

Excretion and human urinary system

What are excretory materials?

They are the wastes which body cells produce

Define excretory materials:

- 1- When body cells burn the digested food by using oxygen to produce energy process gives up some waste products such as **Carbon dioxide and water vapor**
- 2- When cells break down proteins which body uses for growth and repair of damaged tissues cells produce wastes as nitrogen wastes such as (**urea and uric acid**)
- 3- The body gets rid of **excess salt**

Note:

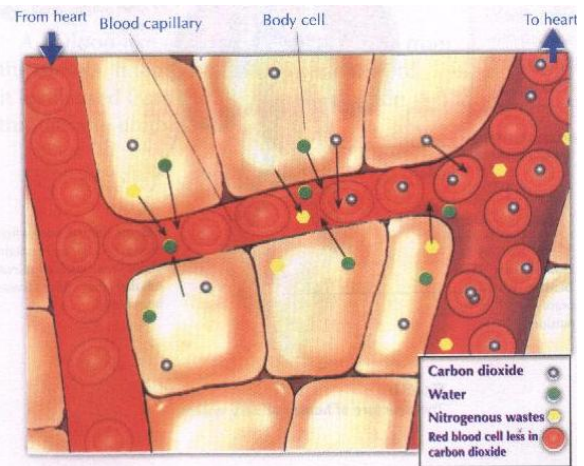
These wastes which body cells produce are known as the excretory materials. Some of these materials are harmless, but your body cannot use them, while others are more dangerous or poisonous to the body, so the body must get rid of such materials.

Cell wastes are different from solid wastes

Body cells produce wastes and release them into the thin wall capillaries. The blood then get rid of the wastes where:

- Carbon dioxide is exhaled through the lungs
- Excess salts are expelled out in the sweat from the skin
- Nitrogen wastes (urea) are removed by the kidneys

Solid wastes are materials from food that your body cannot digest and stored in the large intestine before coming out

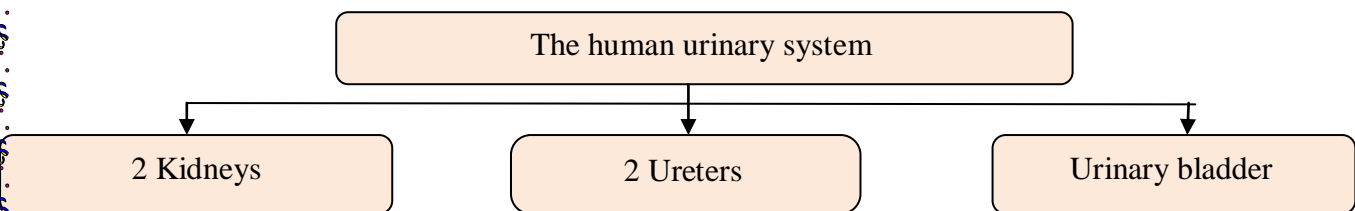


Urinary system

What is the function of the urinary system?

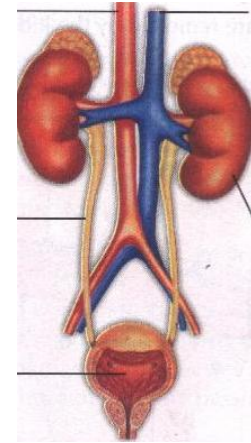
It filters the blood from excess salts, urea, uric acid and other waste materials and expels them out in the urine

Urinary system is located in the abdomen cavity near the backbone. It consists of three main parts:



1- The kidneys:

They are the most important organs in the urinary system. They are bean-shaped located on the two sides of the backbone. The main function of the kidneys is to filter the blood from urea, uric acid, excess salts and other waste materials and get rid of them dissolved in water (**in the form of urine**). Blood enter the kidneys through arteries to be filtered and leave the body through veins that carry blood to the heart.



2- The Ureters:

The Ureters are two narrow tubes that carry urine from the kidneys to the urinary bladder.

3- The urinary bladder:

It is a balloon like a sac that receives urine from the Ureters. It temporarily stores urine until it is released from the body through urethra.

What is meant by urethra?

It is a tube that extends from the bladder to open outside of the body.

Getting rid of excess salts

The body gets rid of excess salts and other waste products in the form of water (sweat) by special glands in the skin called **sweat glands**

How to maintain the urinary system healthy

- 1- Drink good quantities of clean water especially in summer
- 2- Eat healthy and balanced food, low in salt
- 3- Avoid schistosomiasis disease (bloody urine) by keeping away and not urinating in irrigation canals.
- 4- Don't keep urine in the urinary bladder for a long time, because this affects the function of the kidneys

Did you know?

Man needs to drink 2 liters of water a day, and excrete about 1.5 liter of urine per day.

A doctor can diagnose many diseases by examining a report of urine analysis.

Artery, which enters the kidney, carries blood with much waste materials, while the vein, which leaves the kidney carries clean blood to the heart.

Bloody urine indicates infection of urinary tract with disease.

Diseased or injured kidneys (renal failure) may cause poisoning.