

The Human Endocrine System

Endocrine System and the Central Nervous System

Hypothalamus

Thyrotropin-releasing hormone
Dopamine
Growth hormone-releasing hormone
Somatostatin
Gonadotropin-releasing hormone
Corticotropin-releasing hormone
Oxytocin
Vasopressin

Thyroid

Triiodothyronine
Thyroxine

Pineal gland

Melatonin

Pituitary Gland

Anterior pituitary

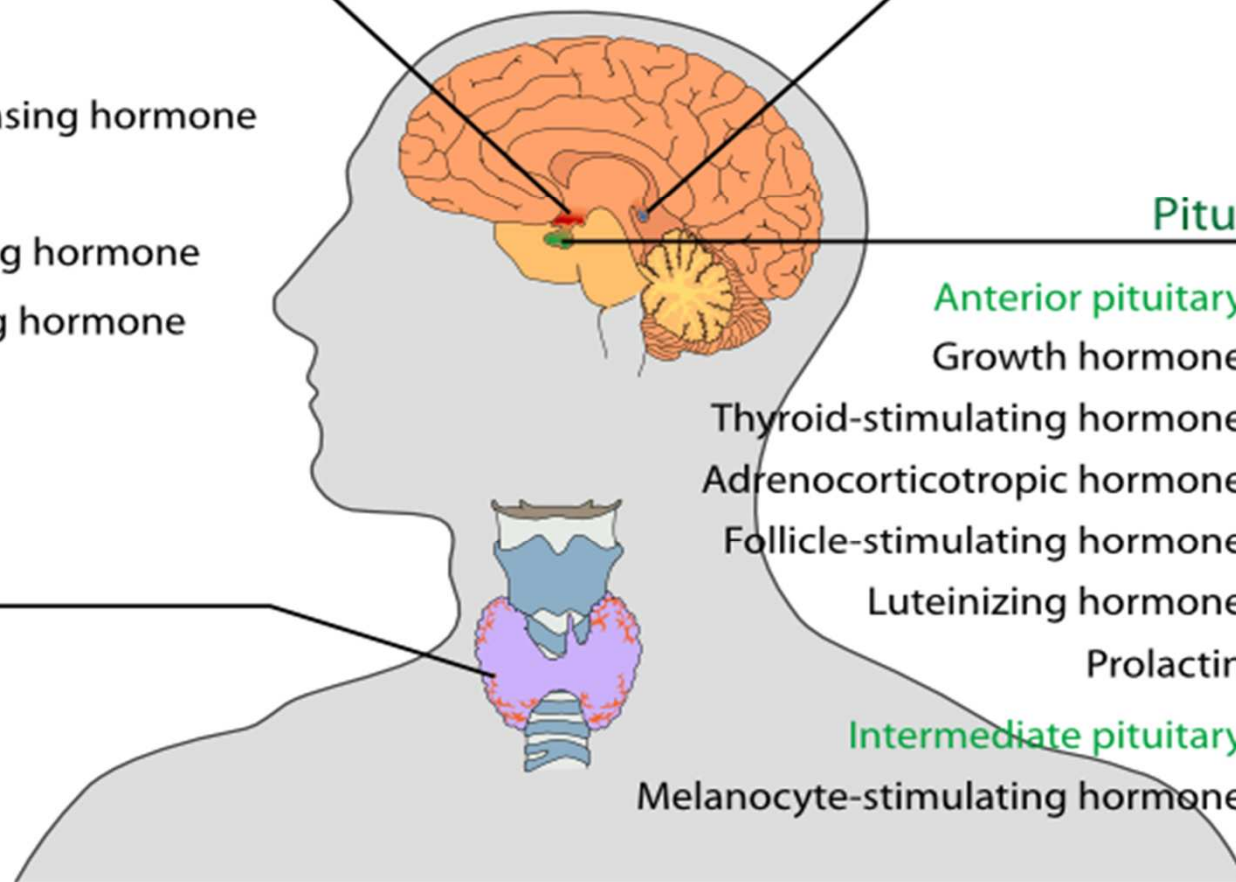
Growth hormone
Thyroid-stimulating hormone
Adrenocorticotrophic hormone
Follicle-stimulating hormone
Luteinizing hormone

Posterior pituitary

Oxytocin
Vasopressin
Oxytocin (stored)
Anti-diuretic hormone (stored)

Intermediate pituitary

Melanocyte-stimulating hormone



Endocrine System and the Digestive System

Liver

Insulin-like growth factor (somatomedin)
Angiotensinogen
angiotensin
Thrombopoietin

Duodenum

Secretin
Cholecystokinin

Kidney

Renin
Erythropoietin
Calcitriol
Thrombopoietin

Stomach

Gastrin
Ghrelin
Neuropeptide Y
Somatostatin
Histamine
Endothelin

Pancreas

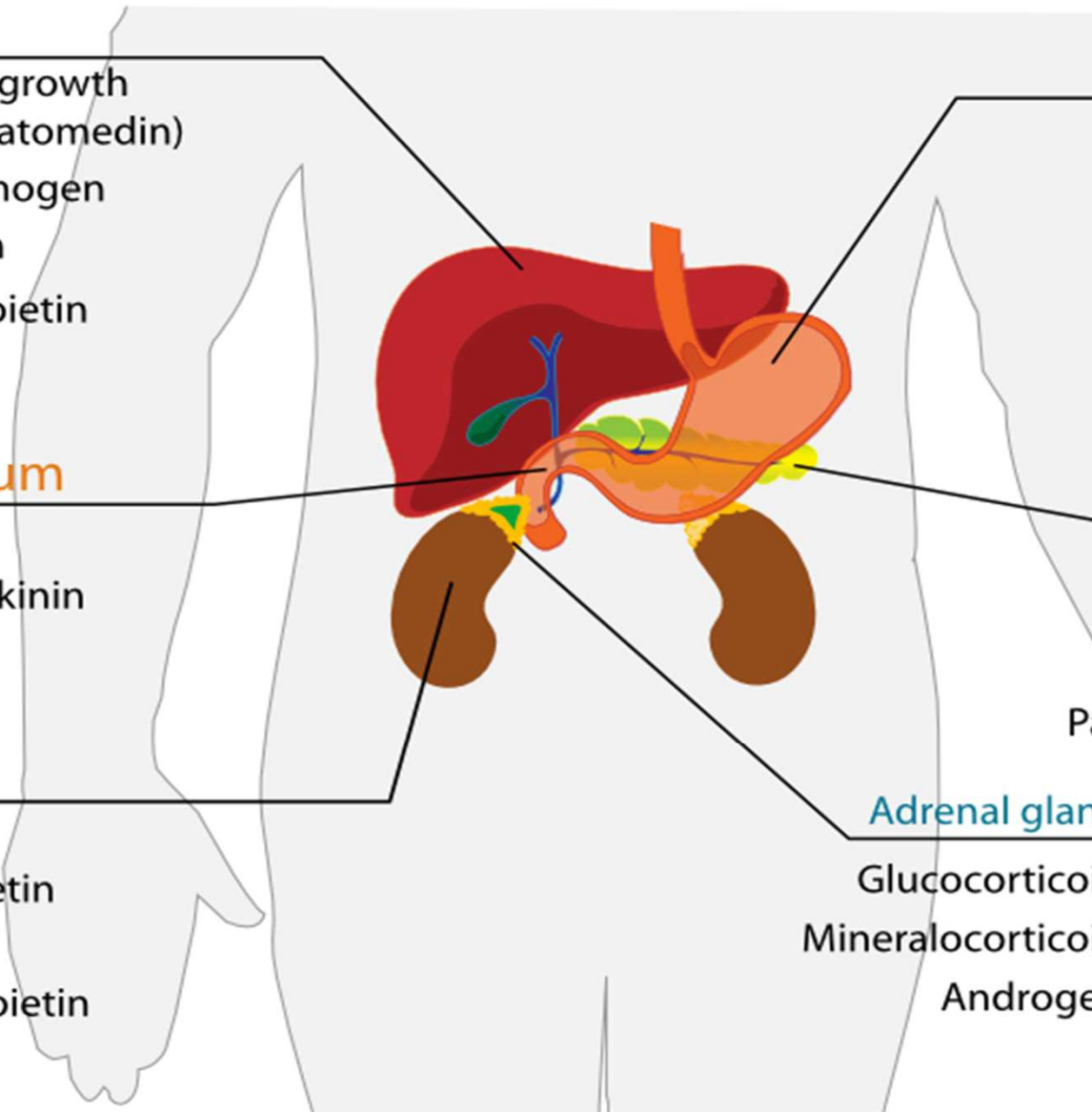
Insulin
Glucagon
Somatostatin
Pancreatic polypeptide

Adrenal glands

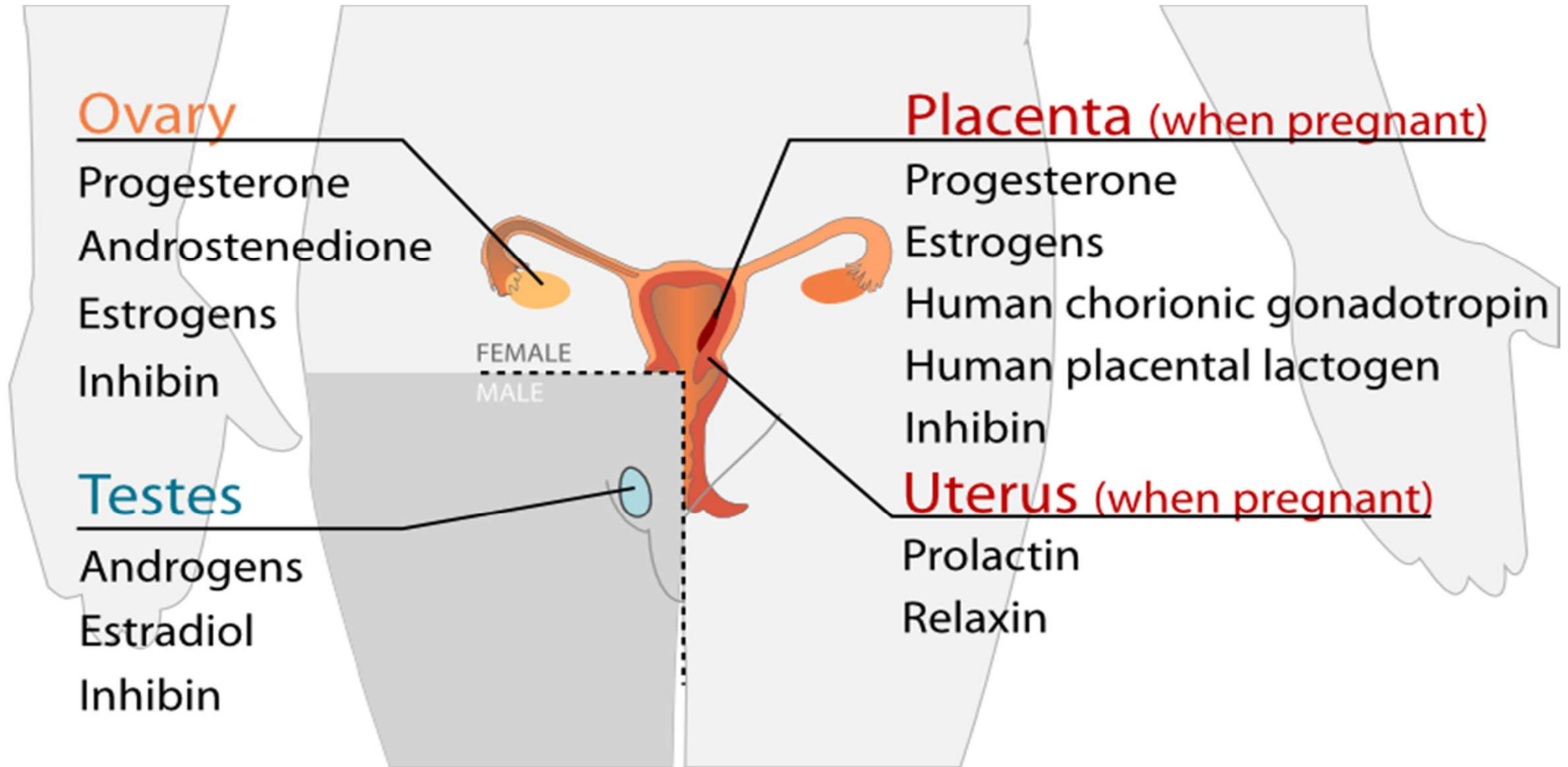
Glucocorticoids
Mineralocorticoids
Androgens

Adrenal medulla

Adrenaline
Noradrenaline
Dopamine
Enkephalin



Endocrine System and the Reproductive System



Endocrine System - Miscellaneous

Adipose tissue

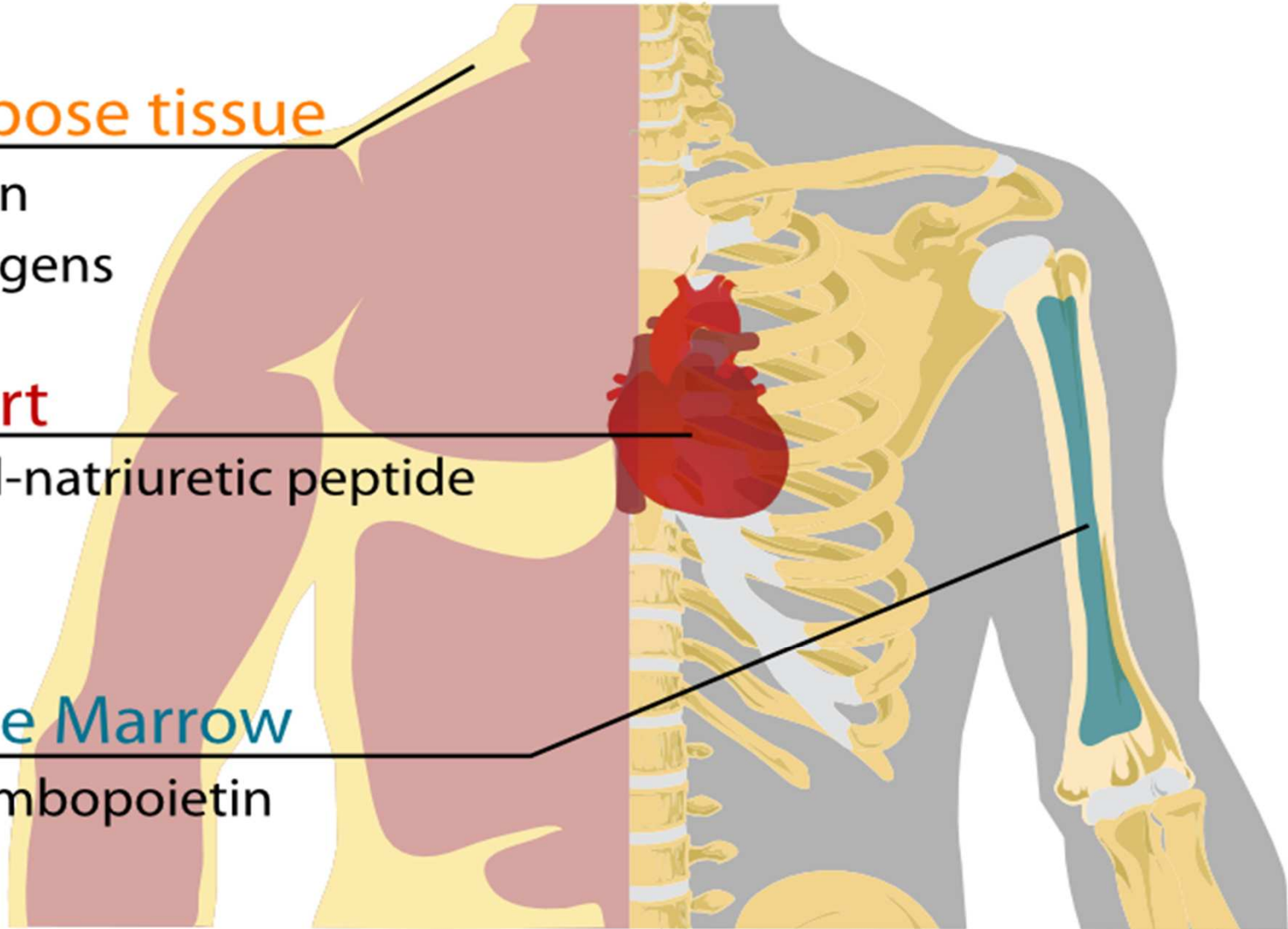
Leptin
Estrogens

Heart

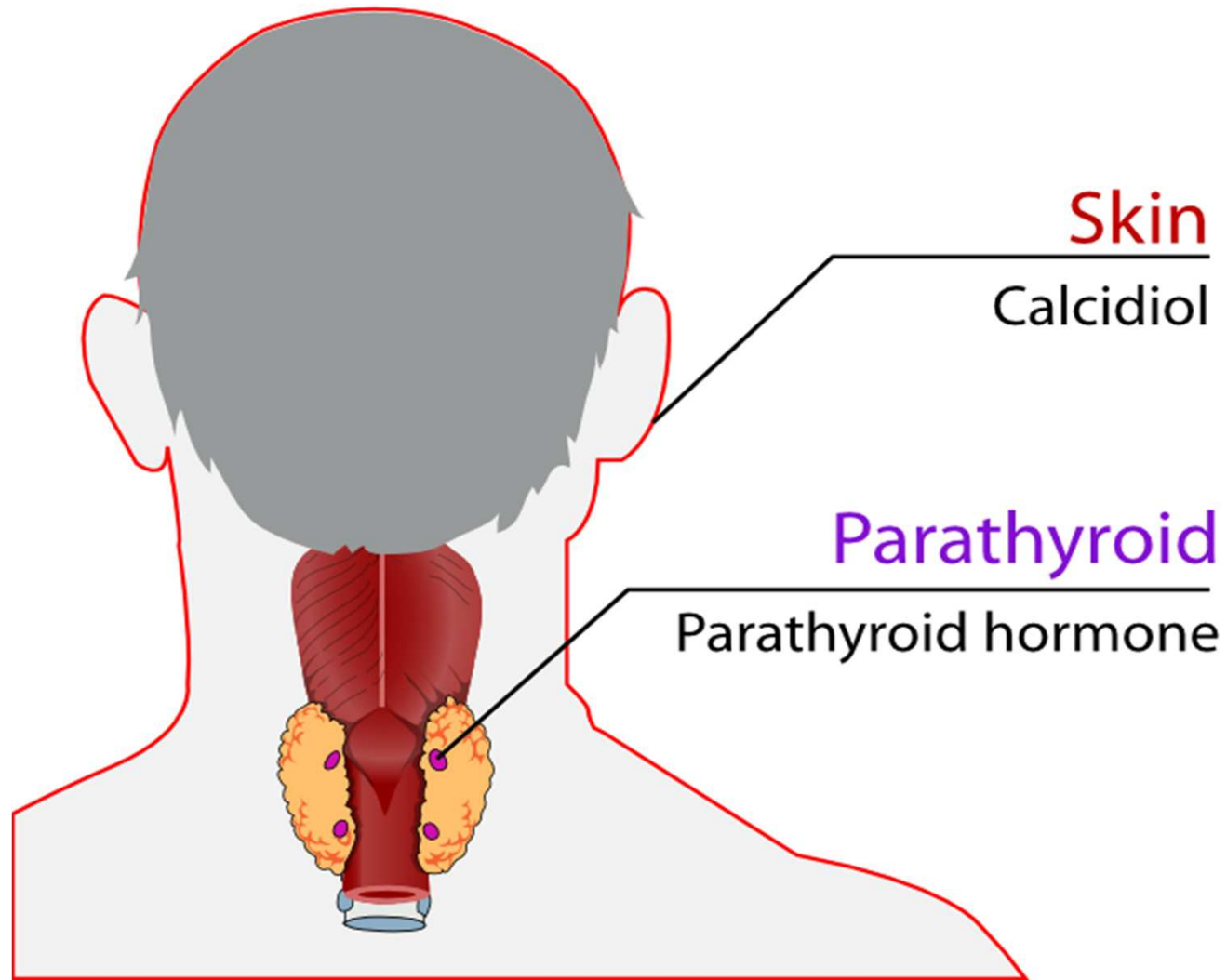
Atrial-natriuretic peptide

Bone Marrow

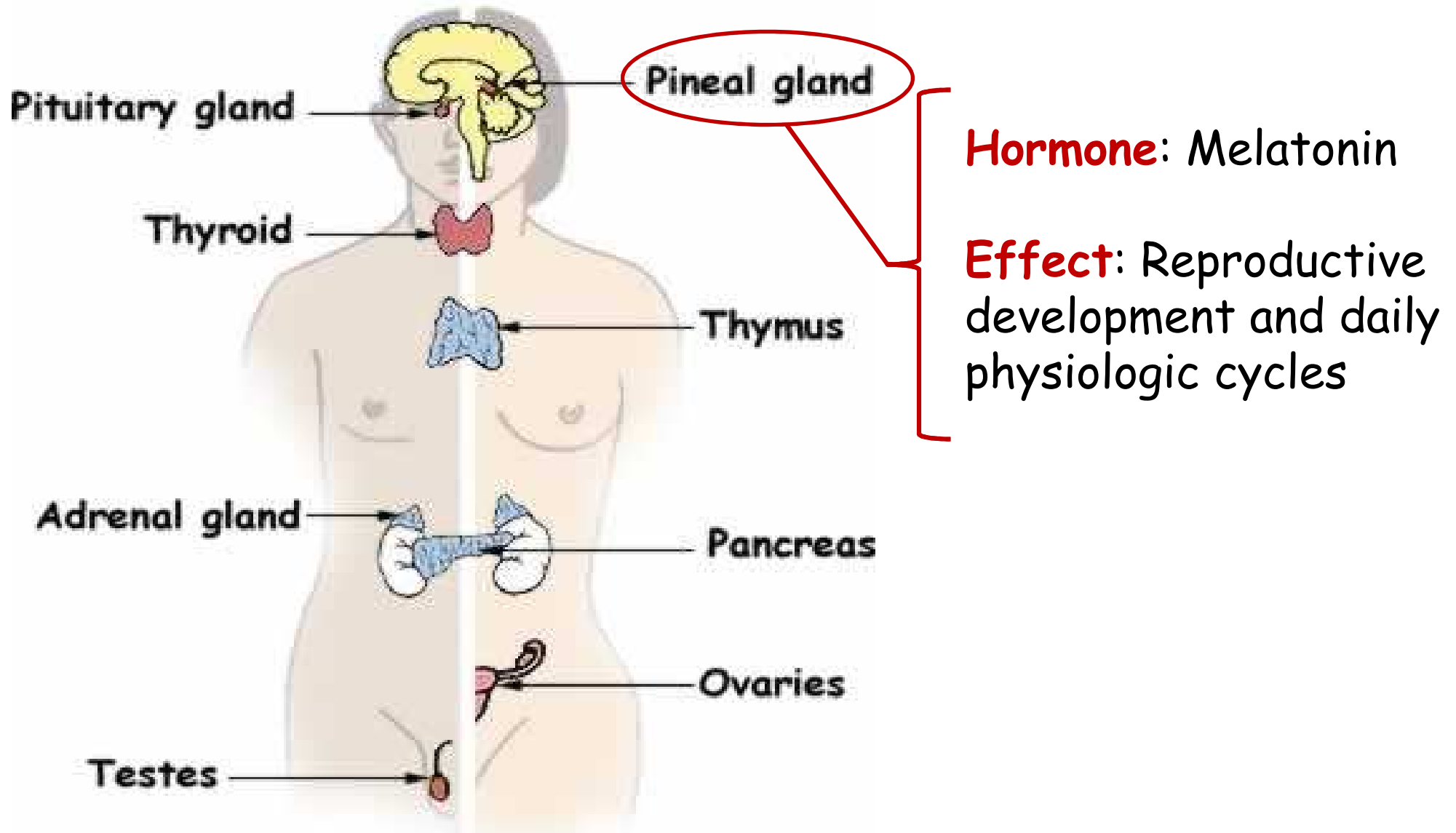
Thrombopoietin



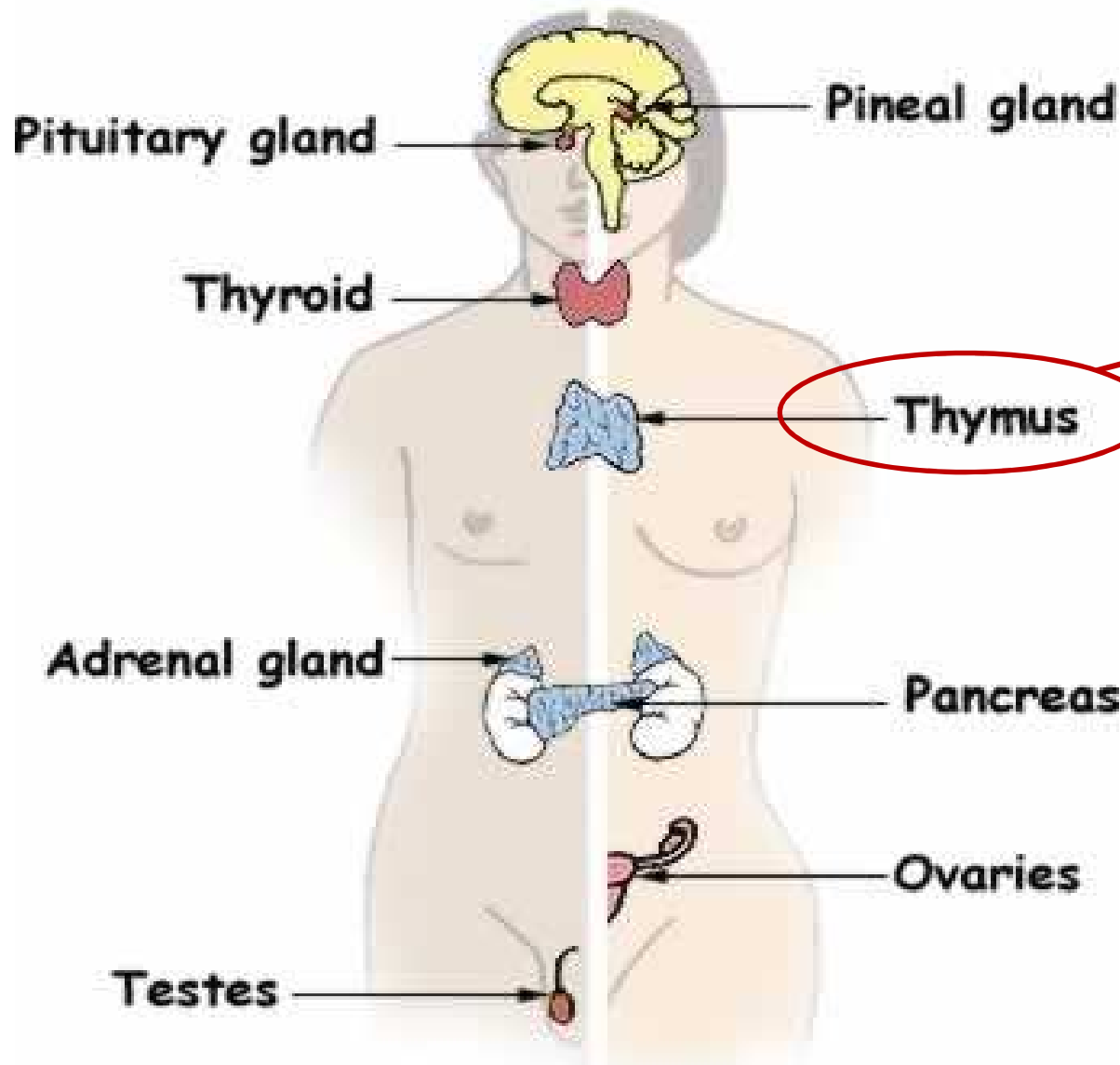
Endocrine System - Calcium



Major Endocrine Glands



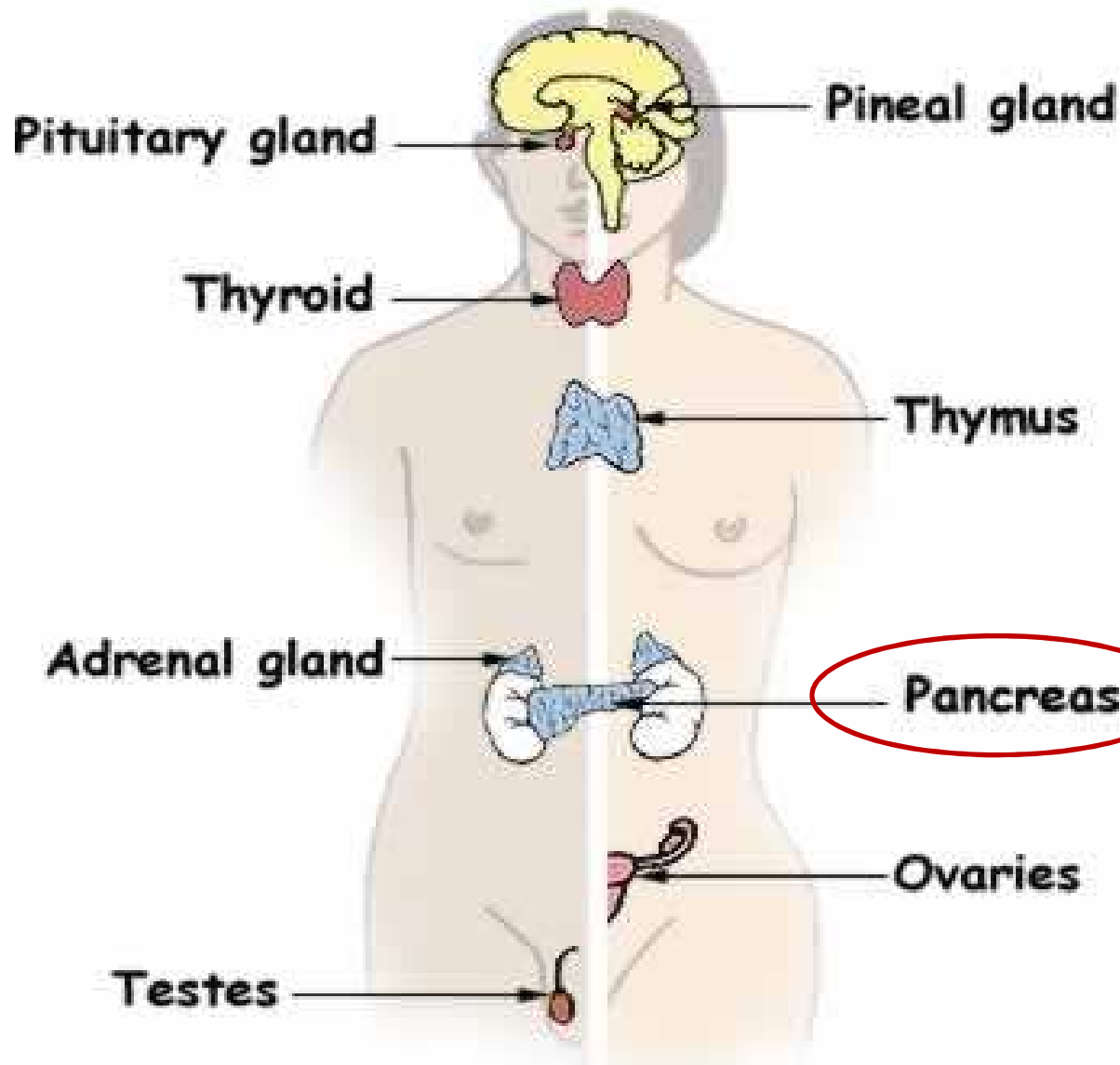
Major Endocrine Glands



Hormone: Thymosin

Effect: Promotes production and maturation of white blood cells

Major Endocrine Glands



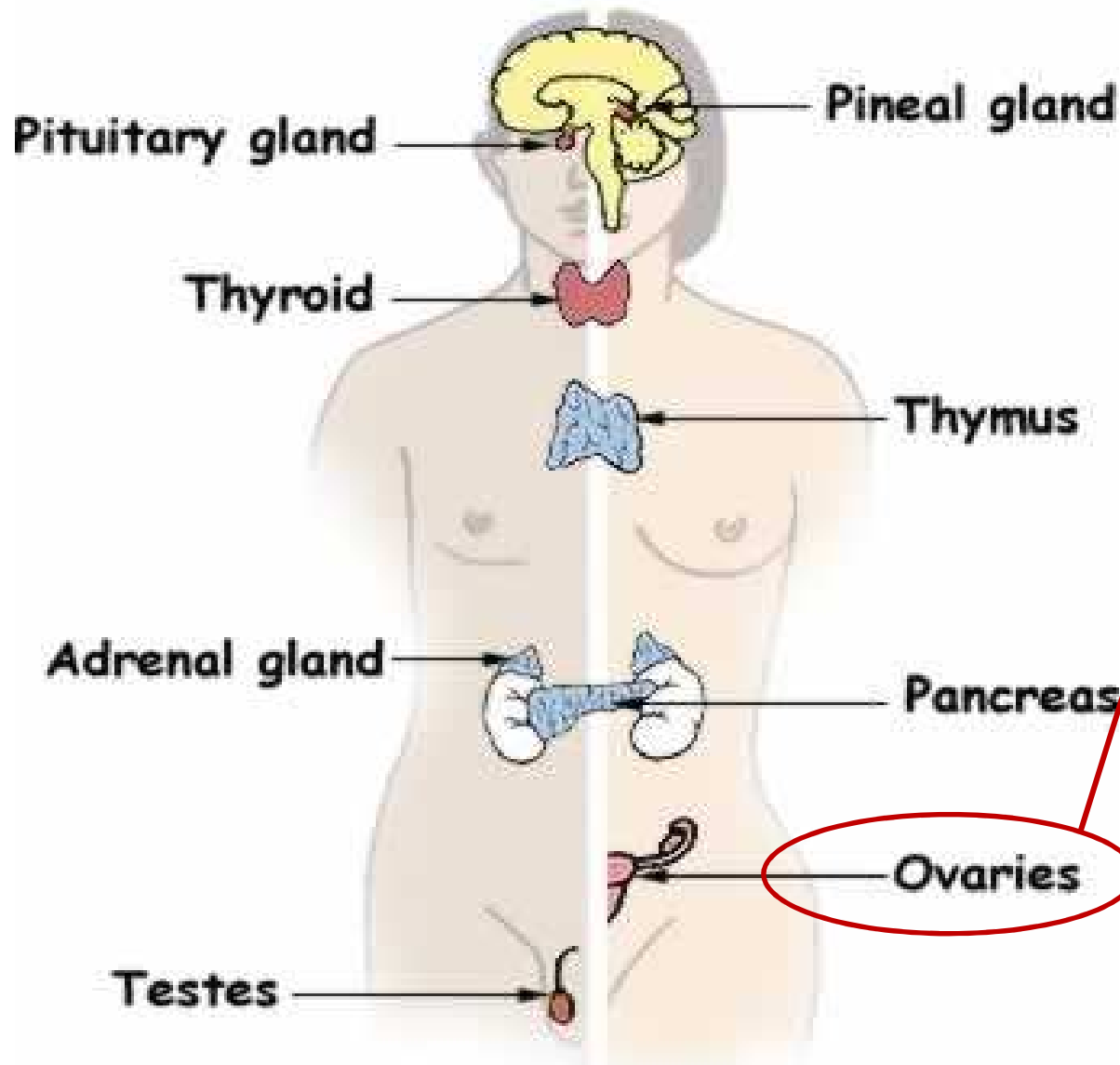
Hormone: Insulin

Effect: Converts excess glucose into glycogen in the liver

Hormone: Glucagon

Effect: Converts glycogen back to glucose in the liver

Major Endocrine Glands



Hormone: Estrogen

Effect: Controls ovulation and secondary sexual characteristics

Hormone: Progesterone

Effect: Prepares the uterine lining to accept an embryo

Major Endocrine Glands

Hormone: Growth hormone

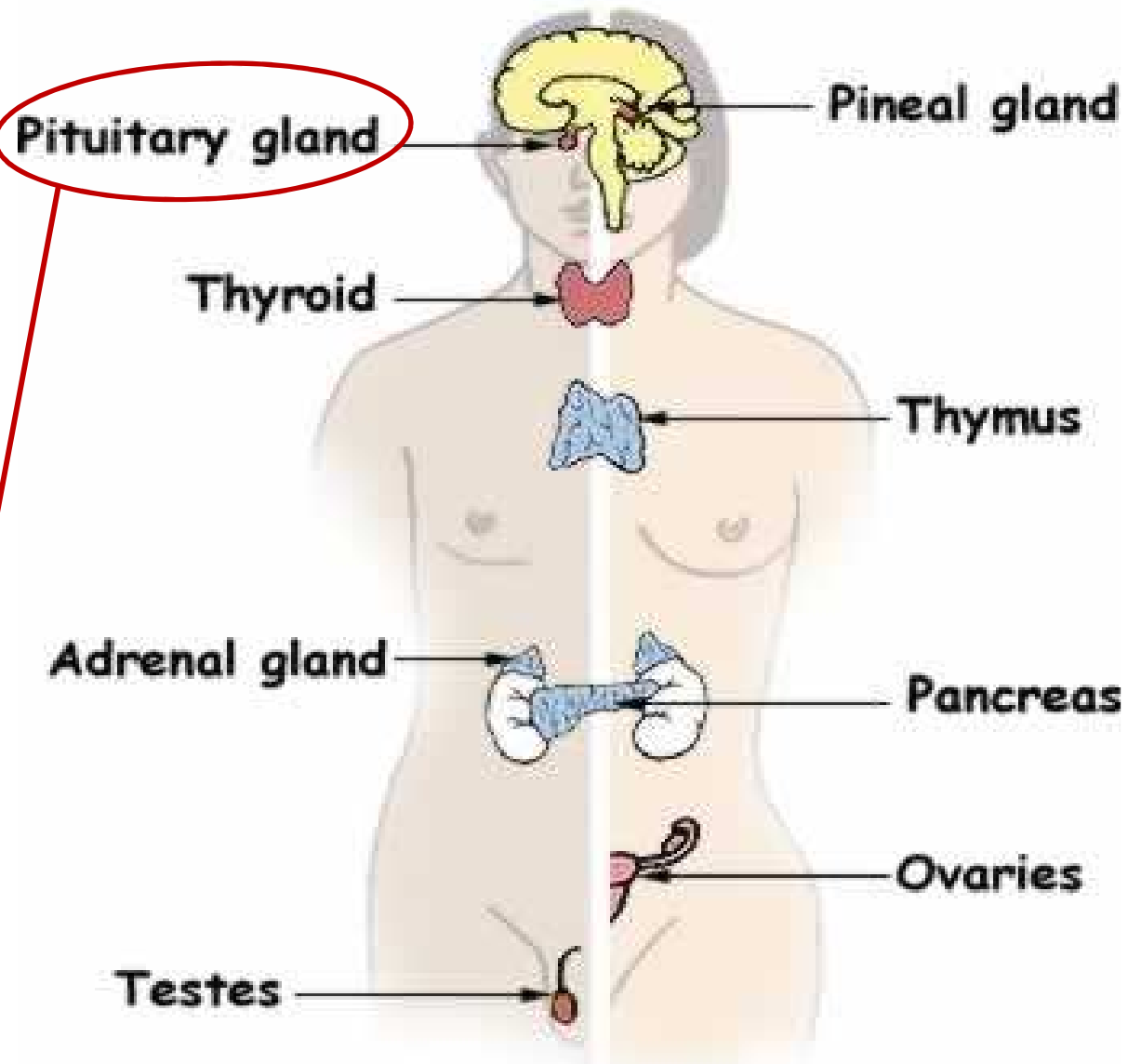
Effect: Controls growth of bones and muscles

Hormone: Anti-Diuretic Hormone

Effect: Increases re-absorption of water in kidneys

Hormones: Gonadotropins

Effect: Control development of ovaries and testes

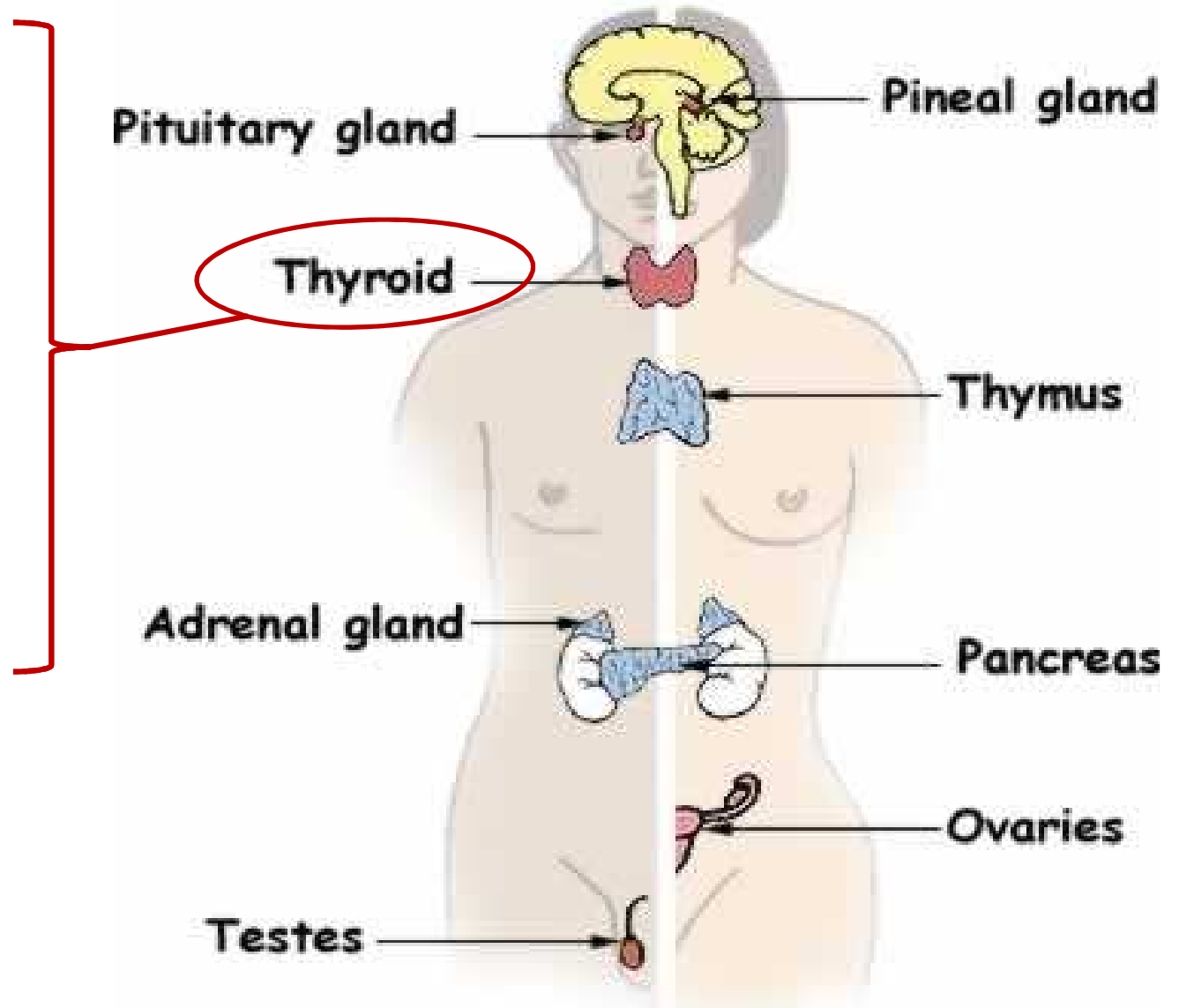


Major Endocrine Glands

Hormone: Thyroxine

Effect:

- Controls rate of metabolism
- Controls rate that glucose is used in respiration
- Promotes growth

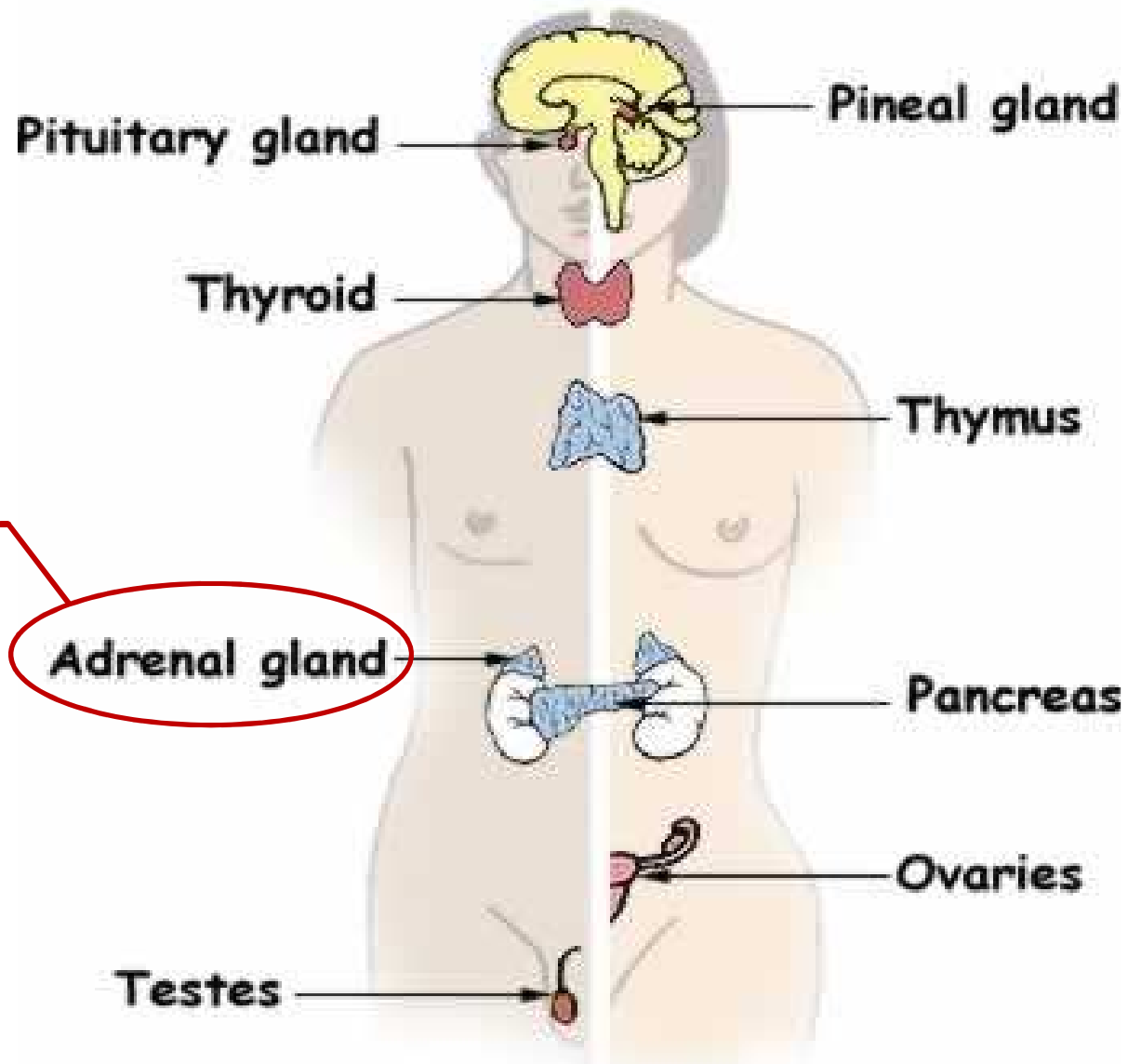


Major Endocrine Glands

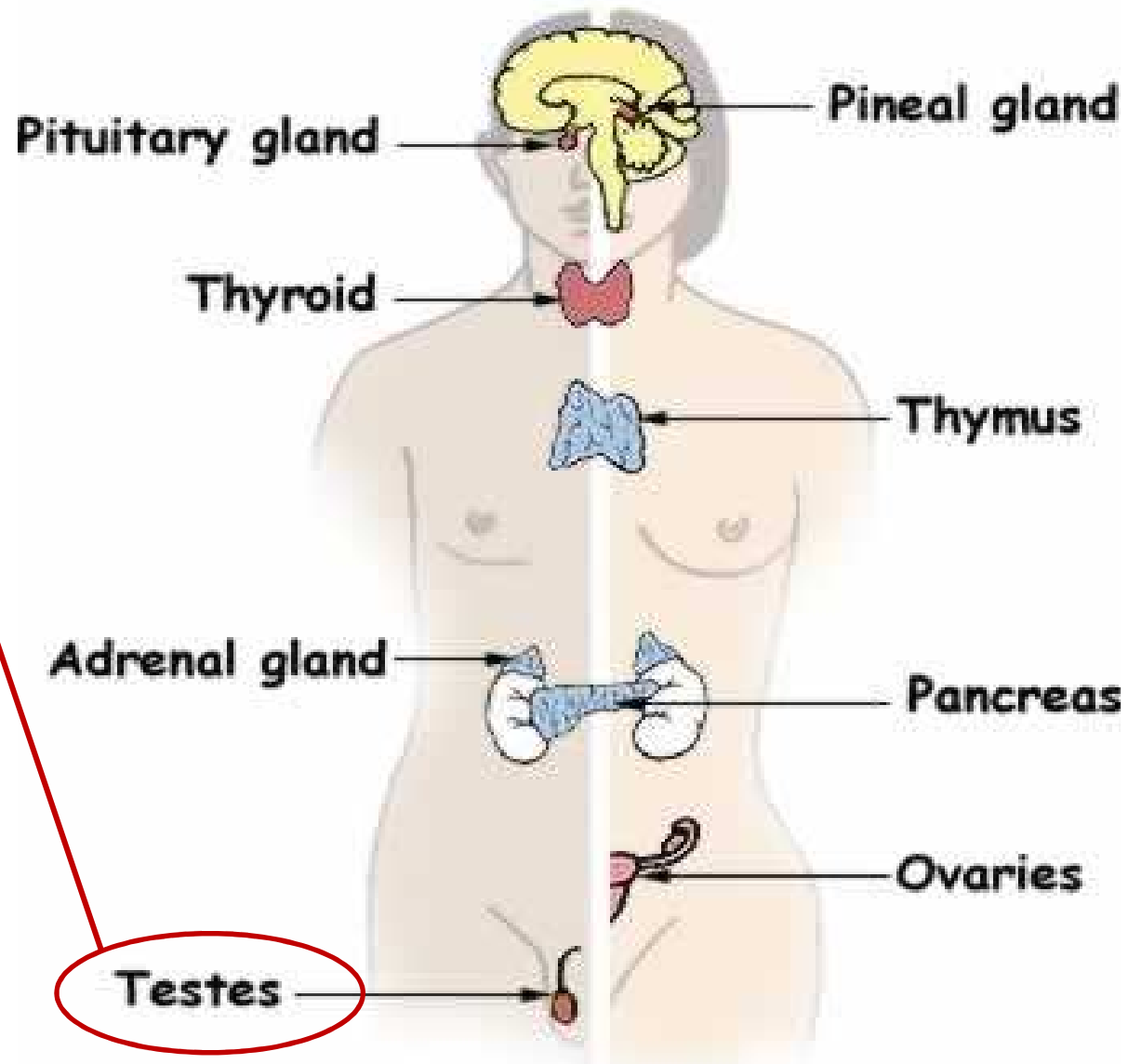
Hormone: Adrenaline

Effect:

- Prepares the body for emergencies
- Increases heart rate, breathing rate, depth of breathing
- Raises blood glucose level
- Diverts blood from gut to skeletal muscles



Major Endocrine Glands



Hormone: Testosterone

Effect: Controls sperm production and secondary sexual characteristics

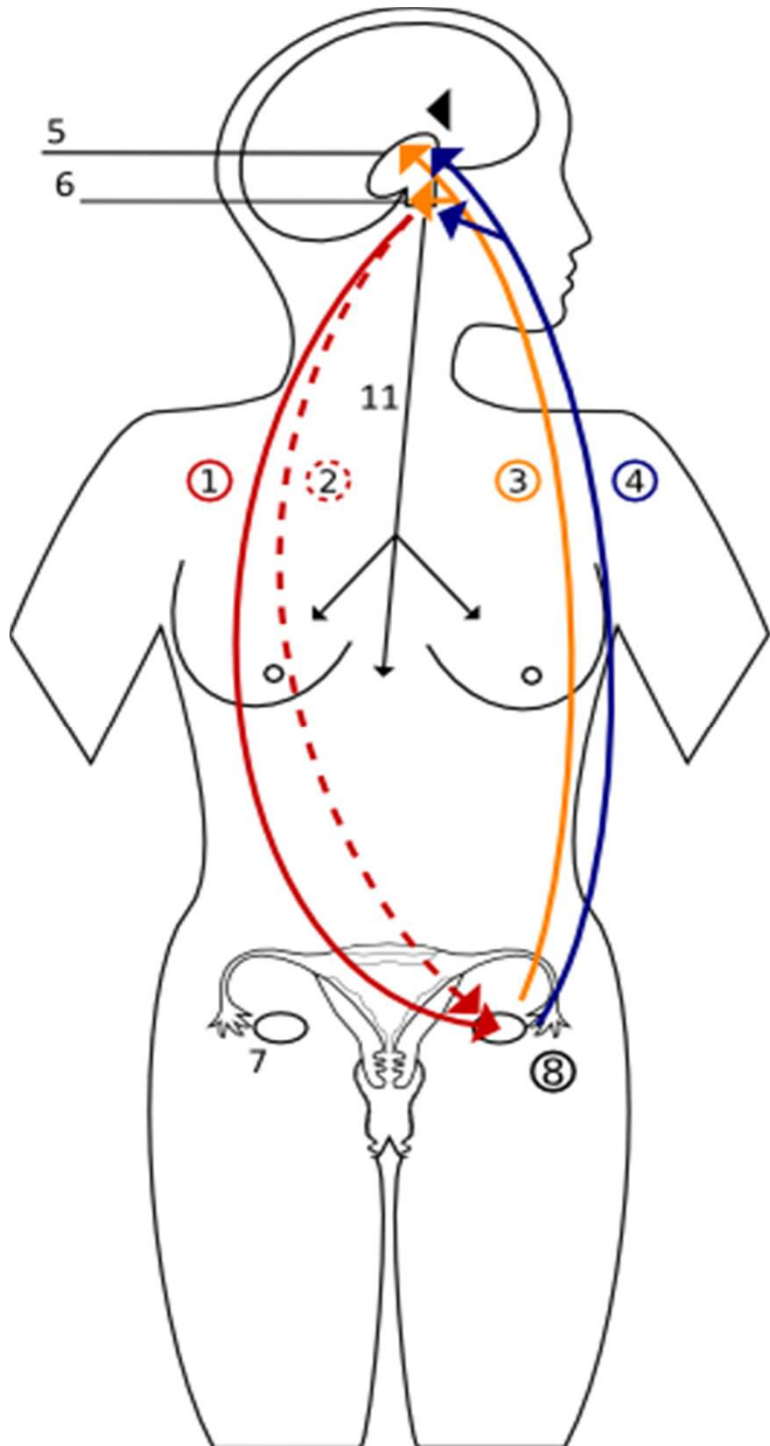
Testes

Negative Feedback

- Most endocrine secretions are controlled by negative feedback
 - Secretion of a hormone is inhibited by the action that the hormone stimulates



Sex Hormones - Female



- (1) Follicle-Stimulating Hormone - FSH
- (2) Luteinizing Hormone - LH
- (3) Progesterone
- (4) Estrogen
- (5) Hypothalamus
- (6) Pituitary gland
- (7) Ovary
- (8) Pregnancy - HCG (Human chorionic gonadotropin)
- (11) Prolactin - PRL

Sex Hormones - Male

- (1) Follicle-Stimulating Hormone - FSH
- (2) Luteinizing Hormone - LH
- (5) Hypothalamus
- (6) Pituitary gland
- (9) Testosterone
- (10) Testicle
- (11) Prolactin - PRL

