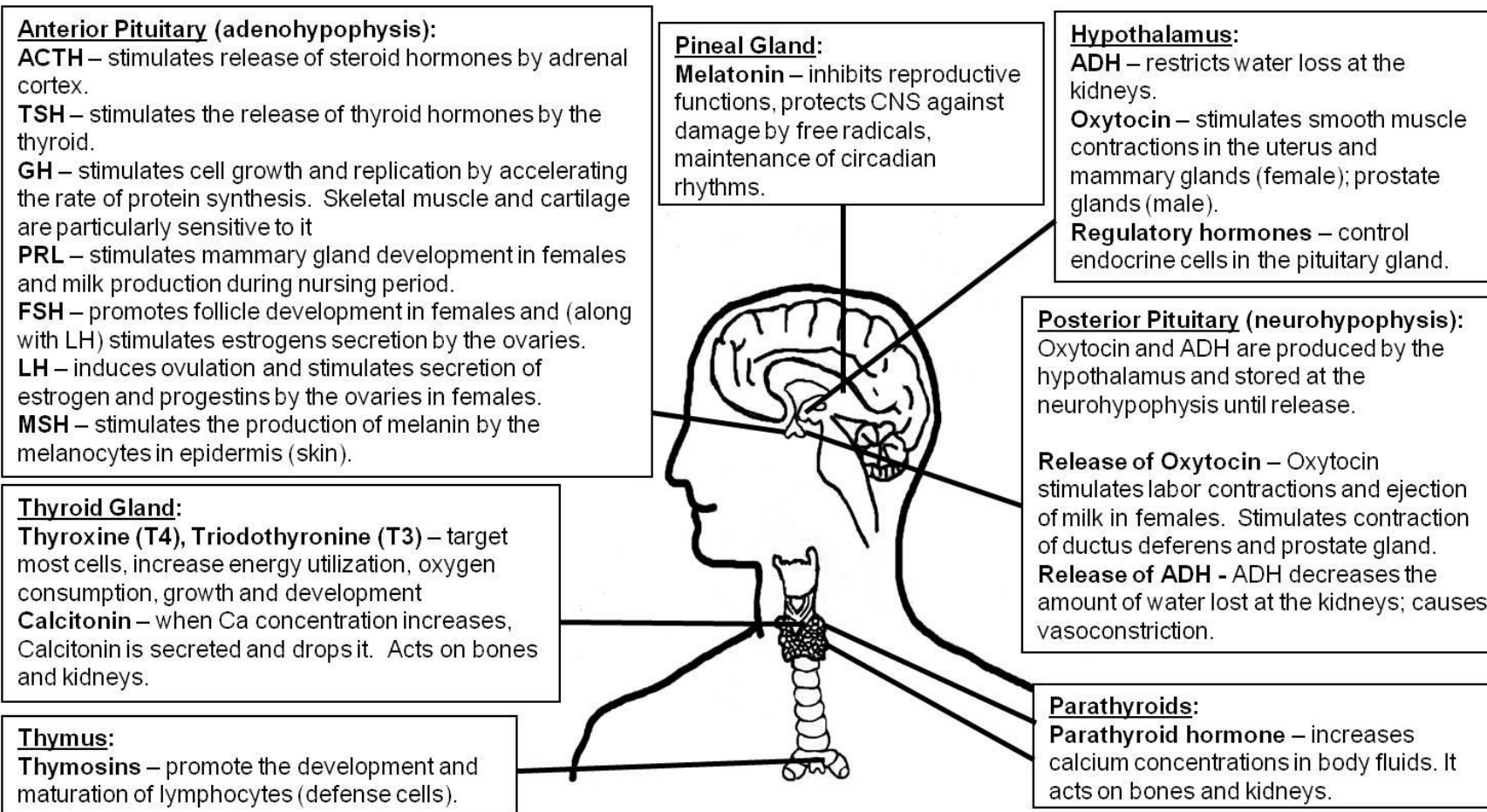




# Endocrine System I



**Adrenals:**

**Mineralocorticoids** – increase renal absorption of Na and water, accelerate urinary loss of K.

**Glucocorticoids** – act on most cells. Promote glucose and glycogen formation by the liver, peripheral utilization of lipids, anti-inflammatory effects, release of amino acids from skeletal muscles, and lipids from adipose tissue.

**Androgens** – small quantities. Stimulate muscle growth, blood cell formation in children and women.

**Epinephrine/norepinephrine** – increases cardiac activity, blood pressure, glycogen and glucose breakdown, release of lipids by adipose tissue.

**Kidneys:**

**Erythropoietin** – stimulates red bone marrow to produce red blood cells.

**Calcitriol** – stimulates calcium and phosphate absorption, stimulates calcium release from bones.

**Ovaries:**

**Estrogens** – support maturation of follicle, development of secondary sex characteristics and associated behaviours.

**Progestins** – prepare uterus for implantation and mammary glands for lactation.

**Inhibin** – inhibits secretion of FSH by anterior lobe of pituitary gland.

**Heart:**

**Natriuretic Peptides (ANP and BNP)** – increase in water and salt loss by the kidneys. Decrease thirst, suppress secretion of ADH (by hypothalamus) and aldosterone (by adrenals).

**Adipose tissue:**

**Leptin** – feedback control of appetite.

**Resistin** – reduces insulin sensitivity throughout the body.

**Digestive tract:**

Numerous hormones that coordinate digestive activities.

**Pancreas – pancreatic islets**

**Glucagon** – increases blood glucose concentrations by increasing glycogen breakdown and glucose release by the liver.

**Insulin** – lowers blood glucose concentrations by increasing glucose utilization by body cells and glycogen synthesis by skeletal muscles and liver.

**Testes:**

**Testosterone** – support maturation of sperm, development of male secondary characteristics and associated behaviours.

**Inhibin** – inhibits secretion of FSH by anterior lobe of pituitary gland.

