

Thyroid Examination

Surface Anatomy

- Isthmus is inferior to laryngeal prominence of the thyroid cartilage, anterior to 2nd-4th tracheal rings, 4cm below larynx. Lobes are at level of C5-T1 vertebrae.

General Inspection

- **Hyperthyroidism:** Anxiety, thin, frighten facies, dressed inappropriately for the weather
- **Hypothyroidism:** mental/physical sluggishness, slow/nasal/deep voice, alopecia
- Note any obvious goitre (closer inspection of the neck is performed later)

Hands and Arms

- **Hyperthyroidism:** Fine tremor, onycholysis (lifting of nails from bed), palmar erythema, sweatiness, hot hands
- **Graves' Disease:** Thyroid acropachy
- **Hypothyroidism:** Cyanosis, cold hands, swelling of skin, yellow discolouration (hypercarotenaemia), pallor of palmar creases
- **Pulse:** sinus tachycardia, AF, collapsing (**Hyper**); bradycardia, small volume (**Hypo**)
- **Arms:** Increased reflexes and proximal myopathy (**Hyper**); Hung up biceps reflex (**Hypo**)

Face

- **Hyperthyroidism:** Lid retraction, thyroid stare, lid lag (loop up and away)
- **Graves' Disease:** Exophthalmos, Conjunctivitis, Corneal ulceration
 - Test extra-ocular muscles: IR and LR can be weak in Graves' ophthalmoplegia
- **Hypothyroidism:** Yellowing of skin, Alopecia, vitiligo, xanthelasma, cool skin, dry hair, periorbital oedema, loss of lateral 1/3 of eyebrows

Thyroid

- **Inspection:** scars, visible veins, goitre
- Ask patient to swallow water and then poke their tongue out (Movement with swallowing is normal, movement when poking tongue out suggests thyroglossal cyst) repeat once palpating
- **Palpation:** From behind the patient, palpate down from hyoid bone. Palpate each lobe individually and the isthmus. Comment on consistency, nodules, tenderness (thyroiditis), size.
- **Percussion:** Percuss across manubrium for retrosternal extension (Any cause of goitre)
- **Auscultation:** Listen over each lobe (while patient holds their breath) for bruits (**Hyper**)
- **Pemberton's sign:** Hands above head like diving into a pool, looking for congestion and cyanosis in the face, and respiratory distress (SVC syndrome due to retrosternal goitre)

Chest

- **Hyperthyroidism:** Gynaecomastia, systolic flow murmur, signs of CHF (e.g. basal crepitations)
- **Hypothyroidism:** Pericardial effusion, pleural effusion

Legs

- **Hyperthyroidism:** Ask patient to cross arms and stand, looking for proximal myopathy
- **Graves' Disease:** Pretibial myxoedema (bilateral, firm elevated nodules, varying colouration)
- **Hypothyroidism:** after patient has stood up, ask them to sit on side of bed and test reflexes