



The Endocrine System

VI. Adrenal Glands

A. Location - consists as two triangular glands and each sit like a cap on the kidneys

B. Adrenal Cortex - secretes the Adrenal Cortical Hormones

1. Glucocorticoids

a. corticosterone

b. cortisol (hydrocortisone)

c. cortisone

- elevates blood sugar levels by acceleration of glycogenolysis

- promotes vasoconstriction to maintains normal blood pressure

2. Mineralocorticoids -

a. aldosterone

- causes Sodium retention and Potassium excretion

- causes water retention and blood pressure increases

3. Gonadocorticoids-

a. these are the sex hormones that are produced by the adrenal cortex in small amounts in both males and females

4. Abnormal Adrenal Cortical Function:

a. Addison's Disease - caused by Hyposecretion of Cortical hormones

- results decreased sodium retention and dehydration
- results decreased blood glucose levels
- results increased risk of kidney failure

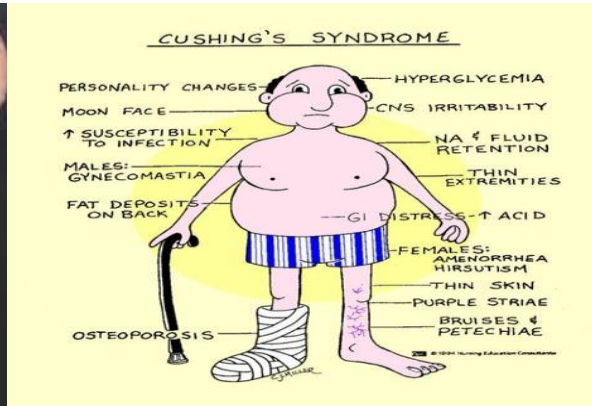


b. Cushing's syndrome - causes by Hypersecretion of Cortical Hormones

- results in shifts of the body fat to the face and shoulders
- results in general body weakness

c. Adrenogenital Syndrome - caused by Hypersecretion of Gonadotropins

- results in premature sexual development in both males and females
- results in masculinization of females



C. Adrenal Medulla Hormones :

- Epinephrine & Norepinephrine

- Increased blood pressure due to increased heart rate & constriction of blood vessels
- Increased respiratory rate and dilation of bronchioles
- Decreased digestive tract activity

VII. Pancreas - (Islets of Langerhans cells)

A. Hormones

1. Insulin - secreted by the Beta Cells

- promotes lower blood glucose levels

2. Glucagon - secreted by the Alpha Cells

- promotes higher blood glucose

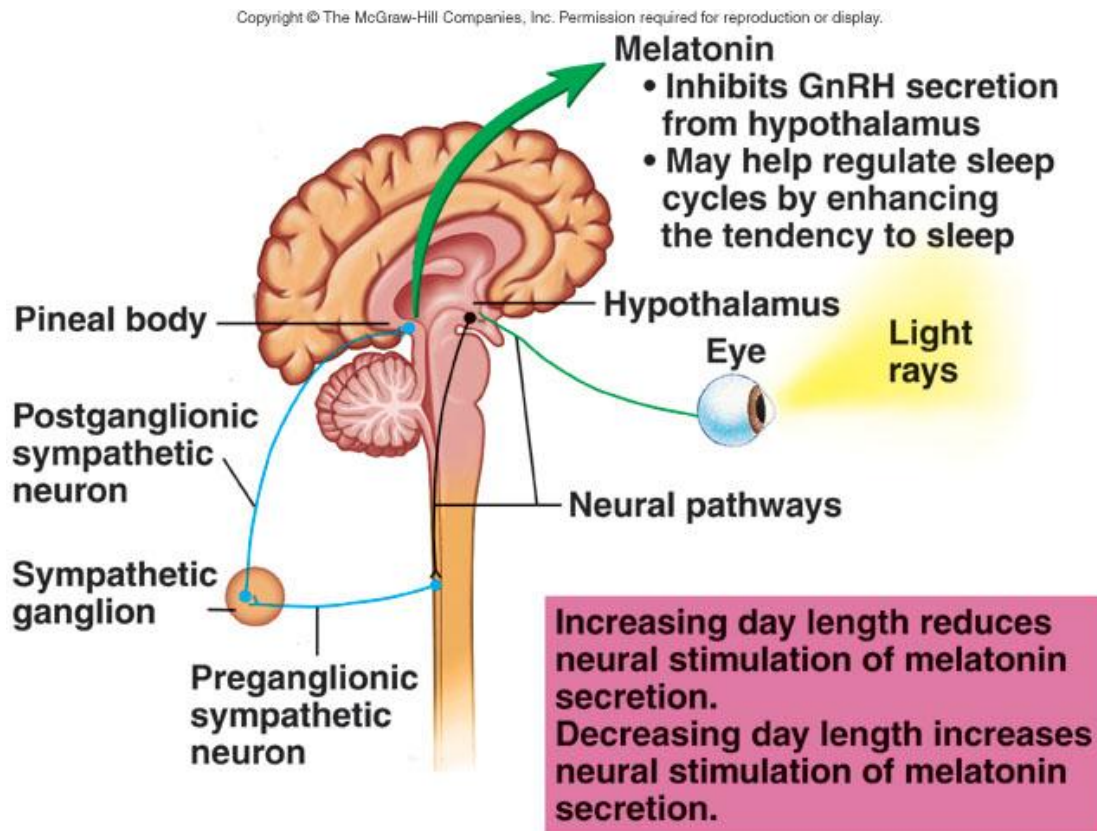
VII. Pineal Body (Gland)

Melatonin:

Target tissues: hypothalamus

Functions: plays a role in onset of puberty and controls circadian rhythms .

Light affects its function.



VIII. Parathyroid Glands

A. Location - 4 or 5 small round bodies on the posterior surface of the lateral lobe of the thyroid gland

B. Function - secretes the Parathyroid hormone that controls Blood Calcium homeostasis

C. Disorders of parathyroid activity

1. **Hypocalcemia** - causes by hyposecretion of PTH



-results in Tetany [muscle spasms and convulsions]

2. **Hypercalcemia** - causes by hypersecretion of PTH

-results in a fibrous bone disease [osteitis fibrosa cystica]