

ANATOMY OF THE PITUITARY GLAND



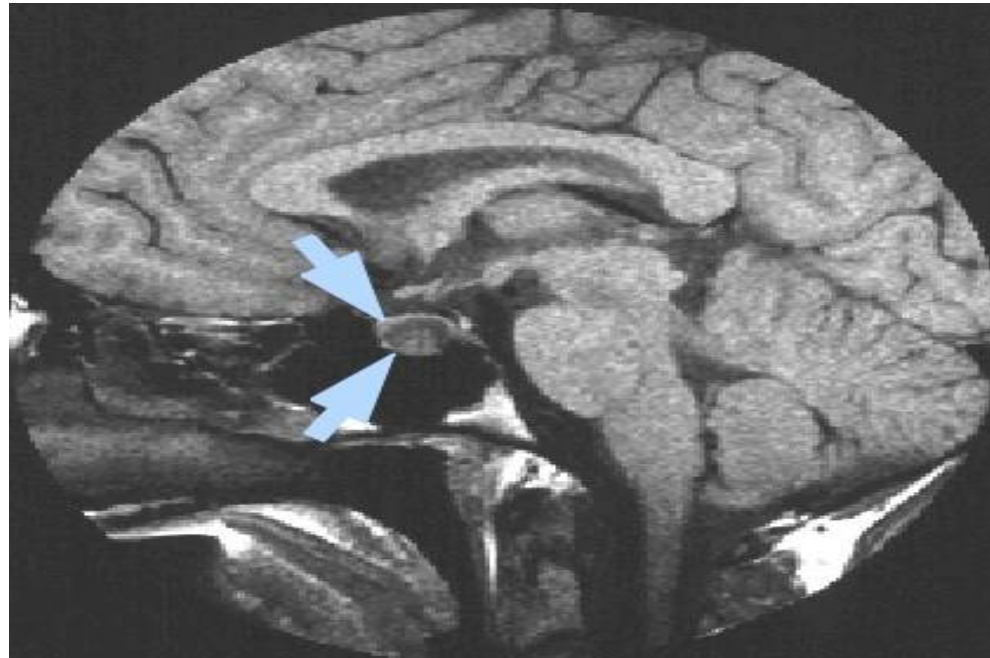
Dr. Ahmed Fathalla Ibrahim & Dr. Jamila El Medany

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.

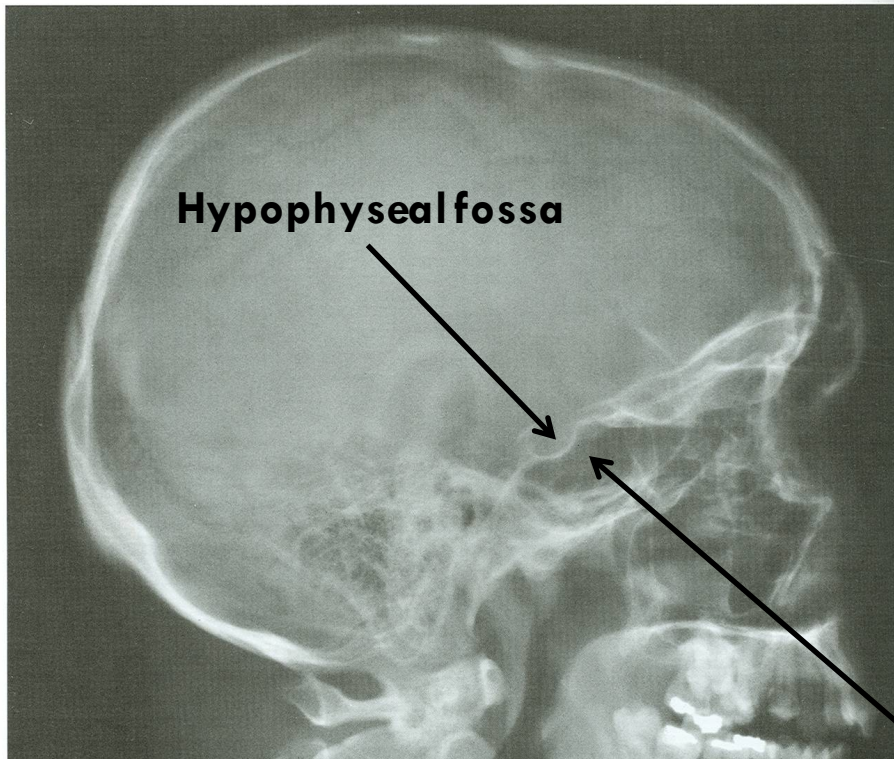
PITUITARY GLAND (HYPOPHYSIS CEREBRI)



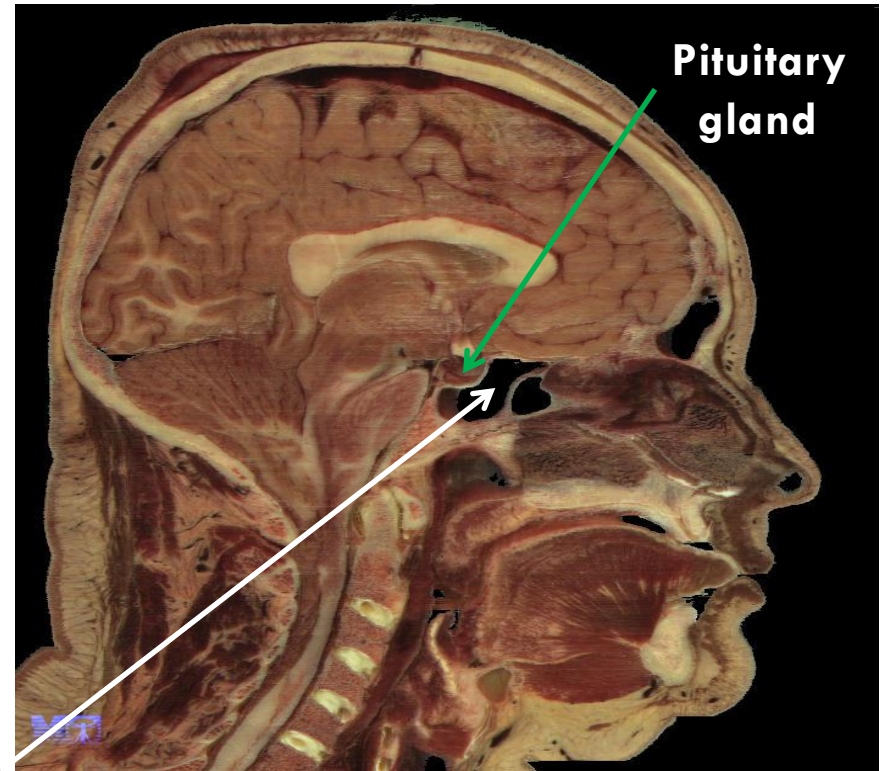
- ❑ It is referred to as the master of endocrine glands.
- ❑ It is a small oval structure 1 cm in diameter.
- ❑ It doubles its size during pregnancy.

PITUITARY GLAND

X-RAY SKULL: LATERAL VIEW



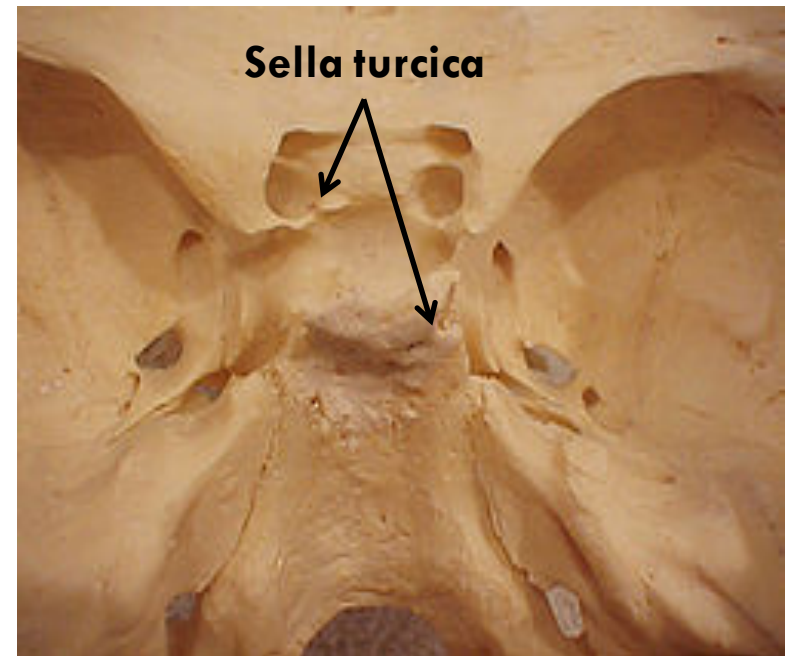
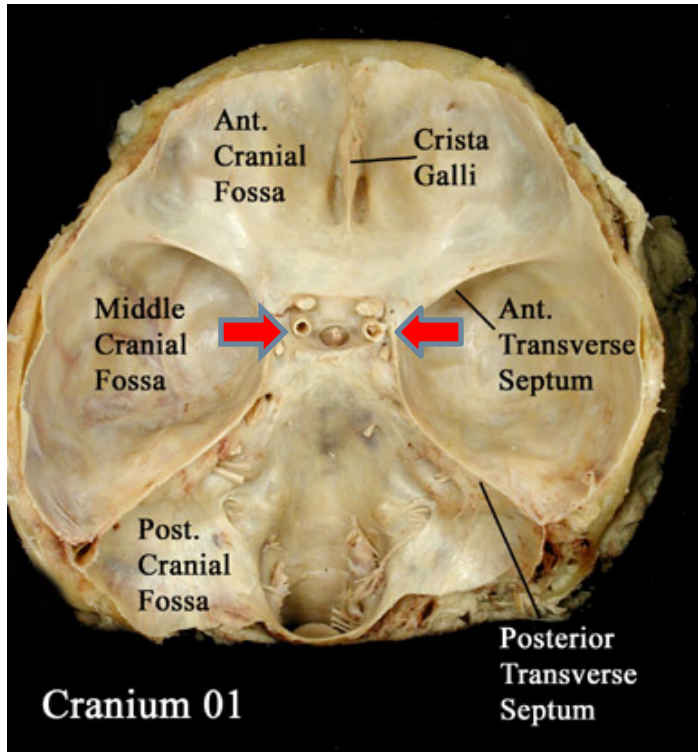
SAGITTAL SECTION OF HEAD & NECK

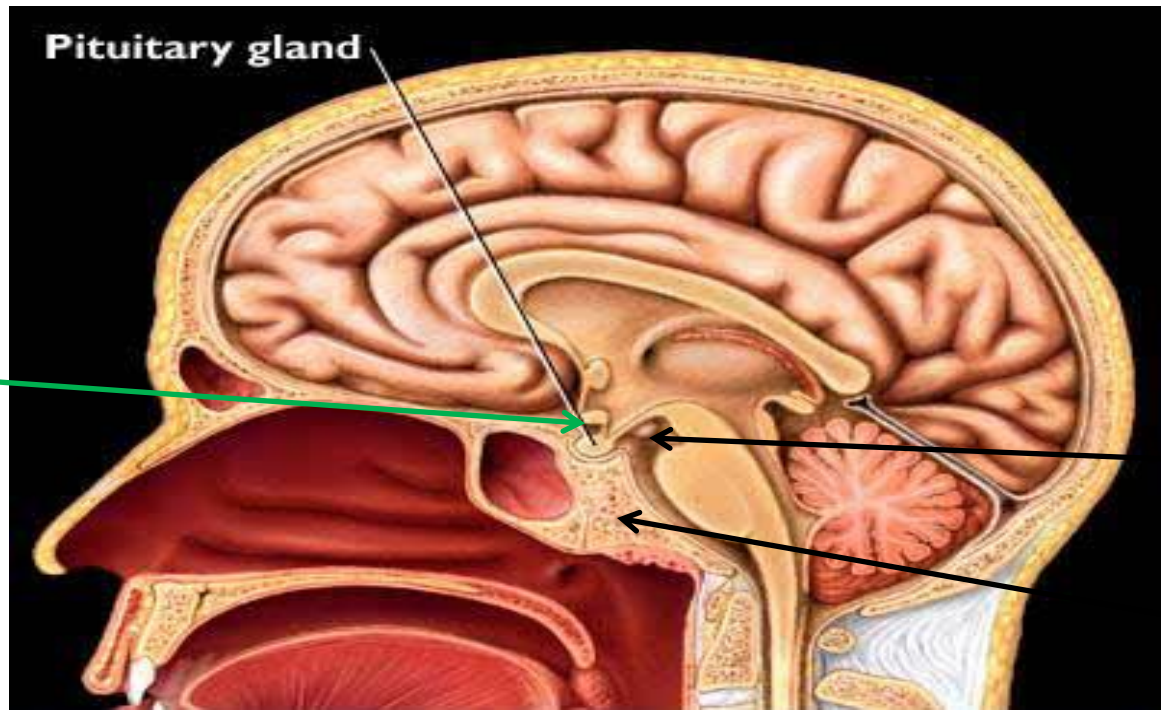


POSITION

It lies in the **middle cranial fossa**

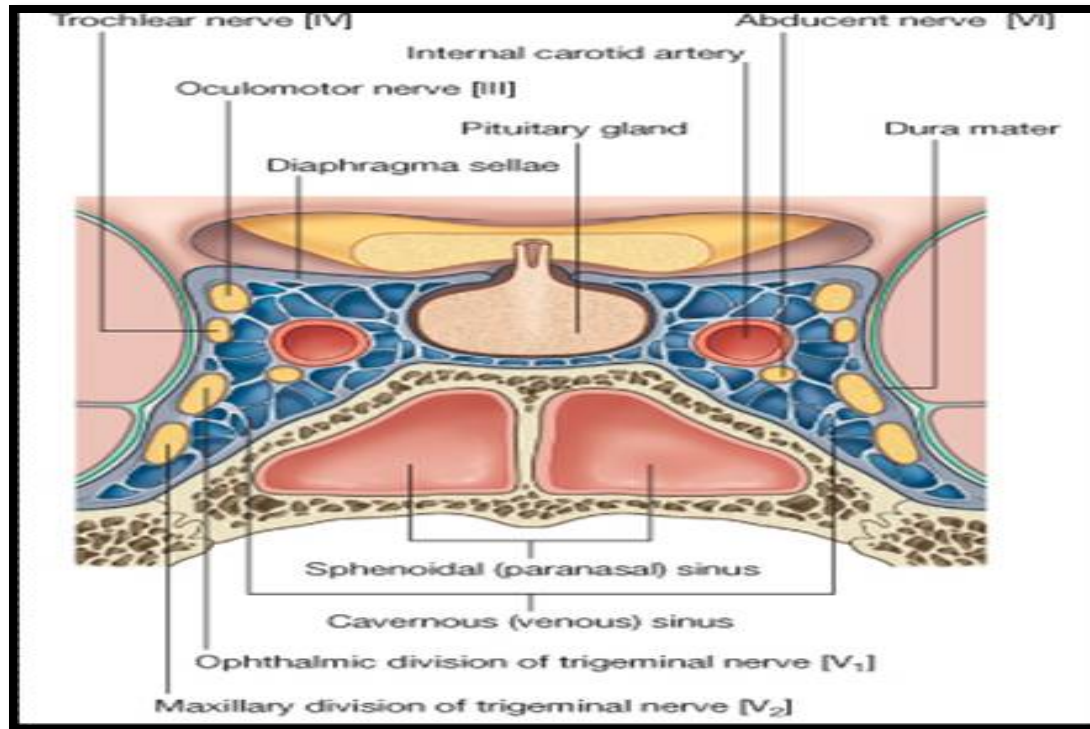
It is well protected in sella turcica (hypophyseal fossa) of body of sphenoid



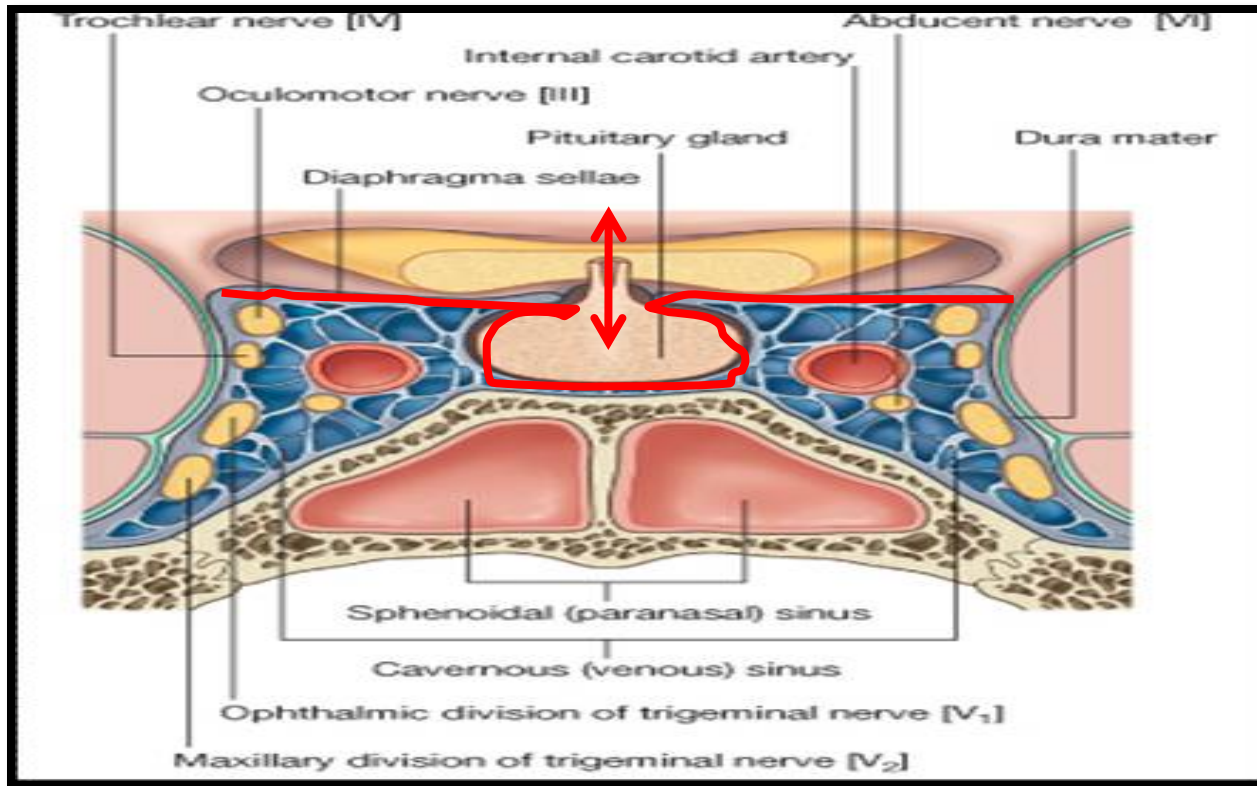


- it lies between Optic chiasma (anteriorly) & Mamillary bodies (posteriorly).

IMPORTANT RELATIONS

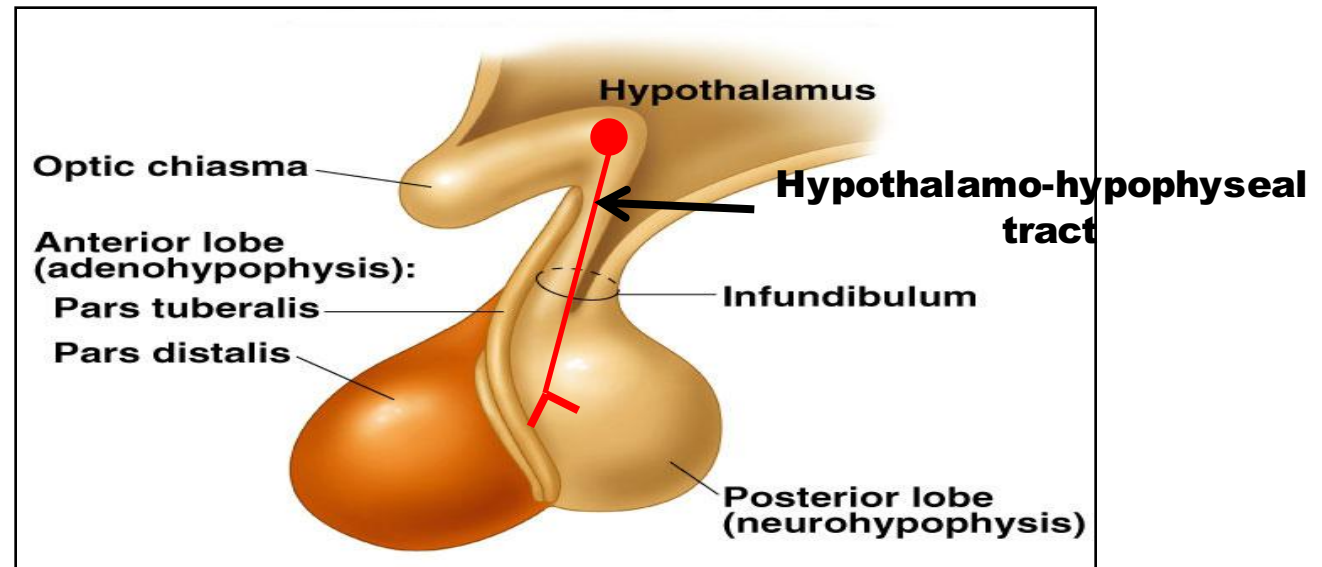


- ❑ **SUPERIOR:** Diaphragma sellae
- ❑ **INFERIOR:** Sphenoidal air sinuses
- ❑ **LATERAL:** Cavernous sinuses



Diaphragma sellae : 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

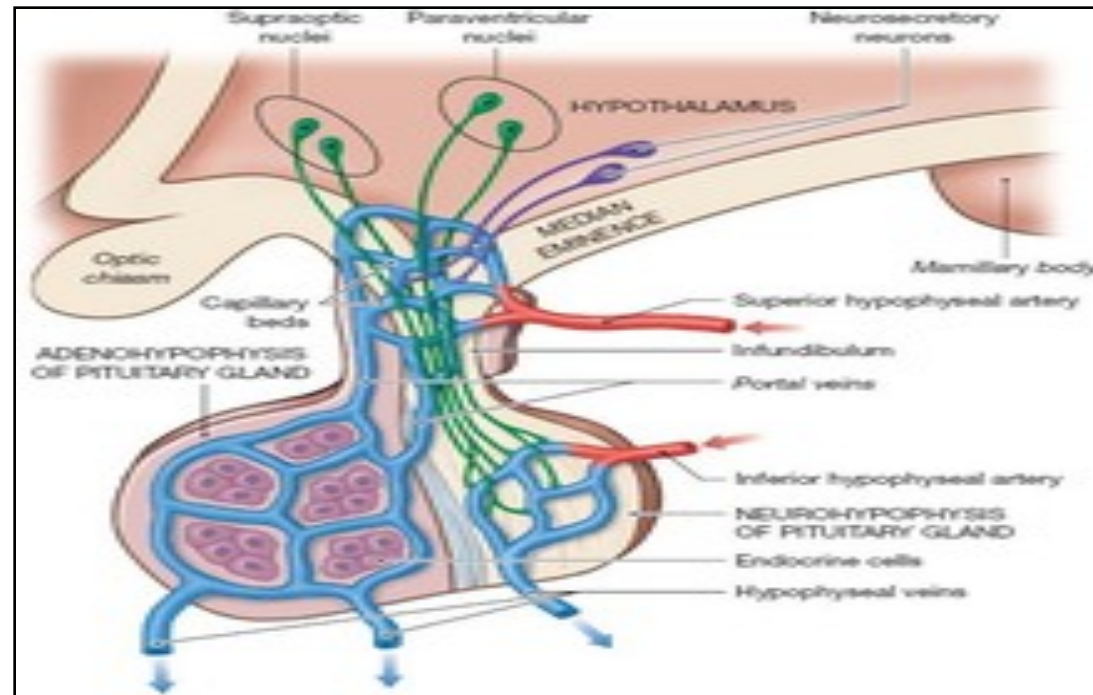


The gland is subdivided into:

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

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

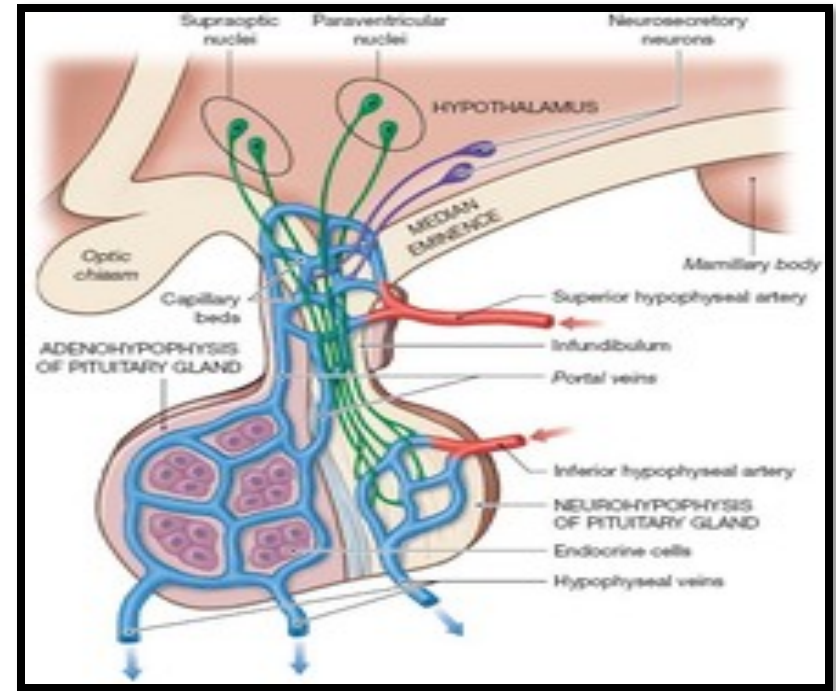
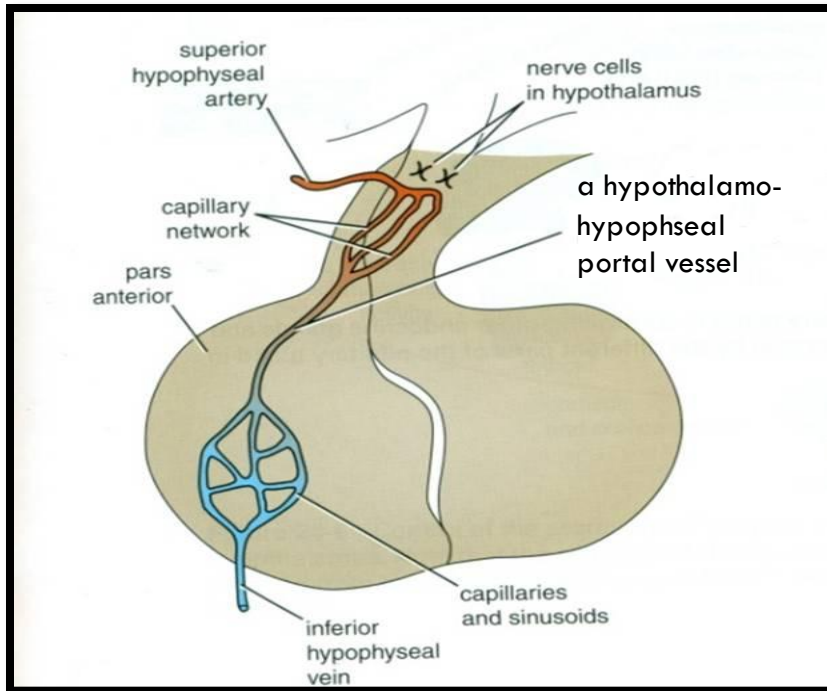
BLOOD SUPPLY OF PITUITARY GLAND



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

VEINS: Hypophyseal veins drain into Cavernous Sinuses.

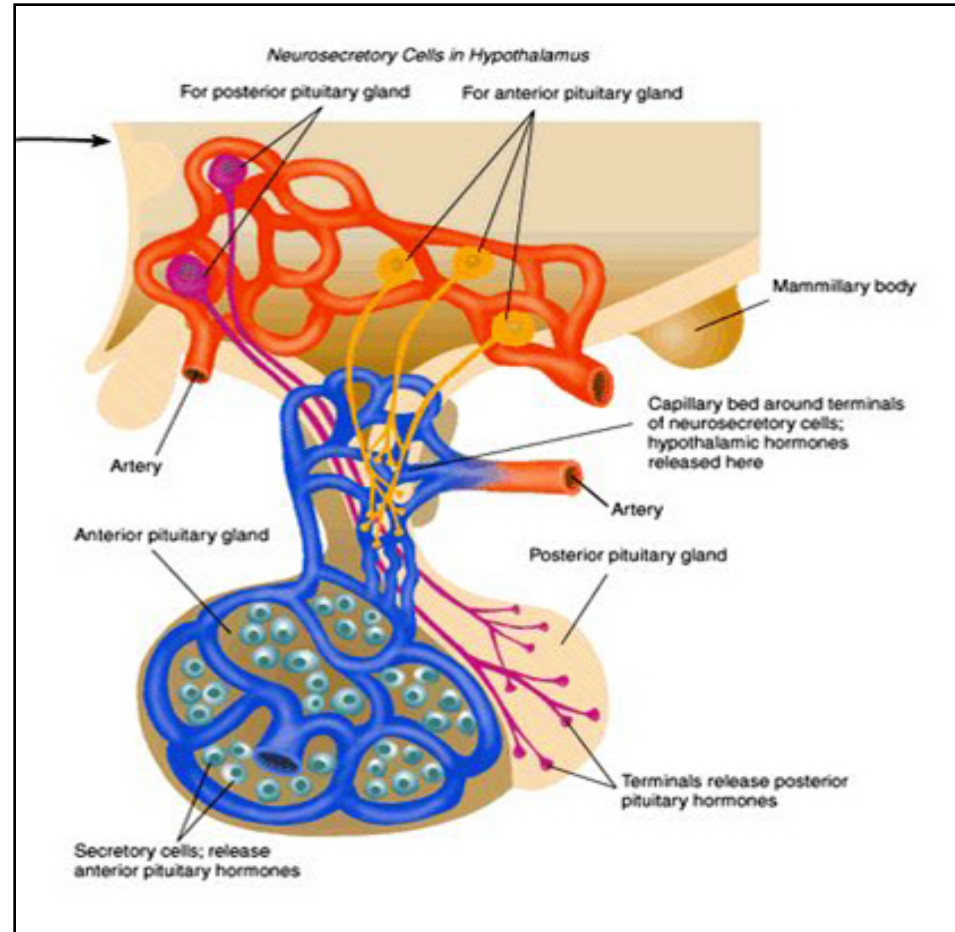
DISTRIBUTION OF ARTERIES



- **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.

