# ANATOMY OF THE PITUITARY GLAND


**Who suffer (s) from pituitary disturbances?**

1) Soldier # 1
2) Soldier # 2 ⇐
3) Soldier # 3
4) Soldiers # 1 & 3

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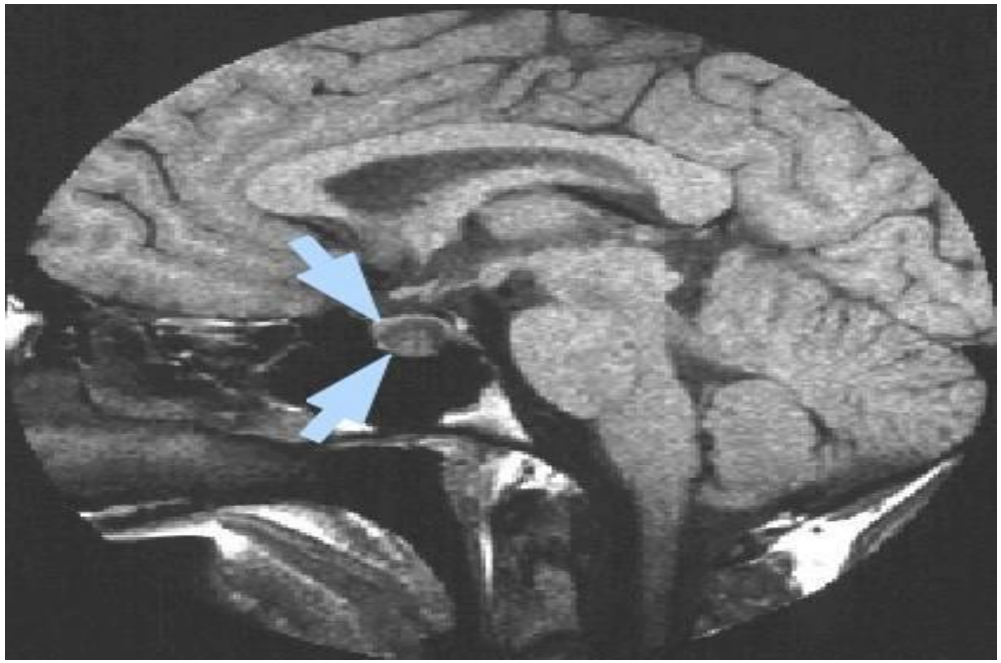
# OBJECTIVES

***At the end of the lecture, students should be able to:***

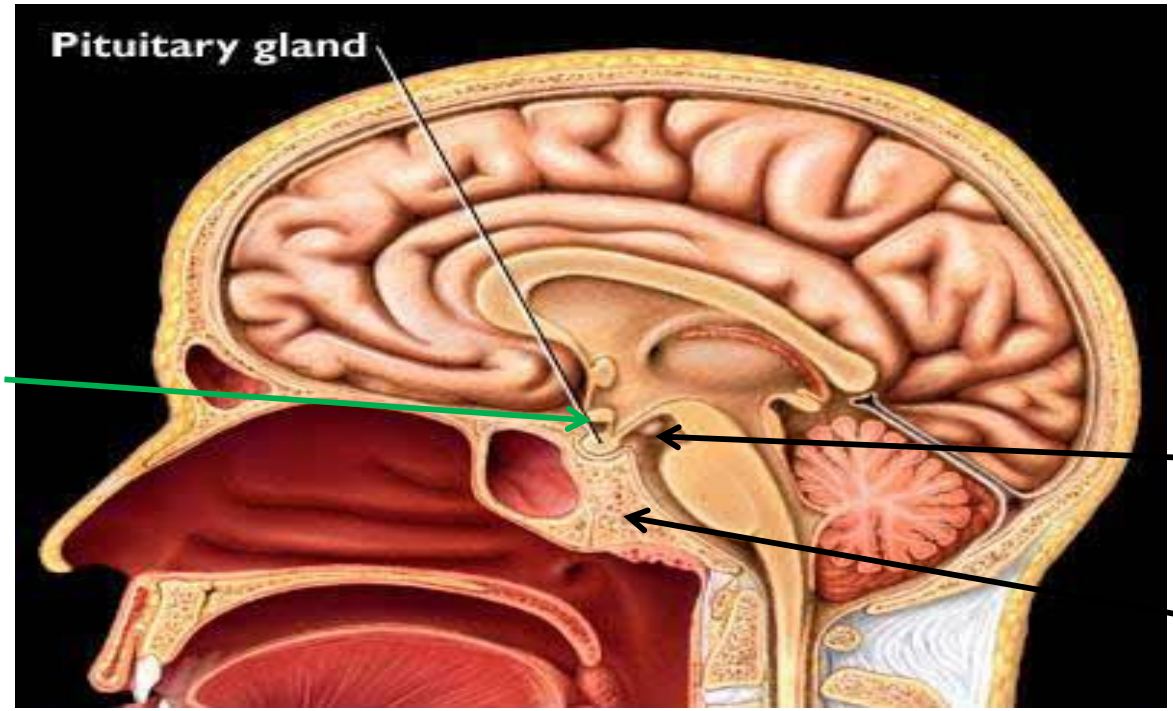
- Describe the position of the pituitary gland.
- List the structures related to the pituitary gland.
- Differentiate between the lobes of the gland.
- Describe the blood supply of pituitary gland & the hypophyseal portal system.

# PITUITARY GLAND (HYPOPHYSIS CEREBRI)



- It is referred to as the **master of endocrine gland.**
- It is a small oval structure of 1 cm in diameter.
- It doubles its size during pregnancy.

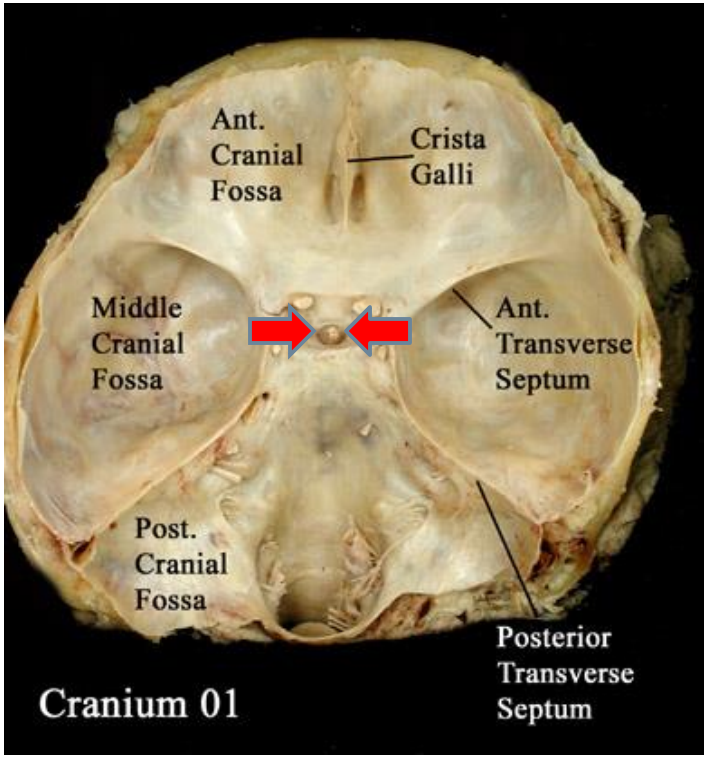
# PITUITARY GLAND
## (POSITION)



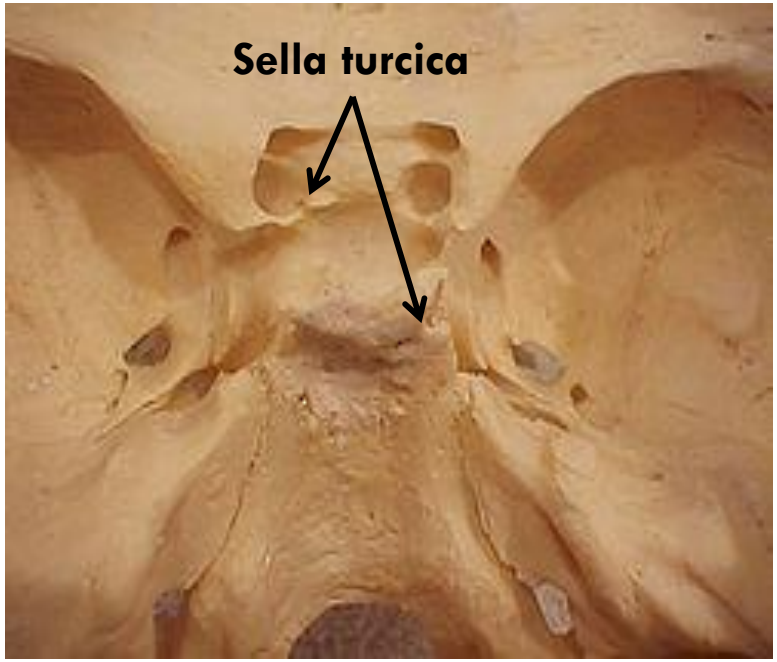

- It lies in the **hypophyseal fossa** of the body of sphenoid bone, between **optic chiasma** (anteriorly) & **mammillary bodies** (posteriorly).

# PITUITARY GLAND
## (POSITION)

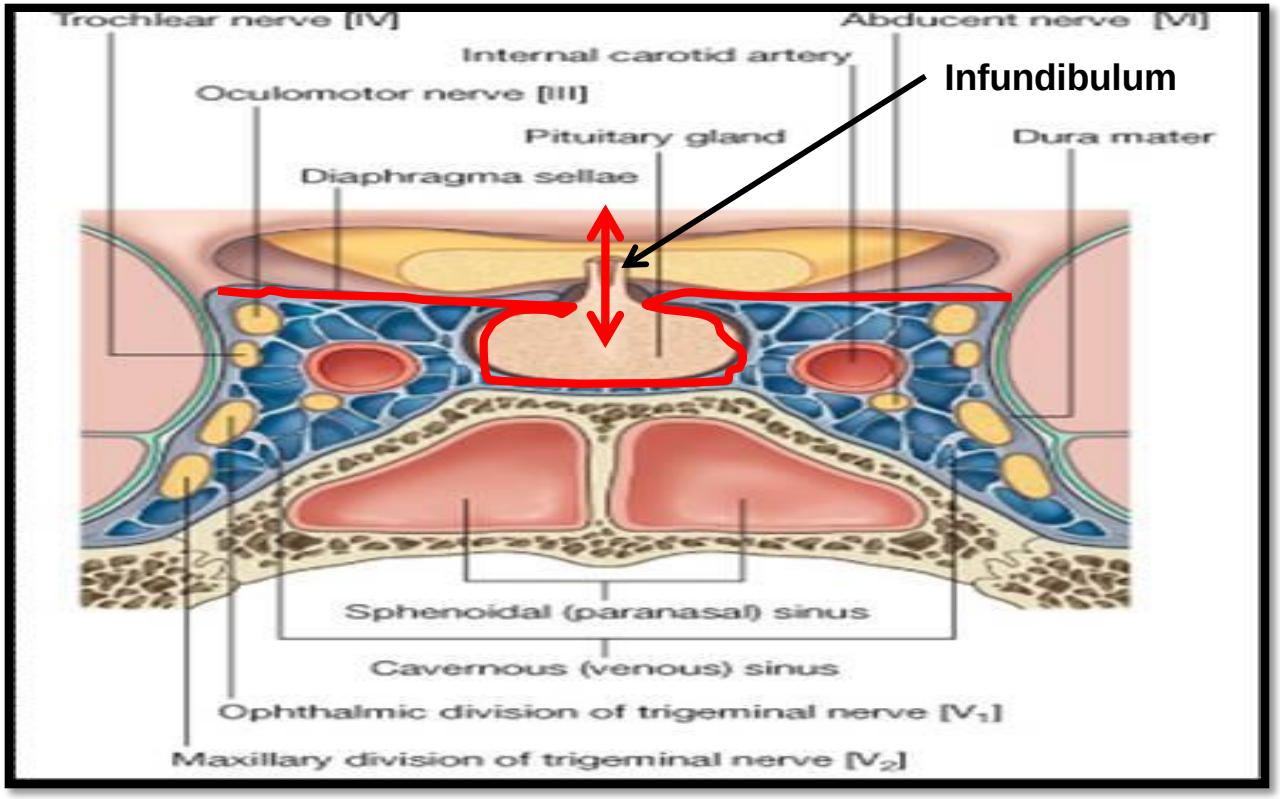
**It lies in the middle cranial fossa**




**It is well protected in sella turcica of body of sphenoid**



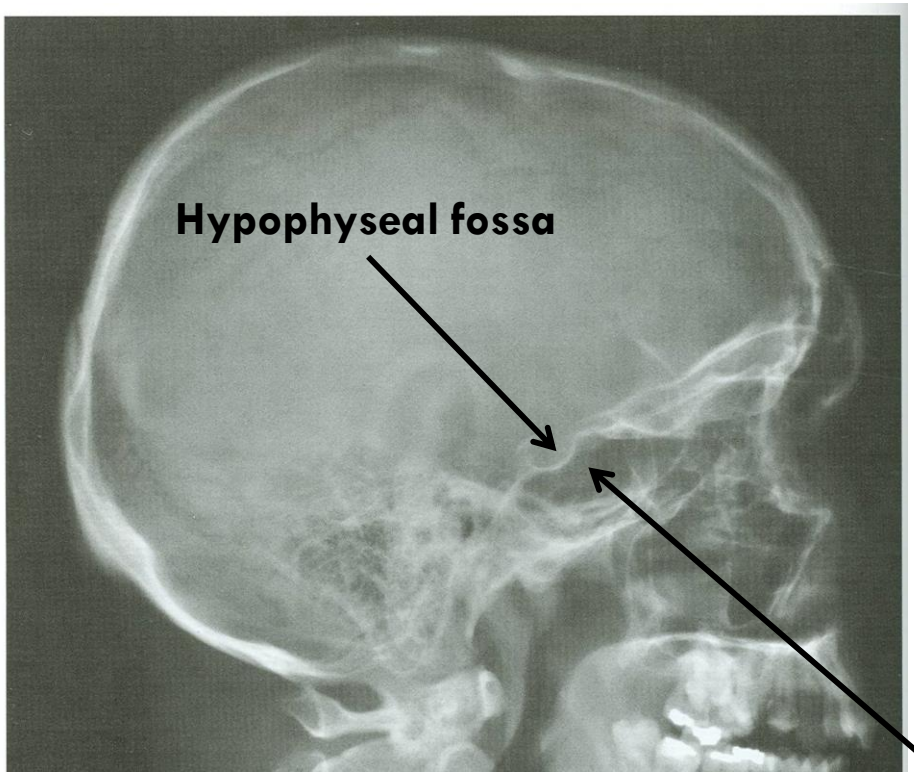
# PITUITARY GLAND
## (POSITION)



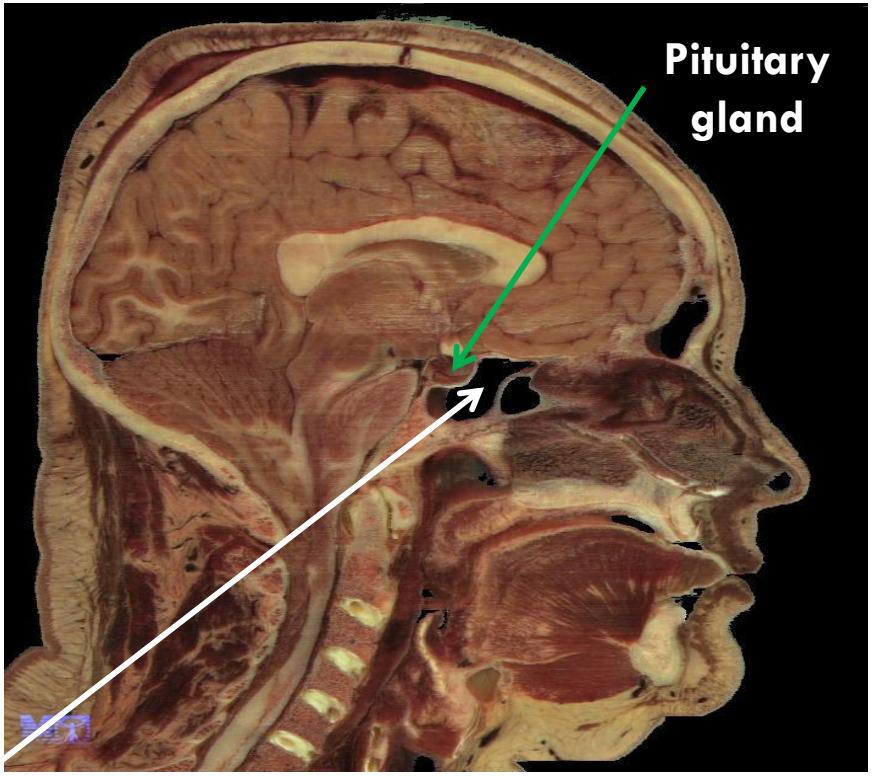

**A fold of dura mater (Diaphragma sellae) covers the pituitary gland & has an opening for passage of infundibulum (pituitary stalk) connecting the gland to hypothalamus.**

# PITUITARY GLAND

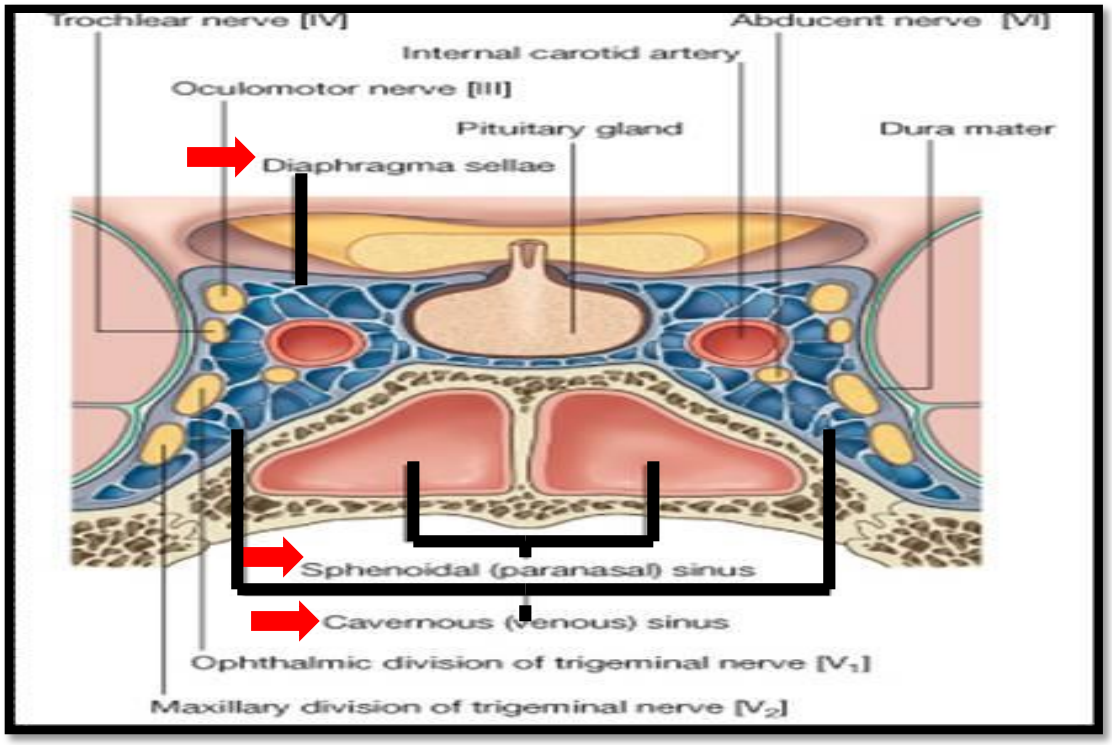
## X-RAY SKULL: LATERAL VIEW




## SAGITTAL SECTION OF HEAD & NECK

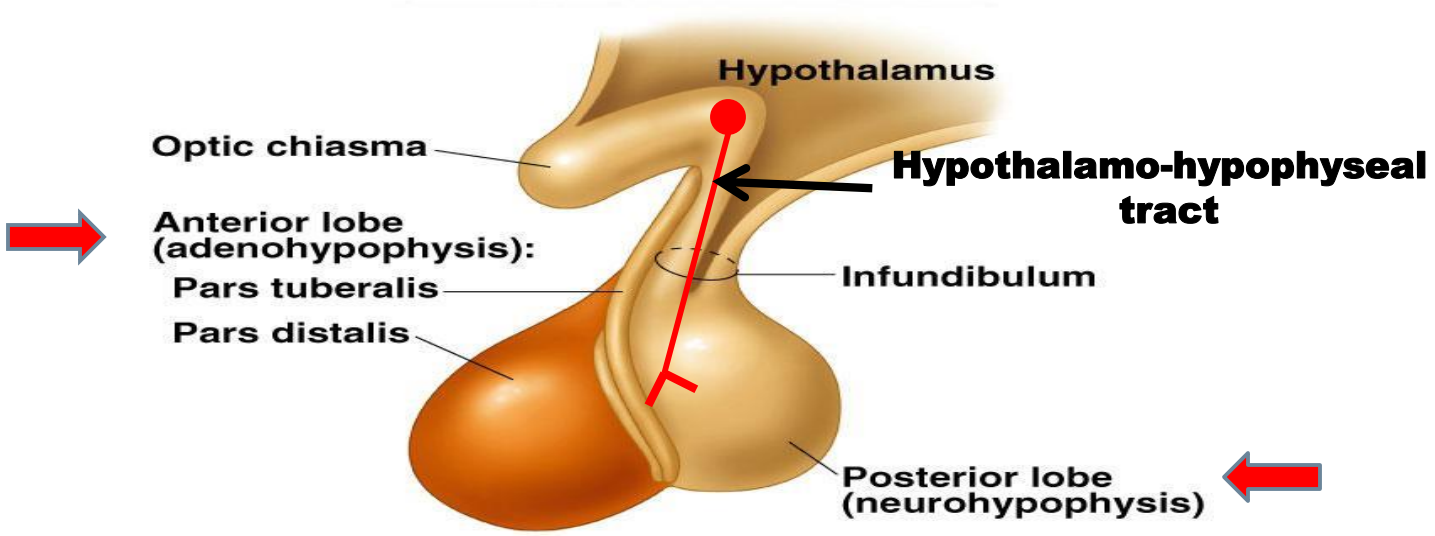


# IMPORTANT RELATIONS




- **SUPERIOR:** Diaphragma sellae
- **INFERIOR:** Sphenoidal air sinuses
- **LATERAL:** Cavernous sinuses

# SUBDIVISIONS OF PITUITARY GLAND

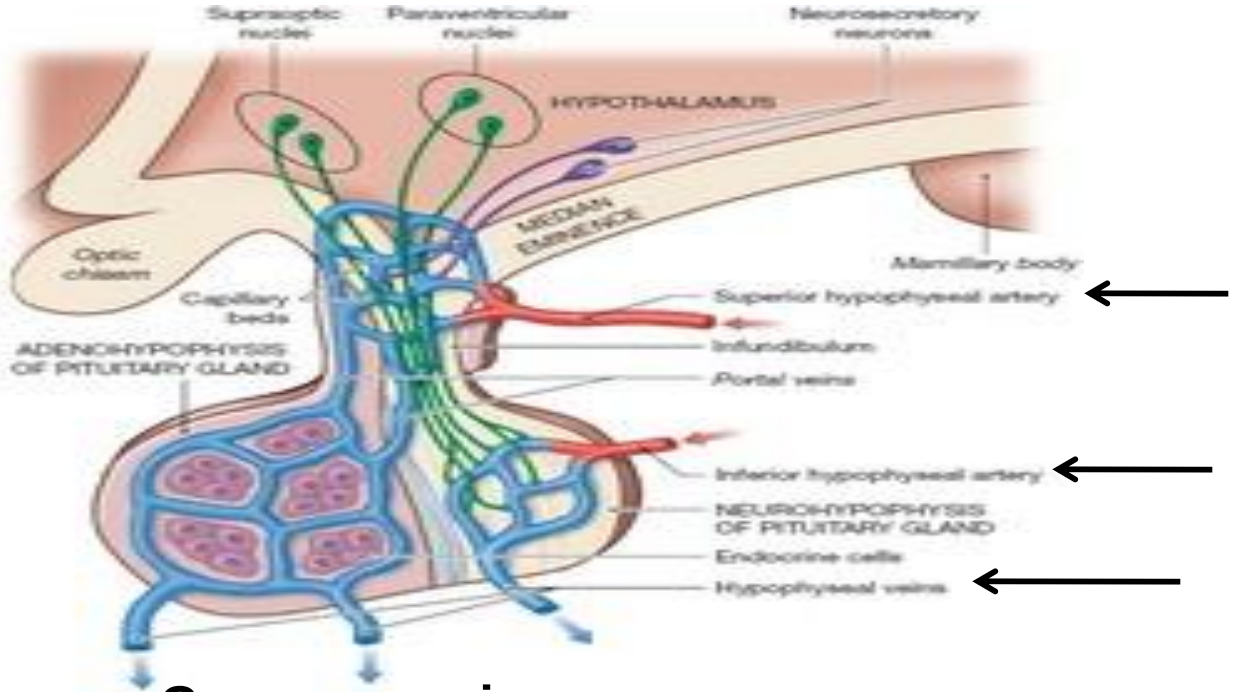



The gland is subdivided into:

**1) Anterior lobe (adenohypophysis):** true gland, secretes hormones

**2) Posterior lobe (neurohypophysis):** connected to hypothalamus through **hypothalamo-hypophyseal tract**, stores hormones secreted by hypothalamic nuclei

# BLOOD SUPPLY OF PITUITARY GLAND

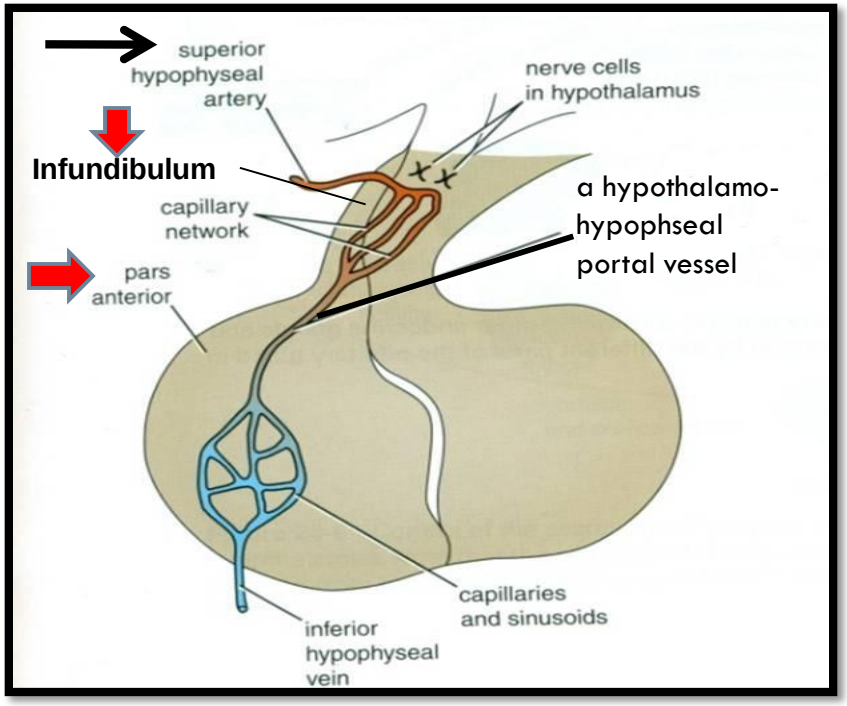


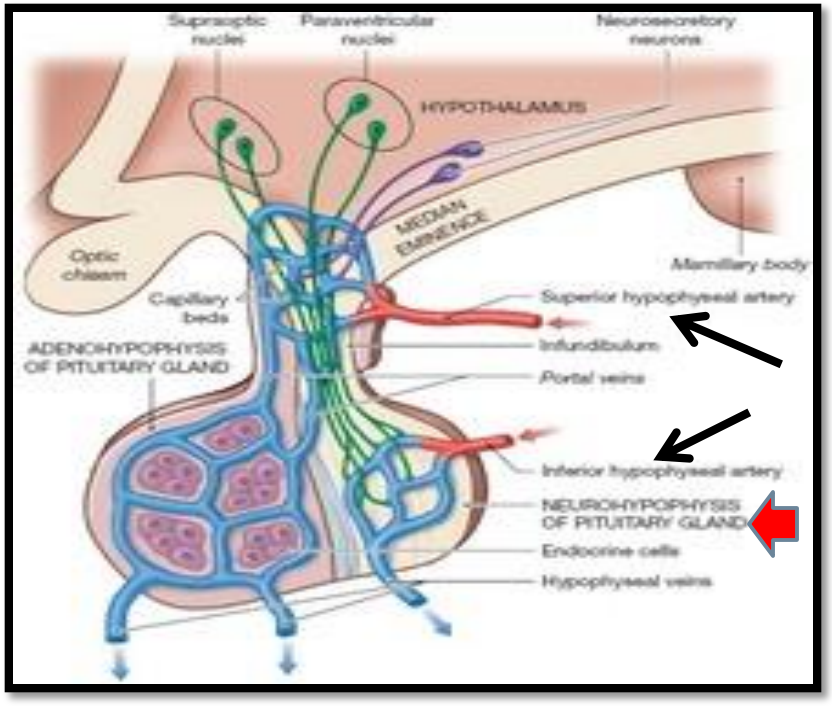

**Cavernous sinuses**

**ARTERIES:** Superior & inferior hypophyseal arteries (branches of internal carotid artery)

**VEINS:** hypophyseal veins drain into cavernous sinuses.

# ARTERIES OF PITUITARY GLAND

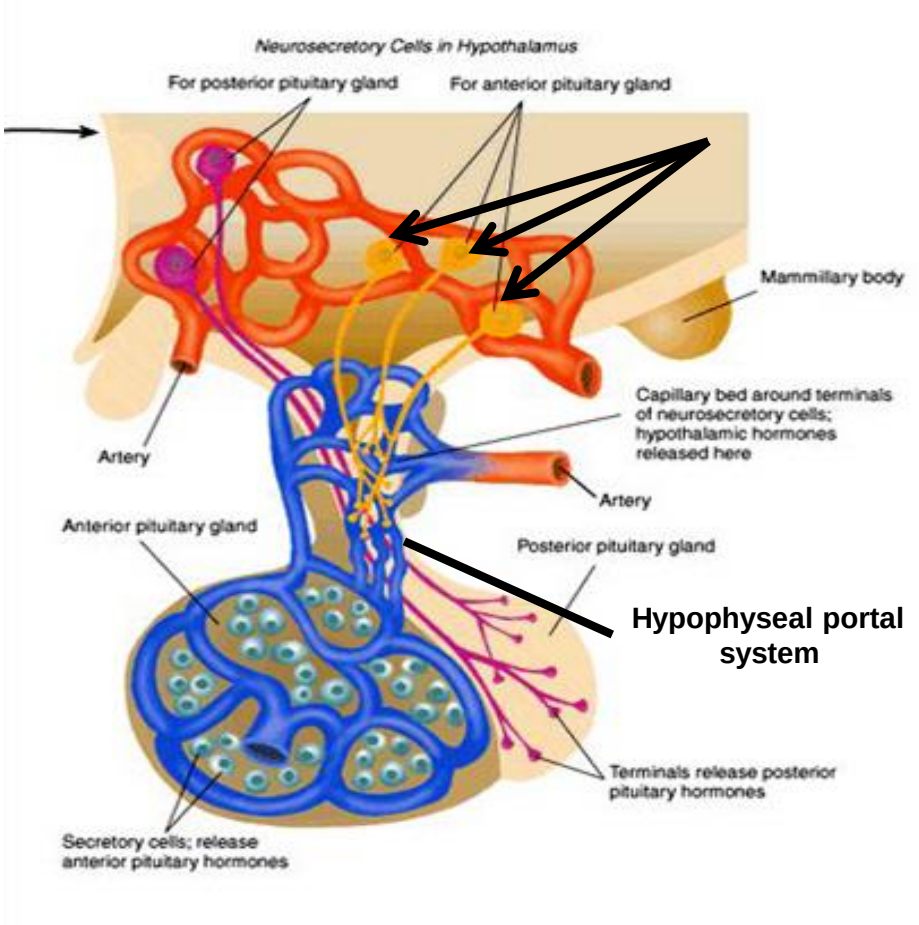



- **The inferior hypophyseal:** supplies posterior lobe of pituitary gland.
- **The superior hypophyseal:** supplies infundibulum & forms a capillary network from which vessels pass downward & form sinusoids into the anterior lobe of pituitary gland **(hypophyseal portal system).**

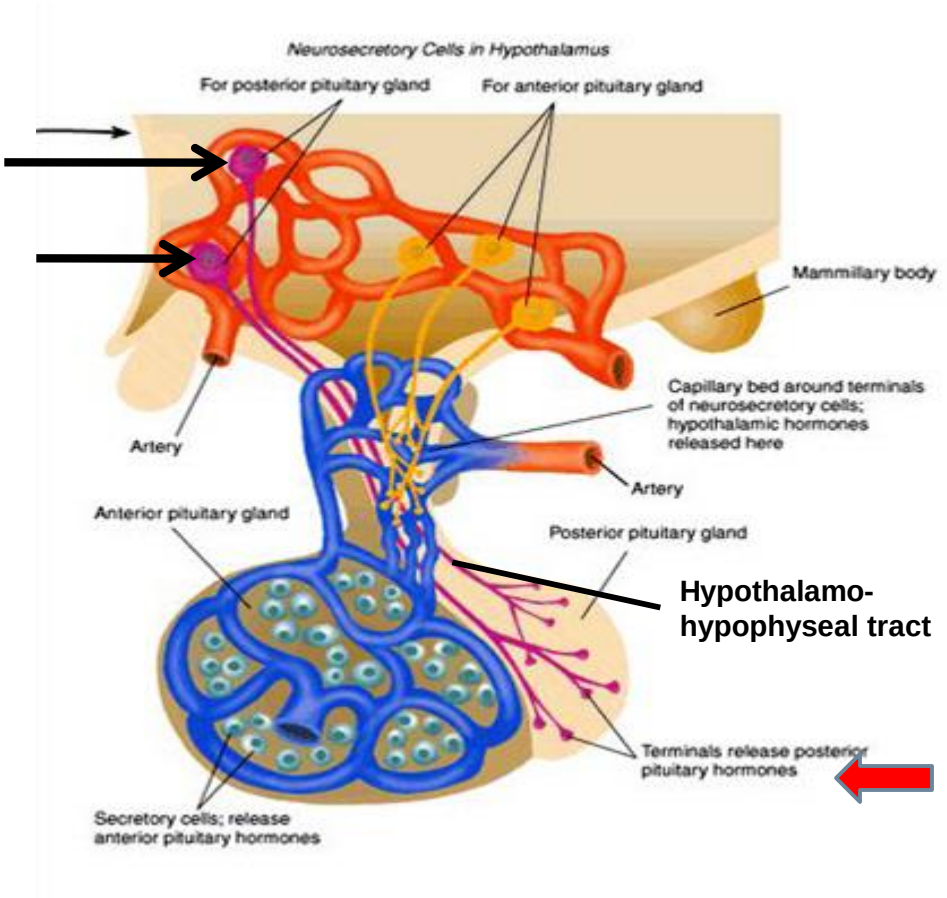
# ANTERIOR LOBE OF PITUITARY

- **Hormone-releasing & inhibiting factors produced by hypothalamus use hypophyseal portal system of vessels to reach the anterior lobe of pituitary gland**



# POSTERIOR LOBE OF PITUITARY

- **Axons of supraoptic & paraventricular cells** of hypothalamus send their secretion **(neurosecretion)** to posterior lobe of pituitary gland through hypothalamo-hypophyseal tract




QUESTIONS

# QUESTION 1

- **Which one of the following structures is superior to the pituitary gland?**

1) **Optic chiasma**
2) **Diaphragma sellae** 
3) **Mammillary bodies**
4) **Sphenoidal air sinuses**

# QUESTION 2

- Which one of the following venous sinuses drains hypophyseal veins?

1) Superior sagittal
2) Cavernous
3) Transverse
4) Sigmoid


THANK YOU
&
BEST WISHES