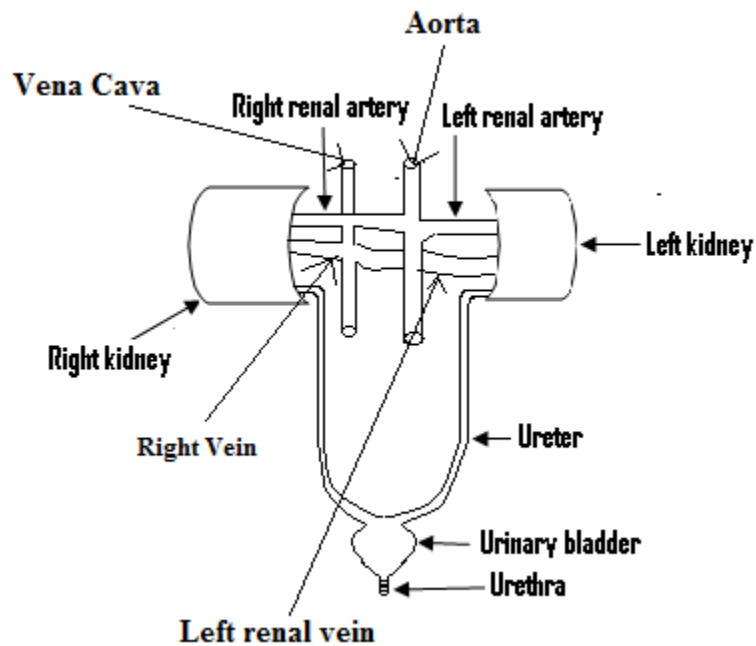


CHAPTER SEVENTEEN

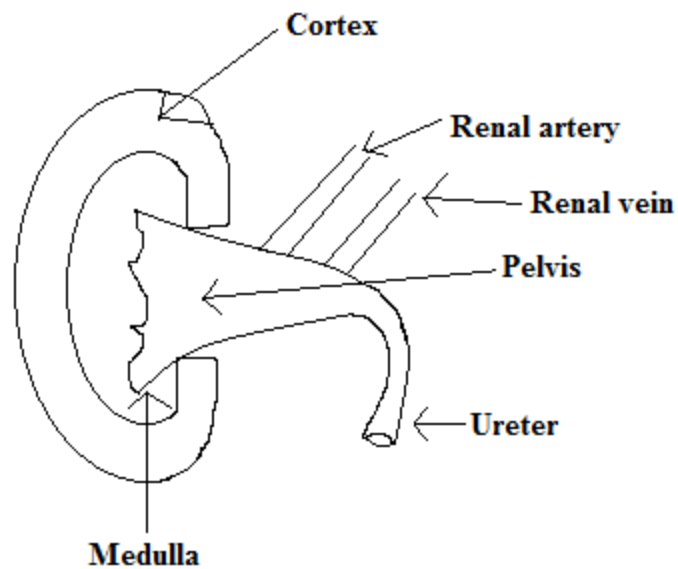
Excretion:

- This is the process whereby waste products are removed from the body.
- In man the waste products removed are carbon dioxide, excess mineral salts and certain nitrogenous compounds such as urea and uric acid.
- The food we take in may be more than what is needed, but while some of the food substances taken in can be stored, others cannot.
- When there is excess glucose, it is changed into and stored as glycogen.
- But when there is excess amino acid they have to be removed from the body, since there is no organ or tissue which can store amino acid.
- Also during respiration, carbon dioxide is produced.
- Since this carbon dioxide is harmful to the body, it must be removed.
- The organs which excrete waste substances are known as excretory organs, and these organs are the kidney, the lungs the skin and liver.
- These waste substances which can also be referred to as excretory products, are obtained as a result of the body's metabolism.
- Faeces is not an excretory product since it is not obtained as a result of the body's metabolism.

THE KIDNEY:



STRUCTURE OF THE KIDNEY:

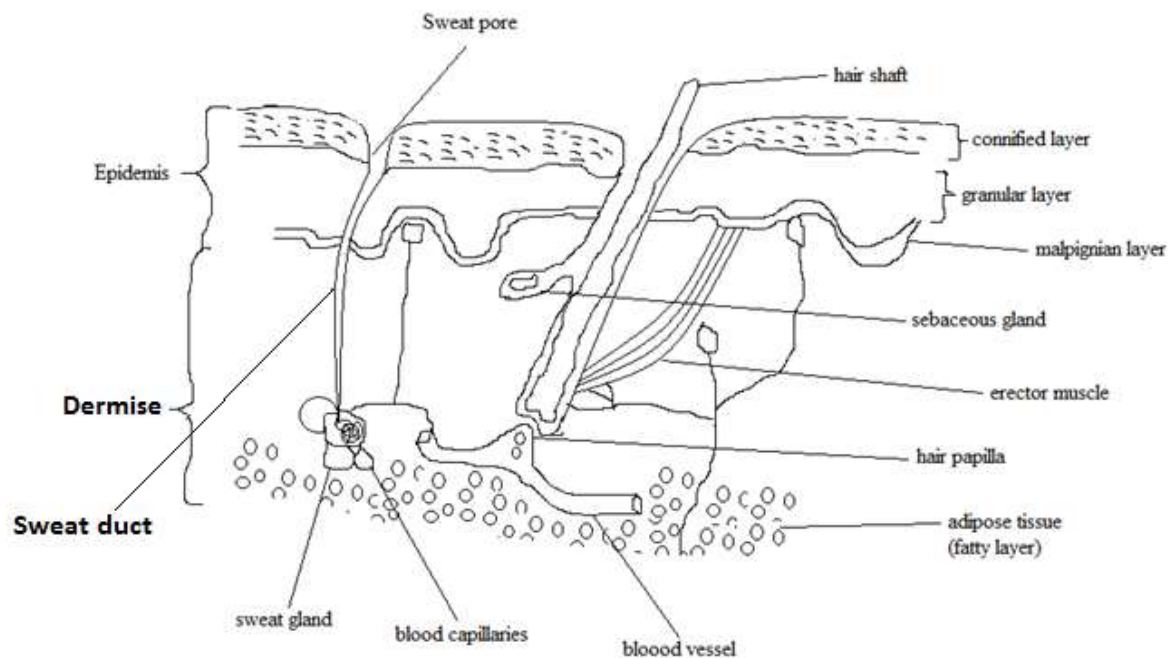


- The renal artery brings blood containing excretory products to the kidney, while the renal vein carries the filtered blood to the vena cava.
- The kidney removes excess mineral salts, water and urea from the body.

- This organ has a bean shape and we have two kidneys.
- Urine is produced in the kidney.
- Blood containing water, oxygen, glucose, urea and salts enter the kidney through the renal artery.
- The oxygen is used up by the cells of the kidney for respiration.
- Some of the glucose as well as some of the salt, and a large portion of the water are absorbed by the kidney for urine production.
- This urine produced which consists of urea, salts, large amount of water and sometimes glucose flows through the ureter into the bladder (urinary bladder).
- The urinary bladder stores the urine and when it is full, the urine is brought out of the body through the urethra.

The Skin:

Simplified diagram of the skin:



The skin as an excretory organ:

–The skin is considered as an excretory organ because of the sweat glands it contains.

- Had it not been the presence of these sweat glands within the skin, it would not have been an excretory organ.

–Sweat which is an excretory product is excreted by the skin, which is the largest organ within the body.

–The skin is also able to act as a sense organ.

The skin is made up of two main layers and these are;

- (1) The outer layer called the epidermis.
- (2) The inner layer called the dermis.

–The dermis has a lot of blood vessels or capillaries in it, as well as tubes which lead from its inside to the surface.

–These tubes are called sweat ducts, and at the bottom of these sweat ducts can be found the sweat glands.

- Blood which enters the skin contains a lot of waste substances, which has been collected from the cells of the body.

–These waste products are absorbed into the sweat glands as sweat, which passes through the sweat duct to the surface of the skin.

–Some of the waste products contained in the sweat are water, mineral salts (mostly common salt), and a small quantity of urea.

- Apart from its functions as excretory and sense organs, the skin also regulates or controls the body's temperature.