

TENDER HEART HIGH SCHOOL

Class - VII Subject - Biology

Chapter - 5 Excretion in Humans

Teacher : Ms. Nidhi

Good Morning Children! This lesson is of Class-VII for the subject of Biology, Chapter - 5, Excretion in Humans of your textbook Concise Biology, Selina Publications. It is being submitted to you on 18.11.2024

In the last lesson we have discussed the structure of kidney and nephron and the role of kidneys in urine formation. Today we are going to discuss accessory excretory organs.

Besides kidneys, some other organs also help in the removal of waste products. They are called accessory excretory organs.

1. Skin : Excess of water, urea, salts and uric acid are excreted in the form of sweat through the skin. Sweat is secreted by the sweat glands which are situated under the skin and have pores on the surface of the skin. The wastes are carried to the sweat glands from all parts of the body with the help of blood.
2. Lungs : Carbon dioxide which is produced as a result of respiration passes from the blood into the lungs. From lungs it goes into the trachea and is finally

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exhaled through the nose.

3. Liver : Breakdown of amino acids in liver produce urea. Urea is then carried to the kidneys from where it is excreted out in the urine.

Liver also helps in elimination of bile pigments, extra vitamins and many drugs into the bile from where they are excreted along with faeces.

Osmoregulation

Kidneys also help in maintaining the water and salt concentration in the blood.

Osmoregulation is a physiological process performed by kidneys to maintain water and salt concentration in the body.

- ★ We urinate more in winters than in summers, as in summers a lot of water is lost due to sweating. The urine passed in summers is more concentrated also.

Now let us discuss common disorders of the Urinary System.

1. Kidney stones : Kidney stones are formed when minerals like calcium oxalate, calcium phosphate and uric acid are more than the fluid in the urine. When these chemicals

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start sticking together, they form crystals called kidney stones. It occurs due to consumption of high protein diet or dehydration. Symptoms are frequent urination, pain while passing urine. They block the flow of urine if they are present in the ureters, urinary bladder or urethra. Drinking large quantity of water can prevent formation of new stones. This can also help in moving smallest stones into the bladder from which they pass out with the urine. Larger stones are removed by surgery.

2. Urinary tract infection : It occurs when bacteria gain entry into the urinary tract and overcomes the body's defence present there.

Symptoms : Frequent urination, pain while passing urine, burning sensation while urinating.

3. Diabetes : Presence of glucose in the urine indicates that the person is suffering from diabetes mellitus. The sugar level in the blood is much higher than the normal level. The excess sugar is excreted out through the urine confirming the disease in a person.

4. Presence of blood cells in the urine may indicate an infection, tumor, internal bleeding or damage to the kidneys.

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For today, I am ending the lesson with this topic. Kindly go through the chapter for its complete understanding.