History :

Objective	Data
Personal Data	✓ Name ✓ Age ✓ Menstural Cycle ✓ Marital status ✓ Number of children ✓ Residency (areas with iodine deficiency). ✓ Occupation ✓ Special habits ✓ Chronic diseases.
Chief complaint	✓ Neck Swelling ✓ Neck Pain
Present History	✓ Analysis of complaint ✓ Associated symptoms ✓ History suggesting **hypothyroidism.** ✓ History suggesting **hyperthyroidism**.
Past History	✓ Neck radiation exposure. ✓ Recent pregnancy (postpartum thyroiditis). ✓ History of hyperprolacinemia or breast feeding (feedback inhibition on TSH). ✓ Previous investigations. ✓ Previous Clinic visits ✓ Chronic diseases ✓ Hospital admissions ✓ Previous Surgeries and complications.
Familial History	✓ Autoimmune diseases. And the age of those affected.

Drug History	✓ Prescribed drugs ✓ OTC ✓ Topical drugs ✓ Amiodarone (antiarrhythmic). ✓ lithium ✓ Radioactive iodine therapy. ✓ Thionamides (PTU/methimazole/carbimazole --> - TPO and deiodonation of T4 in peripheral tissues)
Other Systems Complaints	✓ Systems review

Common presenting complaints :

1) Neck Swelling :

Swelling	Description	Etiology	Treatment
Non-toxic Goiter (simple diffuse or multinodular)	- Euthyroid or Dysfunction - Compression symptoms in huge diffuse goiters	➢ Iodine deficiency. ➢ Physiological. (lactation/pregnancy/ stress). ➢ Colloid goiter. ➢ Drug induced (thionamides/PTU/amiodarone -- a 3rd gen antiarrhythmic drug).	➢ Subtotal thyroidectomy. ➢ Lobectomy. ➢ Total thyroidectomy. ➢ Radioiodine ablation. ➢ Thionamides are contraindicated. + Hormone replacement therapy
Toxic diffuse Goiter (grave's disease)	Usually hyperfunction but may express hypofunction features concurrently in 80% of cases due to TPO+AB.	➢ TSI antibodies creates an autonomous gland by increasing the sensitivity of TSH-R. ➢ Sudden increase in iodine intake.	➢ Thionamides (PTU/carbimazole) -> -- TPO. ➢ Radioiodine ablation.
Autoimmune thyroiditis	Hypofunction	➢ TPOAb+ -> destruction of TPO	➢ Treat the hypothyroidism

		enzyme -> failure of oxidation/organification and iodoniation.	with HRT.
Subacute thyroiditis (de Quervain's)	Express a sort of tenderness & hotness	➢ Inflammatory infilterates due to viral infection.	➢ NSAIDs ➢ Corticosteriods ➢ HRT wit low doses during the hypofunction phase (after the follicular destructive phase).
Retrosternal goitre	Compressive symptoms : **Dysphagia**, **breathlessness**, **stridor**.	➢ Large thyroid goitre or tumors.	➢ Urgent surgery may be needed if there were compressive symptoms.

2) Neck Pain :

Disorder	Associated symptoms
Subacute/acute /inflammatory thyroiditis	Redness and hotness
Bleeding into thyroid nodule	Redness and hotness

3) History suggesting hypothyroidism.

4) History suggesting hyperthyroidism.

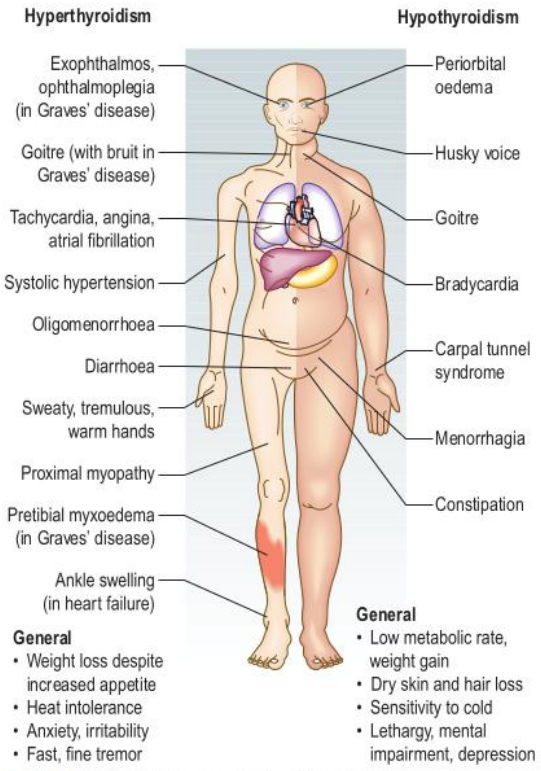

Fig. 10.4 Features of hyper- and hypothyroidism.

Investigations Schemes :

Hypothyroidism workout

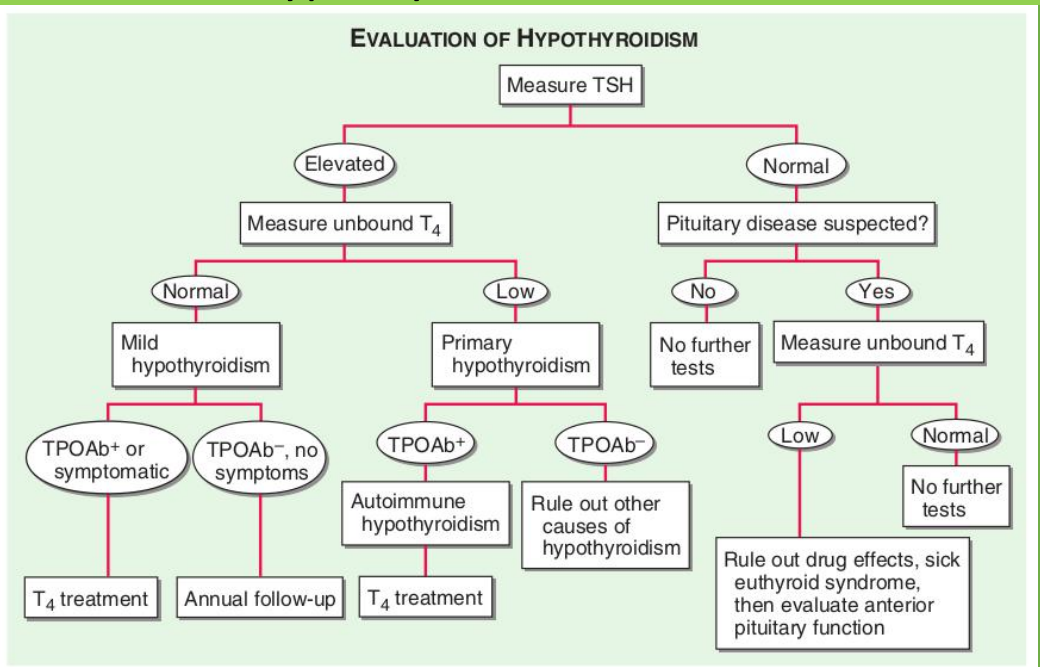

FIGURE 405-7 Evaluation of hypothyroidism. TPOAb+, thyroid peroxidase antibodies present; TPOAb−, thyroid peroxidase antibodies not present; TSH, thyroid-stimulating hormone.

Hyperthyroidism workout

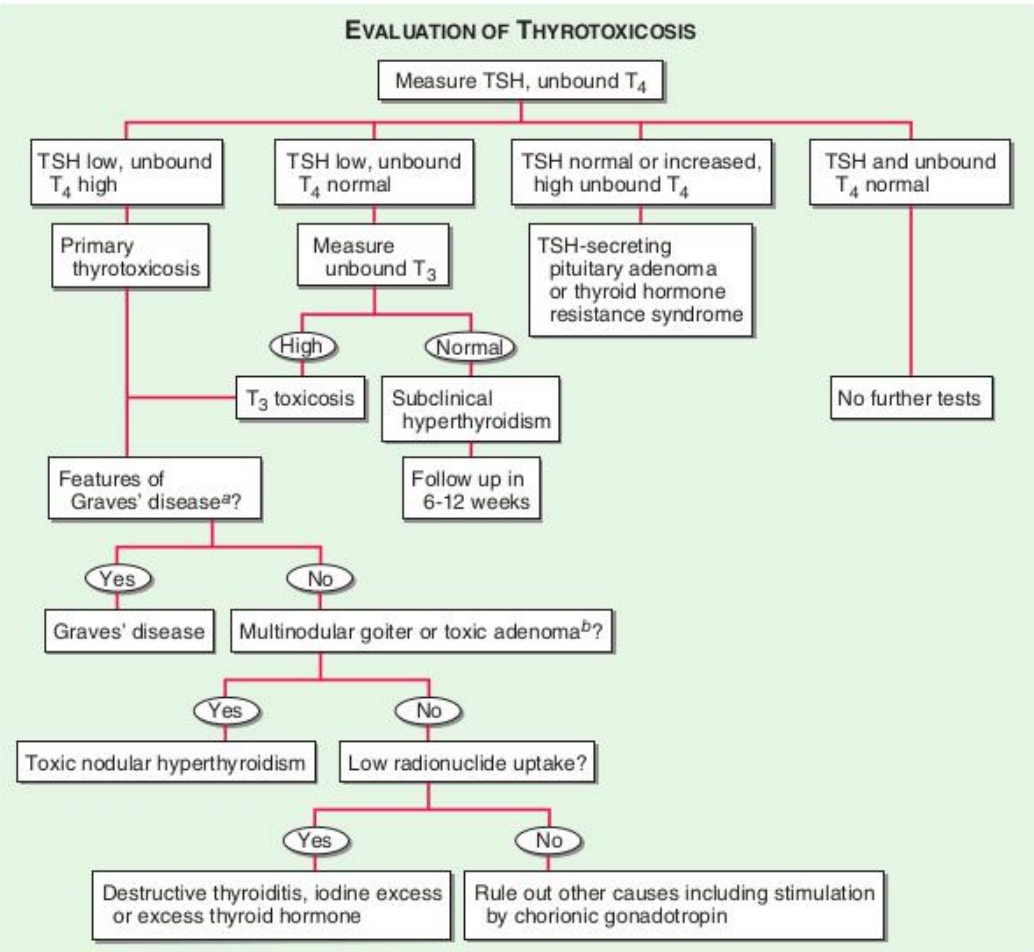

FIGURE 405-9 Evaluation of thyrotoxicosis. [a]Diffuse goiter, positive TPO antibodies or TRAb, ophthalmopathy, dermopathy. [b]Can be confirmed by radionuclide scan. TSH, thyroid-stimulating hormone.

General Examination :

Observe

For signs of hyper or hypo thyroidism :

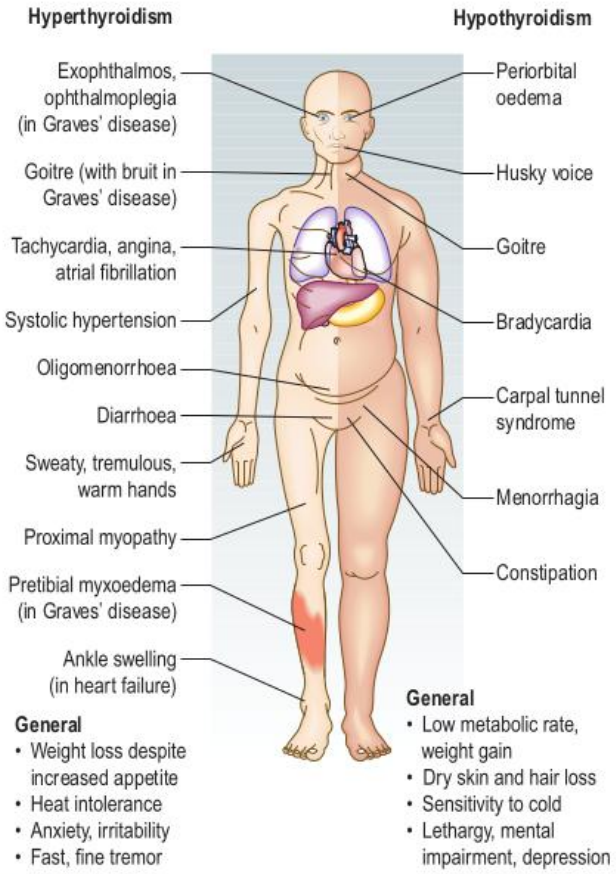

Fig. 10.4 Features of hyper- and hypothyroidism.

Inspect Hands for

✓ Vitiligo.

✓ Thyroid acropachy.

✓ Onycholysis.

✓ Palmar erythema.

Assess

✓ Pulse.

✓ Blood pressure.

✓ Water hammer pulse.

Auscultate

The heart apex for mid-systolic flow murmurs in hyperthyroidism.

Asses proximal muscles power and deep tendon reflex

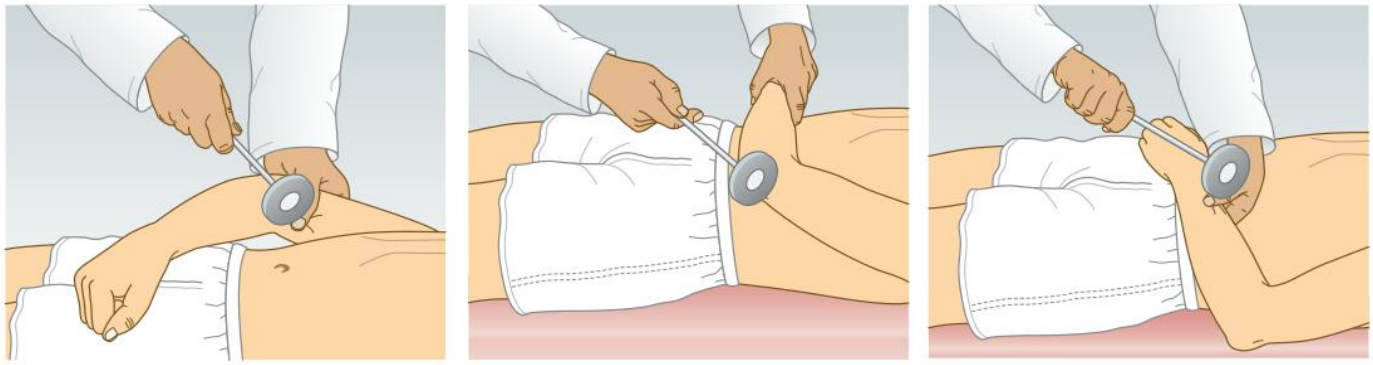

Fig. 7.19 Testing the deep tendon reflexes of the upper limb. A Eliciting the biceps jerk, C5. B Triceps jerk, C7. C Supinator jerk, C6.

Local Examination :

Inspection

- ✓ The Neck from the front, look for any asymmetry/scars/swellings.
- ✓ The Neck from the sides, while **the neck is slightly extended.**
- ✓ The Neck while **the patient takes a sip of water and swallow**.
- ✓ Notice the thyroid is moving with the trachea up and down.
- ✓ Inspect for any **mass** in the neck and **comment your findings**.

Palpation

- ✓ Thyroid lobes

Steps for Palpating the Thyroid Gland (Posterior Approach)

- Ask the patient to flex the neck slightly forward to relax the sternocleidomastoid muscles.
- Place the fingers of both hands on the patient's neck so that your index fingers are just below the cricoid cartilage.
- Ask the patient to sip and swallow water as before. Feel for the thyroid isthmus rising up under your finger pads. It is often, but not always, palpable.
- Displace the trachea to the right with the fingers of the left hand; with the right-hand fingers, palpate laterally for the right lobe of the thyroid in the space between the displaced trachea and the relaxed sternocleidomastoid. Find the lateral margin. In a similar fashion, examine the left lobe.

  The lobes are somewhat harder to feel than the isthmus, so practice is needed. The anterior surface of a lateral lobe is approximately the size of the distal phalanx of the thumb and feels somewhat rubbery.
- Note the *size, shape,* and *consistency* (soft, firm, or hard) of the gland and identify any *nodules* or *tenderness.* In general, benign (or colloid) nodules tend to be more uniform, ovoid structures and are not fixed to surrounding tissue.
- If the thyroid gland is enlarged, listen over the lateral lobes with a stethoscope to detect a *bruit,* a sound similar to a cardiac murmur but of not of cardiac origin.

- ✓ Lymph nodes

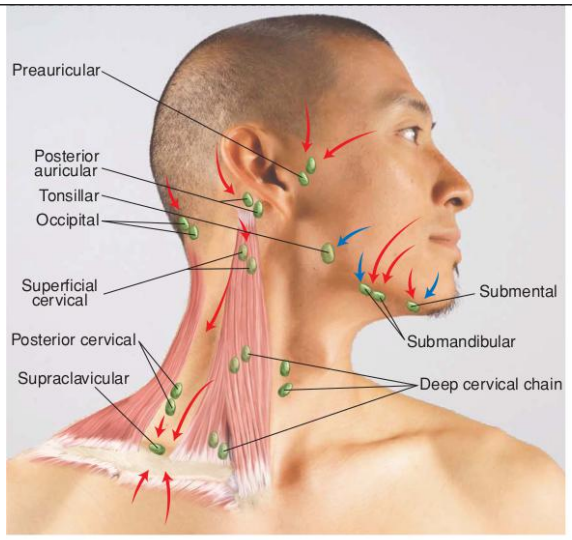

FIGURE 7-76. Lymph nodes of the neck.

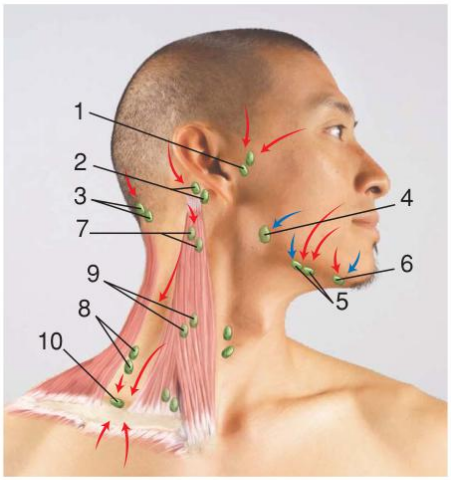

FIGURE 7-77. Sequence for examining lymph nodes.

Percussion
Percussion over the sternum for retrosternal extension of the goiter (may express some compression symptoms)
Auscultation
If the thyroid gland is enlarged, over the thyroid lateral lobes to identify bruits, a sign of hyperthyroidism

Comment on thyroid lump :

--> Onset (When it first appears ?).
--> Number (How many lumps out there ?).
--> Size (How big ?).
--> Location (Where ?).
--> Consistency (Soft, firm or hard).
--> Course (increasing in size ?).
--> Tenderness (is it sore to touch ?).
--> Relation to surroundings (mobile or fixed to the surroundings).
--> Associated Symptoms (pain/skin changes/hoarsness of voice/stridor/breathlessness episodes/hotness ?).

3.8 Features to note in any lump or swelling (SPACESPIT)

- Size
- Position
- Attachments
- Consistency
- Edge
- Surface and shape
- Pulsation, thrills and bruits
- Inflammation:
  - Redness
  - Tenderness
  - Warmth
- Transillumination

Thumbnails

Fig. 10.2 **Graves' hyperthyroidism.** A Typical facies. B Severe inflammatory thyroid eye disease. C Thyroid acropachy. D Pretibial myxoedema.

5 Typical facies in hypothyroidism.

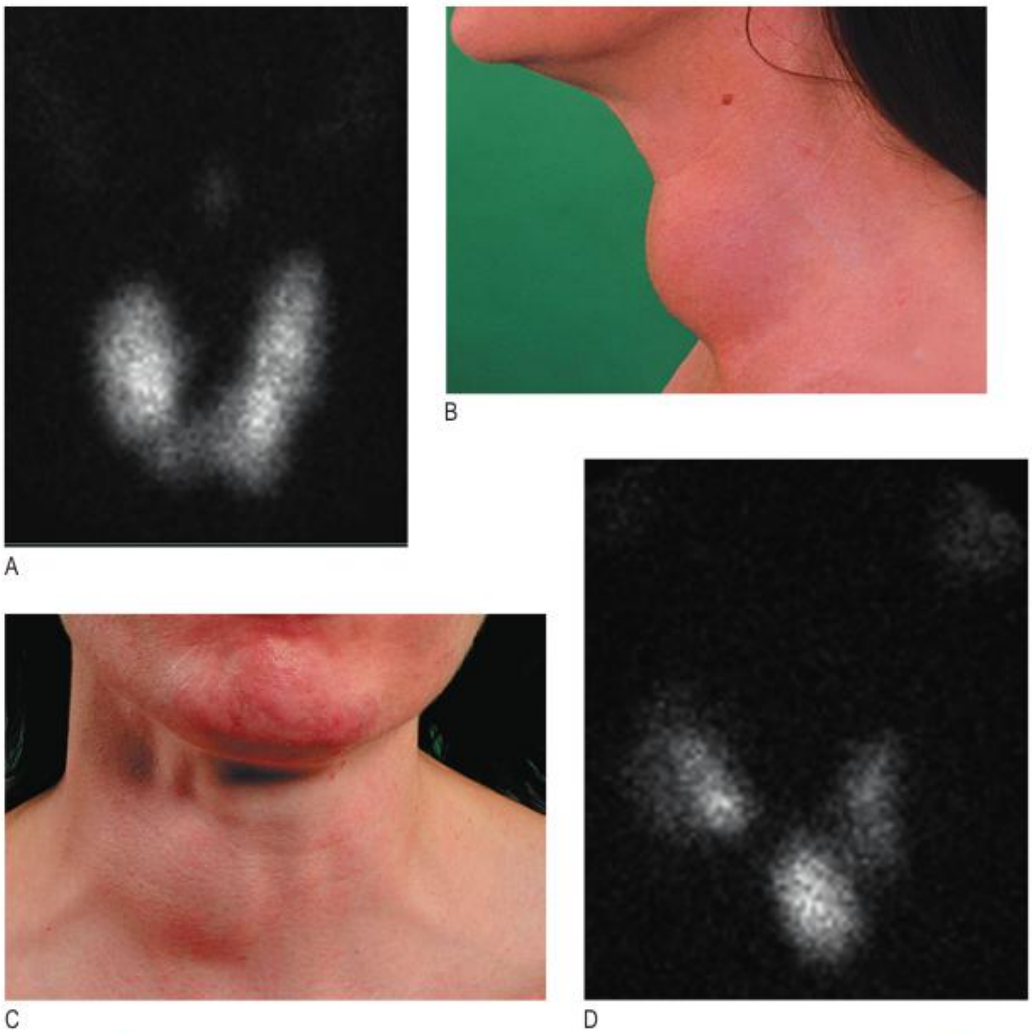

Fig. 10.3 Thyroid enlargement. A ^{99m}Technetium radionuclide scan demonstrating diffuse goitre due to Graves' disease. B Diffuse goitre due to Graves' disease. C Solitary toxic nodule. D ^{99m}Technetium radionuclide scan confirming multinodular goitre. *(A and D) Courtesy of Dr Dilip Patel.*