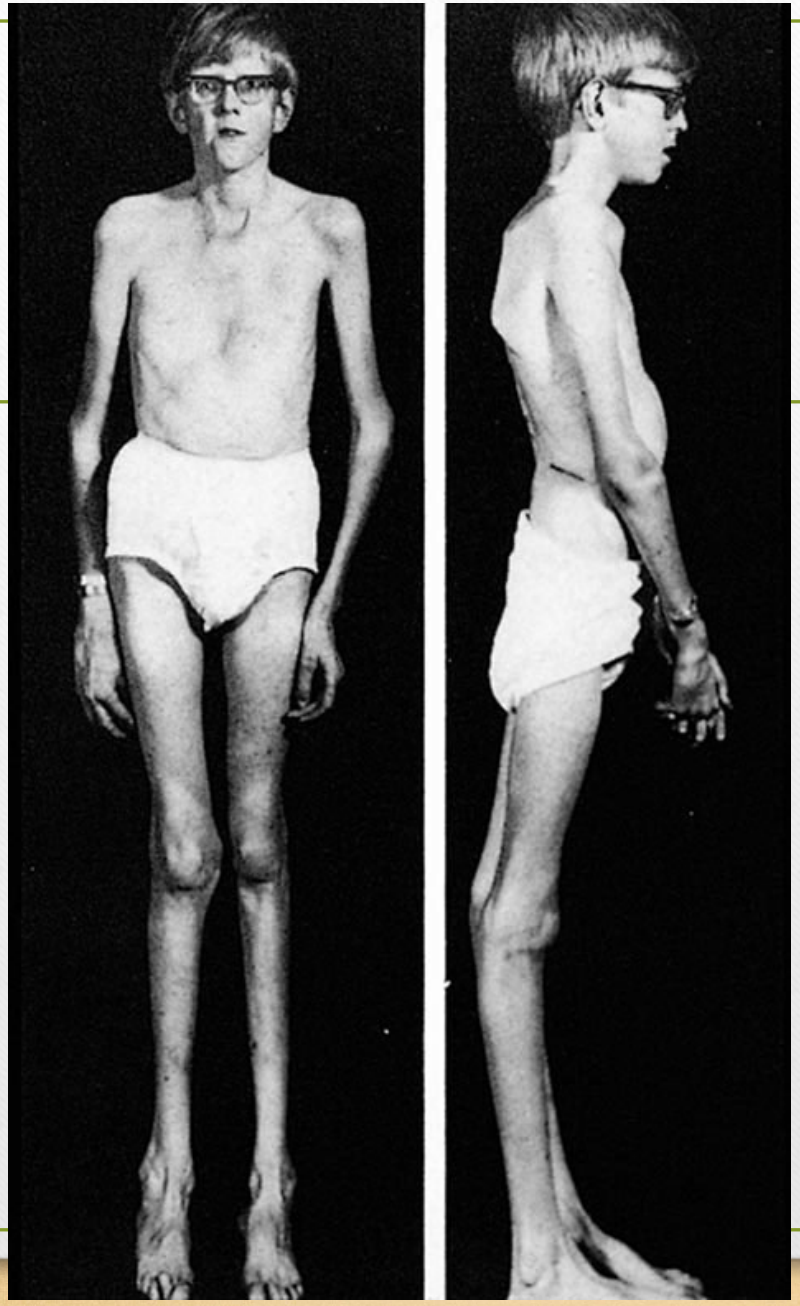
- More visceral fat
- Higher risk of weight-related health problems

Pear shape

- Less visceral fat
- Lower risk of weight-related health problems

Stature

- Long stature
- Short stature
- Abnormal stature



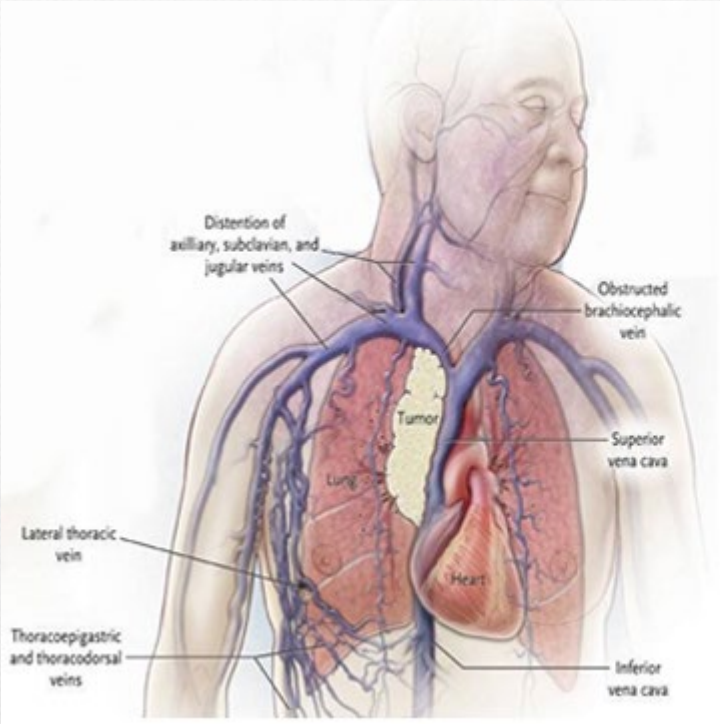
HYDRATION

- MUCOUS MEMBRANES
- AXILLA
- JVP
- URINE OUTPUT
- LOWER LIMBS

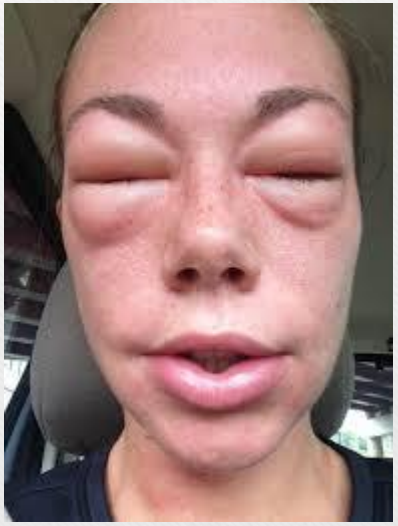
Localized edema

- Venous causes
- Lymphatic causes
- Allergic causes
- inflammation

Venous obstruction



Angioedema



Hand swelling due to inflammation

Lumps and lymph nodes

- First ask few questions:
- Onset
- Duration
- associated pain
- Discharge
- Progression
- previous history

Lumps (and Ulcers)

- Site
- Shape
- Size
- Color
- Tenderness.
- Attachment to surrounding tissues?

Consistency

- Ranges from **soft** to **firm** to **hard.**
- compressible?
- Fluctuating?

Edge (margin)

- Defined Vs. ill defined
- Regular Vs irregular

Surface and shape

- Shape:
  shape of an organ, Vs rounded lump
- Surface:
  smooth, nodular, irregular.

Position

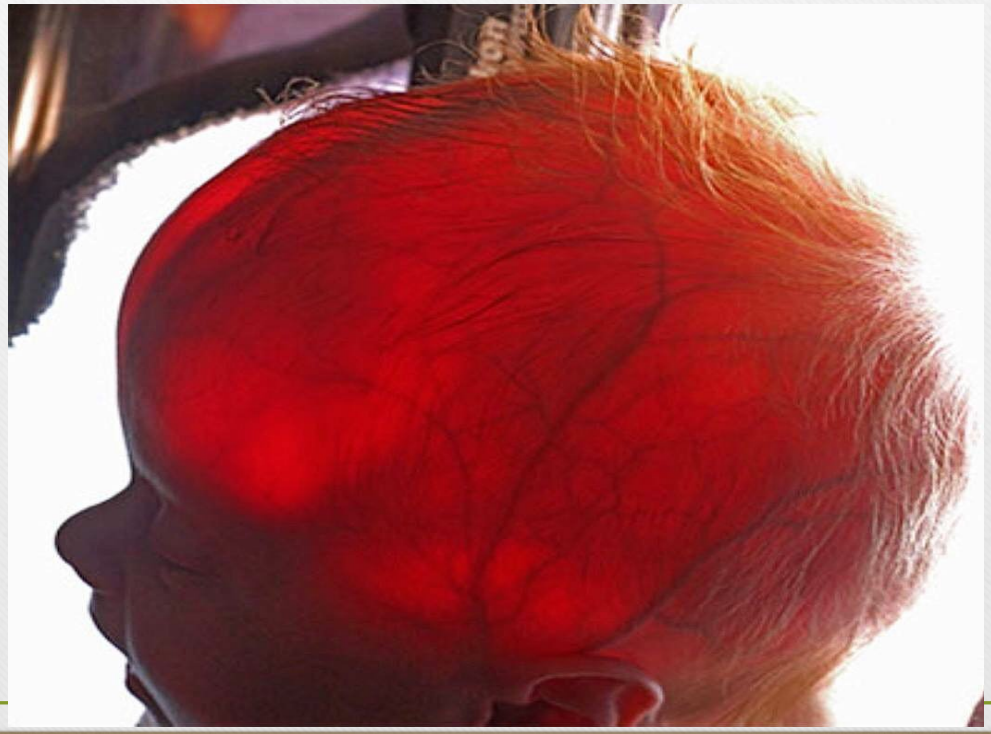
- Try to identify the source of the lump
- E.g. muscle, soft tissue.
- If it's deep or superficial to abdominal muscles.
- Thyroid masses moves with swallowing.

Pulsations, thrills and bruits

- Due to abnormality in blood flow
- Caused by:
- Stenosis
- Aneurysm
- Arterio-venous fistula

Trans-illumination

- Gives a clue about thickness of the contents.



Inflammation

- Redness: vasodilatation.
- Warmth: vasodilatation.
- Swelling: increased capillary permeability.
- Pain/tenderness: cytokines.

After that

- Examine vascular systems
- The draining lymph nodes
- And general physical examination

Lymph nodes

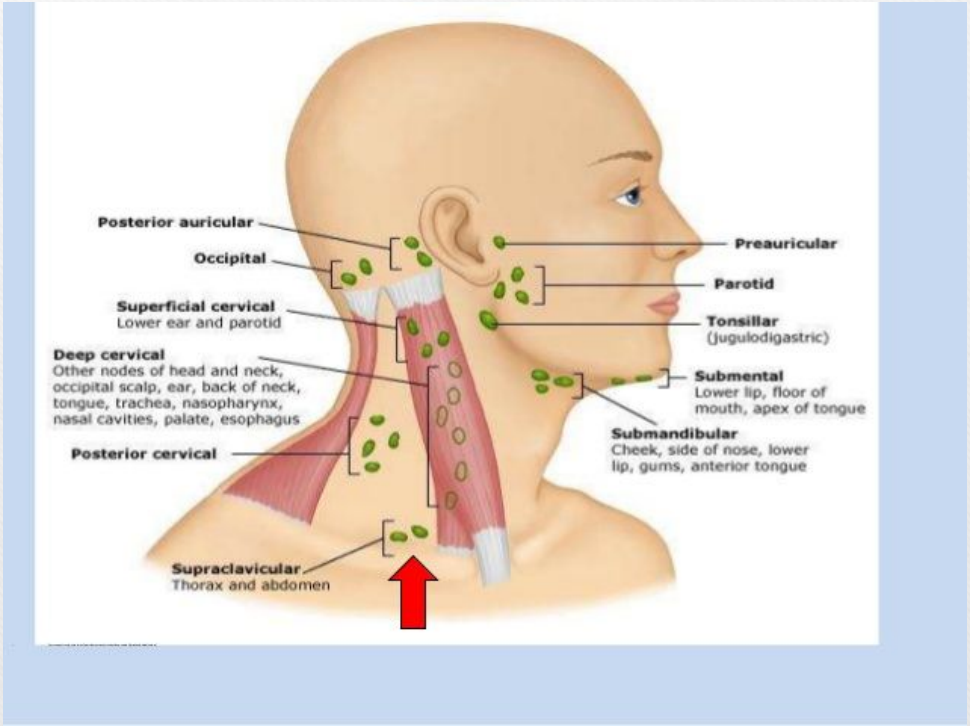

Posterior auricular
Occipital
Superficial cervical
Lower ear and parotid
Deep cervical
Other nodes of head and neck, occipital scalp, ear, back of neck, tongue, trachea, nasopharynx, nasal cavities, palate, esophagus
Posterior cervical
Supraclavicular
Thorax and abdomen
Preauricular
Parotid
Tonsillar
(jugulodigastric)
Submental
Lower lip, floor of mouth, apex of tongue
Submandibular
Cheek, side of nose, lower lip, gums, anterior tongue

Fig. 3.27 Palpation of the cervical glands. A Examine the glands of the anterior triangle from behind, using both hands. B Examine for the scalene nodes from behind with your index finger in the angle between the sternocleidomastoid muscle and the clavicle. C Examine the glands in the posterior triangle from the front.

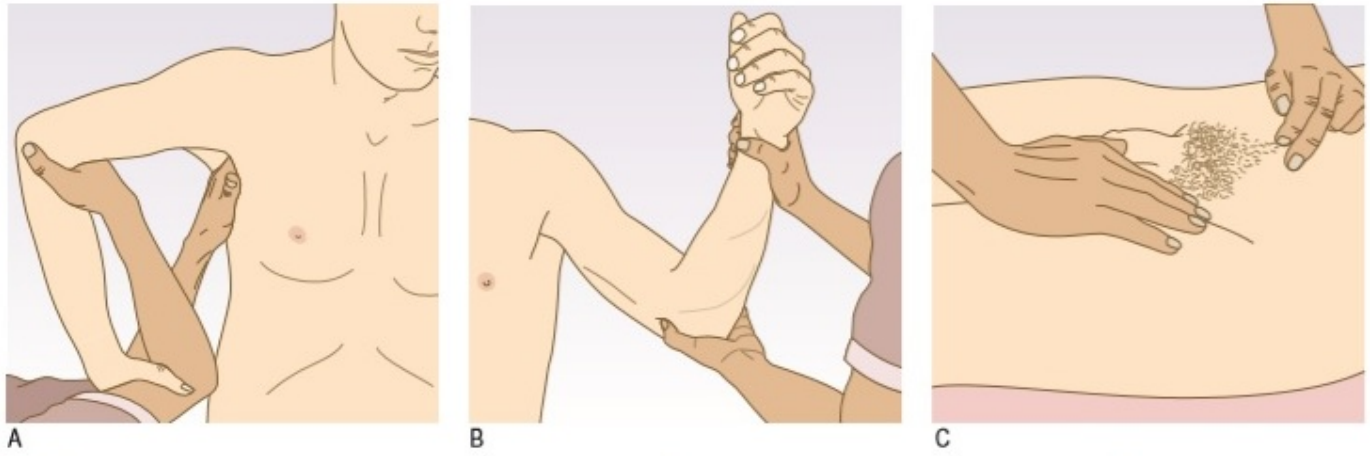


Fig. 3.28 Palpation of the axillary, epitrochlear and inguinal glands. A Examination for right axillary lymphadenopathy. B Examination of the left epitrochlear glands. C Examination of the left inguinal glands.

- If you find localised lymphadenopathy, examine the areas that drain to that site
- If generalized you should examine the liver and spleen , + pulmonary crackels

THANK YOU