



Medical Laboratory Techniques Department

Endocrine system



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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

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



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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

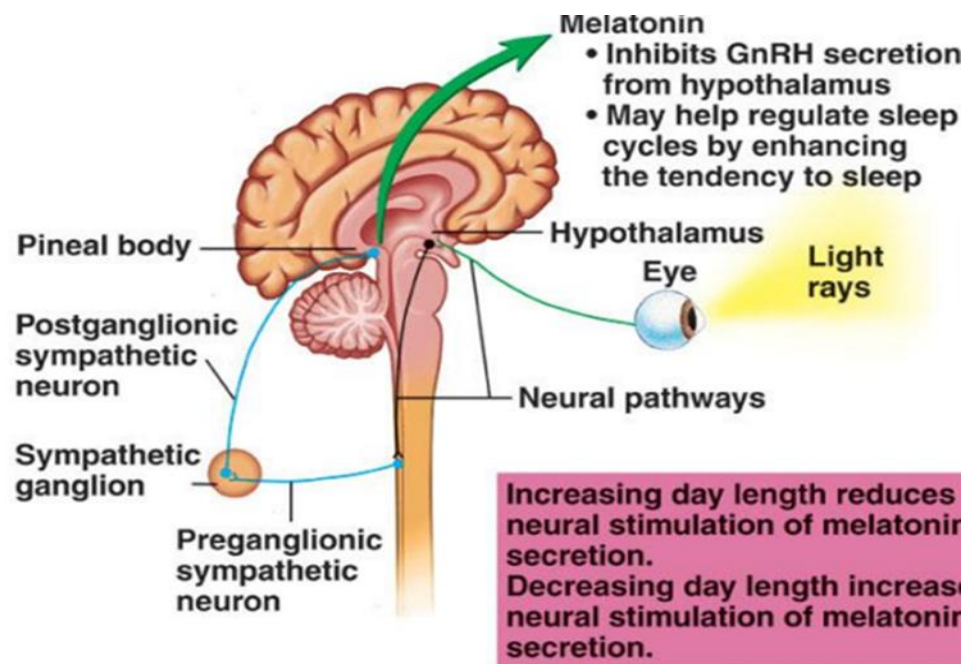
- promotes higher blood glucose

VII. Pineal Body (Gland)

Melatonin

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

Light affects its function.





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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]