



Centurion
UNIVERSITY

*Shaping Lives...
Empowering Communities...*

ANATOMY AND PHYSIOLOGY OF ENDOCRINE SYSTEM

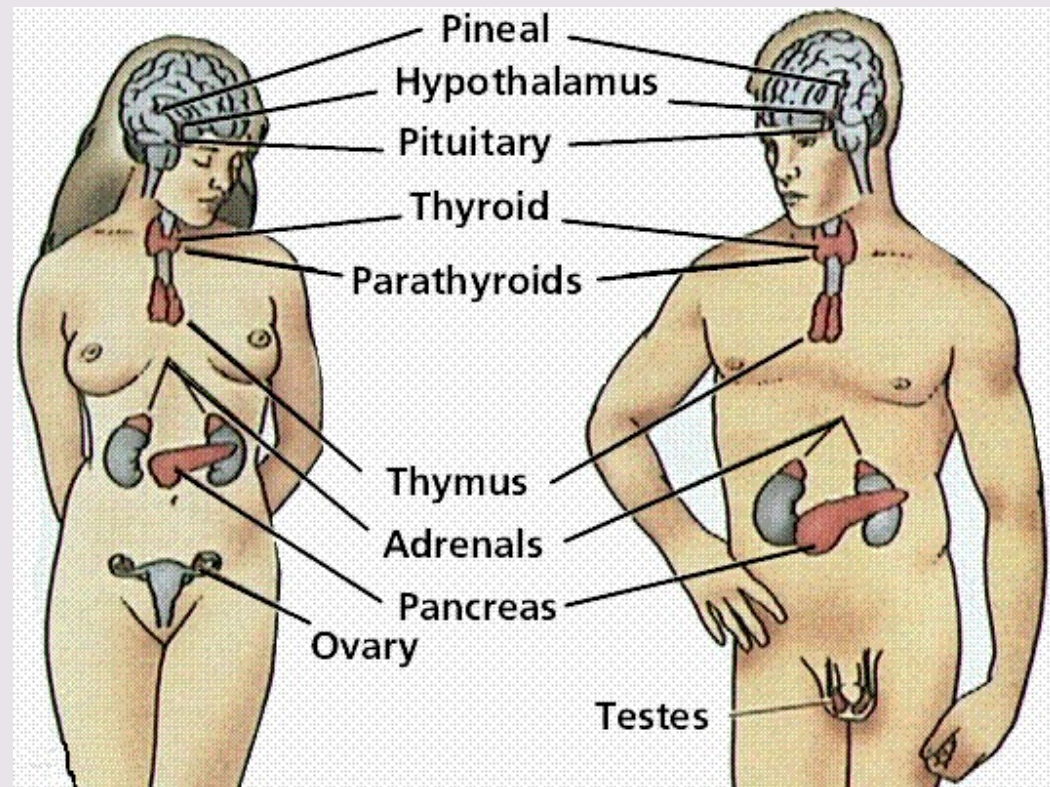
Suman Kumar Mekap
Asst. Professor (Pharmacology)
CUTM, Bhubaneswar



Centurion
UNIVERSITY

Shaping Lives...
Empowering Communities...

What is the endocri ne system



?

The endocrine system is made up of glands and the hormones they secrete. Although the endocrine glands are the primary hormone producers, the brain, heart, lungs, liver, skin, thymus, gastrointestinal mucosa, and placenta also produce and release hormones.

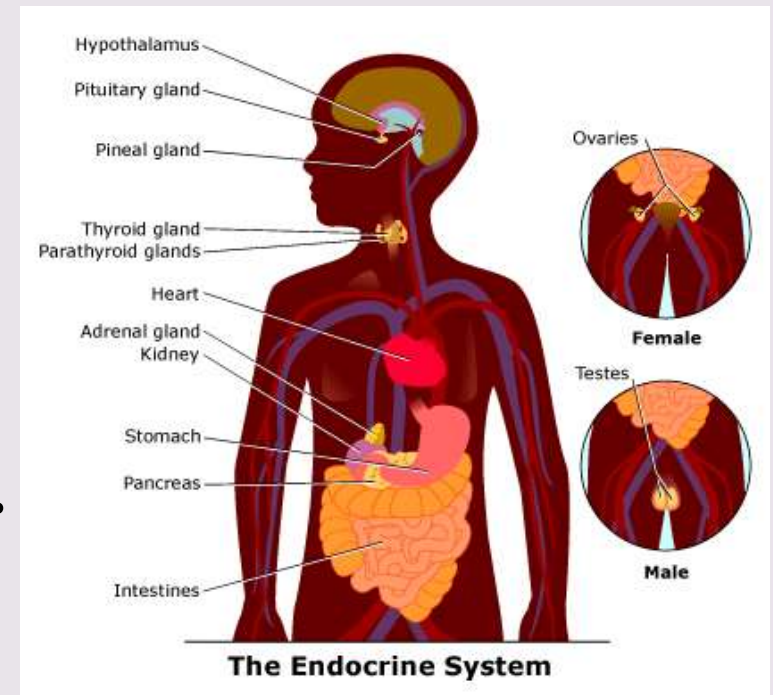


Centurion
UNIVERSITY

*Shaping Lives...
Empowering Communities...*

What is the endocrine system?

The primary endocrine glands are the pituitary (the master gland), pineal, thyroid, parathyroid, islets of Langerhans, adrenals, ovaries in the female and testes in the male.



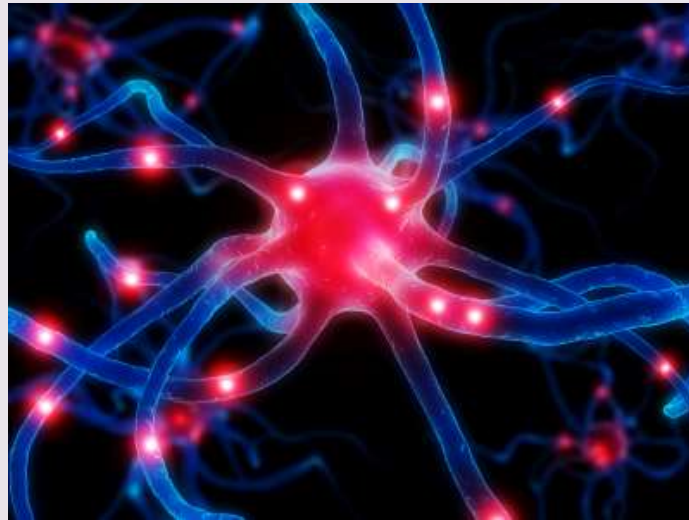
The function of the endocrine system is the production and regulation of chemical substances called hormones.



Centurion
UNIVERSITY

*Shaping Lives...
Empowering Communities...*

Hormones...



A hormone is a chemical transmitter. It is released in small amounts from glands, and is transported in the bloodstream to target organs or other cells. Hormones are chemical messengers, transferring information and instructions from one set of cells to another.



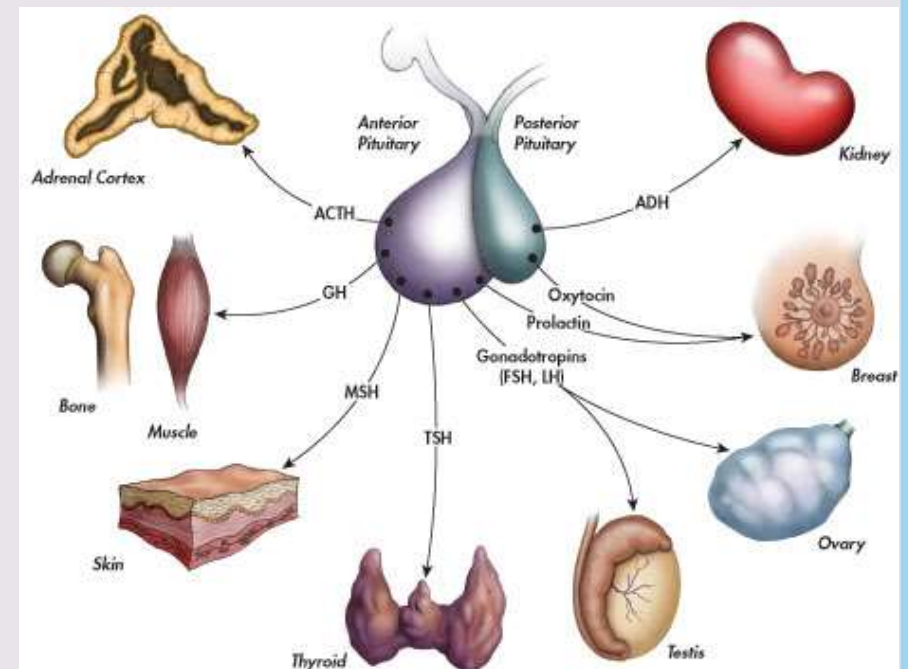
Centurion
UNIVERSITY

*Shaping Lives...
Empowering Communities...*

Hormones...

Hormones regulate growth, development, mood, tissue function, metabolism, and sexual function.

Hyposalivation or hypersecretion of any hormone can be harmful to the body. Controlling the production of hormones can treat many hormonal disorders in the body.

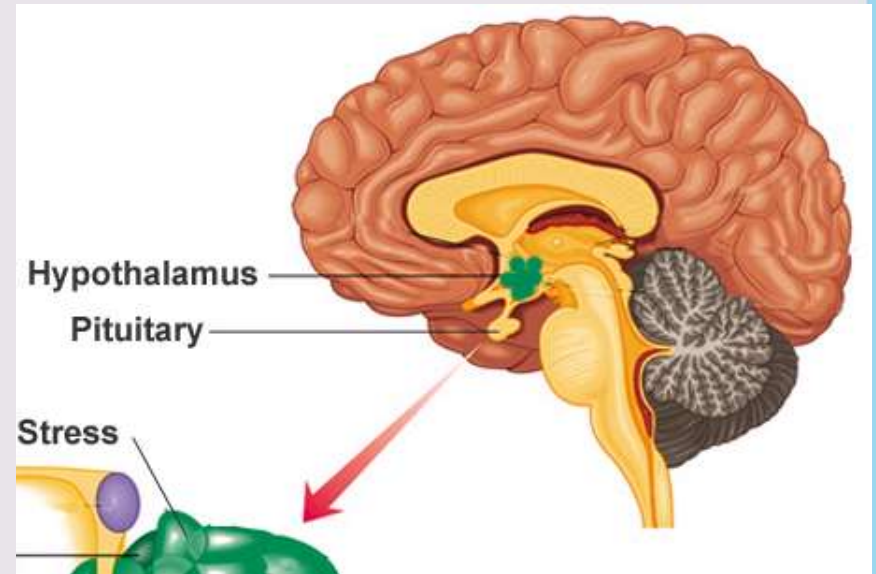
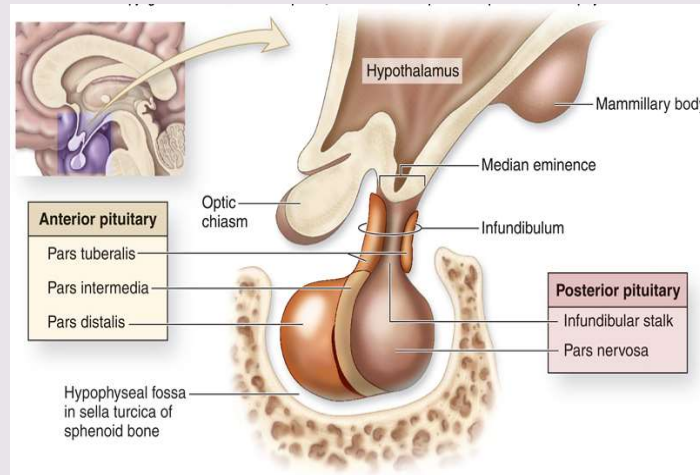




**Centurion
UNIVERSITY**

*Shaping Lives...
Empowering Communities...*

Hormones...



The pituitary gland has 2 lobes...

The endocrine system and nervous system work together to help maintain homeostasis... balance. The hypothalamus is a collection of specialized cells located in the brain, and is the primary link between the two systems. It produces chemicals that either stimulate or suppress hormone secretions of the pituitary gland.

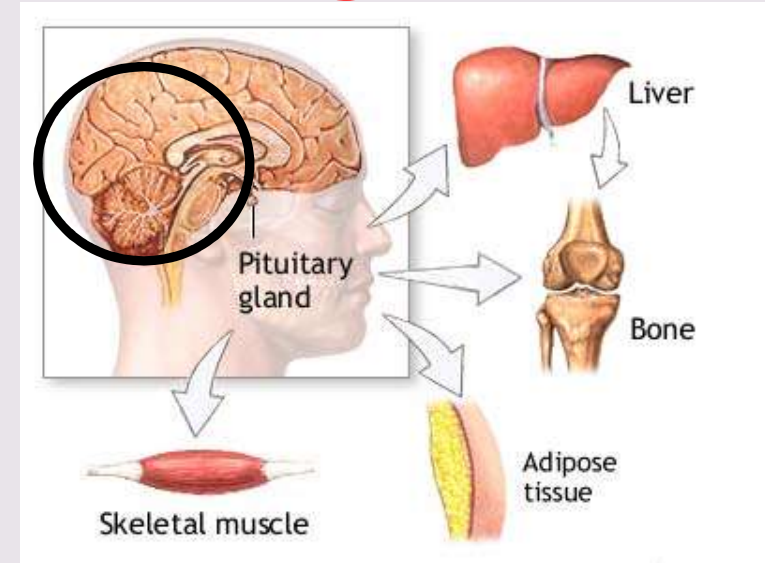


Centurion
UNIVERSITY

Shaping Lives...
Empowering Communities...

Secretions from the anterior pituitary gland...

Growth Hormone (GH): essential for the growth and development of bones, muscles, and other organs. It also enhances protein synthesis, decreases the use of glucose, and promotes fat destruction.





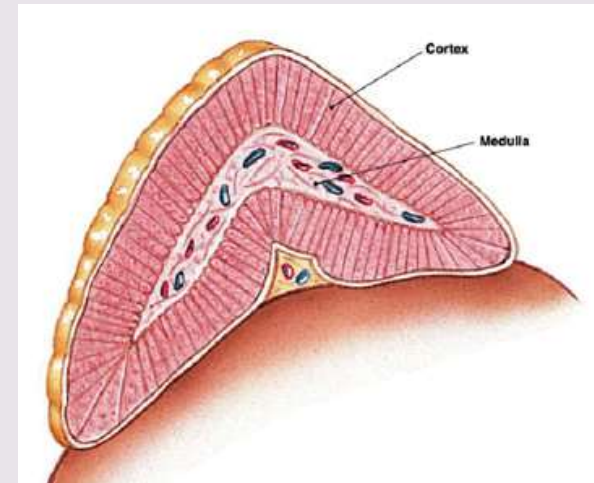
**Centurion
UNIVERSITY**

*Shaping Lives...
Empowering Communities...*

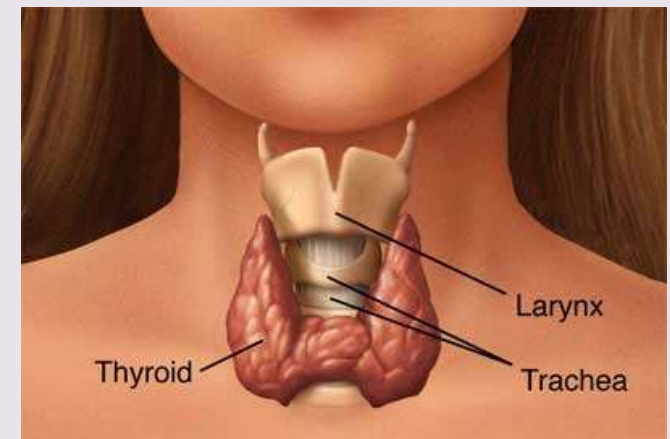
Secretions from the anterior pituitary gland...

Adrenocorticotropin (ACTH):

essential for the growth of the adrenal cortex.



Thyroid-Stimulating Hormone (TSH):
essential for the growth and development of the thyroid gland.



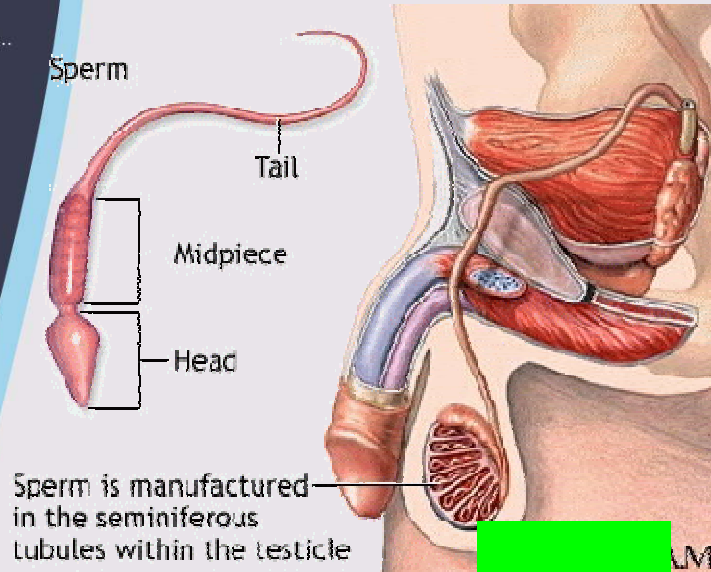


Centurion
UNIVERSITY

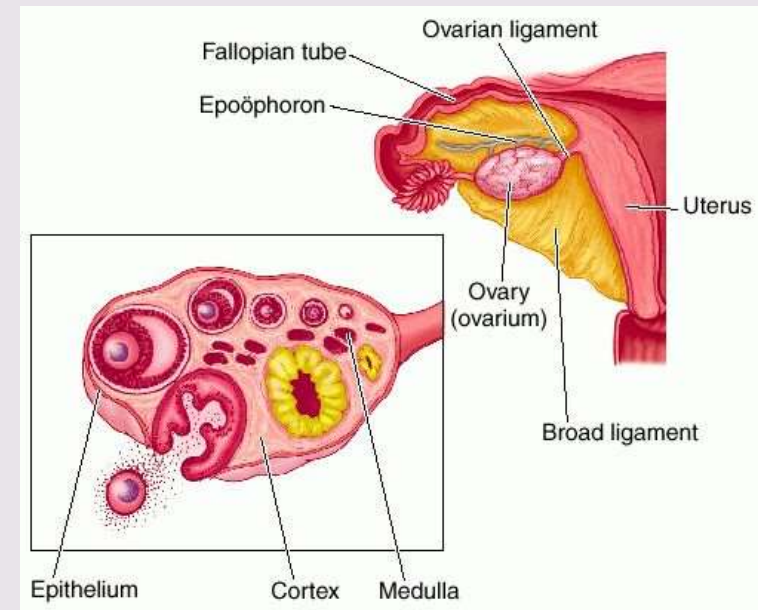
Shaping Lives...
Empowering Communities...

Secretions from the anterior pituitary gland...

Follicle-Stimulating Hormone (FSH): is a gonadotropic hormone.



It stimulates the growth ovarian follicles in the female and the production of sperm in the male.

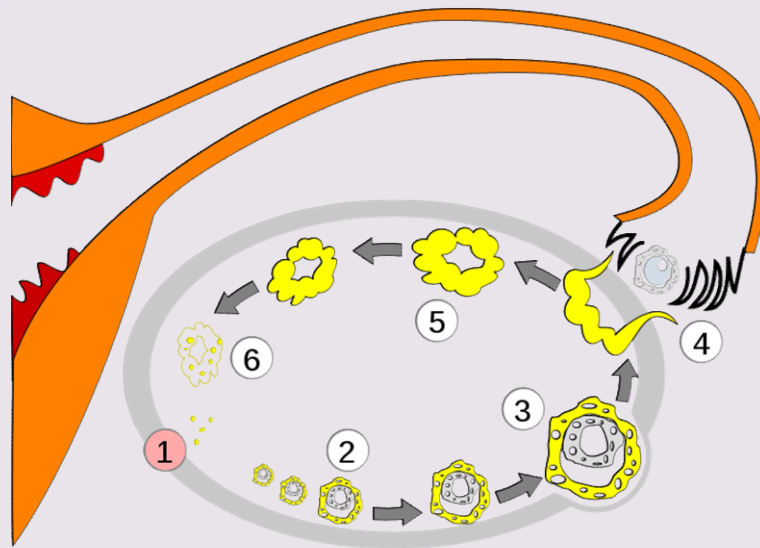




Centurion
UNIVERSITY

*Shaping Lives...
Empowering Communities...*

Secretions from the anterior pituitary gland...



The yellow corpus luteum remains after ovulation; it produces estrogen and progesterone.

Luteinizing Hormone (LH): is a gonadotropic hormone stimulating the development of corpus luteum in the female ovarian follicles and the production of testosterone in the male.