

# H&E OF THYROID SWELLING

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## PART I — HISTORY

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### 1. Identifying Data

- Name
  - Age
    - Young female → Graves', colloid goiter
    - Elderly → malignancy risk
  - Gender → Thyroid disorders more common in females
  - Residence → Iodine-deficient areas
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### 2. Chief Complaints

- Swelling in front of neck × duration
  - Pain in neck × duration (if present)
  - Palpitations / weight loss / hoarseness (if present)
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## HISTORY OF PRESENT ILLNESS (HOPI)

(A,B,C,D,E,F,G,H)

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### A. Swelling

#### 1. Onset

- Sudden → hemorrhage into cyst
- Gradual → most thyroid swellings

Why?

Gradual enlargement typical of benign goiter.

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#### 2. Duration

Short duration + rapid growth → malignancy suspicion.

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### 3. Progression

- Slowly increasing → benign goiter
  - Rapid increase → malignancy or hemorrhage
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### 4. Pain

- Painless → most goiters
  - Painful → thyroiditis
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### 5. Movement with Swallowing

Thyroid moves with deglutition because attached to pretracheal fascia.

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## B. Pressure Symptoms

Ask specifically:

1. Difficulty in swallowing?  
→ Esophageal compression
2. Difficulty in breathing?  
→ Tracheal compression
3. Noisy breathing / stridor?  
→ Severe tracheal narrowing
4. Change in voice?  
→ Recurrent laryngeal nerve palsy

These suggest large goiter or malignancy.

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## C. Symptoms of Hyperthyroidism

Ask:

- Weight loss despite good appetite
- Palpitations
- Heat intolerance

- Excess sweating
- Tremors
- Irritability
- Increased bowel frequency

Why?

Suggests Graves' disease or toxic multinodular goiter.

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## D. Symptoms of Hypothyroidism

Ask:

- Weight gain
- Cold intolerance
- Constipation
- Lethargy
- Hoarseness
- Menstrual irregularities

Why?

Suggests hypothyroidism (Hashimoto's).

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## E. Eye Symptoms

- Bulging eyes?
- Grittiness?
- Double vision?

Why?

Graves' ophthalmopathy.

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## F. Family History

Autoimmune thyroid disease?

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## G. Drug History

- Amiodarone
- Lithium

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## H. Past Radiation Exposure

Very important risk factor for thyroid carcinoma.

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## PART 2 — EXAMINATION

Patient sitting upright. Neck fully exposed.

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## GENERAL PHYSICAL EXAMINATION

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### I. Build & Nutrition

Cachexia → hyperthyroidism.

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## 2. Pulse

Tachycardia → hyperthyroidism.

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## 3. Blood Pressure

Systolic hypertension in hyperthyroidism.

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## 4. Hands

Look for:

- Fine tremors
  - Warm moist palms
  - Palmar erythema
  - Onycholysis
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## 5. Face

- Exophthalmos
  - Lid retraction
  - Lid lag
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6. Pretibial Myxedema (rare)

Graves'.

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## LOCAL EXAMINATION OF THYROID

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### INSPECTION

Patient seated.

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1. Site

Midline swelling in lower anterior neck.

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2. Size

Diffuse or nodular?

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3. Shape

Symmetrical or asymmetrical?

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4. Surface

Smooth → diffuse goiter

Nodular → multinodular goiter

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5. Skin Changes

Redness? Dilated veins?

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## 6. Movement with Swallowing

Ask patient to swallow water.

Thyroid swelling moves upward.

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## 7. Movement with Tongue Protrusion

If moves with tongue → thyroglossal cyst (not thyroid).

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## PALPATION

Stand behind patient.

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## 1. Confirm Swelling

Palpate both lobes and isthmus.

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2. Temperature

Warm in hyperthyroidism.

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3. Tenderness

Painful → thyroiditis.

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4. Size

Palpate each lobe separately.

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5. Surface

Smooth or nodular?

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## 6. Consistency

Soft → hyperthyroid

Firm → simple goiter

Hard → malignancy

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## 7. Mobility

Moves with swallowing?

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## 8. Lower Border

Try to palpate lower border.

If not palpable → retrosternal extension.

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## 9. Tracheal Position

Check deviation.

Large goiter may push trachea.

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## 10. Cervical Lymph Nodes

Check for malignancy spread.

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## 11. Thrill

Place fingers over gland.

If palpable thrill → Graves' disease (increased vascularity).

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## PERCUSSION

Percuss over sternum.

Dullness may indicate retrosternal goiter.

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## AUSCULTATION

Listen with stethoscope.

Bruit present → Graves' disease.

Due to increased blood flow.

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## SPECIAL TESTS

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### 1. Pemberton's Test (Pemberton's Maneuver)

How to do it: Ask the patient to raise both arms until they touch the sides of their face (as if reaching for the ceiling). Hold this position for 30-60 seconds.

Significance: A positive test is indicated by facial congestion, cyanosis, inspiratory stridor, or distress.

It indicates a retrosternal goiter that is obstructing the thoracic outlet (the "cork in a bottle" effect), compressing the internal jugular veins and potentially the trachea.

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## 2. Berry's Sign

This is used to differentiate between benign goiters and thyroid malignancies.

- How to do it: Palpate the carotid artery pulse at the level of the thyroid gland (along the anterior border of the sternocleidomastoid).
- Significance:

- Negative Berry's Sign: The pulse is easily felt. This is typical of benign goiters, which may displace the carotid artery posterolaterally but do not encase it.
  - Positive Berry's Sign: The carotid pulse is absent or difficult to palpate. This suggests a malignant thyroid tumor (usually anaplastic) that has encased or displaced the carotid sheath.
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### 3. Kocher's Test (Tracheal Compression Test)

This test assesses the degree of tracheal narrowing caused by the gland.

- How to do it: Apply gentle lateral pressure on the lateral lobes of the thyroid gland.

- **Significance:** A positive test produces stridor. This indicates that the trachea is already narrowed (tracheomalacia or compression) and further pressure is compromising the airway. This is a warning sign for potential difficult intubation or post-operative airway collapse.

#### 4. Eye Signs (Specific to Graves' Disease)

These are "specialized" maneuvers for thyroid-associated orbitopathy.

Test	Technique	Significance
Von Graefe's Sign (Lid Lag)	Ask the patient to follow your finger as you move it slowly from high to low.	The upper eyelid lags behind the globe, exposing the sclera above the iris. Indicates sympathetic overactivity.

Dalrymple's Sign	Observe the patient in primary gaze (looking straight ahead).	Widening of the palpebral fissure (staring look) due to lid retraction.
Joffroy's Sign	Ask the patient to look up while keeping their head still.	Absence of forehead wrinkling. This occurs because the eyes are already rotated upward or due to muscle weakness/proptosis.
Moebius Sign	Ask the patient to look at your finger as you bring it toward the bridge of their nose.	Inability to converge the eyes. Indicates weakness of the medial rectus muscles.
Stellwag's Sign	Observe the patient's spontaneous blinking.	Infrequent or incomplete blinking associated with exophthalmos.

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## 5. Cardiovascular/Neurological Checks

These help determine the functional status (Hypo vs. Hyper)

- **Thyroid Acropachy:** Examine the fingers for clubbing and soft tissue swelling. This is a rare sign of autoimmune thyroid disease (Graves').
- **Pretibial Myxedema:** Check the shins for non-pitting, waxy, orange-peel (peau d'orange) induration. Highly specific for Graves' disease.
- **Jendrassik Maneuver (for Reflexes):** Test the Achilles tendon reflex (Ankle Jerk).
  - **Significance:** "Delayed relaxation phase" of the deep tendon reflex is a classic sign of hypothyroidism.

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## 6. Percussion of the Manubrium

- How to do it: Percuss directly over the manubrium sterni.
  - Significance: Normally, this is resonant. Dullness suggests a large retrosternal goiter or an anterior mediastinal mass.
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## DIFFERENTIAL DIAGNOSIS

1. Thyroglossal cyst
  2. Lymph node
  3. Lipoma
  4. Dermoid cyst
  5. Carotid body tumor
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## RED FLAG FEATURES (Suggest Malignancy)

- Hard consistency
- Rapid growth

- Fixity
  - Hoarseness
  - Cervical lymph nodes
  - Weight loss
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## VIVA QUESTIONS

- Blood supply of thyroid?
  - Nerve supply?
  - Complications of thyroidectomy?
  - What is recurrent laryngeal nerve palsy?
  - Difference between primary & secondary thyrotoxicosis?
  - What is thyroid storm?
  - What is Berry's ligament?
  - Types of thyroid carcinoma?
  - Retrosternal extension?
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# How to Clinically Confirm Retrosternal Thyroid Extension

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## 1) Inspection

- Lower border of swelling not visible (disappears behind sternum)
  - Dilated neck veins
  - Facial congestion
  - Positive Pemberton's sign → facial plethora/cyanosis on raising arms
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## 2) Palpation

- Lower border not palpable
  - Restricted upward movement on swallowing
  - Tracheal deviation
  - Engorgement of neck veins on arm elevation
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### 3 Percussion ★ Important

- Dull note over manubrium sterni  
(Normally resonant due to lung — dullness suggests retrosternal extension)
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### 4 Auscultation

- Stridor if tracheal compression
  - Bruit if hypervascular (Graves')
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-> The End <-