



MED437
KING SAUD UNIVERSITY



OSPE

Endocrine Block

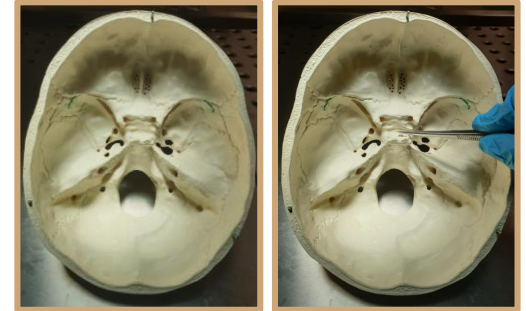
{وَمَنْ يَتَوَكَّلْ عَلَى اللَّهِ فَهُوَ حَسْبُهُ}

Pituitary Gland

- Identify the structure (name of the gland)
- You should know the positions of the gland
- You should know the relations of the gland
- You should know the blood supply of the gland

Pituitary Gland

- **Location:**
 - lie on the **middle cranial fossa**
 - It is well **protected** in **sella turcica (hypophyseal fossa) of body of sphenoid**
- **Arterial supply:** **two** branches from **internal carotid artery:**
 - **Superior hypophyseal arteries**
 - **Inferior hypophyseal arteries**
- **Relations:** it may come as theoretical question



Anterior	<ul style="list-style-type: none">• Optic chiasma
Posterior	<ul style="list-style-type: none">• Mammillary bodies
Superior	<ul style="list-style-type: none">• Diaphragma sellae (dural fold)
Inferior	<ul style="list-style-type: none">• Sphenoidal air sinuses
Lateral	<ul style="list-style-type: none">• Cavernous sinuses & its contents (Abducens nerve & internal carotid artery)

Pituitary Gland

- **Q1: Identify the marked area?**
sella turcica (hypophyseal fossa) of body of sphenoid on the middle cranial fossa
- **Q2: What is the structures related to it?**
Pituitary Gland & cavernous sinus
- **Q3: What is the inferior relation to this structure?**
Sphenoidal air sinuses
- **Q4: What is the posterior relation to this structure?**
Mammillary bodies



Thyroid Gland

- Identify the structure (name of the gland)
- You should know the positions of the gland
- You should know the parts of the gland & its surface anatomy
- You should know the relations of the gland
- You should know the blood supply & venous drainage of the gland

Thyroid Gland

- **Location:**
 - lie on the **middle of the neck** (in the front)
- The gland is surrounded by a **facial sheath** derived from the **pretracheal layer** of the **deep cervical fascia**
- Consists of **right & left lobes** connected to each other by a **narrow isthmus**, which **overlies** the **2nd, 3rd & 4th tracheal rings**.
- Each lobe is pear- shaped, its **apex** reaches up to the **oblique line** of **thyroid cartilage**
- Its **base** lies **at the level** of **4th or 5th tracheal rings** (remember trachea has 16-20 rings)
- **Note:** If they ask about the blood supply you should write: **arterial supply & venous drainage**
- **Arterial supply:**
 - **Superior thyroid artery** 1st branch of the **external carotid artery**
 - **Thyroidea ima artery** from **aortic arch** **OR** from **brachiocephalic**
 - **Inferior thyroid artery** from the thyrocervical trunk of the 1st part of the **subclavian artery**
- **Venous drainage:**
 - **Superior thyroid vein** drains into **Internal jugular vein**
 - **Middle thyroid vein** drains into **Internal jugular vein**
 - **Inferior thyroid vein** drains into **left brachiocephalic vein**

Thyroid Gland

- **Relations** (surfaces): it may come as theoretical question

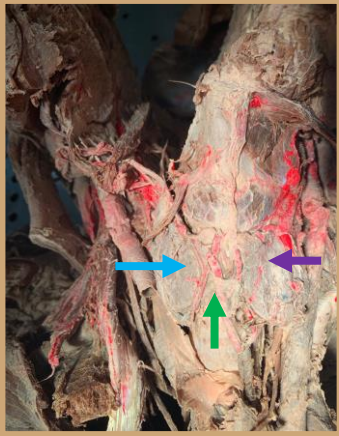
Anterolaterally	4s* <ul style="list-style-type: none">• Sternothyroid• Sternohyoid long• Superior belly of omohyoid short• Sternomastoid biggest
Posteriorly	<ul style="list-style-type: none">• Carotid sheath & its contents (common carotid artery, internal jugular vein & vagus nerve)• Parathyroid gland
Medially	<ul style="list-style-type: none">• Larynx Pharynx Trachea Esophagus• Recurrent laryngeal nerve in between trachea and esophagus mix from vagus nerve• Cricothyroid muscle External laryngeal nerve motor

- **Nerves endangered during thyroidectomy:**
 - **Superior thyroid artery** → **external laryngeal nerve** → **hoarseness of voice**
 - **Inferior thyroid artery** → **recurrent laryngeal nerve** → **impaired breathing and speech**
- **Note:** If they ask about the relation to the posterior border you should write:
Superior & inferior thyroid arteries | Superior & inferior parathyroid glands
- You have to know the **origin** and the **insertion** of **each muscle** to be able to distinguish between each one of them (**check the video**)



Thyroid Gland

- It come as identify question



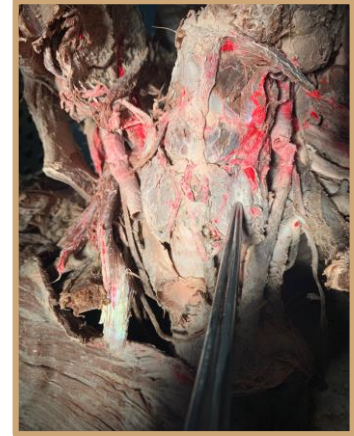
Right Thyroid lobe
Isthmus
Left Thyroid lobe



Right lateral lobe
of Thyroid gland



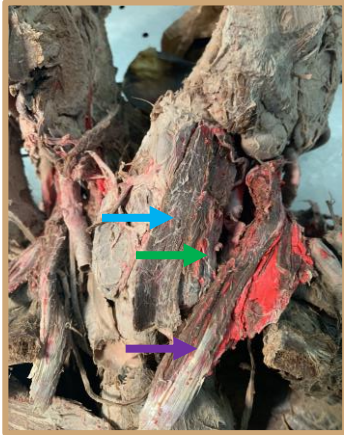
Isthmus
of Thyroid gland



Left lateral lobe
of Thyroid gland

Thyroid Gland

- NOT come as identify question, it may come as theoretical question



Sternohyoid
Sternothyroid
Sternomastoid



Sternohyoid



Sternothyroid



Sternomastoid

Adrenal Gland (Suprarenal Gland)

- Identify the structure (name of the gland)
- You should know the positions of the gland
- You should know the relations of the gland
- You should know the blood supply & venous drainage of the gland

Adrenal (Suprarenal) Gland

○ Locations & Parts:

- lie on the **upper poles of the kidneys, At the level of the last thoracic vertebra (T12)**
- Each gland has an **outer yellow cortex** and an **inner dark brown medulla**

○ Covering:

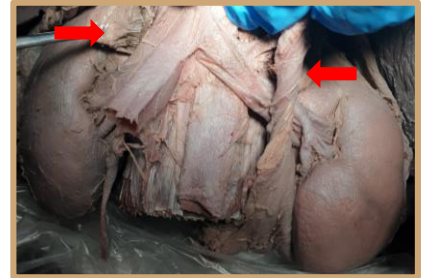
- **Perirenal fat** separated the kidney from adrenal (suprarenal) gland
- **Renal fascia** encloses the kidney & adrenal (suprarenal) gland

○ Blood supply: three arteries supplying each gland:

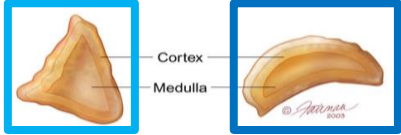
- **Superior suprarenal artery** from **inferior phrenic artery** (from abdominal aorta)
- **Middle suprarenal artery** from **abdominal aorta**
- **Inferior suprarenal artery** from **renal artery**

○ Venous drainage: A single vein (adrenal vein) emerges from the hilum of each gland and drains into:

- The **inferior vena cava** (directly) on the right side
- The **left renal vein** (then to the IVC) on the left side



Right & Left Adrenal (Suprarenal) Gland



		<u>Right Suprarenal Gland</u>	<u>Left Suprarenal Gland</u>
	Shape	Pyramidal (or triangular) shape	Crescentic (or semilunar) shape
	Location	Caps the upper pole of the right kidney So it is at the level of t12	Extends along the medial border of the left kidney from the upper pole to the hilus Its level is from t12 to l2
Relations	Anterior	<ol style="list-style-type: none"> 1. Right lobe of liver 2. Inferior vena cava 	<ol style="list-style-type: none"> 1. Pancreas 2. Lesser sac 3. Stomach
	Posterior	Diaphragm	
	Medial	<ol style="list-style-type: none"> 1. Celiac plexus 2. Ganglia 	





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Good luck

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