

Thyroid Examination

Hand hygiene

Introduce self, gain consent and cooperation.

Ensures patient seated in good light, with access to examine from behind and appropriate exposure of the neck.

From end of bed Is patient dressed appropriately for room temp?
Composure – hyperactivity, fidgety & restless (hyperthyroid);
immobile & uninterested (hypothyroid)
Observes patient from any obvious lumps/swellings.
Asks patient to swallow to check upward movement of thyroid gland and to ascertain whether any visible lumps/swellings ascend with the thyroid.

Hands Increased sweating (due to hyperthyroidism)
Palmar erythema (due to hyperthyroidism)
Thyroid acropachy (Grave's disease)
Onycholysis (Plummer's nails) – hyperthyroid
Coarse, dry skin, anaemia, yellow discolouration of hypercarotenaemia (in hypothyroidism)
Areas of vitiligo (seen in association with autoimmune disorders such as Grave's disease)
Fine tremor – place sheet of paper on outstretched hands

Pulse Rate, rhythm
Tachycardia or atrial fibrillation in hyperthyroidism
Bradycardia in hypothyroidism

Blood pressure

Pemberton's sign Lift both arms as high as possible.
Patients with large retrosternal goitres develop signs of congestion (plethora) & cyanosis on raising their arms above their heads, leading to suffusion of face, giddiness or syncope.

Eyes Loss/thinning of hair on outer 1/3 of eyebrows (hypothyroidism)
Periorbital oedema (hypothyroidism)
?Test visual acuity & visual fields.
Anaemia
Eye movements – ophthalmoplegia, diplopia
Exophthalmos – whiteness of sclera visible below the iris
Lid retraction – sclera visible above the iris
Proptosis – eye protrusion beyond level of supraorbital ridge
Chemosis – conjunctival oedema
Lid lag

Thyroid
INSPECT

Examine front of neck – goitre, symmetry, skin changes, scar

Ask patient to open his mouth & stick his tongue out as far as possible. If the lump moves on protrusion, it is likely to be a thyroglossal cyst.

(Ask patient to swallow – thyroid & thyroglossal cyst will rise during swallowing)

PALPATE

Best performed from behind

Ask patient to take a sip of water, hold it in his mouth & swallow when asked. Feel the thyroid gland rise.

Consider the size, symmetry, consistency, tenderness & mobility.

Try to work out whether the thyroid is diffusely enlarged or nodular.

Palpate the cervical **lymph nodes** – may be involved in thyroid cancer.

PERCUSS

Over the sternum, from notch downwards. A change in resonant to dull indicates a possible retrosternal goitre.

AUSCULTATE

Listen for bruits over each lobe

Upper/lower limbs

Proximal myopathy

Reflexes (slow, relaxing - hypothyroid)

Tibia

Pretibial myxoedema

Consider the main differential diagnosis of a thyroid goitre:

- Simple goitre (iodine deficiency)
- Thyroid adenoma (follicular commonest)
- Multinodular goitre
- Thyroid carcinoma (papillary > follicular > anaplastic > medullary)
- Thyroiditis (Hashimotos, De-Quervains)
- Graves disease

The most informative diagnostic test if asked, is TSH level – don't say 'thyroid function tests'

Investigate with ultrasound and fine needle aspirate, or core biopsy.

Consider the differential diagnosis of neck lump and additional steps to conduct in the examination:

- Lymphadenopathy – remember the jugulodigastric node which is the sentinel node for many head and neck carcinomas, so **LOOK IN THE MOUTH** – you would look silly to miss out on an obvious tongue tumour!
- Branchial cyst – anterior to upper 1/3 sternocleidomastoid

- Thyroglossal cyst – cyst in the embryological passage of thyroid from posterior tongue. Moves up on protrusion of tongue
- Cystic hygroma – cystic degeneration of lymphatics commonly found in babies
- Submandibular gland – arises from under the posterior mandible. The commonest cause of unilateral enlargement is stone in duct, so MUST palpate with gloved finger, under tongue, where duct opens onto the floor of the mouth, and bimanual palpation can be conducted, including potentially palpating the calculus. Other causes include neoplasia both benign and malignant
- Parotid gland – overlies the angle of the jaw. Stensons duct opens opposite to the upper 2nd molar teeth, and should be inspected and palpated intra-orally. Common causes of enlargement include: sjogrens, sarcoidosis, mumps, duct calculi. Neoplasia is commonest – benign pleomorphic adenoma being commonest, followed by Warthins tumour, commonly affecting the older patient. Cystic adenoid carcinoma is commonest malignant neoplasm. You must assess the facial nerve which passes through the gland – expecting a lower motor neurone lesion – although recognise that individual nerves can be affected preserving others (temporal, zygomatic, buccal, mandibular, cervical). Facial nerve involvement suggests malignant carcinoma or sarcoidosis.