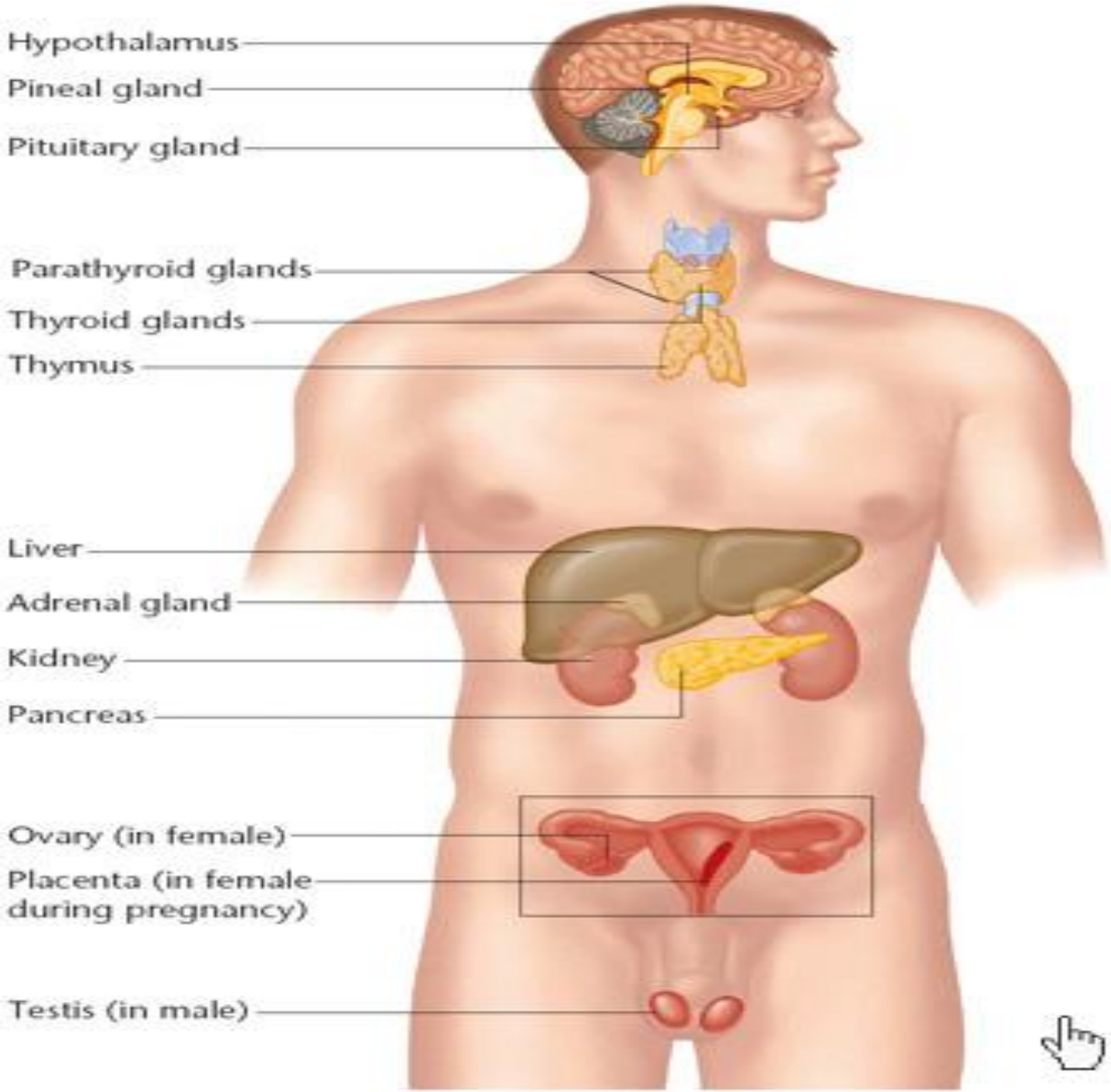
Endocrine system



ENDOCRINE GLANDS IN HUMAN

The endocrine system consists of

PITUITARY GLAND

ADRENAL GLANDS

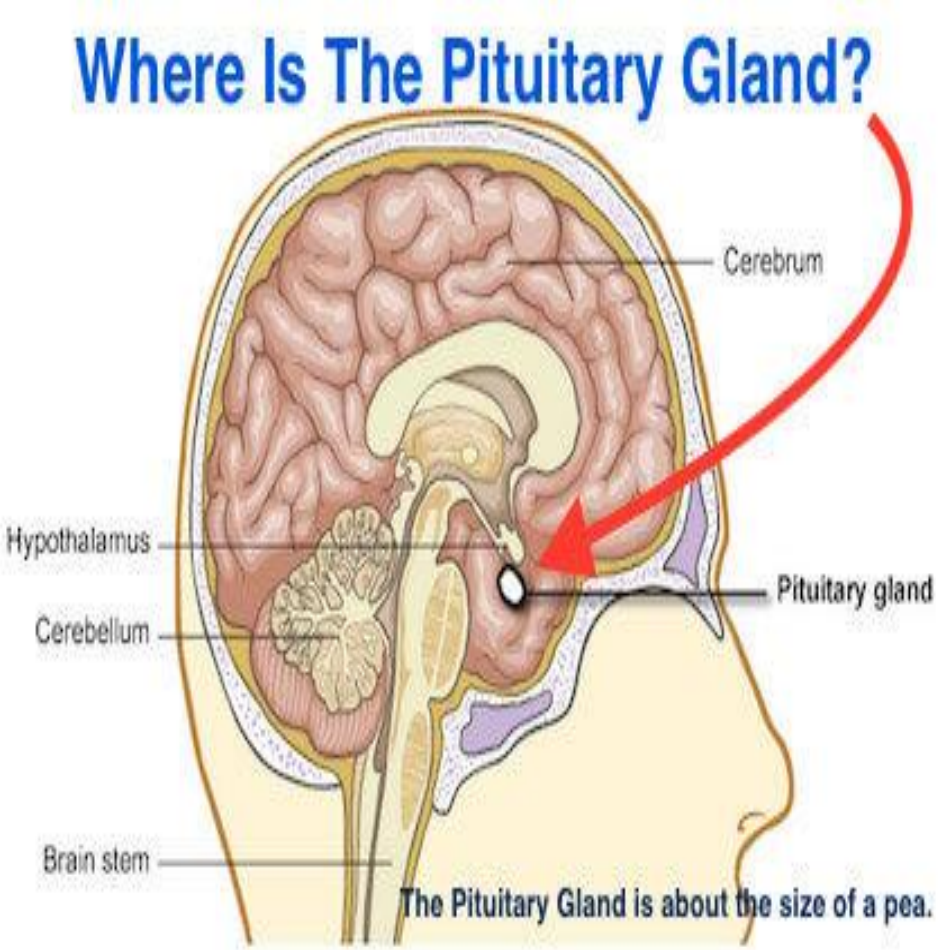
PARATHYROID GLAND

PANCREAS

GONADS

1-PITUITARY GLAND

1. Growth Hormone
2. MSH (Melanin Stimulating Hormone)
3. ADH (Antiduretic Hormone)
4. Oxytocin



Growth Hormone

- Responsible for normal growth of an organism
- A deficiency in this hormone will result in a condition known as DWARFISM.
- An excess amount of this hormone causes an abnormal increase in the length. This condition is known as GIGANTISM.

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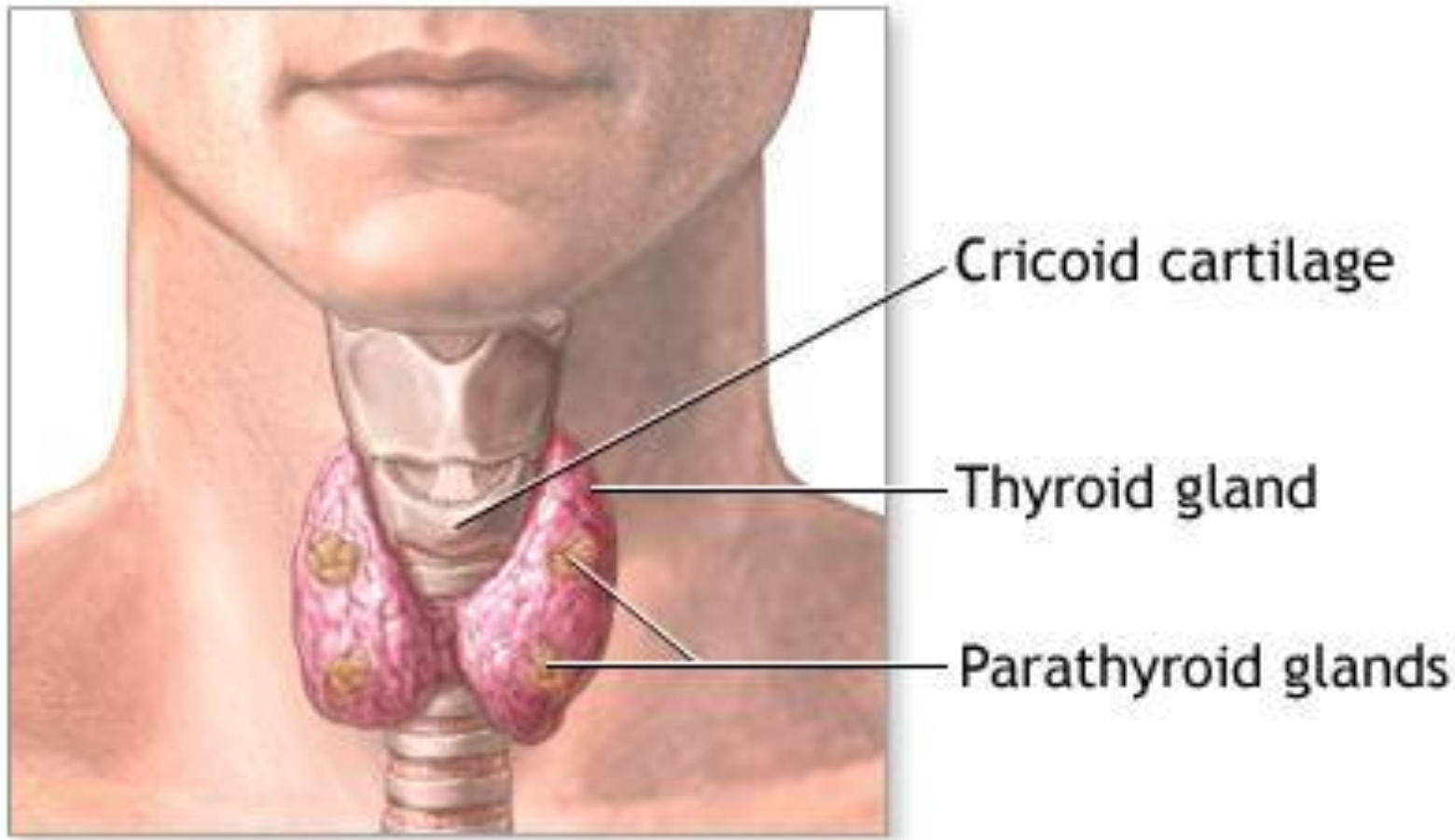
- **Melanin Stimulating Hormone (MSH) determines the color of the skin.**

- **Antidiuretic hormone (ADH): Its main function is to regulate the water balance of the body.**

- **Oxytocin is responsible for milk production**

2. PARATHYROID GLAND

- **Parathormone is produced in this gland.**
- **It regulates the amount of calcium and phosphate in tne blood.**
- **The amount of Ca^{++} is necessary for the normal functioning of muscles, heart, skeleton and nerves .**



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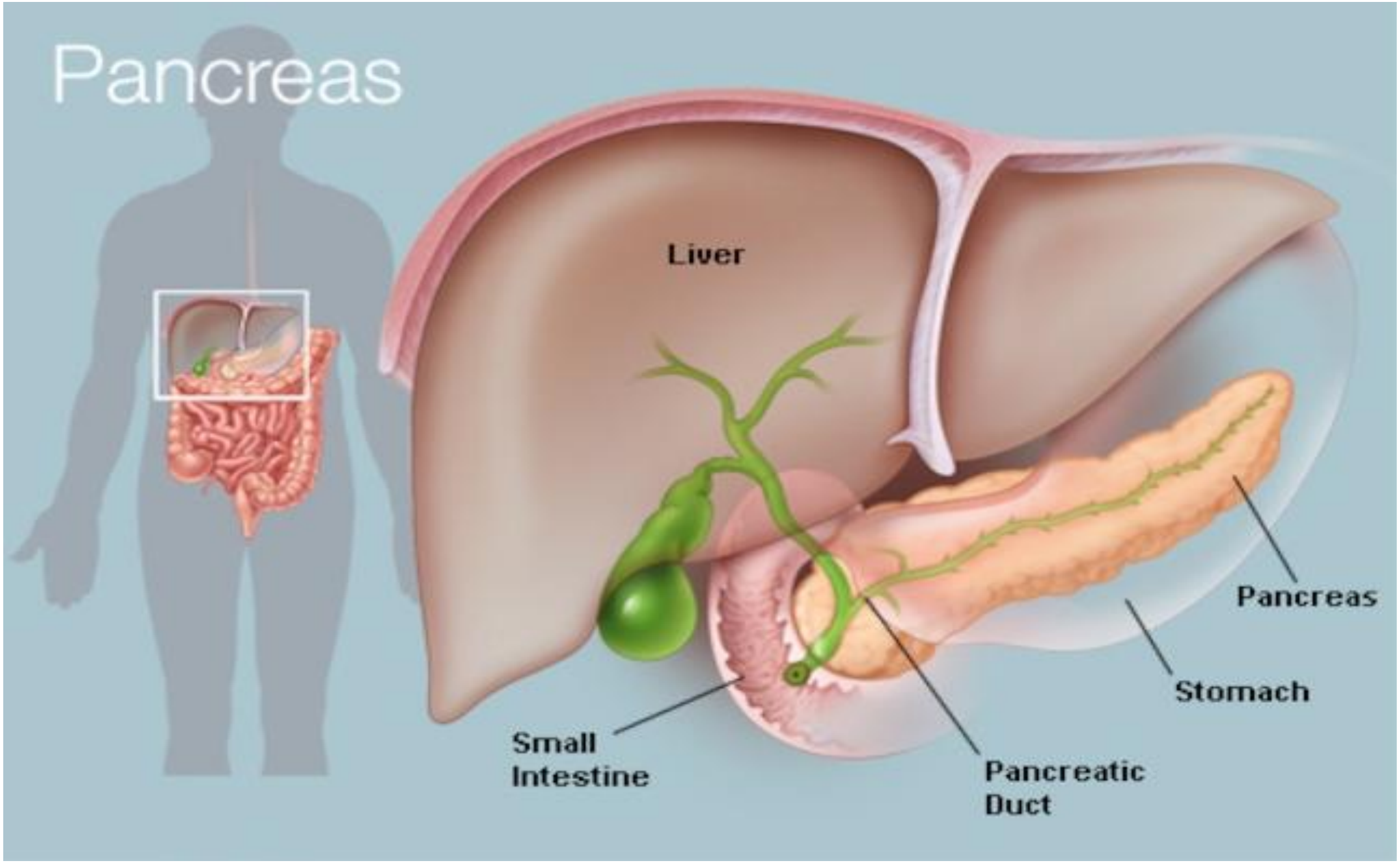
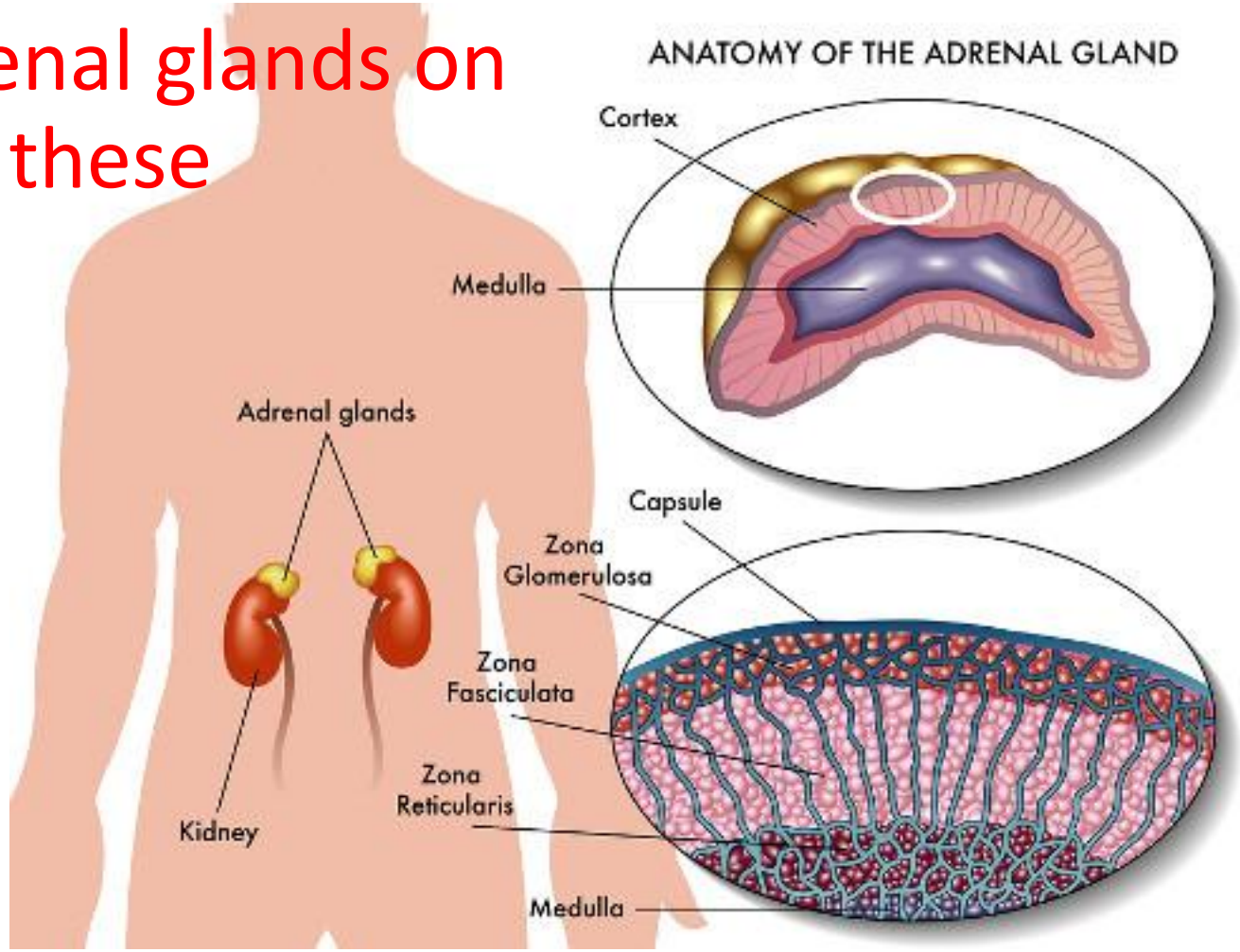
3. Pancreas

- **Insulin and Glucagon are produced by pancreas.**
- **Insulin decreases concentration of sugar in blood.**
- **A lack of insulin is known as diabetes.**
- **Glucagon increases the concentration of sugar in blood.**


Pancreas
Liver
Pancreas
Stomach
Small Intestine
Pancreatic Duct

4. ADRENAL GLANDS

- The human body has two adrenal glands on top of the kidneys. It produce these hormones:
- **Aldosterone**
- **Adrenaline**



ALDOSTERONE:

It effects the reabsorption of Na+ from the kidney.

EPINEPHRINE (ADRENALIN):

It accelerates the rate of heart beat.

5. GONADS (sex hormones)

- **The main function of the male and female gonads is in the development of the reproductive system.**

Estrogen:

It effects female secondary sexual characteristics

Progesterone:

It effects the development of the mammary glands.

- **Testosterone stimulate the production of sperm.**
- **It is involved in growth and maintenance of male sex organs.**
- **Testosterone also affect male secondary sexual characteristics.**