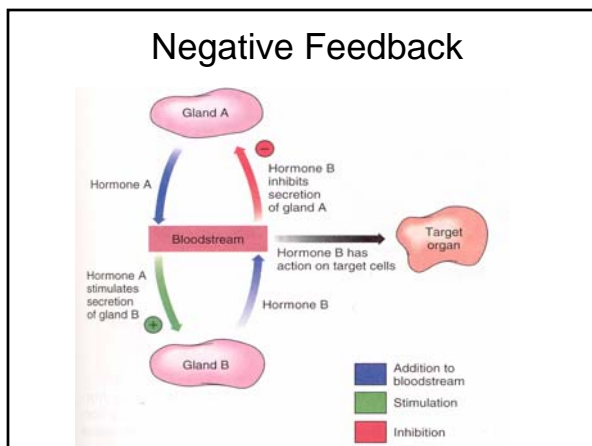


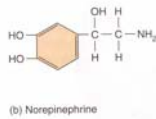
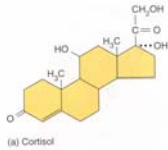
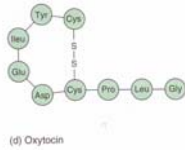
Function of Endocrine System

- Homeostasis
 - Regulate:
 - metabolic processes, water balance, ions, BP
- Aid transporting of substance across membranes
- Stimulate reproduction, development, growth

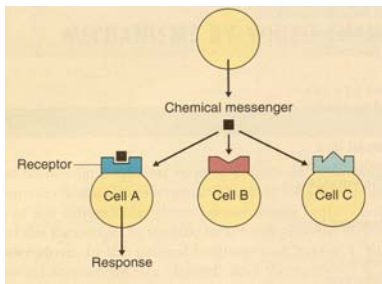


Types of Secretions

- Amino Acids
- Steroids
- Peptides
- Eicosanoids

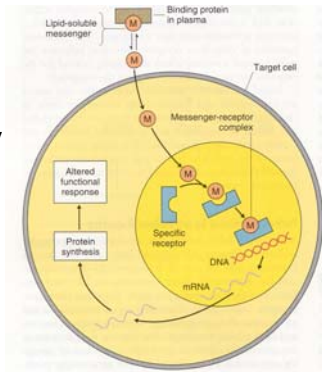


Hormone Target Specificity



How Hormones Work

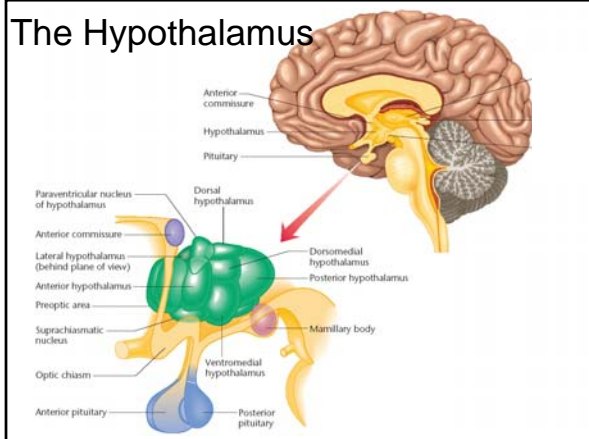
- Steroid
 - Enters cell
 - Binds to receptor
 - Alters DNA activity



Control of Hormone Secretions

- Tropic hormones from anterior pituitary
 - Thyroid Stimulating Hormone (TSH)
- Nervous stimulation
 - Adrenal gland
- Composition of internal environment
 - Insulin
- Negative feedback systems

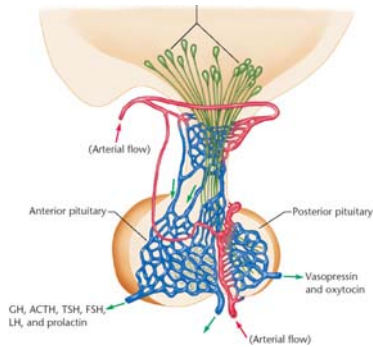
The Hypothalamus



Functions of the Hypothalamus

- Peptides
- Neural regulation- epinephrine/norepinephrine
- Endocrine control- Oxytocin/Antidiuretic (ADH)
- Endocrine control- Releasing & Inhibiting hormones

The Pituitary Gland



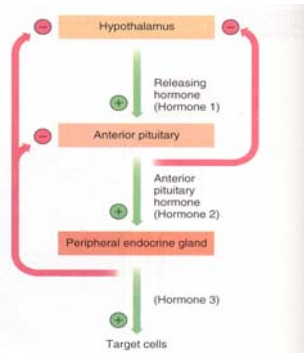
Pituitary Hormones

- Anterior
 - Prl
 - TSH
 - GH
 - ACTH
 - LH, FSH
 - MSH
- Posterior
 - ADH
 - Oxytocin

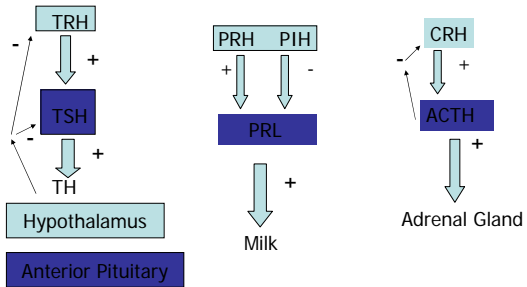
Posterior Pituitary Hormones

- Oxytocin
 - Contraction of smooth muscles of uterus, milk ducts
- **ADH (Vasopressin)**
 - Conserves water in body
 - Reduces urine volume
 - Dehydration of body stimulates osmoreceptors
 - High blood volume → less ADH and loss of water

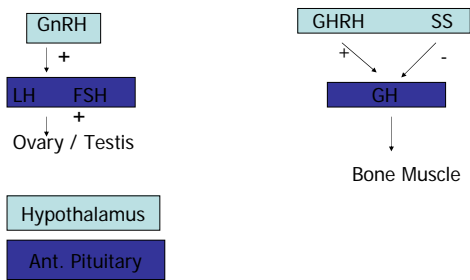
Hypothalamo-hypophyseal Axis



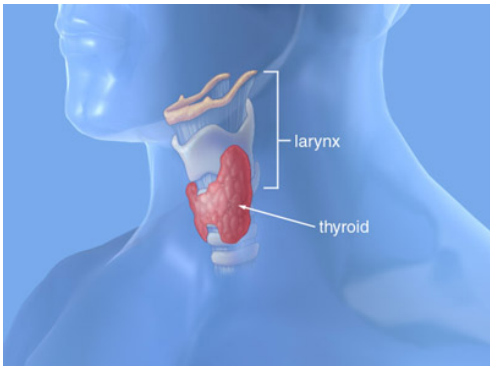
Regulating Anterior Pituitary



Regulating Anterior Pituitary



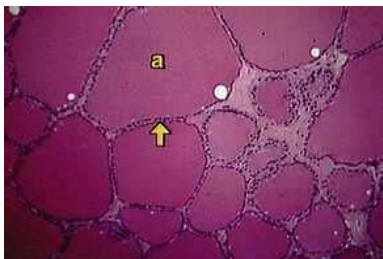
THYROID GLAND



THYROID GLAND

- Thyroid Hormones (T3/T4)
 - Produced by follicles
- Increase Metabolic Rate
- Healthy Developed Nervous System

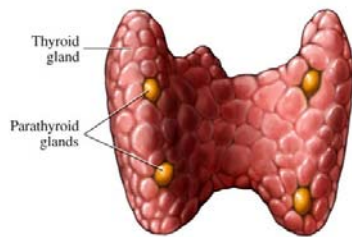
Follicles of Thyroid Gland



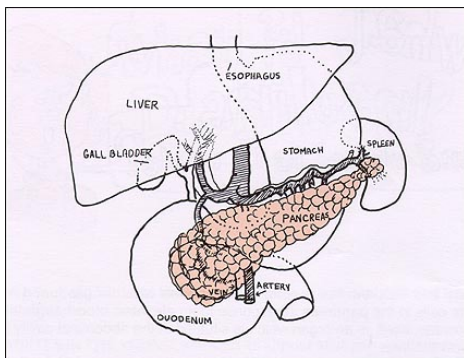
Thyroid C cells

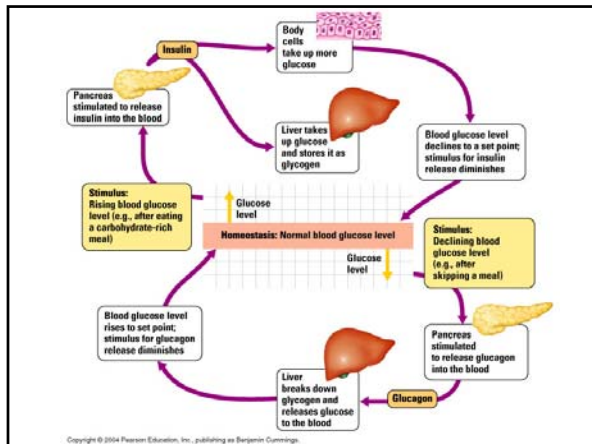
- Produce Calcitonin
- Controls blood $[Ca^{++}]$ levels
- Inhibits osteoclasts
 - Reduces loss from bone
- Stimulates osteoblasts
 - Increases deposit of Ca^{++} in bone

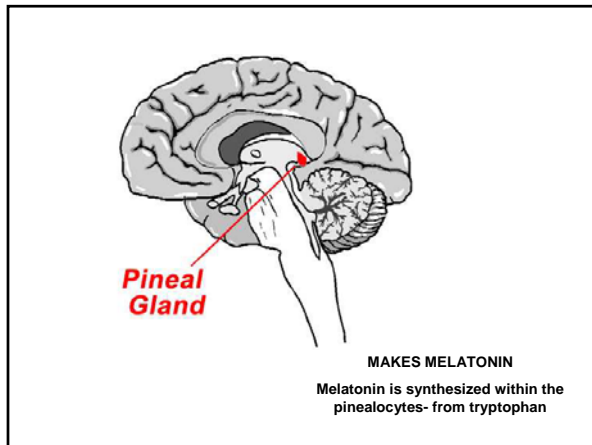
PARATHYROID GLANDS

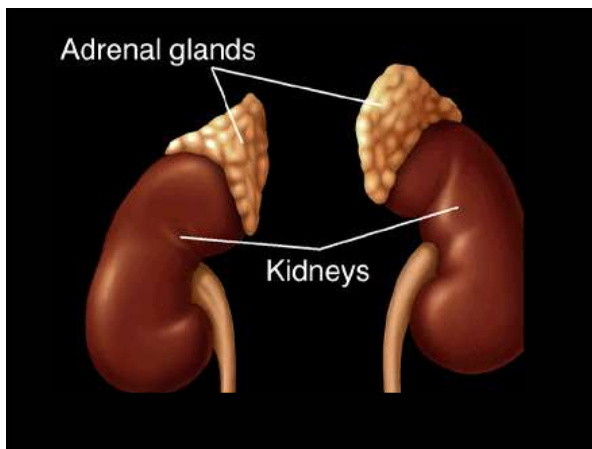


The Pancreas









ADRENAL HORMONES

- **CORTEX-** ALDOSTEROL, CORTISOL, ANDROGENS
- **MEDULLA-** ADRENILINE, EPINEPHRINE
