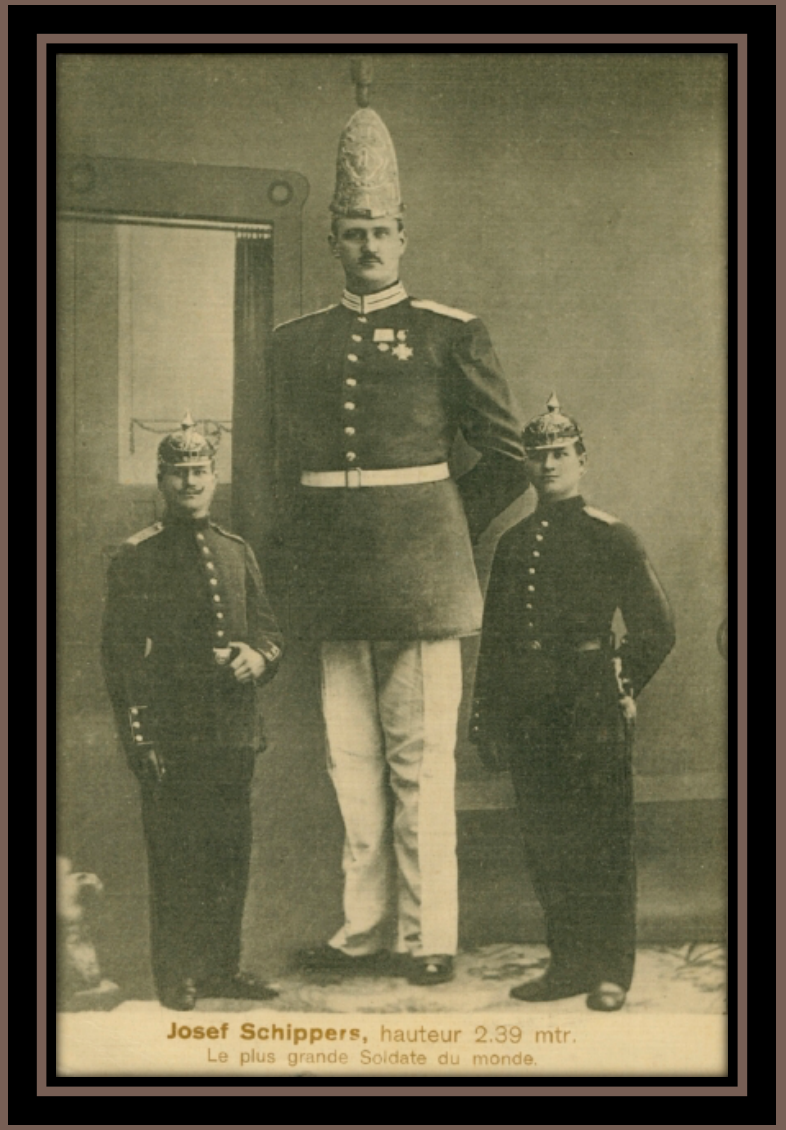
ANATOMY OF THE PITUITARY GLAND



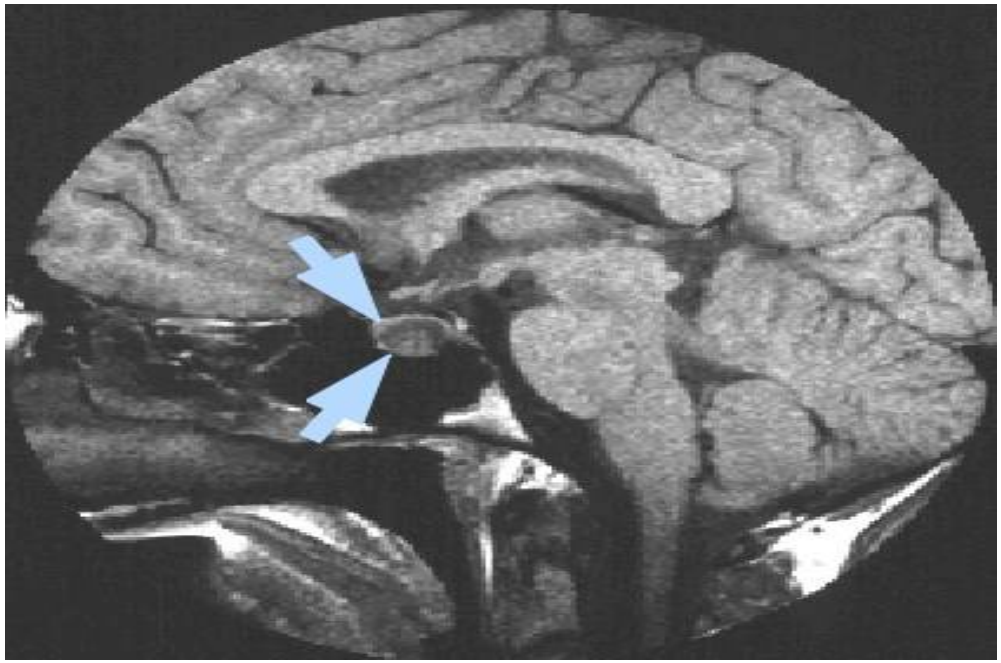
Dr. Ahmed Fathalla Ibrahim & Dr. Jamila El Medany

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.**

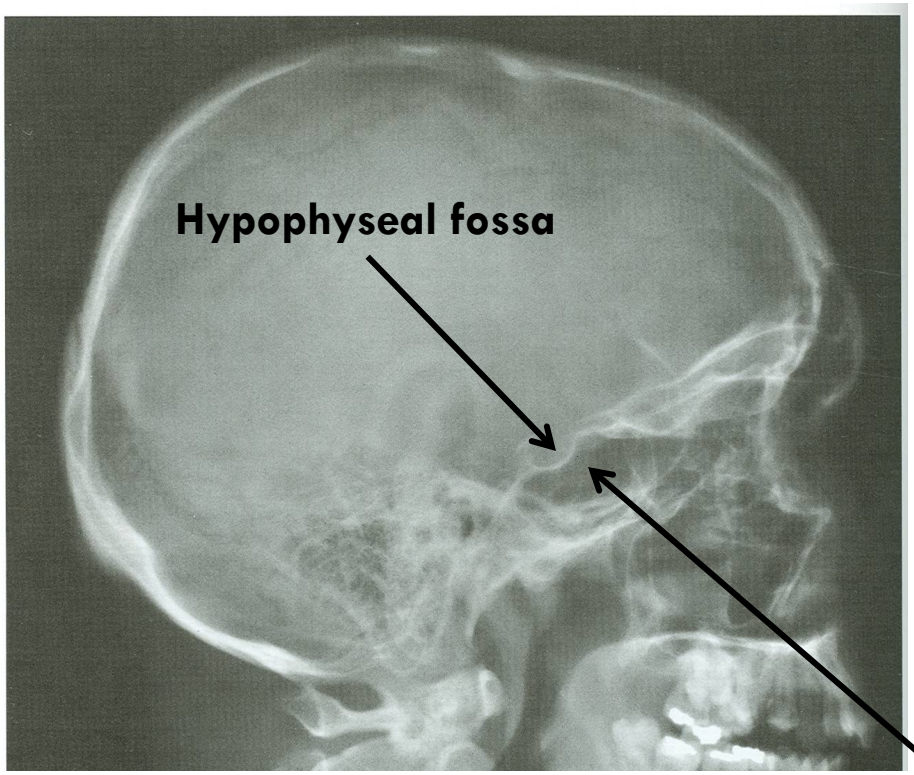
PITUITARY GLAND (HYPOPHYSIS CEREBRI)



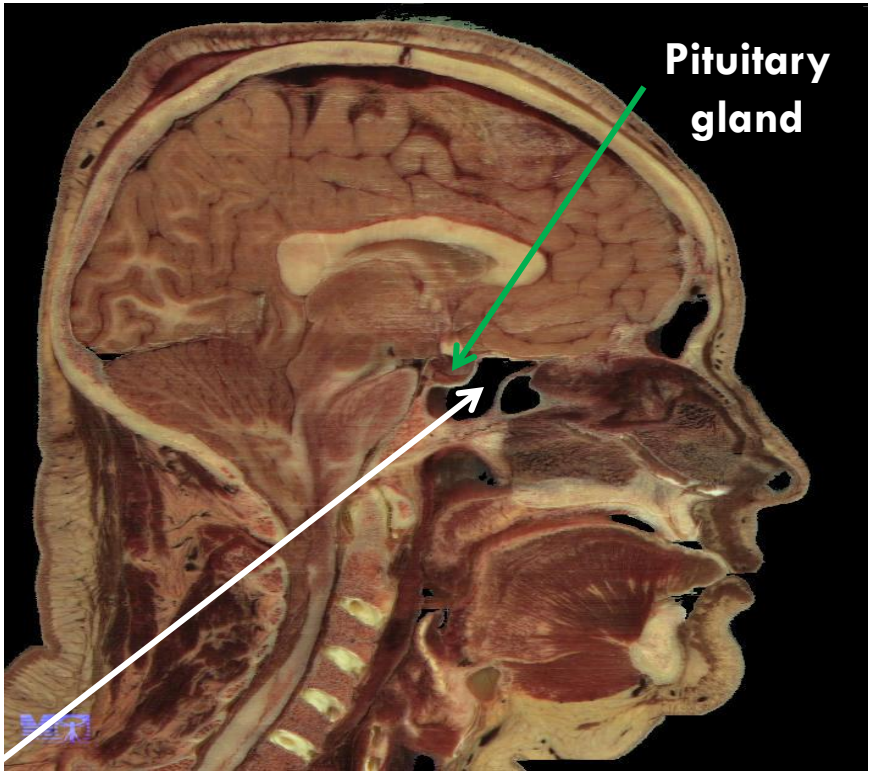
- It is referred to as the master of endocrine glands.
- It is a small oval structure 1 cm in diameter.
- It doubles its size during pregnancy.

PITUITARY GLAND

X-RAY SKULL: LATERAL VIEW

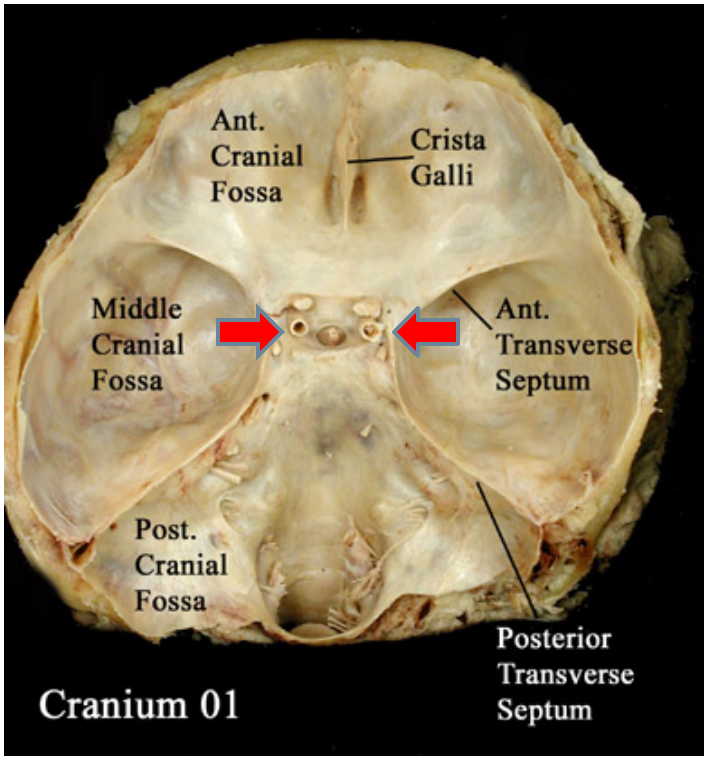


SAGITTAL SECTION OF HEAD & NECK

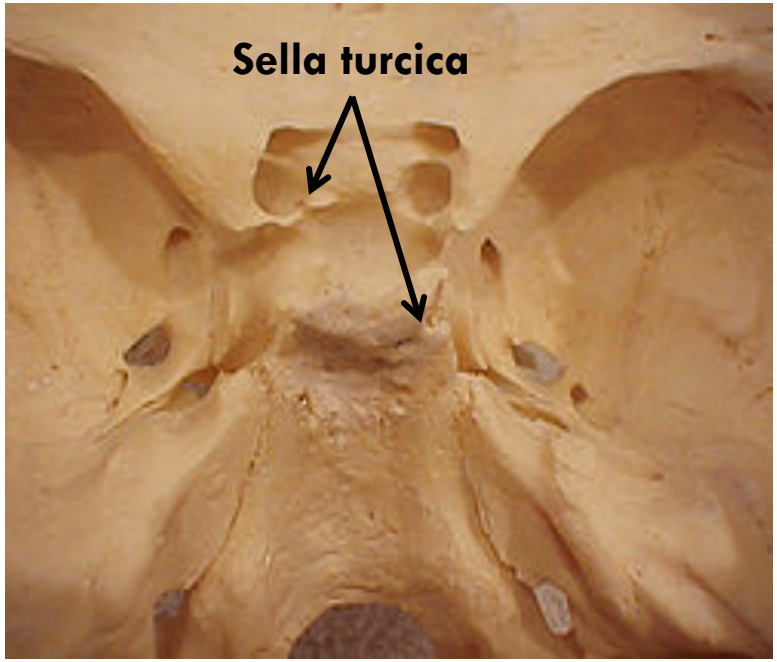


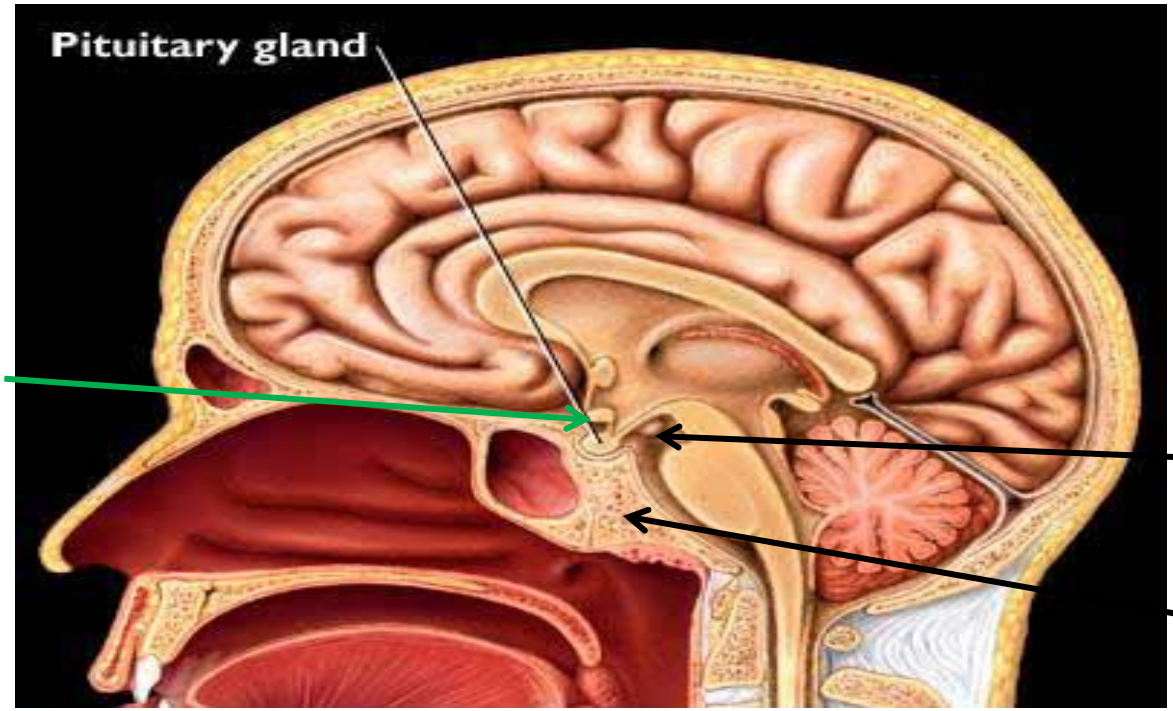
POSITION

It lies in the middle cranial fossa



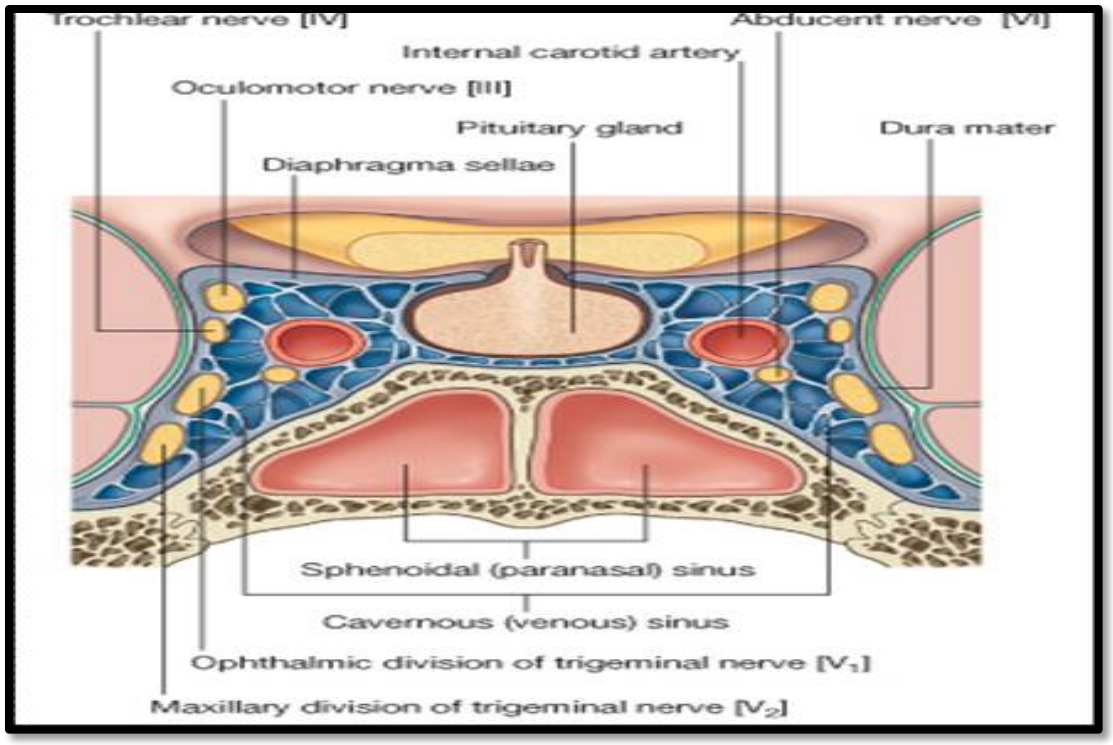
It is well protected in sella turcica (hypophyseal fossa) of body of sphenoid



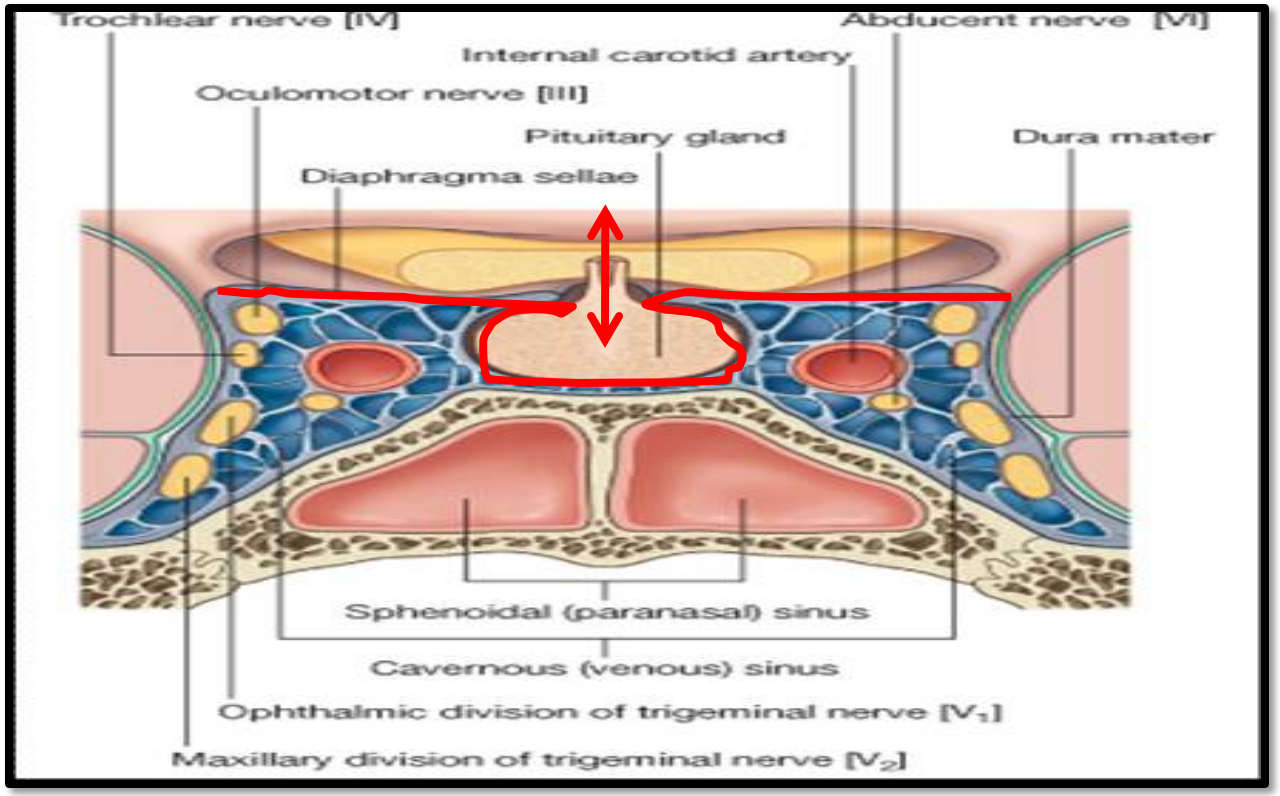


- it lies between **Optic chiasma** (anteriorly) & **Mamillary bodies** (posteriorly).

IMPORTANT RELATIONS

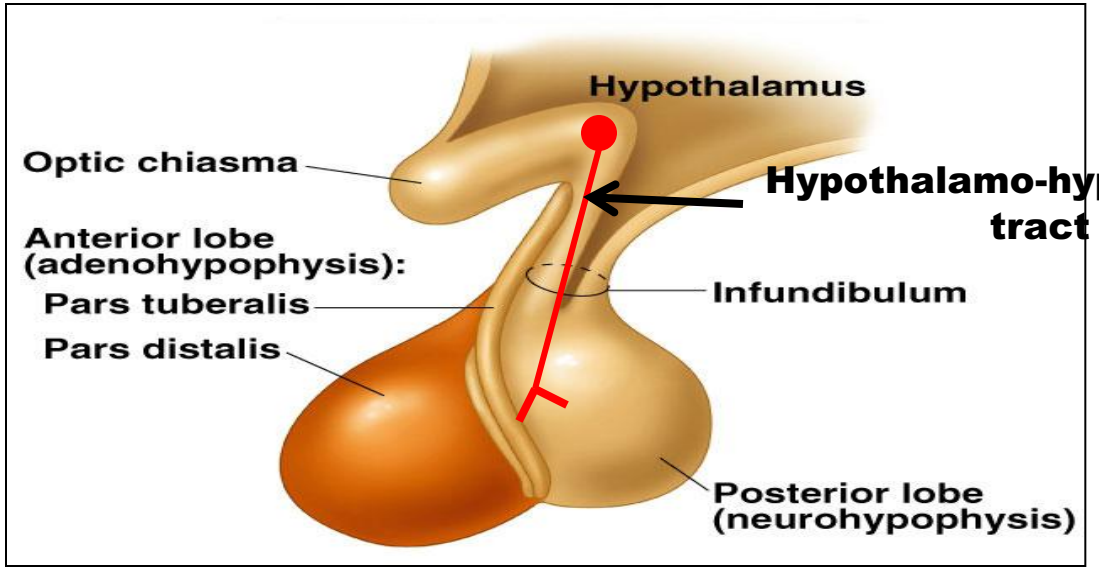


- **SUPERIOR:** Diaphragma sellae
- **INFERIOR:** Sphenoidal air sinuses
- **LATERAL:** Cavernous sinuses



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

SUBDIVISIONS OF PITUITARY GLAND

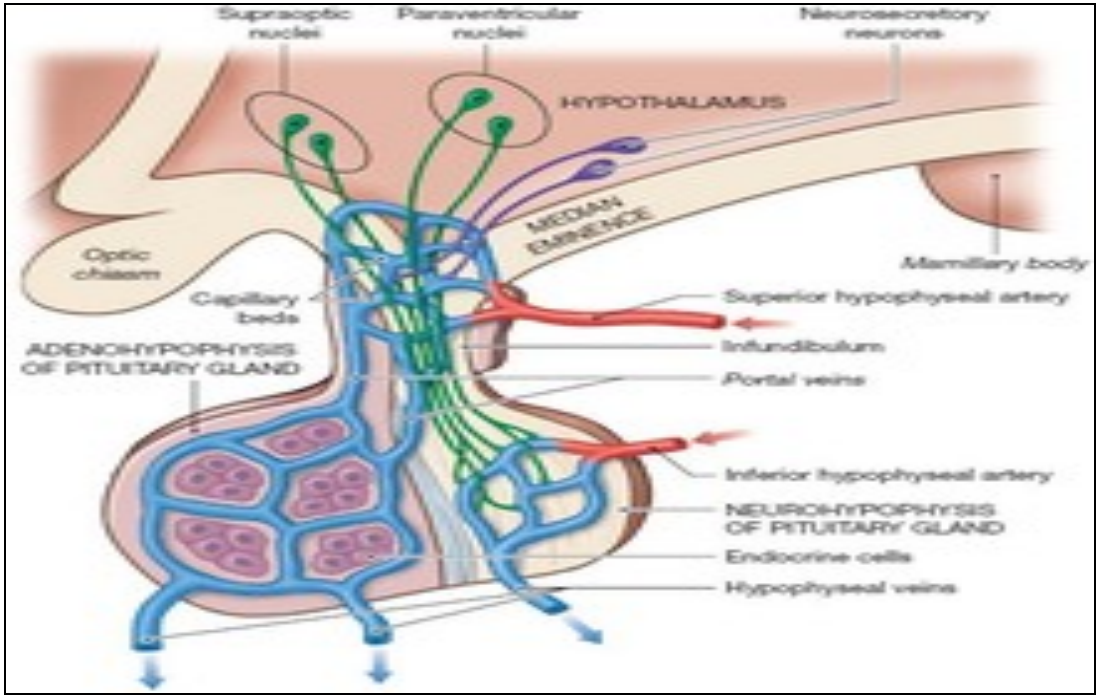


The gland is subdivided into:

Anterior Lobe (Adenohypophysis): it is the True gland, Secretes hormones

Posterior Lobe (Neurohypophysis): connected to hypothalamus through hypothalamo-hypophyseal tract, Stores hormones secreted

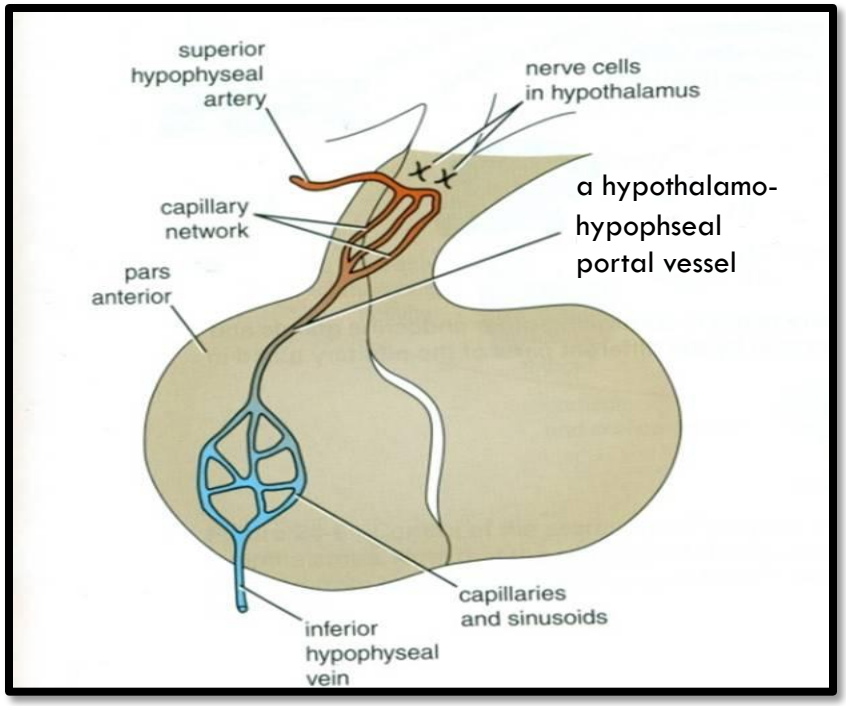
BLOOD SUPPLY OF PITUITARY GLAND

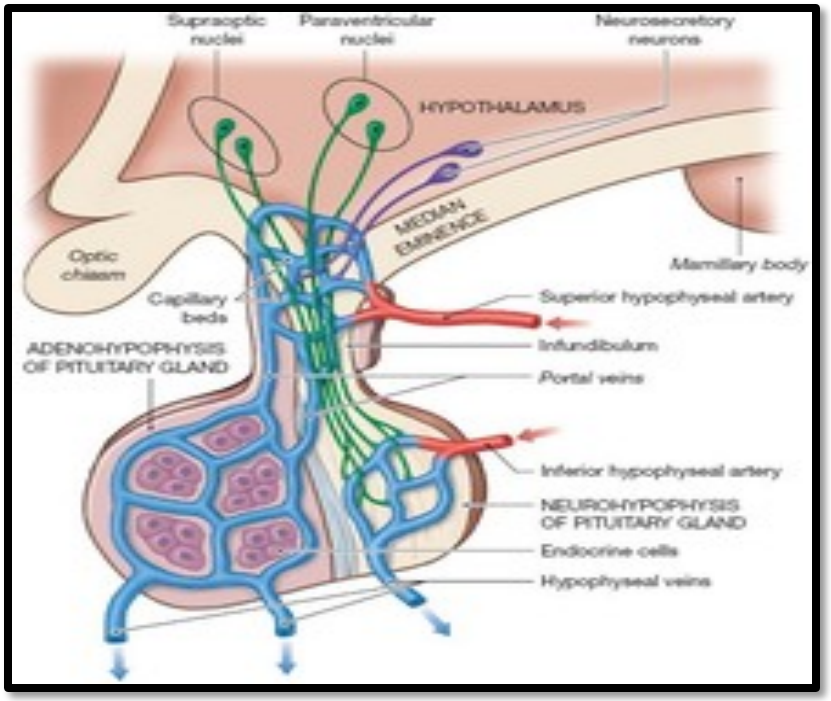


ARTERIES: Superior & Inferior hypophyseal arteries (branches from Internal Carotid artery)

VEINS: Hypophyseal veins drain into Cavernous Sinuses.

DISTRIBUTION OF ARTERIES

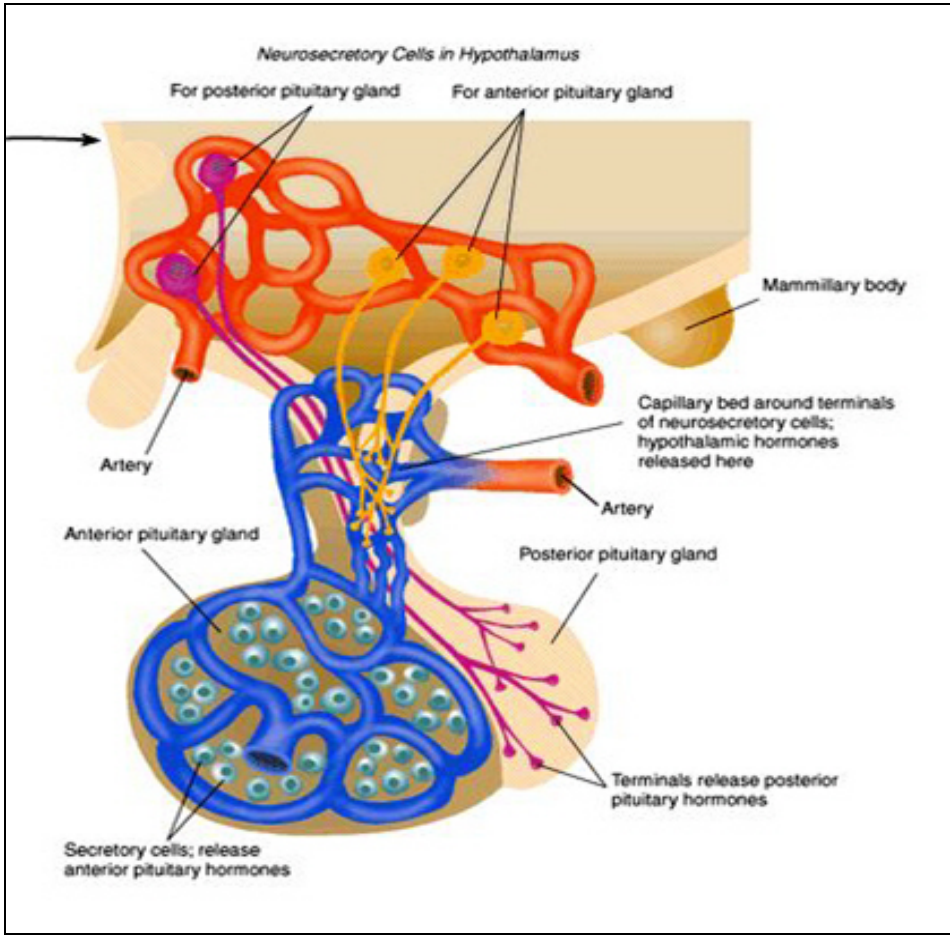




- **Superior hypophyseal: supplies infundibulum & forms a capillary network from which vessels pass downward & form sinusoids into the anterior lobe of pituitary gland (hypophyseal portal system).**
- **Inferior hypophyseal: supplies posterior lobe of pituitary gland.**

ANTERIOR LOBE

- **Hormone-releasing & inhibiting factors produced by hypothalamus use Hypophyseal Portal System of vessels to reach the Anterior lobe of pituitary gland**



POSTERIOR LOBE

- **The Neurohypophysis** receives a nerve supply from some of the hypothalamic nuclei (supraoptic & paraventricular)
- The axons of these nuclei convey their neurosecretion to the Posterior lobe of pituitary gland through Hypothalamo-Hypophyseal tract from where it passes into the blood stream.