

Question 1 | Source: Previous Exam Questions

Regarding the endocrine system:

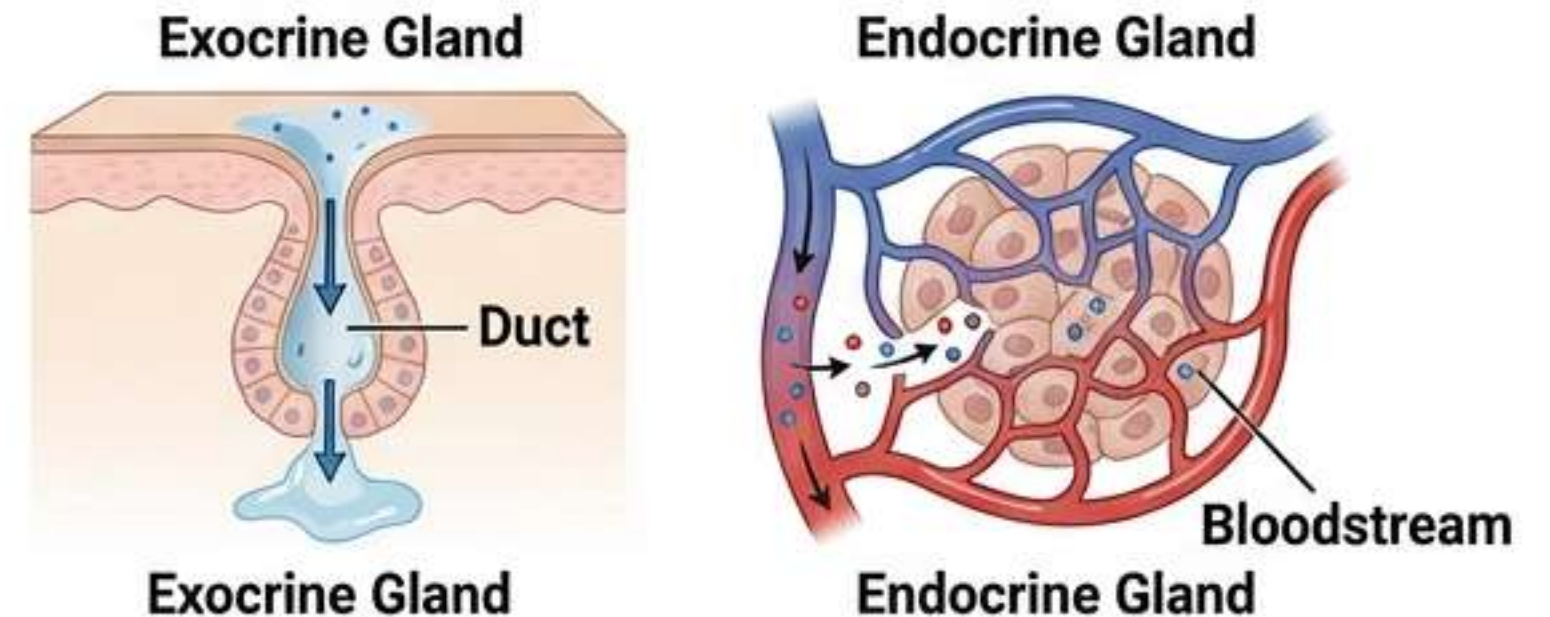
- A. It is formed by so-called exocrine glands.
- B. This system acts via chemical messengers.
- C. Hormones are released into the intracellular medium.
- D. This system acts on the development and functioning of organs.
- E. Hormones act on specific cellular receptors.

Correct Answer: B, D, E

Professional Explanation:

We define the endocrine system by its transport mechanism: Blood.

- **A is incorrect:** It is formed by endocrine glands (ductless), not exocrine.
- **C is incorrect:** Hormones are released into the extracellular fluid (to reach capillaries), not inside the cell (intracellular).
- **The Logic:** Hormones are 'broadcast' signals sent via the bloodstream. They only affect organs that have the specific receptor (the 'antenna') to receive that signal. This allows them to regulate long-term processes like development and regulate long-term processes like development and metabolism.



Mnemonic & Style:

ENDO = Internal (Blood).

EXO = EXit (Ducts).

Key Rule: No duct? It's endocrine.

Header: Question 2 | Source: Previous Exam Questions

Question:

Regarding the endocrine system:

- A. A gland is called endocrine when it secretes hormones inside the cell.
- B. A gland is called exocrine when it secretes hormones outside the cell.
- C. A gland is called heterotypic amphicrine when endocrine and exocrine functions are performed by different cells.
- D. The pancreas is considered a homotypic amphicrine gland.
- E. Exocrine glands discharge their secretions via an excretory duct.

Correct Answer: C, E

"Amphicrine" means **mixed** (both endocrine + exocrine). We classify them by who does the work:

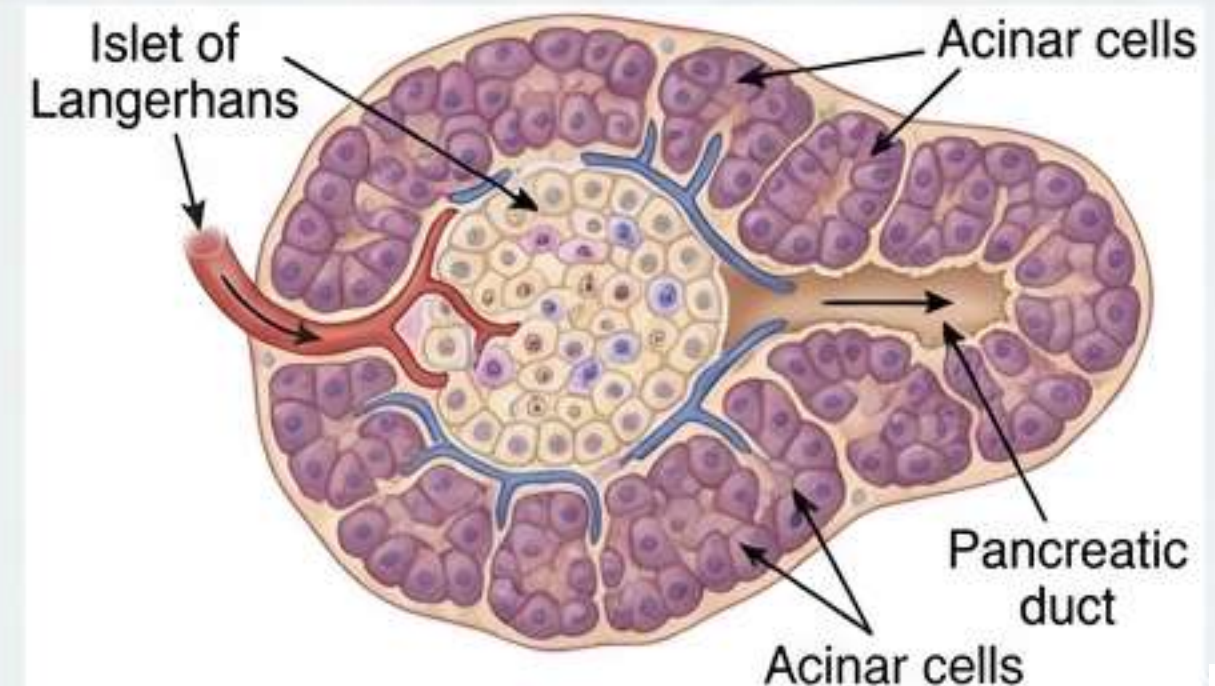
- **Heterotypic (Different Types):** The functions are separated into different cell groups. The Pancreas is the classic example: **Acini** make digestive juice (exocrine), while **Islets of Langerhans** make insulin (endocrine). They are neighbors, not the same cells.
- **Homotypic (Same Type):**
- **Correction:** D is false because the pancreas is heterotypic.

Mnemonic & Style:

Hetero = Different cells (Pancreas).

Homo = Same cell (Liver).

The Pancreas is a 'mixed salad' of two different cell types.



Header: Question 3 | Source: Previous Exam Questions

Question: Regarding the thyroid gland:

- A. It is formed of two lobes connected by an isthmus.
- B. It is concave posteriorly, clasping the larynx and trachea.
- C. It plays a role in regulating heart rate.
- C. It plays a role in regulating heart rate.
- D. It manufactures thyroid hormones (T3, T4) from mineral iodine.
- E. It controls the growth and development of bone, nervous, and genital tissues.

**Correct Answer: A, B, C, D, E
(All Correct)**

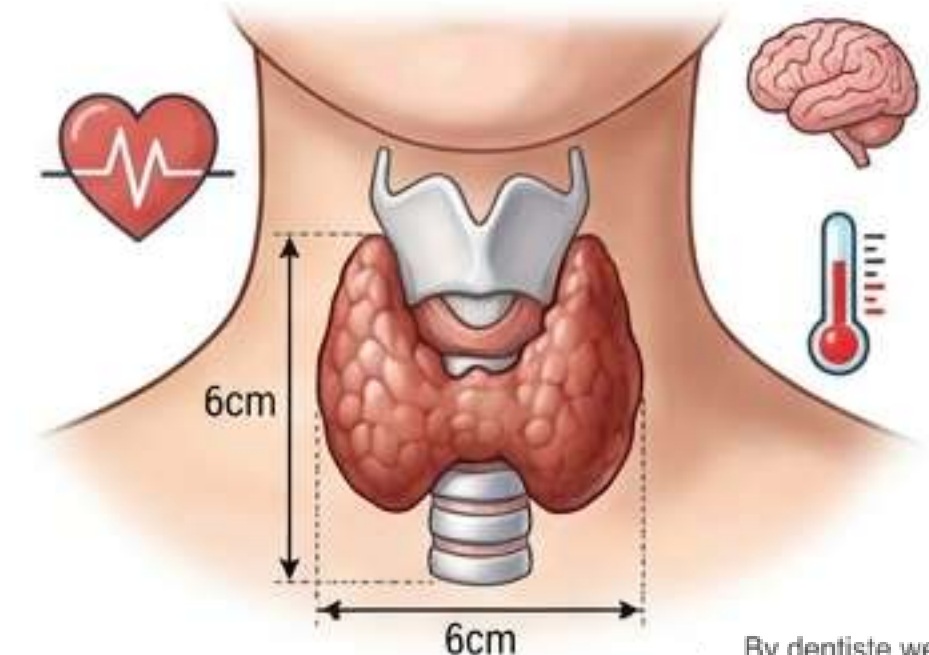
Professional Explanation

The **Thyroid** is the body's metabolic accelerator.

- **Anatomy:** It is **H-shaped**, consisting of two **lateral lobes** connected by an isthmus. It wraps around the anterior trachea (concave back).
- **Physiology:** It is the only organ that absorbs Iodine to synthesize T3 and T4.
- **Function:** It governs the speed of life processes—increasing heart rate, regulating temperature, and ensuring the maturation of the brain and bones.

Mnemonic & Style:
**Thyroid is the Gas
Pedal:**

H-shaped gland for:
Heart rate
Heat
Height (Growth)



Header: Question 4 | Source: Previous Exam Questions

Question: Regarding the hypothalamus-pituitary axis:

- A. The pituitary is contained in the sella turcica carved into the ethmoid bone.
- B. The hypothalamus is located above the pituitary.
- C. The pituitary secretes hormones that control hypothalamic secretion.
- D. The posterior pituitary secretes antidiuretic hormone.
- E. The hypothalamus is located in the brain.

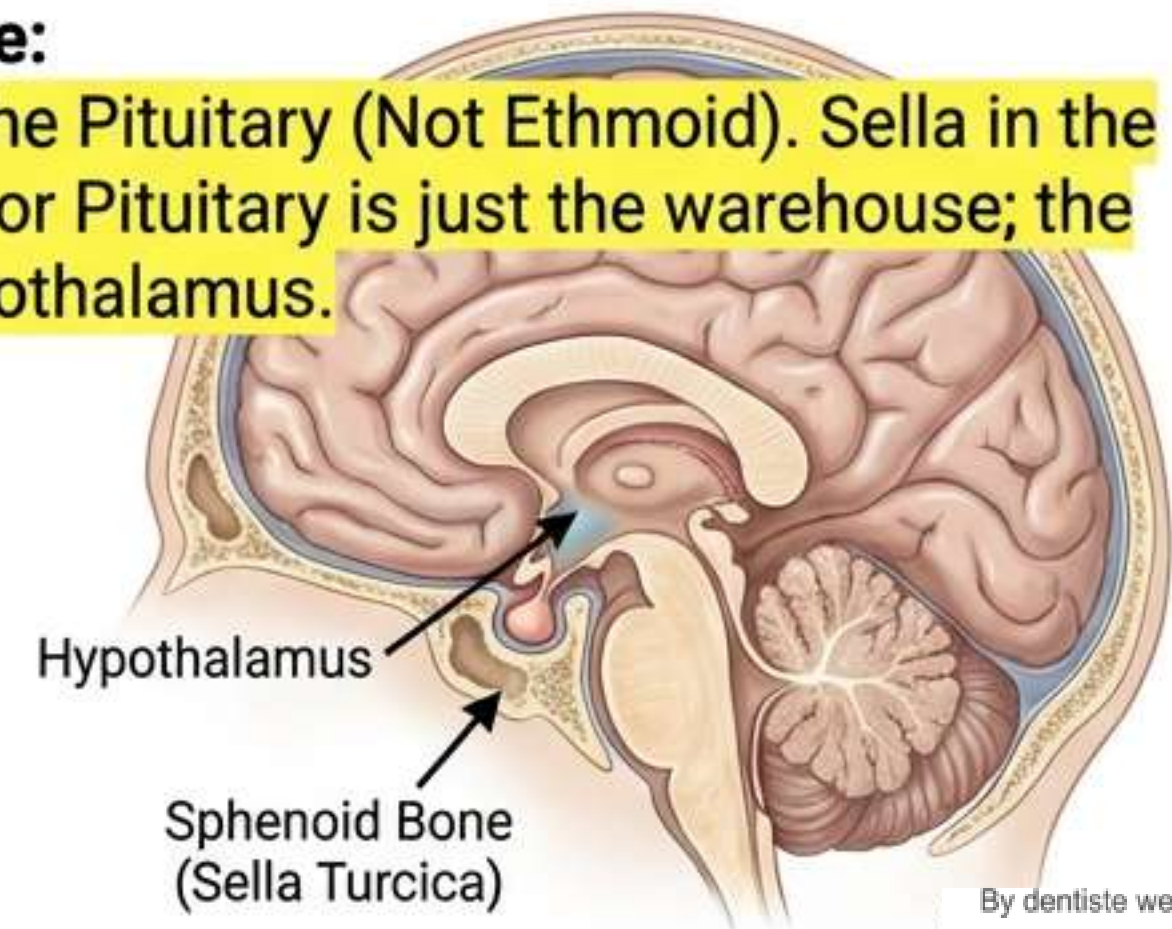
Correct Answer: B, D, E

Professional Explanation:

- **Bone Error (A):** The Sella Turcica (Turkish Saddle) belongs to the **Sphenoid bone**, not the ethmoid.
- **Hierarchy (C):** The Hypothalamus is the 'Boss'; it controls the pituitary, not vice versa.
- **Secretion vs. Production (D):** The Posterior Pituitary (Neurohypophysis) does not synthesize hormones. **It stores and secretes ADH and Oxytocin, which are actually made upstairs in the Hypothalamus.**

Mnemonic & Style:

SpheNOid holds the Pituitary (Not Ethmoid). Sella in the Sphenoid. Posterior Pituitary is just the warehouse; the factory is the Hypothalamus.



Header: Question 5 | Source: Previous Exam Questions

Question: Regarding the adrenal gland:

- A.** Composed of two structures: the adrenal medulla and the adrenal cortex.
- B.** The adrenal medulla is located at the periphery of the gland.
- C.** The adrenal cortex secretes norepinephrine.
- D.** The adrenal cortex is formed of three layers: zona fasciculata, zona reticularis, zona glomerulosa.
- E.** The zona fasciculata secretes glucocorticoids.

Correct Answer: A, D, E

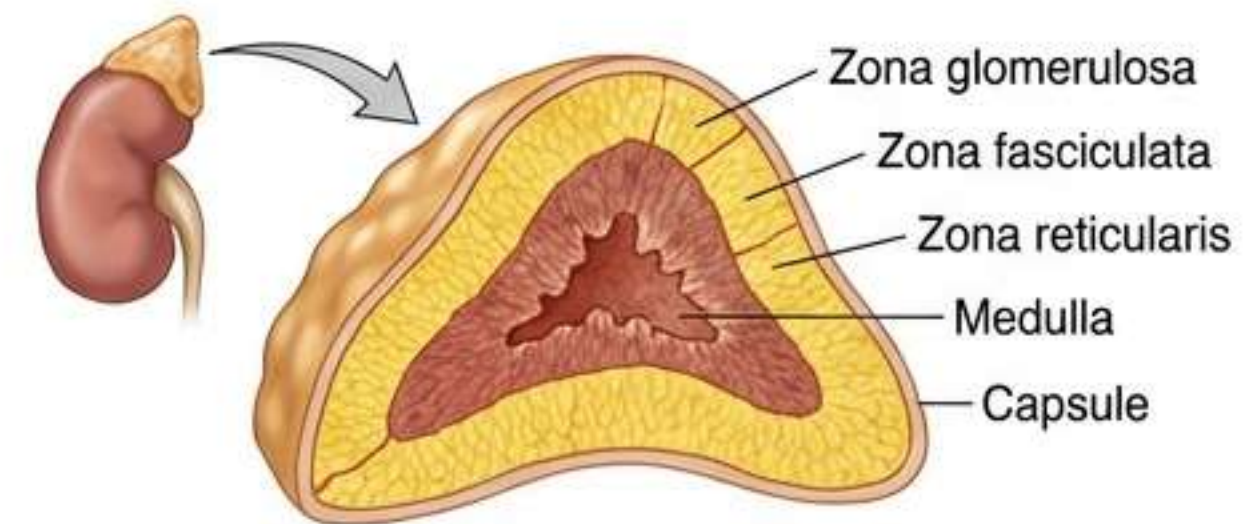
Professional Explanation: The Adrenal gland is an “organ within an organ.”

- *Correction for B:* The Medulla is the core (center), not the periphery.
- *Correction for C:* The Medulla secretes catecholamines (Adrenaline). The Cortex secretes steroids.
- **Cortex Layers:**
 1. Glomerulosa (Outer) → Mineralocorticoids (Aldosterone).
 2. Fasciculata (Middle) → Glucocorticoids (Cortisol).
 3. Reticularis (Inner) → Androgens.

Mnemonic & Style: From Outside In: GFR

G -> Salt (Mineralo...) **F** -> Sugar (Gluko...) **R** -> Sex (Androgens)

“The deeper you go, the sweeter it gets.”



Header: Question 6 | Source: Previous Exam Questions

Question: Regarding the endocrine system:

- A. The pancreas is a mixed gland embedded by its tail in the duodenal frame.
- B. The pancreas is an organ elongated
- B. The pancreas is an organ elongated vertically in the epigastric region.
- C. The accessory excretory duct runs through the head of the pancreas.
- D. The cortex of the adrenal glands is responsible for the secretion of catecholamines.
- E. The inferior adrenal arteries originate from the renal arteries.

Correct Answer: **C, E**

Professional Explanation:

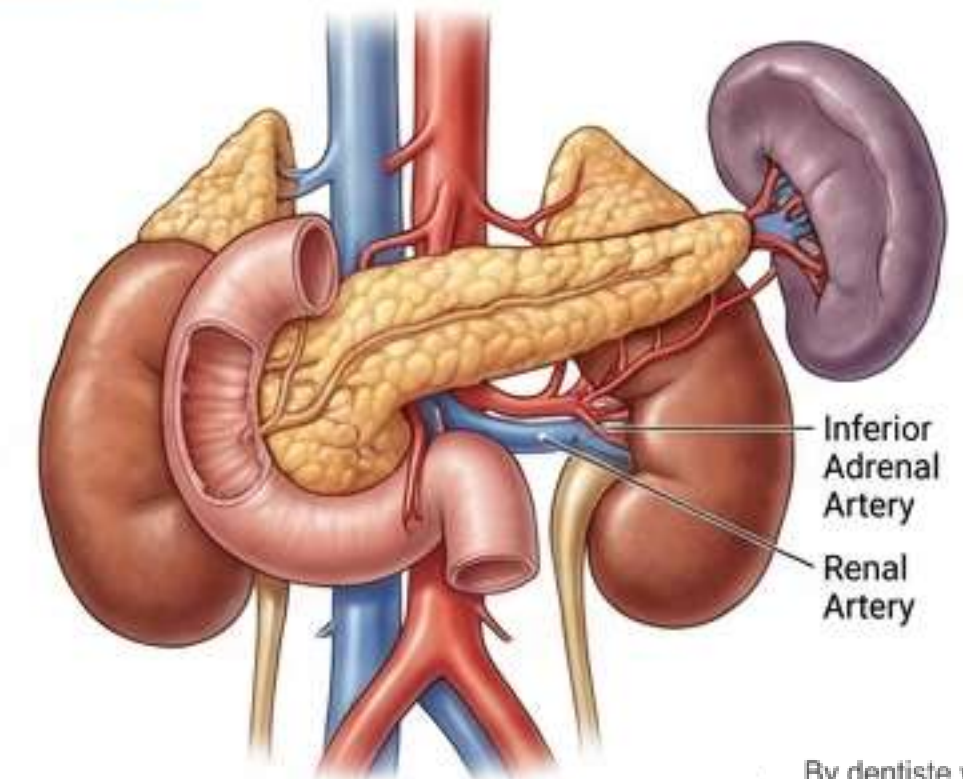
- **Pancreas Anatomy:** It lies horizontally (transversely). Its **HEAD** is cradled by the duodenum (C-loop), not the tail. The tail reaches the spleen.
- **Ducts:** The **accessory duct (Santorini)** drains the upper head.
- **Adrenal Blood Supply:** This is unique. It receives blood from three sources:
 1. Superior ← Phrenic Artery.
 2. Middle ← Aorta.
 3. **Inferior ← Renal Artery.**

Mnemonic & Style:

Pancreas: Head in the C (Duodenum), Tail tickles the S (Spleen).

Adrenal Arteries: **P-A-R**

Phrenic (Top)
Aorta (Middle)
Renal (Bottom)



Question: Regarding the endocrine system:

- A. The testes are two glands located in the scrotum.
- B. The antero-superior end of the testis is surmounted by the tail of the epididymis.
- C. The seminiferous tubules are the site of spermatogenesis.
- D. The proper ovarian ligament is utero-ovarian.
- E. The gonadal veins drain on the right into the renal vein.

Correct Answer: A, C, D

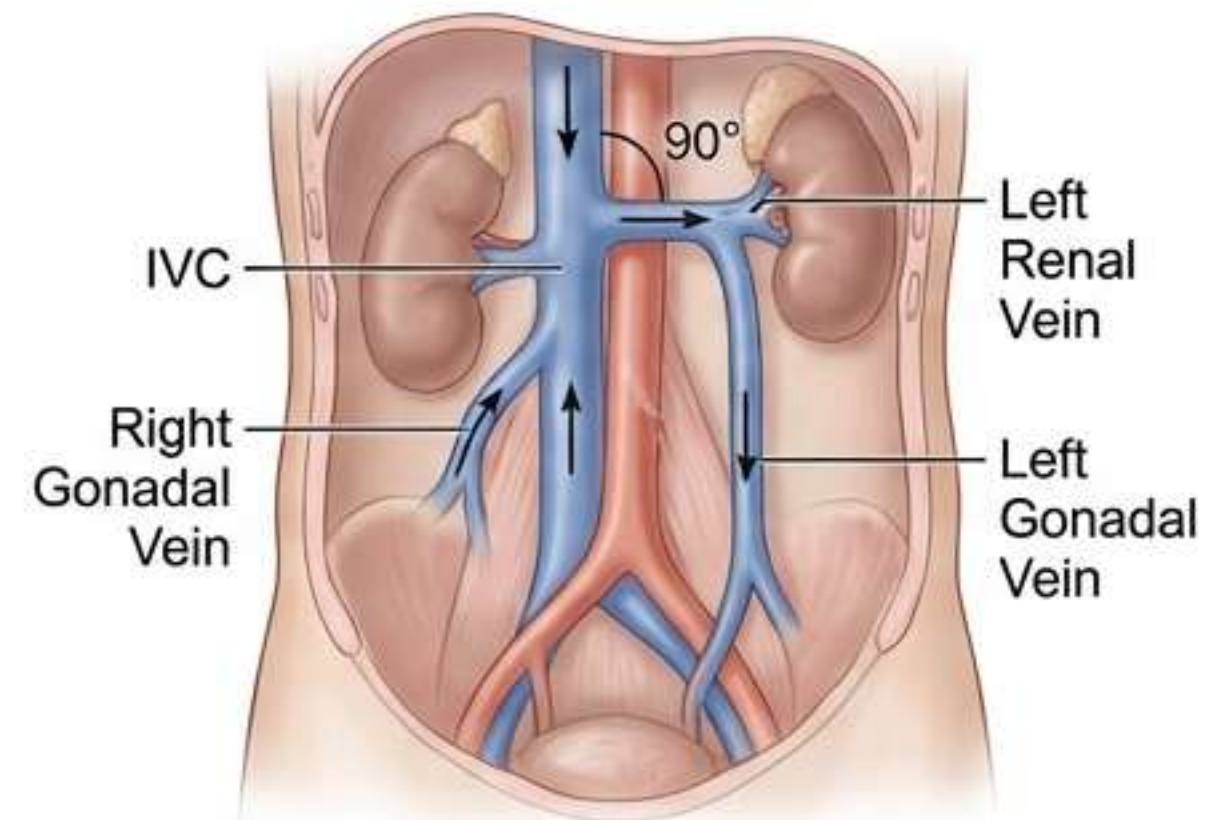
Professional Explanation:

- **Epididymis (B is false):** The Head of the epididymis sits on the superior pole of the testis, not the tail.
- **Venous Drainage (E is false):** The drainage is asymmetric:
Right Gonadal Vein → **Vena Cava** (Directly).
Left Gonadal Vein → **Left Renal Vein** (Perpendicularly).
- **Ovary:** The proper ligament connects the Ovary to the Uterus.

Mnemonic & Style:

Right goes Right in (to the Vena Cava).

Left gets Left behind (takes a detour to the Renal Vein).



Question: Regarding the endocrine system:

- A. Endocrine glands discharge their secretions outside the bloodstream.
- B. Endocrine glands possess excretory ducts.
- C. The thyroid gland occupies the anterior face of the neck.
- D. The pituitary gland is contained in the sella turcica.
- E. The parathyroid glands occupy the anterior face of the thyroid.

Correct Answer: C, D

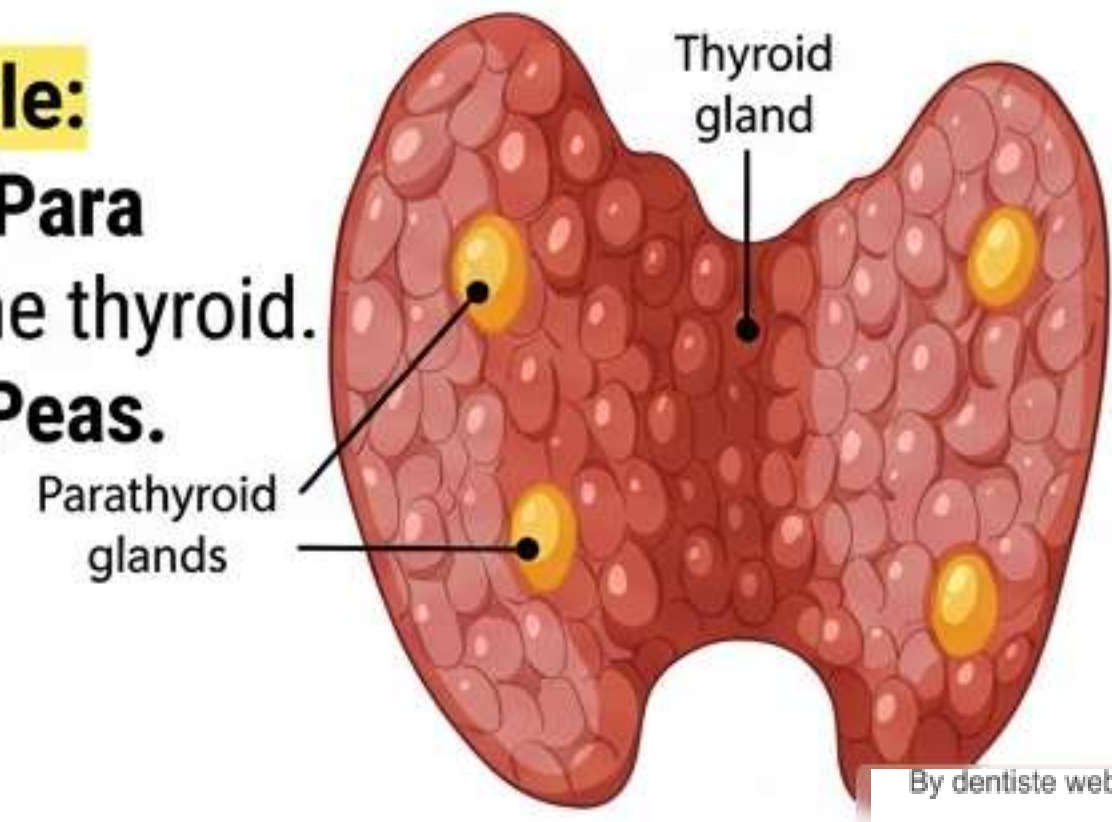
Professional Explanation:

- **Definition:** Endocrine glands are ductless and secrete into the blood. (A & B are false).
- **Parathyroids (E is false):** These 4 small glands are typically located on the **POSTERIOR (back) surface** of the thyroid lobes.
- **Location:** Thyroid is anterior; Pituitary is in the Sphenoid (Sella Turcica).

Mnemonic & Style:

Parathyroids are **Para** (*beside/behind*) the thyroid.

Think: Posterior Peas.



Header: Question 9 | Source: Previous Exam Questions

Question: About the endocrine system:

- A. The endocrine system is a means of communication within the organism. Hormones act on specific receptors.
- B. Hormones act on specific receptors.
- C. Hormones have a very rapid action.
- D. Endocrine glands possess excretory ducts.
- E. Endocrine glands release hormones directly into the blood.

Correct Answer: A, B, E

Professional Explanation:

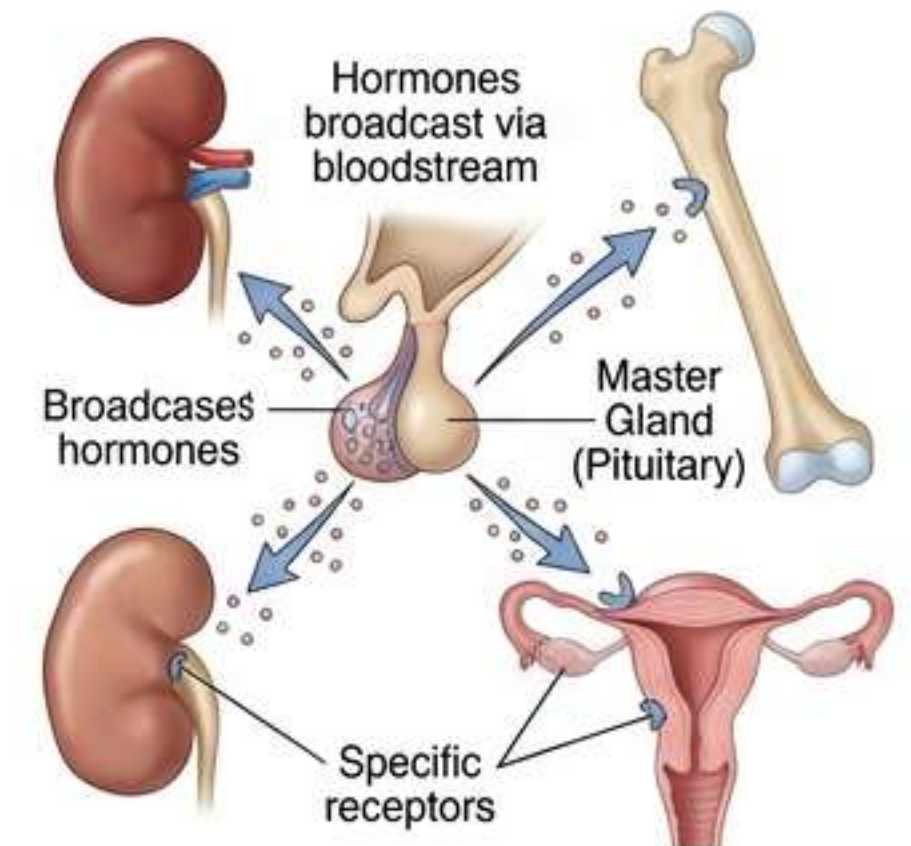
- **Communication:** The body uses the Nervous System (Electrical) and Endocrine System (Chemical).
- **Speed (C is false):** Nervous impulses are milliseconds fast. Hormonal action is slower (minutes to days) because it relies on blood transport and metabolic changes. (**Speed highlighted in Alert Red**).
- **Specificity:** Even though hormones travel everywhere in the blood, they only affect cells with the specific "Lock and Key" receptor.

Mnemonic & Style:

Mnemonic

Nervous = Email (Instant).

Endocrine = Snail Mail (Slower, but reaches everywhere).



Header: Question 10 | Source: Previous Exam Questions

Question: About the hypothalamus and the pituitary:

- A. The hypothalamus is located above the pituitary.
- B. The hypothalamus is contained in the sella turcica.
- C. The hypothalamus secretes neurohormones.
Dark Slate Gray Inter
- D. The hypothalamus is connected to the pituitary by the pituitary stalk.
- E. The pituitary is divided into 3 lobes.

Correct Answer: A, C, D

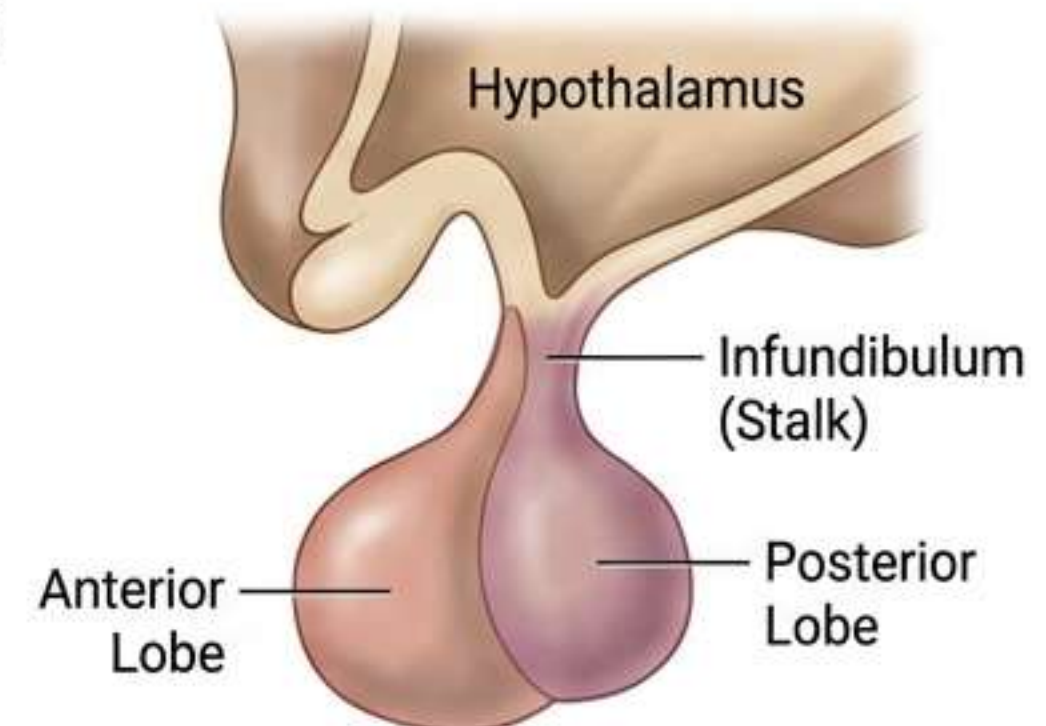
Professional Explanation:

- **Anatomy:** The Hypothalamus (Brain) sits above the **Pituitary** (Gland), connected by the **Infundibulum** (Pituitary Stalk).
- **Correction for B:** The **Pituitary** is in the **Sella Turcica**, not the Hypothalamus. (**Sella Turcica highlighted in Alert Red**).
- **Correction for E:** While embryologically there is an intermediate part, clinically and functionally in humans, the pituitary is divided into **TWO main lobes: Anterior (Adenohypophysis) and Posterior (Neurohypophysis)**. (**TWO main lobes highlighted in Alert Red**).

Mnemonic & Style:

Stalk the connection.

Adeno (Front) + Neuro
(Back) = 2 main players.



Header: Question 11 | Source: Previous Exam Questions

Question: About the thyroid gland:

- A. It is located anterior to the larynx and trachea.
- B. It is formed by a single lobe.
- C. It is vascularized solely by the inferior thyroid arteries.
- D. The thyroid isthmus is plastered against the larynx.
- E. Thyroid hormones allow the regulation of metabolism.

Correct Answer: A, E

Professional Explanation:

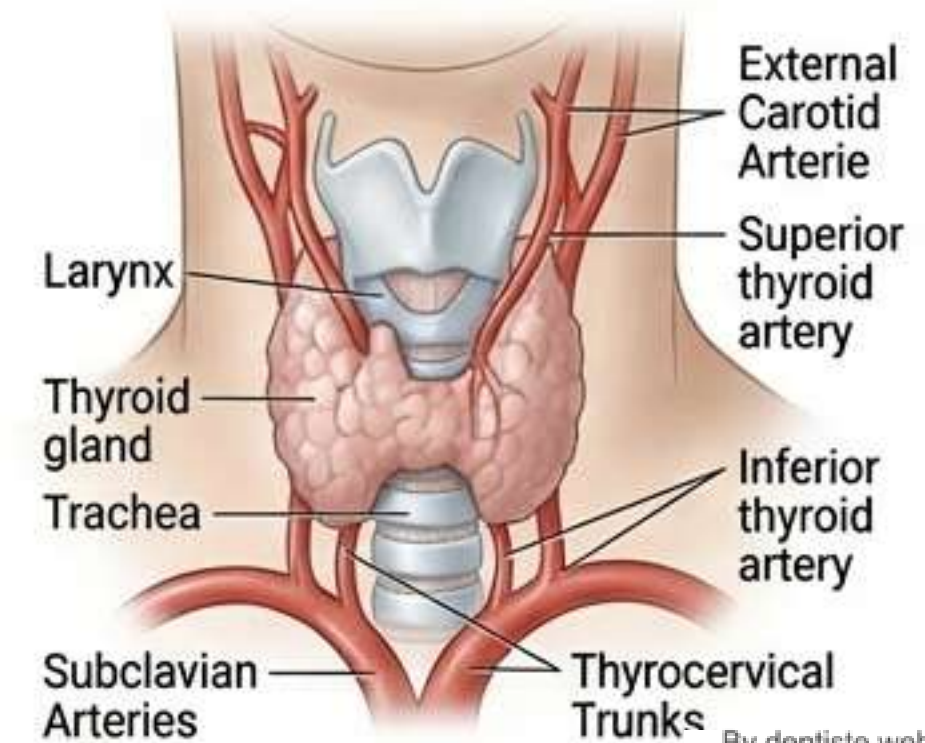
- **Vascularization (C is false):** The thyroid is very 'thirsty' (highly vascular). It requires dual supply: Superior Arteries (from Ext. Carotid) AND Inferior Arteries (from Thyrocervical trunk). (**Inferior Arteries highlighted in Alert Red**, Superior Arteries highlighted in **Surgical Blue**).
- **Location:** The isthmus crosses the 2nd & 3rd tracheal rings, which is below the larynx (cricoid cartilage), not plastered against the larynx itself. (**cricoid cartilage highlighted in Surgical Blue**, **plastered against in Alert Red**).
- **Function:** T3/T4 are the primary regulators of Basal Metabolic Rate. (**T3/T4**).

Mnemonic & Style:

Mnemonic

Thyroid blood supply: High and Low.

Superior Arteries.
Inferior Arteries.



Question 12 | Source: Previous Exam Questions

Question: About the parathyroid glands:

- A. Are attached to the anterior wall of the thyroid.
- B. Are attached to the posterior wall of the thyroid.
- C. Are 4 in number.
- D. The parathyroid glands have their own capsule.
- E. Have relations with the recurrent nerve.

Correct Answer: B, C, D, E

Professional Explanation:

- **Anatomy:** There are typically 4 glands (2 superior, 2 inferior) located on the **Posterior (RBlue)** aspect of the thyroid.
- **Structure:** They are distinct glands with their own **capsule (Blue)**, separate from the thyroid tissue.
- **Clinical Danger (E):** They sit directly next to the **Recurrent Laryngeal Nerve (Blue)**. In thyroid surgery, damaging this nerve causes vocal cord paralysis (hoarseness).

Mnemonic & Style:

Recurrent Nerve risks
Recurring silence.

Surgeons must "Find the nerve to save the voice." (Highlighter Gold).

