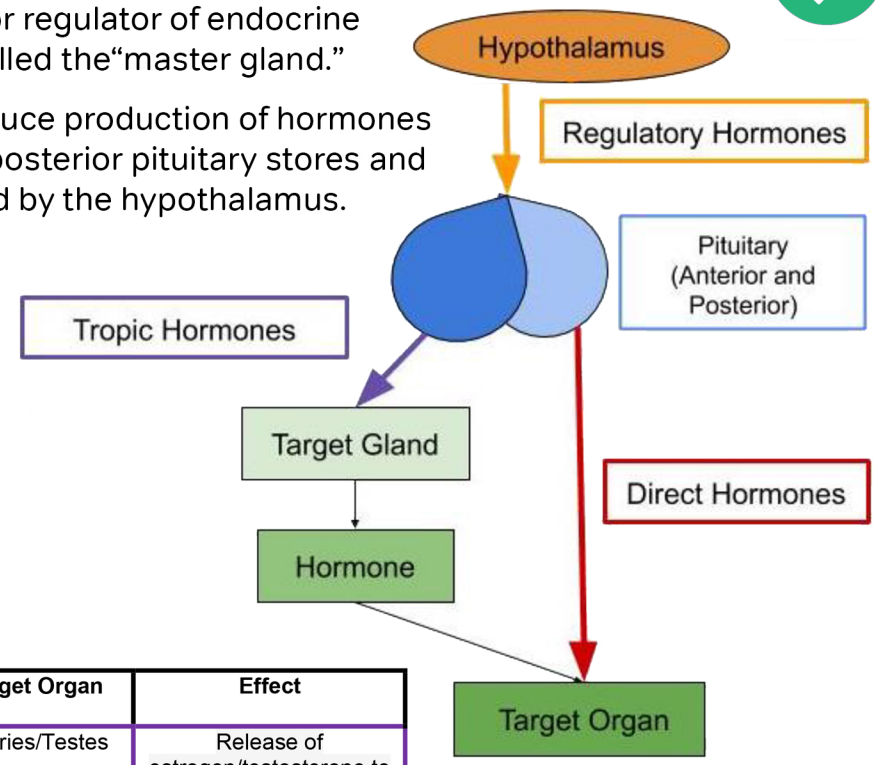
The Pituitary Gland

The pituitary gland is the major regulator of endocrine function and thus is often called the“master gland.”

Signals from the hypothalamus induce production of hormones by the anteriorpituitary, while the posterior pituitary stores and releases hormones produced by the hypothalamus.



Hormones
Tropic: Act on other endocrine glands to produce an effect

Direct: Directly effects target organs

Hormone	Anterior or Posterior Pituitary?	Target Organ	Effect
Follicle Stimulating Hormone (FSH)	Anterior	Ovaries/Testes	Release of estrogen/testosterone to regulate gonadal function
Luteinizing Hormone (LH)	Anterior	Ovaries/Testes	Release of estrogen/testosterone to regulate gonadal function
Adrenocorticotropic Hormone (ACTH)	Anterior	Adrenal Gland	Release of cortisol to mediate the stress response
Thyroid Stimulating Hormone (TSH)	Anterior	Thyroid Gland	Regulation of metabolic function
Prolactin	Anterior	Mammary Gland	Milk production and breast development in pregnancy
Endorphins	Anterior	Brain	Reduce perception of pain and stress
Growth Hormone	Anterior	Many, including bone	Increased bone and muscle growth, decreased body fat
Oxytocin	Posterior	Uterine smooth muscle and mammary gland	Stimulates contractions in childbirth and milk letdown during breastfeeding
ADH/Vasopressin	Posterior	Kidney	Causes reabsorption of water by the kidney, increasing blood pressure

Mnemonic:
Anterior pituitary hormones can be remembered by the pneumonic **FLAT PEG**

FLAT = tropic hormones
PEG = direct hormones

FSH
LH
ACTH
TSH

Prolactin
Endorphin
Growth Hormone