

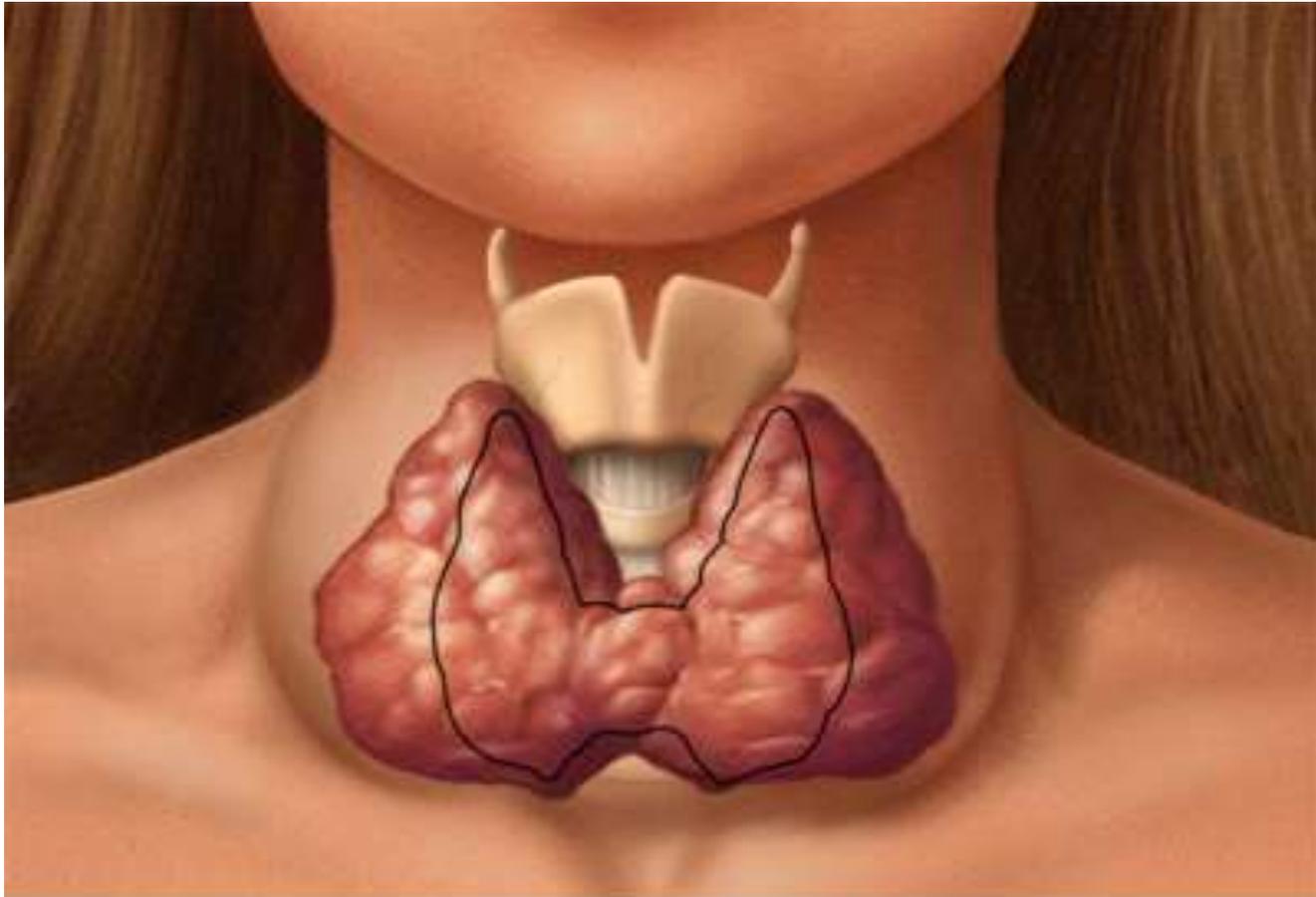


The Thyroid Lecture

Introductory Course

2023

The Thyroid



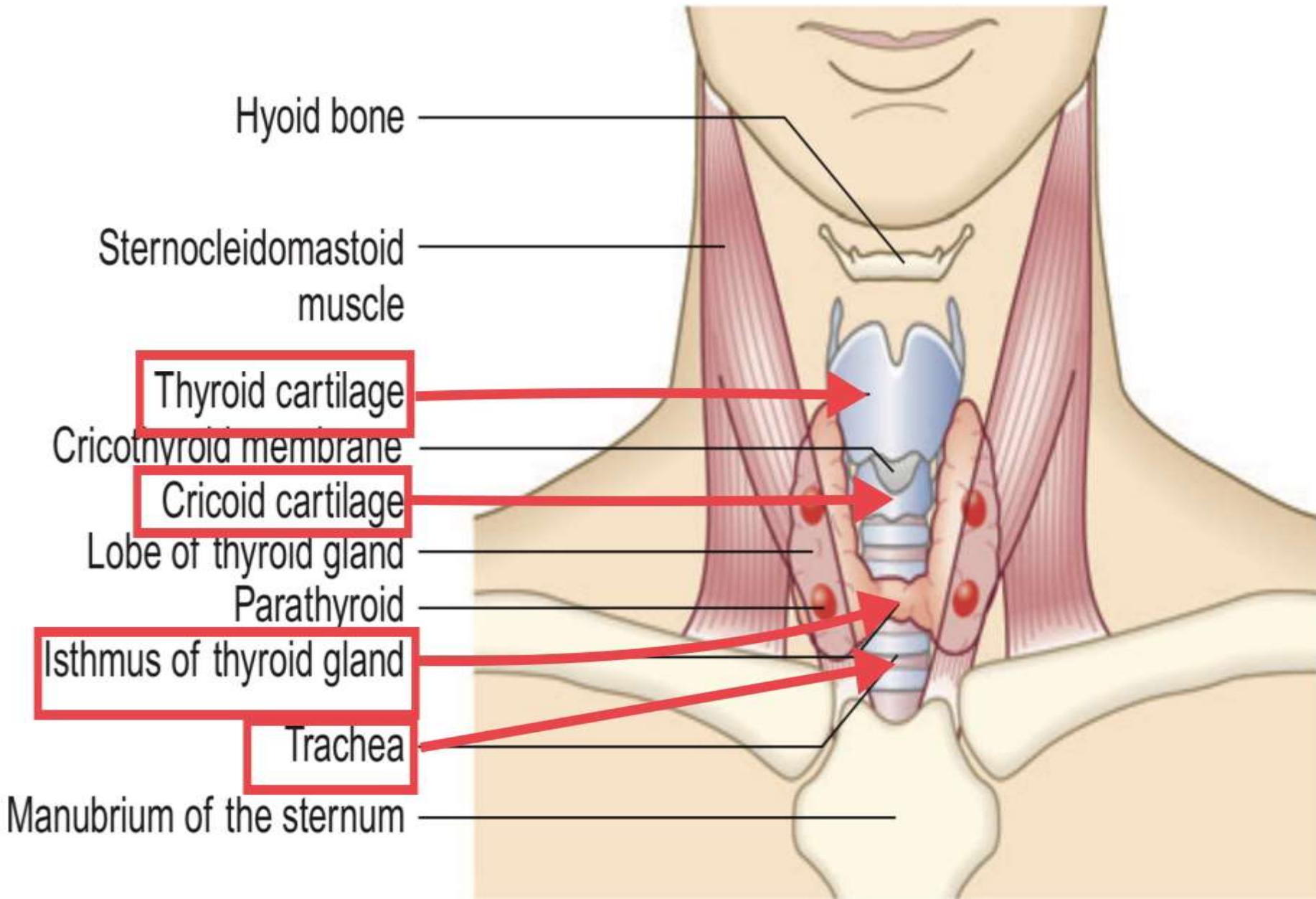
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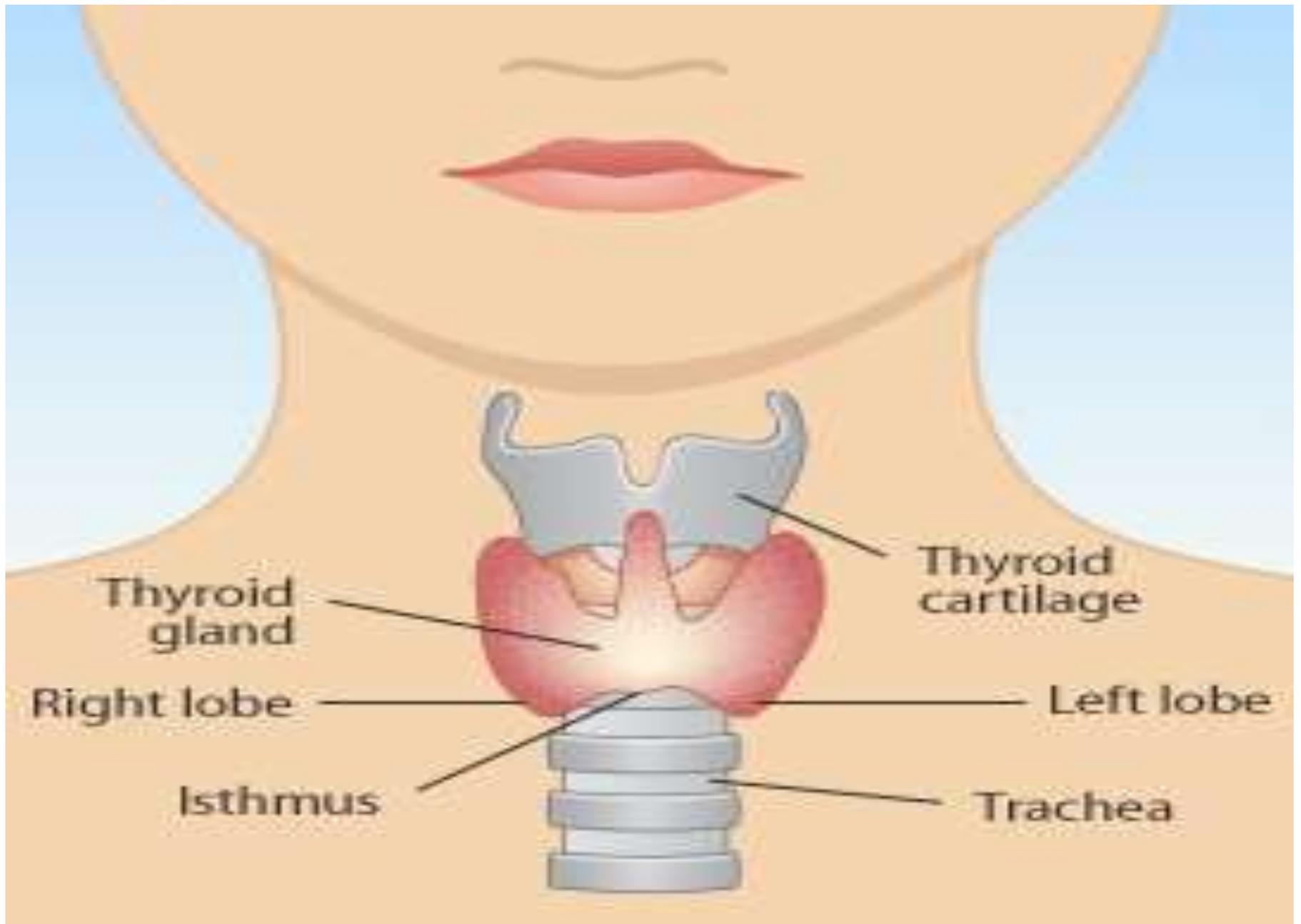
Topics

- Thyroid Anatomy
- Thyroid dysfunction symptoms and signs
- History taking
- physical examination

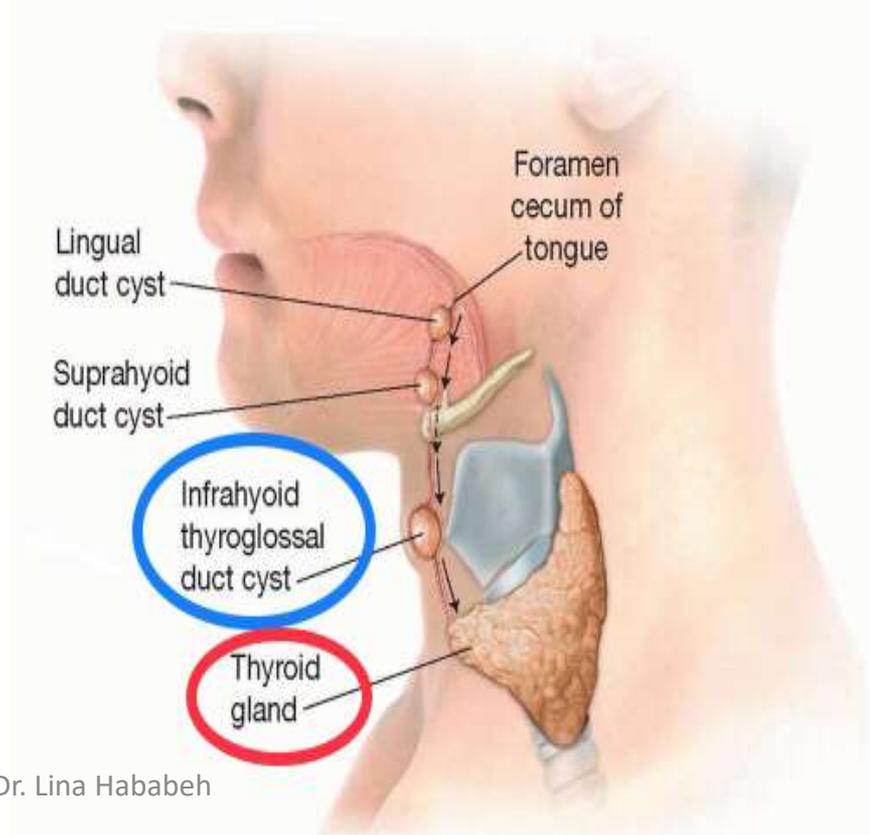
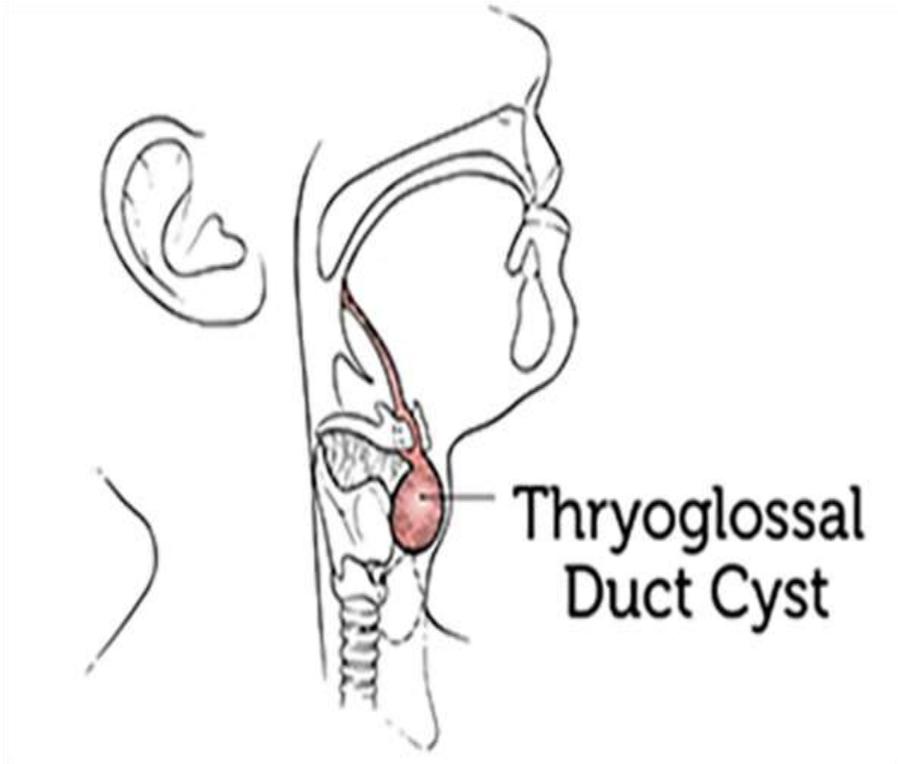
Thyroid Anatomy

- The thyroid is a butterfly shaped gland with two symmetrical lobes joined by the isthmus covering the 2nd to 4th tracheal rings.
- It lies inferior to the cricoid cartilage, approximately 4cm below superior notch of thyroid cartilage.
- It may extend into the superior mediastinum and be entirely retrosternal or may be situated at the back of the tongue & visible with mouth opening.
- It is normally palpable in 50% of women and 25% of men.





- **Thyroglossal cyst** may arise from thyroglossal duct at the level of hyoid bone, and **it moves upwards with tongue protrusion.**
- **Thyroid gland** “**moves superiorly on swallowing**” or neck extension as it is attached to pretracheal fascia



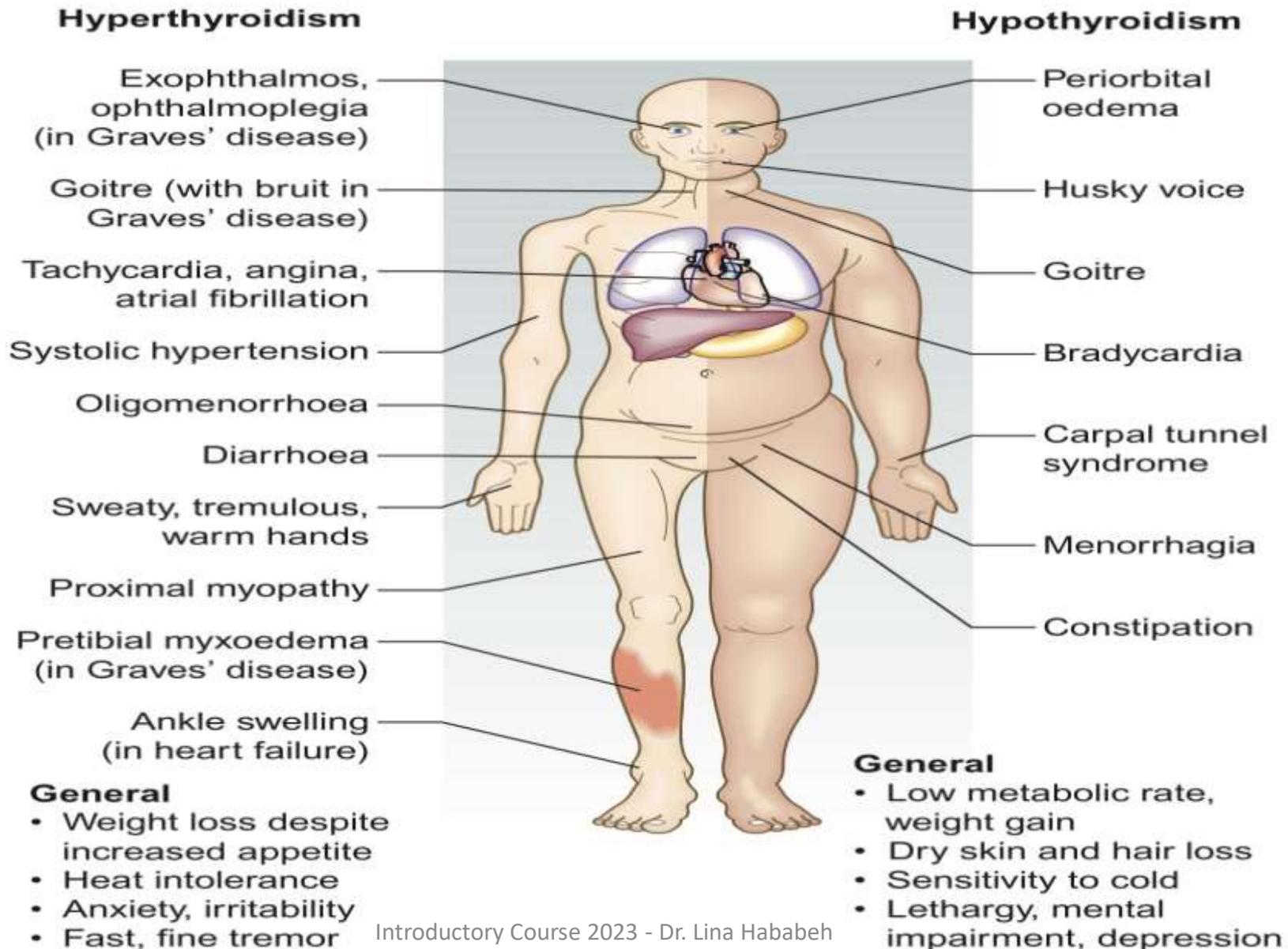
Thyroid Dysfunction

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graph TD; A[Thyroid Dysfunction] --> B[Hyperthyroidism (Thyrotoxicosis)]; A --> C[Hypothyroidism]
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***Hyperthyroidism
(Thyrotoxicosis)***

Hypothyroidism

Signs and Symptoms



Hyperthyroidism :

- Dyspnea, palpitation and ankle swelling
- Tachycardia - Atrial fibrillation
- Systolic HTN - Angina
- Oligo-menorrhoea or amenorrhoea.
- Sweaty tremulous warm hands - Proximal myopathy
- weight loss, increased appetite , Diarrhea
- Heat intolerance
- Fine tremor
- Anxiety and irritability.
- Eye symptoms.

Hypothyroidism :

- Goiter
- Husky (hoarse) voice
- Carpal tunnel syndrome
- Constipation
- weight gain
- Depression
- Mental impairment
- Lethargy or apathy
- cold intolerance
- Cold dry skin
- Delayed DTR
- Periorbital edema
- Bradycardia
- Menorrhagia



Causes of Hyperthyroidism

- **Graves Disease (MOST COMMON)**
- Toxic multi nodular goiter
- Solitary toxic nodule
- Thyroiditis
- Excessive thyroid hormone ingestion

GRAVES DISEASE

- Graves disease is the **most common cause** of hyperthyroidism.
- Graves disease is an **autoimmune disease** with **familial component**.
- Occurs more commonly **in females** .
- Usually present between **20-50 year of age** .

GRAVES DISEASE

THERE ARE 3 EXTRATHYROIDAL SYMPTOMS SPECIFIC FOR GRAVES DISEASE:

- 1) Graves Ophthalmopathy: **EXOPHTHALMOS (PROPTOSIS)**
- 2) Infiltrative Dermopathy: **Pretibial myxedema**
- 3) **Thyroid Acropachy**

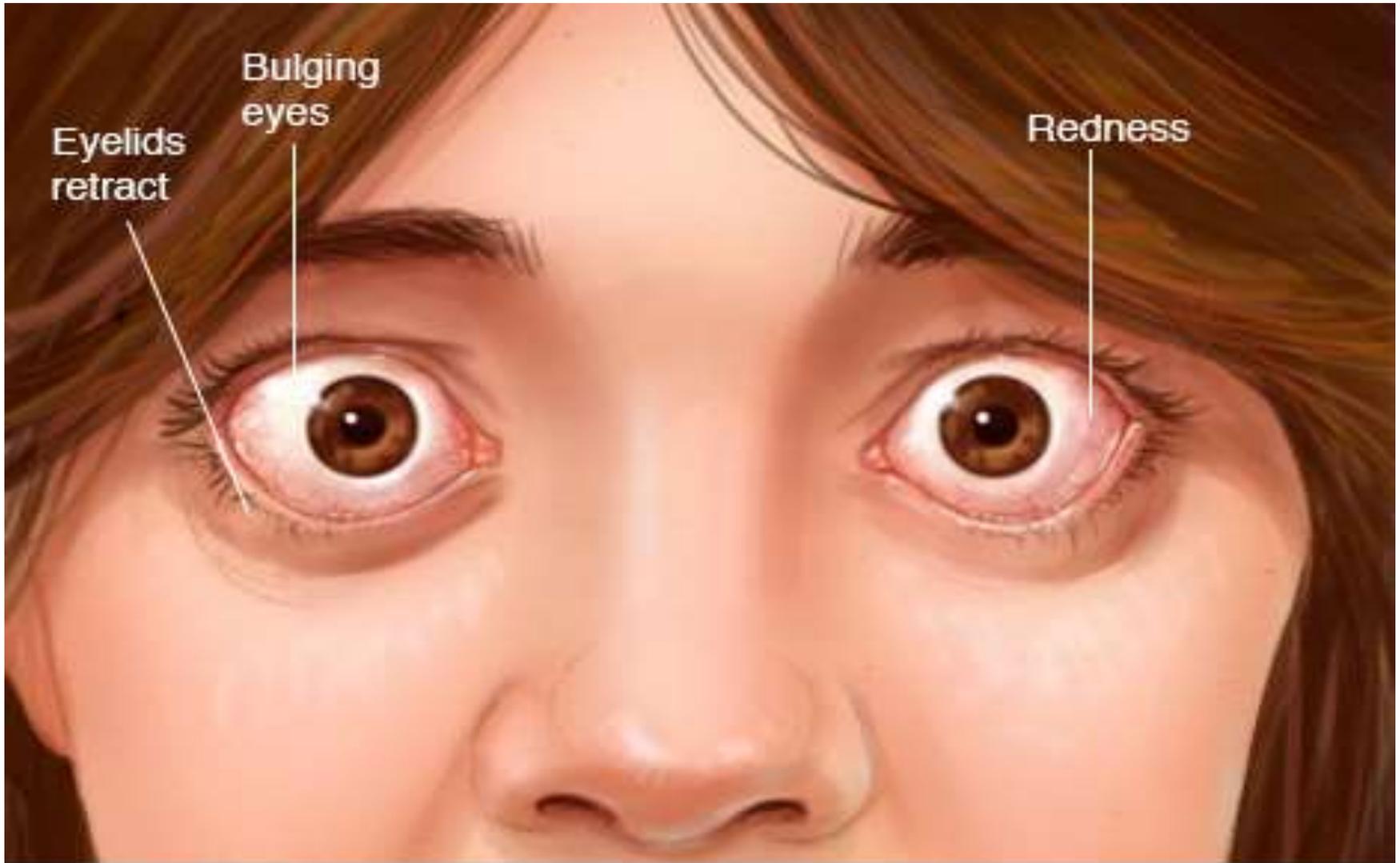
10.2 Features suggestive of Graves' hyperthyroidism

History

- Female sex
- Prior episode of hyperthyroidism requiring treatment
- Family history of thyroid or other autoimmune disease
- Ocular symptoms ('grittiness', redness, pain, periorbital swelling)

Physical examination

- Vitiligo
- Thyroid acropachy
- Diffuse thyroid enlargement (can be nodular)
- Thyroid bruit
- Pretibial myxoedema
- Signs of Graves' ophthalmopathy (proptosis, redness, oedema)



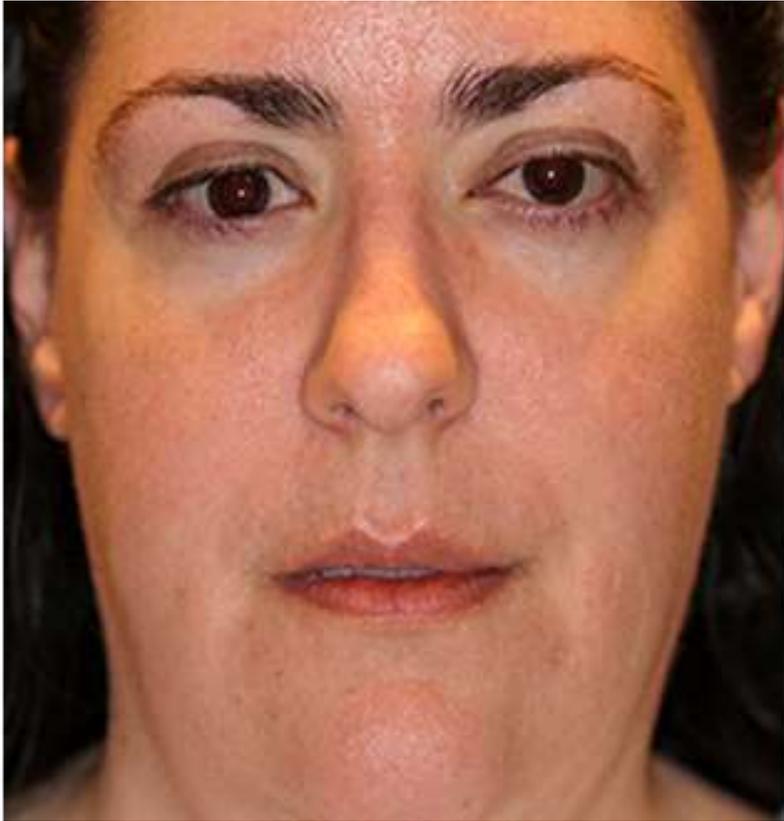
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Introductory Course 2023 - Dr. Lina Hababeh









Thyroid Eye Disease

Thyroid eye disease, also called Graves' disease, is caused by a complex interaction between the thyroid gland and the orbital tissue.



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Causes Of Hypothyroidism

- **Hashimoto's Thyroiditis (MOST COMMON):**
its an autoimmune disease , more common in females
- **Radio-iodine therapy**
- **Surgery for Graves Disease**

Goiter

- ❖ Enlarged thyroid gland
- ❖ **most** patients with goiter are **euthyroid**
- ❖ Large or retrosternal goiters may cause compressive symptoms (stridor , breathlessness, dysphagia)







History taking

- **Patient profile** : Name , Age , Occupation
- **Chief complaint** : Neck lump or symptoms of hypo/hyper
- **History of presenting illness**: if it was a lump ask about :
 - 1) Duration
 - 2) 3S(site , size , shape)
 - 3) 3p(progression, persistence, previous Hx of same symptom)
 - 4) Other symptoms (dysphagia , dyspnea , pain , hoarseness)

- Ask about signs and symptoms of hypo/hyperthyroidism as previously mentioned
- **Drug Hx :**
 - 1) Amiodarone may cause either hypo/hyperthyroidism
 - 2) Lithium may cause hypothyroidism
 - 3) Antithyroid drugs
- **Family Hx:** family Hx of thyroid or autoimmune disease
- **Social Hx :**
 - living in areas of iodine deficiency can cause goiter and rarely hypothyroidism.
 - Smoking
 - Prior neck irradiation

Physical Examination

POSITION AND EXPOSURE



GENERAL APPEARANCE

- 1) Conscious, alert , oriented
- 2) Agitated, restless, depressed, apathy, slow motion.
- 3) Heat /cold intolerance
- 4) Weight loss/gain (BMI)
- 5) Speech(pressure of speech, hoarseness)



VITAL SIGNS

- Blood pressure (systolic/diastolic HTN)
- Pulse (brady/tachycardia, afib)
- BMI

HAND EXAM

- Temperature (dry cold, sweaty warm and moist)
- Nail changes (onycholysis, clubbing and thyroid acropachy)
- Fine tremor
- Palmar erythema
- Vitiligo
- Signs of CTS

Head , Neck and chest

- Dry coarse hair
- Hair loss from distal third of eyebrows
- Auscultate the heart for mid systolic murmur due to increased CO in hyperthyroidism

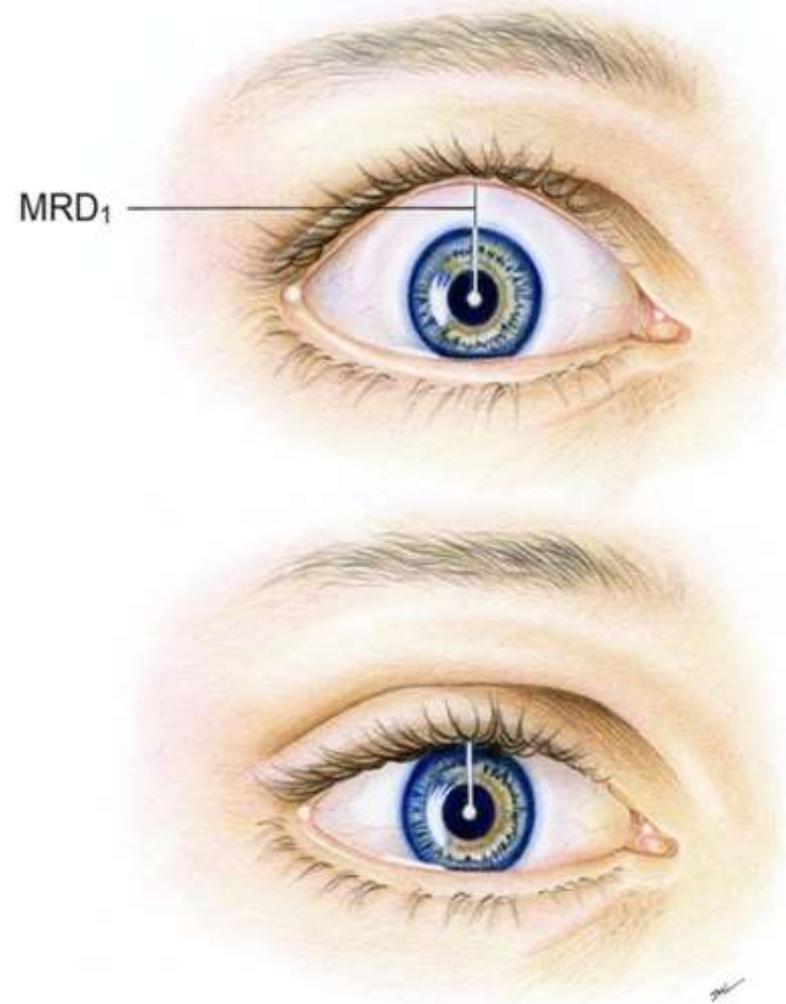
EYE EXAMINATION

- 1) Exophthalmos (from above and behind the patient)
- 2) Conjunctival redness (chemosis)
- 3) Ophthalmoplegia (H shape)
- 4) Periorbital puffiness
- 5) **lid lag**: upper eyelid lags behind the eyeball when patient looks downward.
- 6) **lid retraction**: sclera is visible above the iris.

Lid lag



Lid retraction



THYROID EXAM

1) INSPECTION (Neck hyperextended)

- Symmetry
- Scars
- Masses
- Vein engorgement
- Ask the patient to swallow
- Ask the patient to protrude his tongue
- Ask the patient to open his mouth (lingual thyroid)

2) palpation(neck slightly flexed)

- Tenderness
- Size , consistency, shape , surface
- Masses or abnormal swelling
- Thrills
- Lymph nodes (cervical, supraclavicular)
- Mediastinum (tracheal tug, deviation, cricosternal distance)

3)percussion: on clavicles

4) Auscultation: for bruits in Graves disease

Lower limb exam

- Coarse dry skin
- Pretibial myxedema (brown/pink thick scar)
- Myxedema (nonpitting edema)
- Deep tendon reflexes(if delayed hypo)
- Proximal myopathy
- Ankle edema in HF

THANK YOU