This examination can be split into two parts: the *peripheral examination* (examination of thyroid status) and the examination of the thyroid gland itself.

- Wash hands
- Introduce yourself and confirm patient's identity
- Ask permission to examine patient
- Expose abdomen fully
- Reposition patient lying down

**Peripheral Examination:**
- Inspection - of the patient as a whole:
  - Body mass index/body habitus
  - Activity levels: unable to sit still and agitated (hyperthyroid)? Sitting very still and listless (hypothyroid)?
  - Abnormally active sweating?
  - Is their clothing appropriate for the weather? (Too much...hypo, too little...hyper)
  - Abnormal facial features visible? (see below for details)
  - Obvious goitre? (swelling of the thyroid gland)
- Examination of the hands:
  - Inspect for:
    - Palmar erythema
    - Clubbing (in this context, called thyroid acropachy)
    - Swelling of fingers? (also part of the thyroid acropachy picture)
    - Ask patient to stretch out hands, put paper on top and inspect for tremor (hyperthyroid)
- Palpate hands:
  - Are they warm or sweaty?
- Palpate pulse
  - Tachy/bradycardia?
  - Irregular, suggestive of atrial fibrillation?
- Head and face:
  - Inspect:
    - Face: round facies and eyes puffy in hypothyroidism
    - Hair: coarse, dry, thin? (Hypothyroidism)
    - Eyebrows: lateral 1/3rd lost bilaterally in hypothyroidism
  - Inspect for the 6 main signs of Thyroid Eye Disease (in Grave’s disease)
    1. Exomphalos and proptosis - inspect the eyes from above the patient to see this properly
    2. Lid lag - watch patient’s eye movements as you ask them to follow your finger. The lids lag slightly behind the eye itself as it moves downwards
3. Lid retraction
4. Chemosis (blurring and opacity of the cornea due to incomplete lid closure)
5. Ophalmoplegia - ask them about double vision on testing the eye movements
6. Relative afferent pupillary defect

- Neurological examination:
  - In hypothyroidism patients may have slow relaxing reflexes - best found at the knee joint with patient seated in a chair with their legs crossed
- Musculoskeletal examination:
  - Examine for proximal myopathy (as a sign of hypothyroidism): ask the patient to rise from the chair with their arms folded and ask them to keep their shoulder abducted against a force
- Skin examination:
  - Look for pretibial myxoedema indicative of hyperthyroidism (thickened, waxy skin over the shins)
  - Non-pitting oedema (hypothyroid)
  - Cardiac examination
    - Is the patient in atrial fibrillation? (Could be precipitated by hyperthyroidism)
    - Does the patient have signs of congestive cardiac failure?
  - Abdominal examination
    - Any signs of ascites or constipation (palpable colon left iliac fossa)?

Examination of the Thyroid

- Inspection:
  - Ensure the patient has undone the first few buttons of their shirt, removed any scarfs etc to expose the whole of the neck
  - Inspect from the front and side of the patient
  - Is there a visible goitre? Is it symmetrical or asymmetrical?
  - Are there solitary or multiple nodules visible? Location and size?
  - Ask the patient to swallow a sip of water and watch to see if any swelling moves up and down with swallowing (if so then it is likely to be related to the thyroid)
  - Ask the patient to stick out their tongue. Observe for a midline swelling appearing whilst doing this - could indicate a thyroglossal cyst
  - Previous surgical scars
- Palpation:
  - Palpate the neck from behind
  - Palpate cervical lymph nodes for any enlargement
  - Palpate carotid pulse
  - Palpate trachea - central?
  - Palpate any obvious lump
    - Note: size, site, shape, colour, contour, consistency, temperature, tenderness, tethering and if it is pulsatile
  - Palpate thyroid
    - Nodular? Single or multiple?
    - Diffuse smooth goitre?
    - Ask the patient to swallow another sip of water whilst you palpate the thyroid gland. If the swelling moves with swallowing then it is likely to be related to the thyroid gland
- Place your fingers down the anterior midline of the neck and ask the patient to protrude their tongue - if you palpate a swelling then this is suggestive of a thyro-glossal cyst
  - Can assess sensation if appropriate
- Percussion
  - Retrosternal goitre present?
- Auscultation
  - Is there a bruit on thyroid?
  - Is there a wheeze in the upper respiratory tract suggestive of obstruction from the thyroid mass?

To conclude the examination:
- Thank the patient and offer to help them get dressed
- Offer to take a full history from this patient and order thyroid function tests if there is clinical suspicion of thyroid hormone dysregulation. If any lump is found then it would be appropriate to discuss ordering an ultrasound of the neck to further assess the anatomy.