

MODULE 1 L01

Endocrine vs Nervous Systems

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1. Endocrine System X Nervous System

- Both:
 - ❖ Work together to monitor and adjust body's physiological activities
 - ❖ Coordinated closely
 - ❖ Effects complementary
- Nervous System Responses:
 - ❖ Short-term (few seconds)
 - ❖ Very specific
- Endocrine System Responses:
 - ❖ Not apparent immediately
 - ❖ Persist for several days

Distinguishing Both Organ Systems

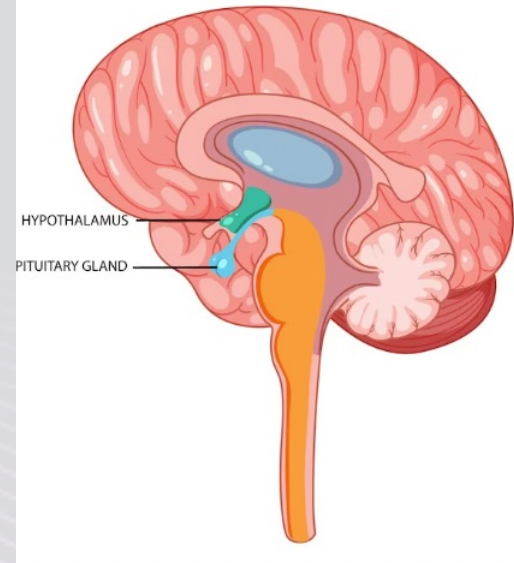
- Sometimes can be easily distinguished

Suprarenal (adrenal) Gland

Anatomically: Endocrine System

Function:

- Modified sympathetic ganglion
- Neurons secrete epinephrine and norepinephrine into blood

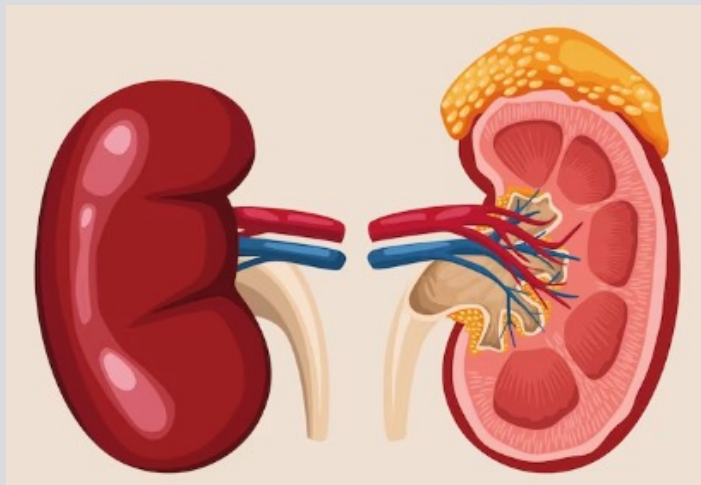


Hypothalamus

Anatomically: Nervous System

Function:

- Secretes a variety of hormones



Organs of the Endocrine System

Endocrine system – includes all endocrine cells and tissues of the body

- Glandular secretory cells that release hormones directly into the interstitial fluids, lymphatic system or blood
- In contrast, exocrine glands – secretions are released onto an epithelial surface

Organs With Secondary Endocrine Functions

Heart

Thymus

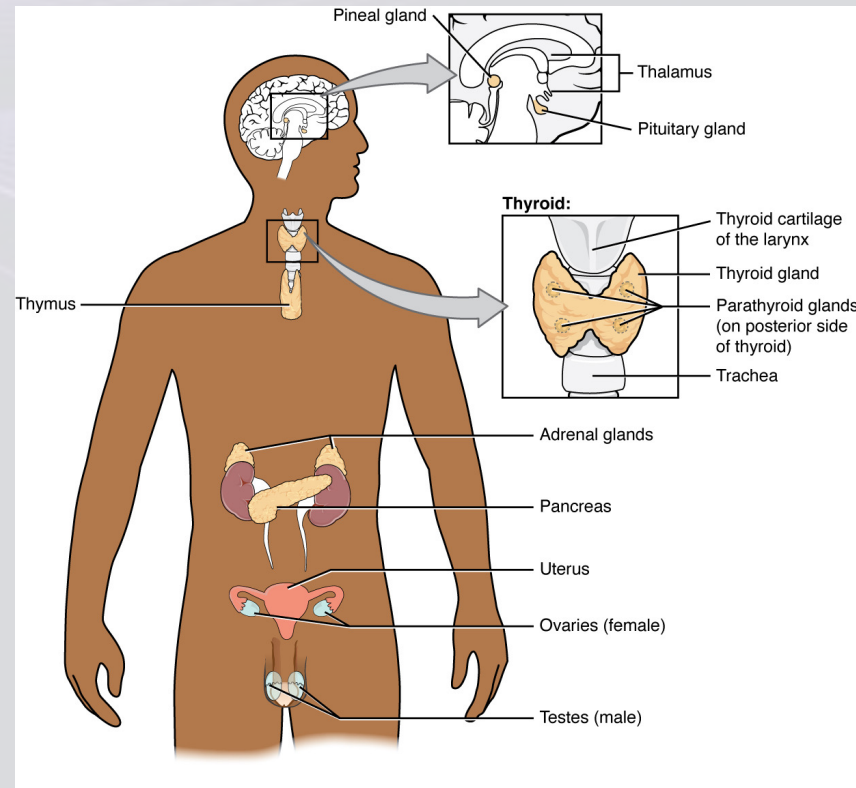
Adipose tissue

Digestive organs

Kidneys

Gonads:

- Testes
- Ovaries



Endocrine cells and tissues

Hypothalamus

Pituitary gland

Thyroid gland

Parathyroid glands

Adrenal (suprarenal) glands

Pancreas

Pineal gland