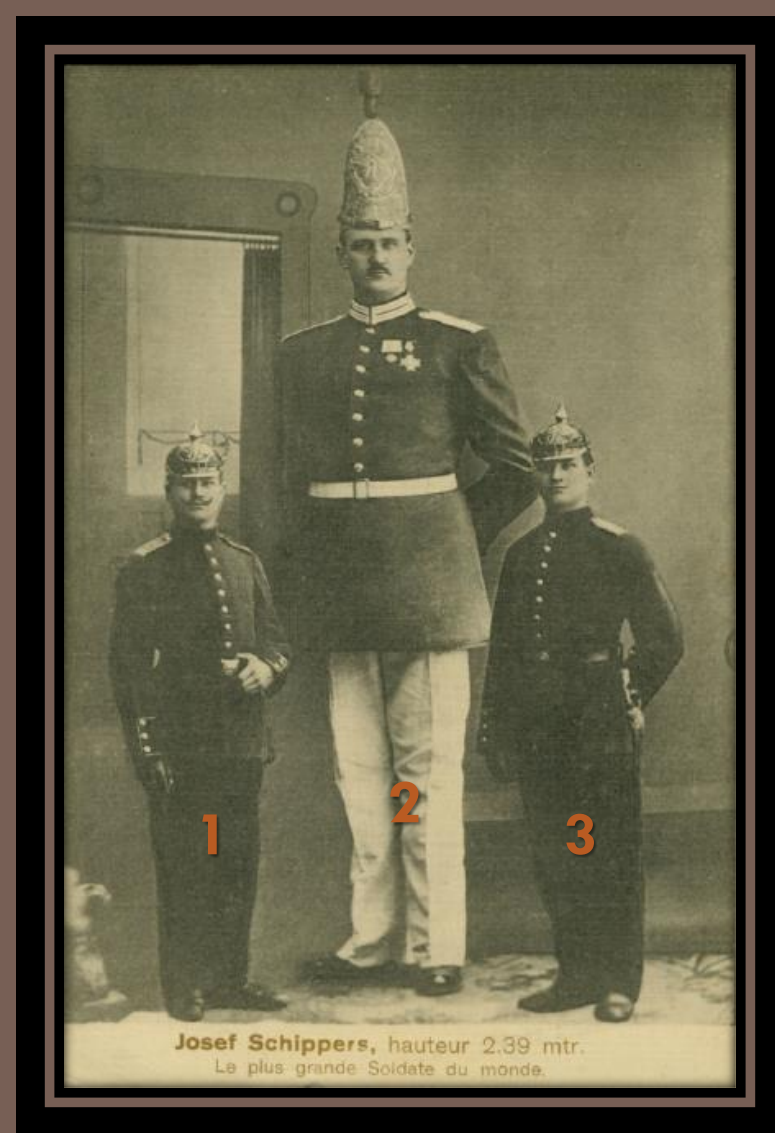


ANATOMY OF THE PITUITARY GLAND

Who suffer (s) from pituitary disturbances?

- 1) Soldier # 1
- 2) Soldier # 2 ←
- 3) Soldier # 3
- 4) Soldiers # 1 & 3



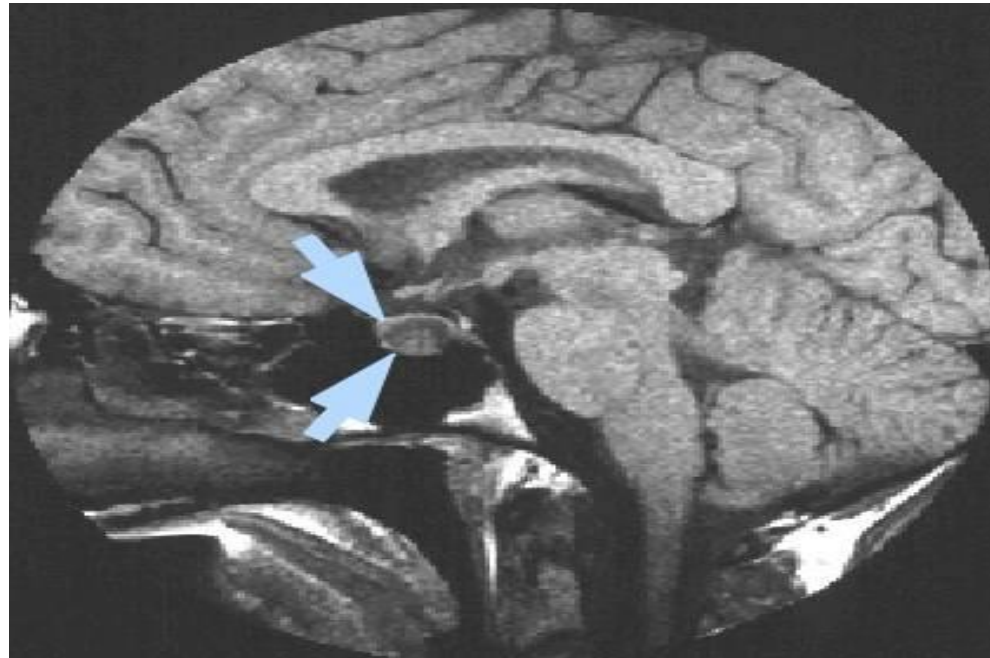
Prof. Ahmed Fathalla Ibrahim El Fouhil

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.

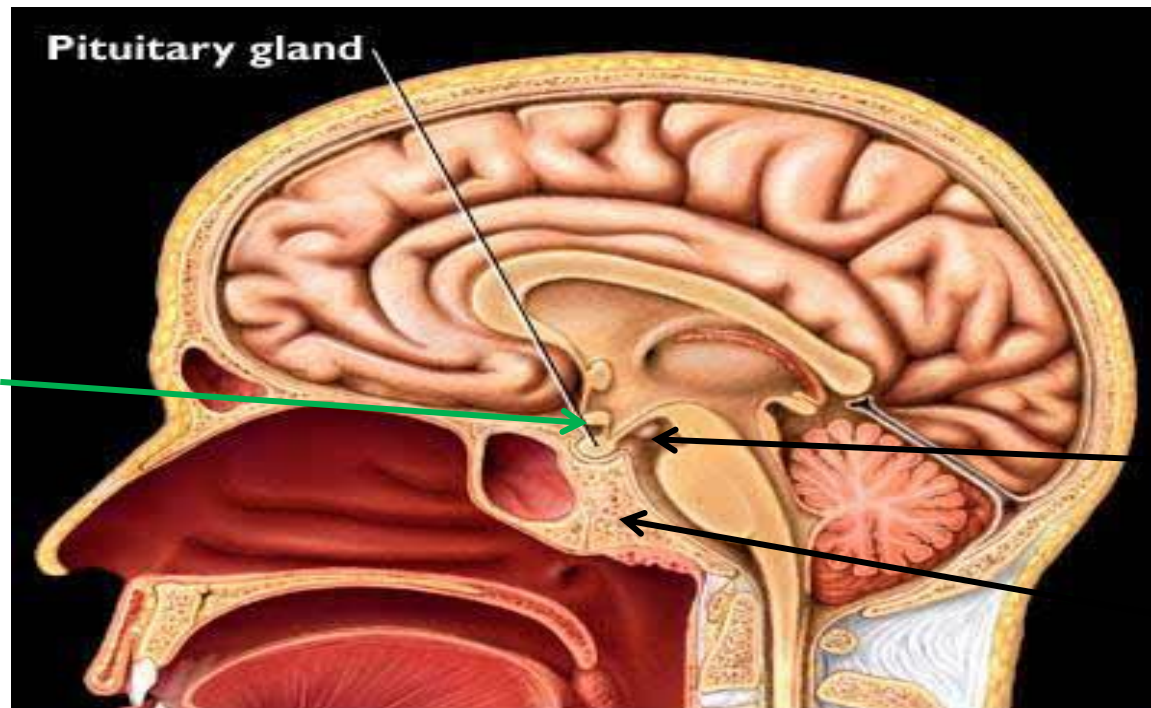
PITUITARY GLAND (HYPOPHYSIS CEREBRI)



- ❑ 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)



Pituitary gland

Optic chiasma

Mammillary body

Body of sphenoid

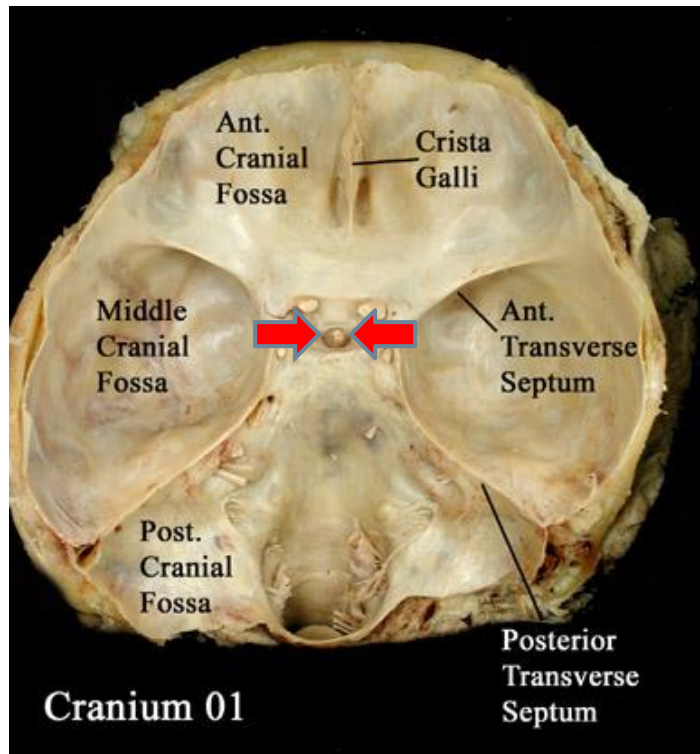
It lies in the hypophyseal fossa of the body of sphenoid bone, between optic chiasma (anteriorly) & mammillary bodies (posteriorly).

Prof. Ahmed Fathalla Ibrahim El Fouhil

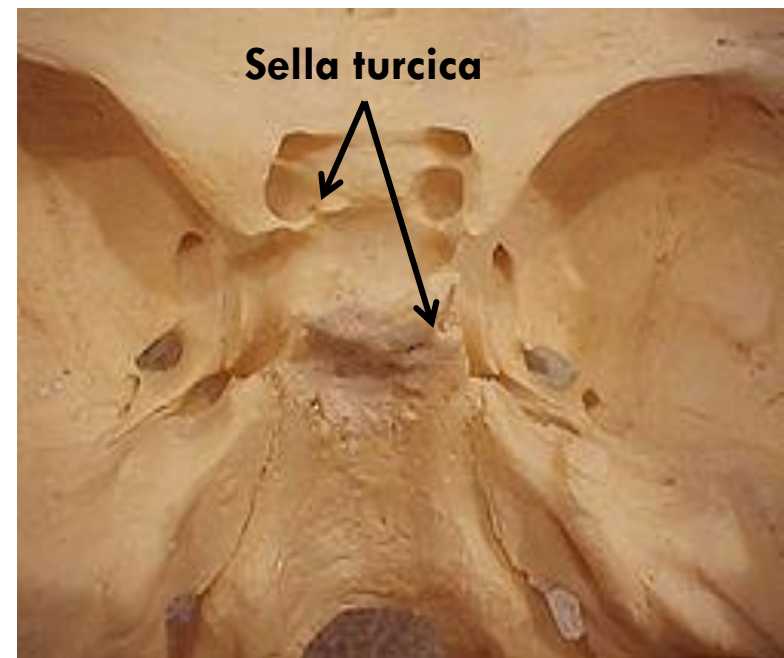
PITUITARY GLAND

(POSITION)

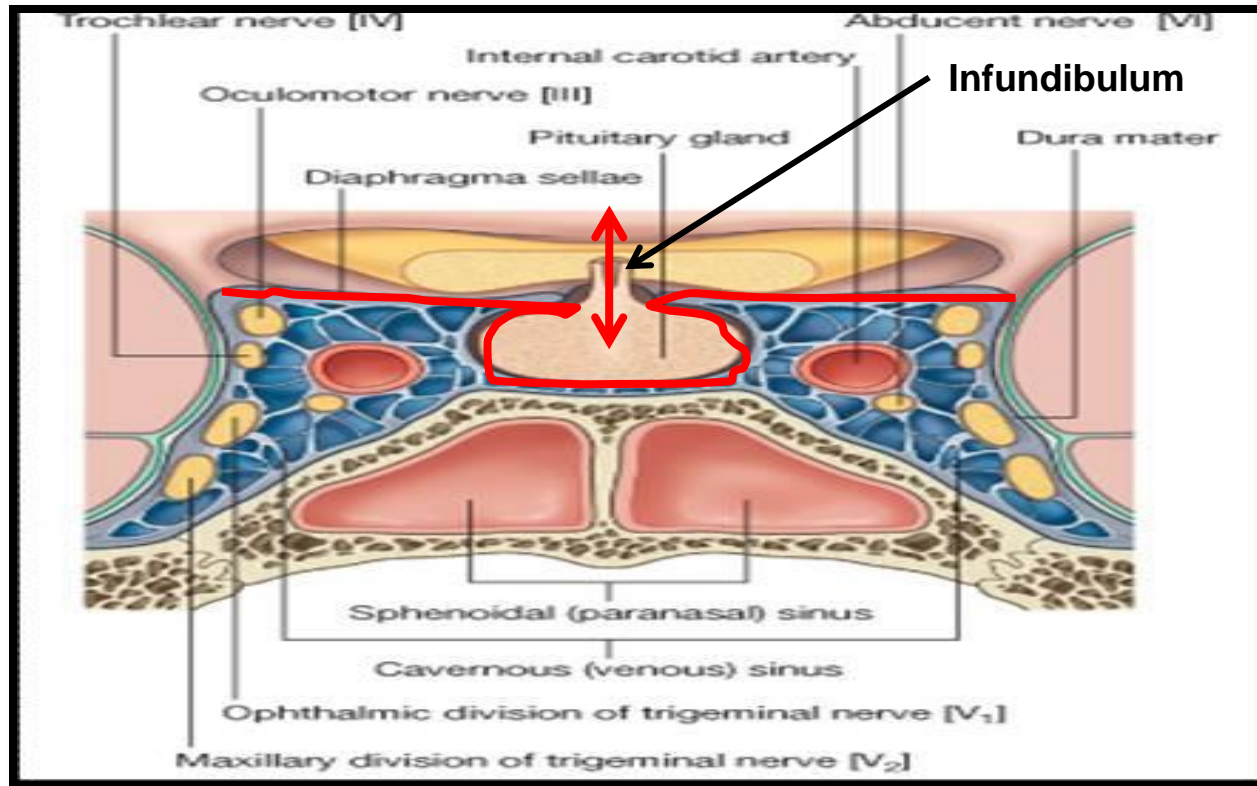
It lies in the middle cranial fossa



It is well protected in sella turcica of body of sphenoid



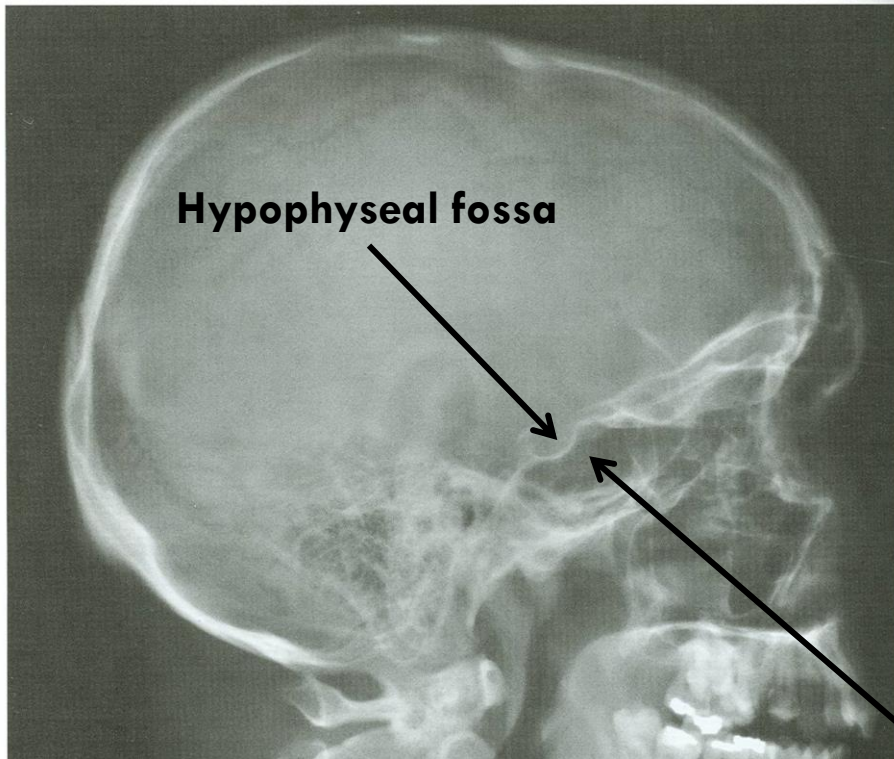
PITUITARY GLAND (POSITION)



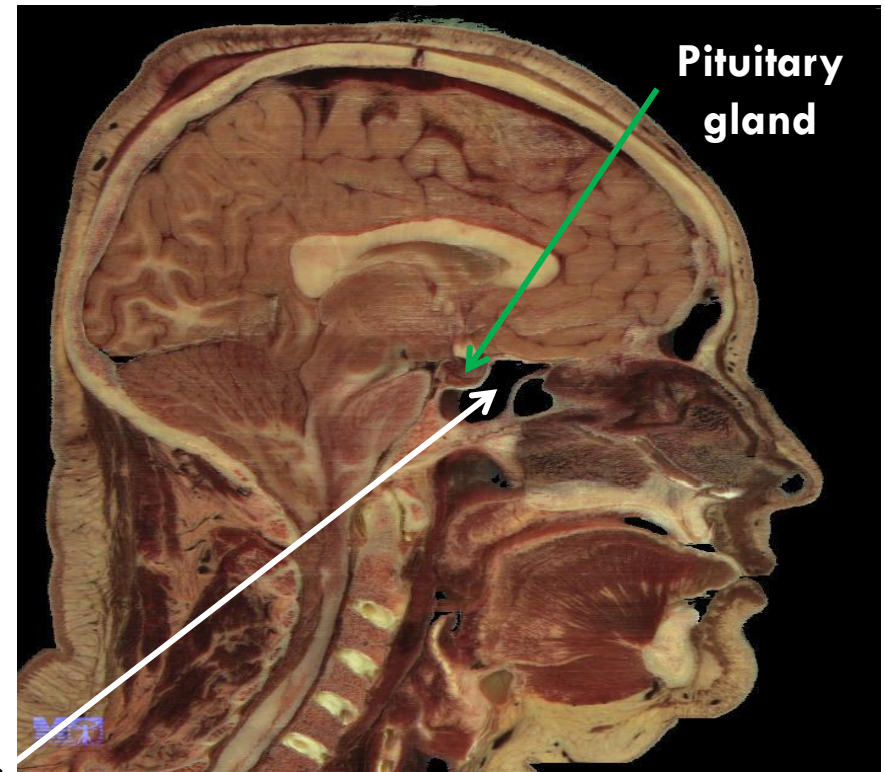
A fold of dura mater (Diaphragma sellae) covers the pituitary gland & has an opening for passage of infundibulum (pituitary stalk) connecting the gland to hypothalamus.

PITUITARY GLAND

X-RAY SKULL: LATERAL VIEW



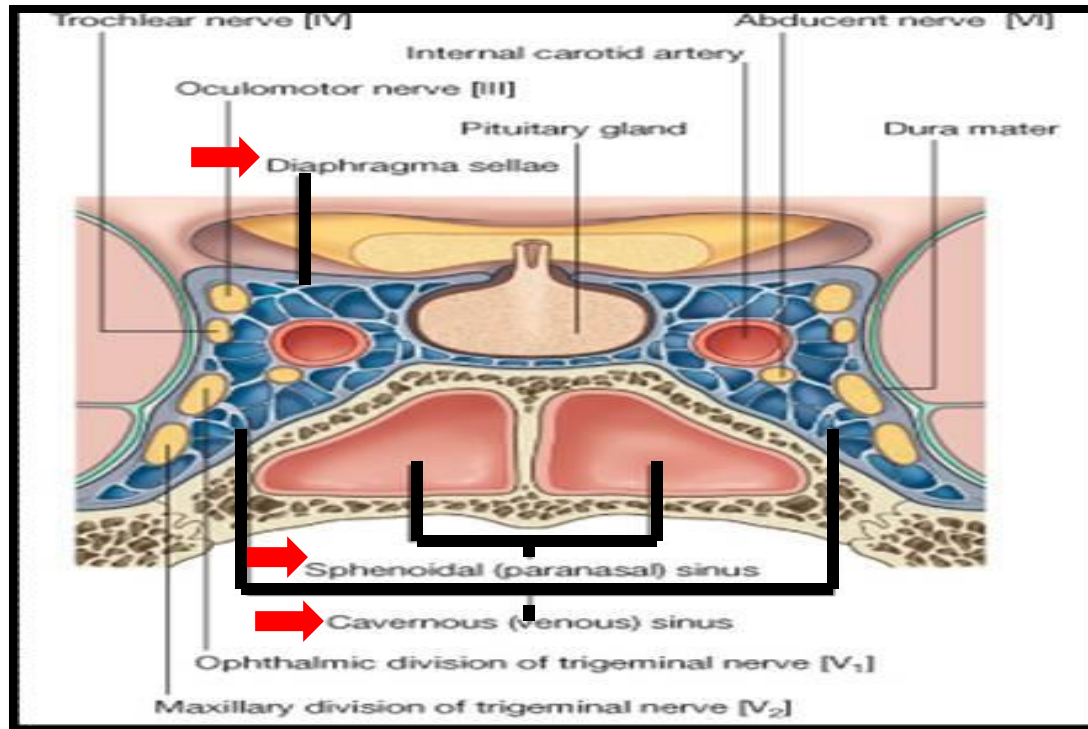
SAGITTAL SECTION OF HEAD & NECK



Sphenoidal air sinus

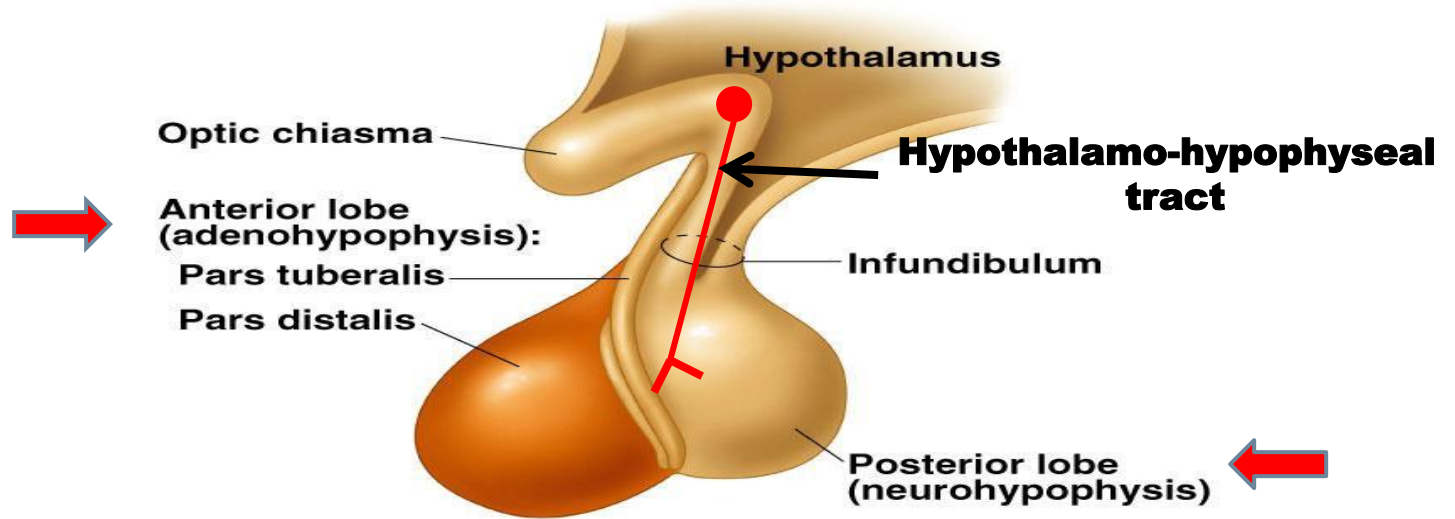
Prof. Ahmed Fathalla Ibrahim El Fouhil

IMPORTANT RELATIONS



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

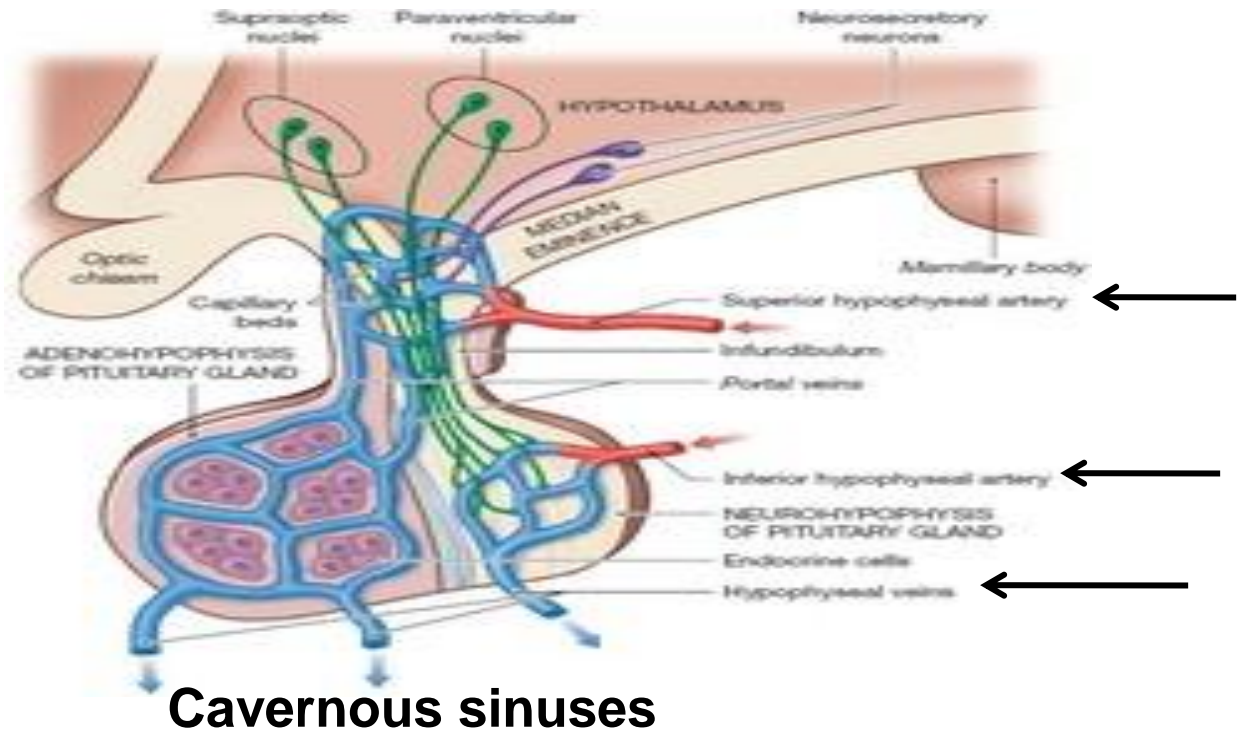
SUBDIVISIONS OF PITUITARY GLAND



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

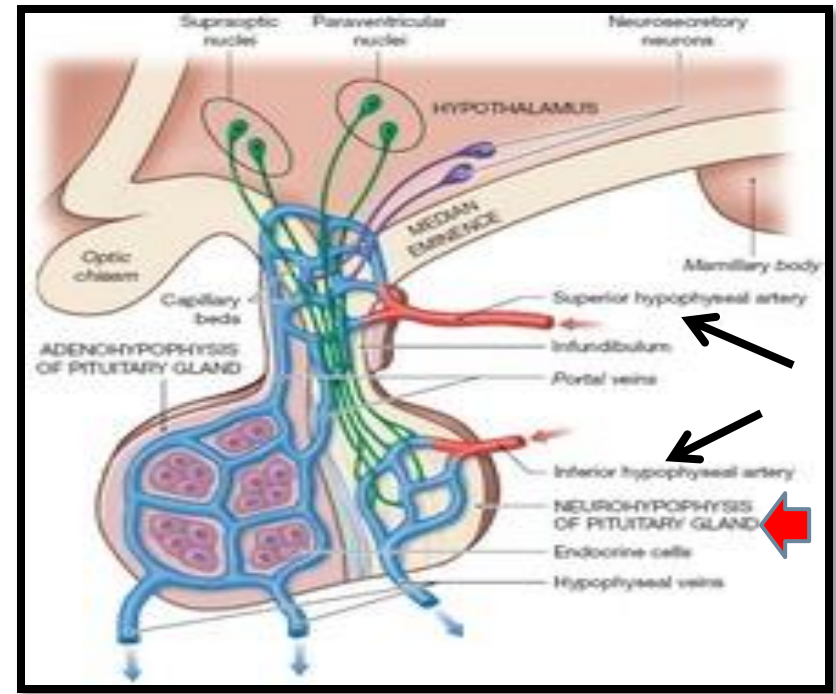
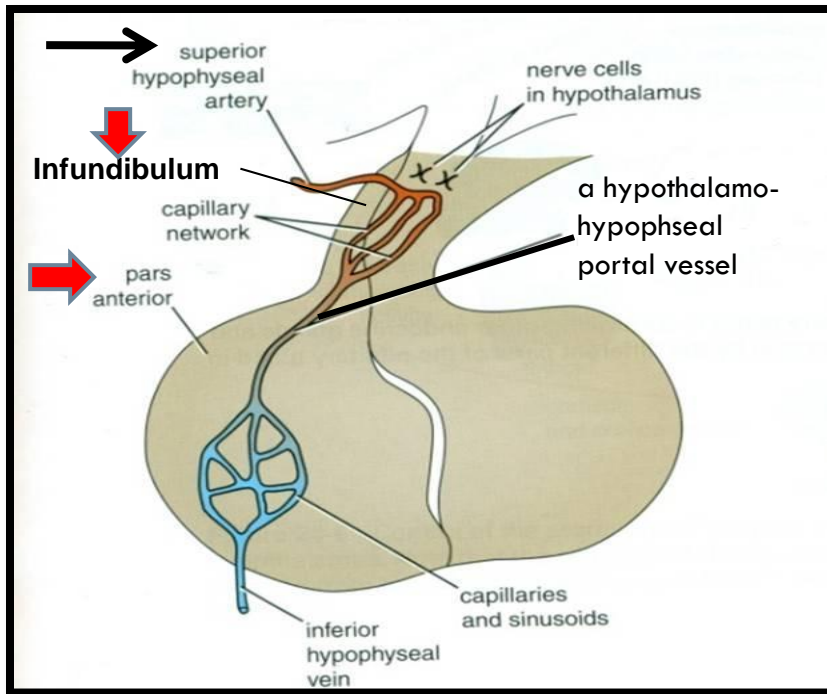
BLOOD SUPPLY OF PITUITARY GLAND



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

VEINS: hypophyseal veins drain into cavernous sinuses.

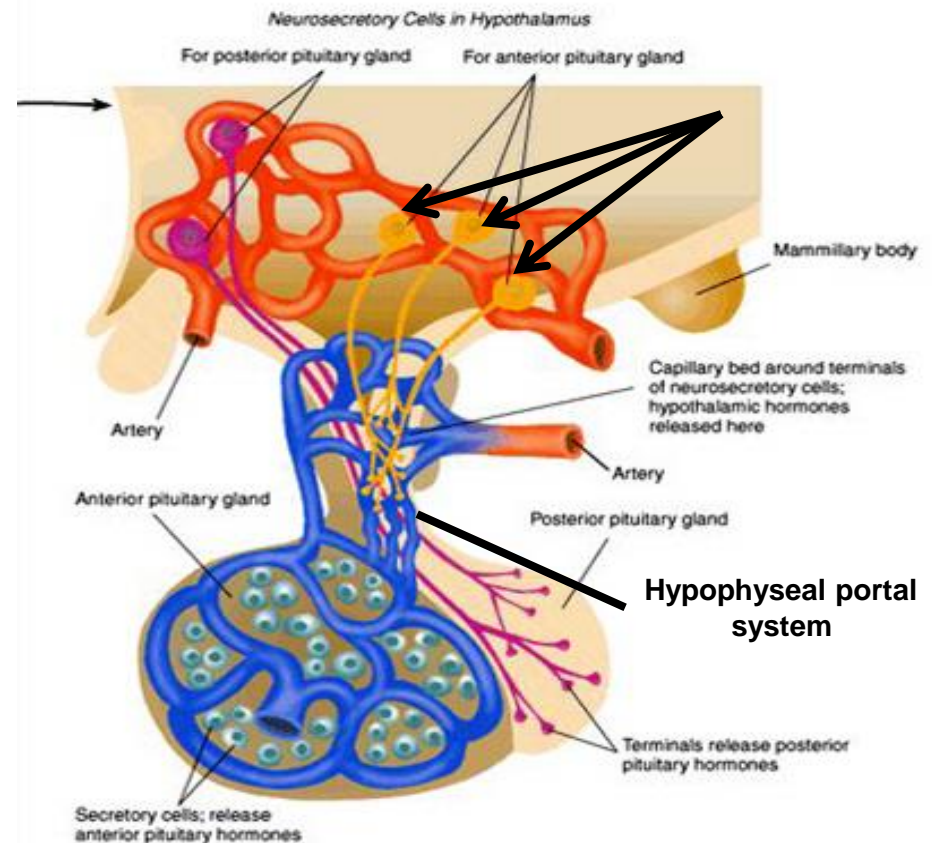
ARTERIES OF PITUITARY GLAND



- **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).

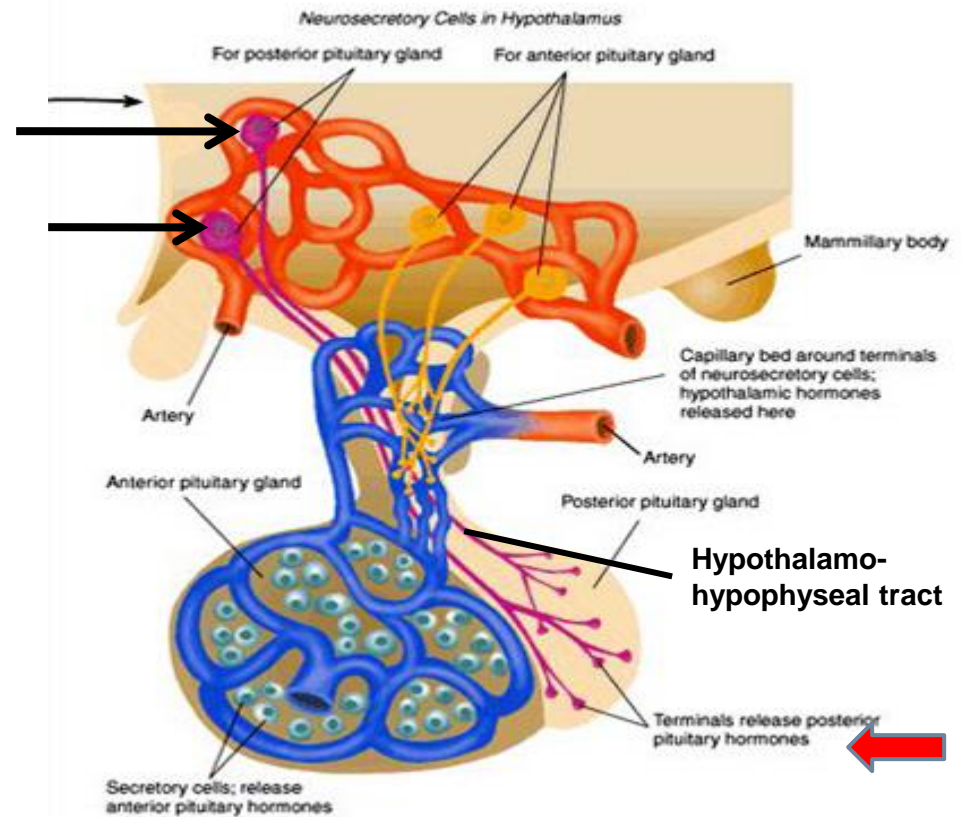
ANTERIOR LOBE OF PITUITARY

• **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**

Prof. Ahmed Fathalla Ibrahim El Fouhil