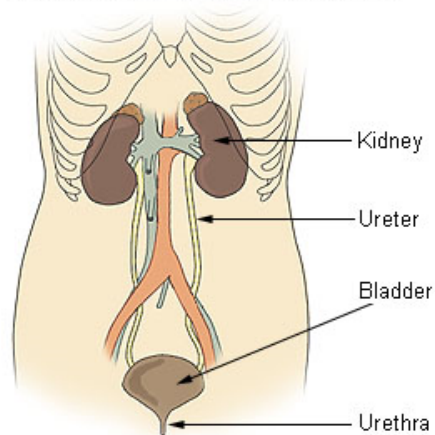


Excretory System

The process in which waste products are eliminated from the body.

Components of the Urinary System



Excretory System

The elimination of waste is carried out mainly by our lungs, kidneys and sweat glands.

- The lungs need to excrete carbon dioxide or else the body would die in just a few minutes.
- The kidneys maintain blood balance and eliminates waste by producing urine.
- Sweat glands discharge their secretion (sweat) through our skin. Sweating is a mechanism that helps keep our body temperature constant in hot weather or when we exert ourselves (ie: playing sports). Sweat is composed of water and waste materials from the blood.



These are the three main ways we eliminate waste from our body.

The Urinary System

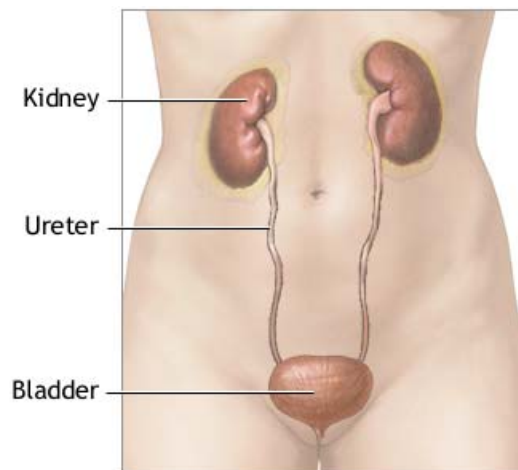
How does the urinary system work?



You drink,
you pee.

Actually it's a little more complicated than that...

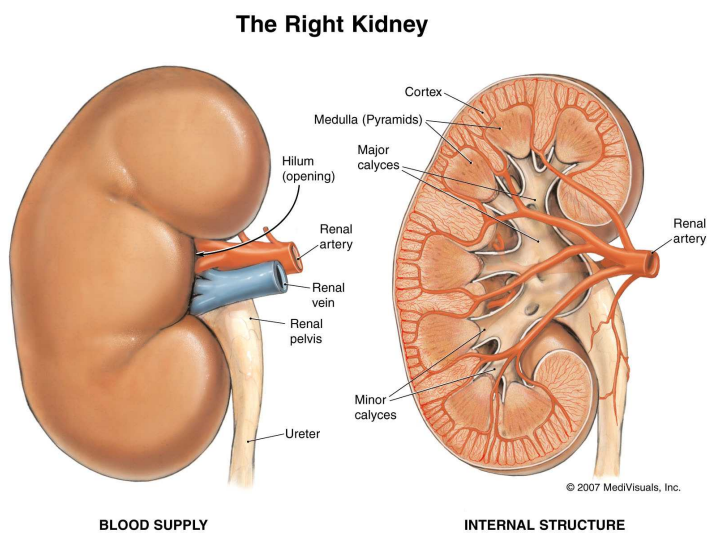
Urine is more than just that drink you had a few hours ago. The body produces urine as a way to get rid of waste and extra water that it doesn't need. Before leaving your body, urine travels through the urinary tract.



ADAM.

The urinary tract is a pathway that includes the:

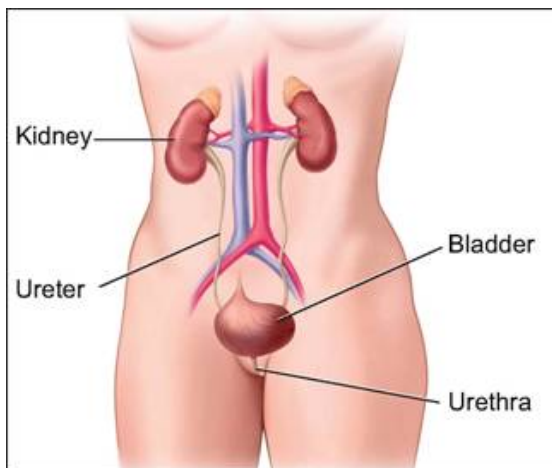
- **Kidneys:** two bean-shaped organs that filter waste from the blood and produce urine
- **Ureters:** two thin tubes that take urine from the kidney to the bladder
- **Bladder:** a sac that holds urine until it's time to go to the bathroom
- **Urethra:** the tube that carries urine from the bladder out of the body when you urinate



The Kidneys

The kidneys are key players in the urinary tract. They do two important jobs – filter waste from the blood and produce urine to get rid of it. If they didn't do this, toxins (bad stuff) would quickly build up in your body and make you sick.

The kidneys eliminate waste and maintain blood balance through the production of urine (by excreting surplus water and toxic products, among them urea).



The Bladder

The bladder stores urine until it is released through urination, the bladder can hold about one litre of urine.

The bladder expands as it fills; when it's full, nerve endings in the bladder wall send a message to the brain that you need to urinate.

When you're in the bathroom, ready to go, the bladder walls contract and the sphincter (a ringlike muscle that guards the exit from the bladder to the urethra) relaxes. The urine then flows from the bladder and out of the body through the urethra. For boys, the urethra ends at the tip of the penis. For girls, it's above the vaginal opening.

What's Urine Made Of?

Let's talk more about how the kidneys filter blood.

When blood goes through the kidneys, water and some of the other stuff that is in blood (like protein, glucose, and other nutrients) go back into the bloodstream, while the excess stuff and waste is taken out.

Urine is what is left behind. But what is it exactly?

Urine contains:

- Water
- Urea, a waste product that forms when proteins are broken down
- Salts
- Minerals
- Excess Substances

FAQs

Why is urine sometimes more yellow or more clear?

Urine is a way for your body to keep the right amount of water. When you drink a lot, you often urinate more often and the urine is a pale yellow. That's because your body is getting rid of extra water and your urine has more water in it than usual.

Concentration of Minerals

Another factor that affects the amount of urine that is produced is the amount of minerals in the body.

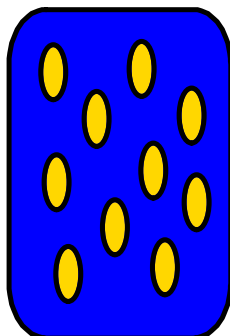
We need a certain amount of minerals in our blood for our bodies to function properly.

When the concentration of minerals in the blood is low, we excrete (or get rid of) more water which leads to the expulsion of more urine.

When the concentration of minerals in the blood is high, we retain (or keep) the water which leads to creating less urine.

High
Concentration:

Lots of
Minerals for a
certain
amount of
liquid.



Low
Concentration:

Few Minerals
for the same
amount of
liquid.

