

Kidneys

Humans are normally born with two kidneys, which are organs that look like kidney beans. Each kidney is usually about four to five inches long and three inches wide. They are located in the lower back near the twelfth rib, and there is one on each side of the spine. The right kidney is just below the liver, the left below the diaphragm and next to the spleen. Due to the right kidney being just below the liver, the right kidney is placed a bit lower than the left one.

Above each kidney is an adrenal gland. Two layers of fat cover each kidney to protect them from injuries. Each kidney is connected to the bladder by tubes called ureters. Anything related to kidneys is called renal. A person can live if he has one healthy kidney.

The kidneys perform many important functions in the body.

1. Blood filtering: Kidneys remove waste from the blood. The blood is carried to the kidneys through the renal gland. Every minute, one quarter of the person's blood supply passes through the kidneys. The kidneys check out the blood and filter it as many as 400 times a day. Inside each kidney, there are millions of tiny filters called nephrons that catch the waste in the blood and get rid of the waste by combining it with water.
2. Make urine: The waste in the body and the substances that are not needed are collected, and then are combined with water to make urine. Each kidney makes urine and then it passes through the tubes called the ureters to go the bladder. The bladder is a kind of bag made of muscle, which holds the urine. When the bladder is around half full, it sends a message to the central nervous system to let it know that the person needs to go to the bathroom. The urine then goes from the bladder to the urethra, which is a tube that carries the urine out of the body.
3. Keeping balance in the body: The kidneys balance the amount of fluids and minerals in the body. Fluids go out of the body in many ways, like sweating and urine. When the amount of fluids in the body goes down, the brain sends a message to the kidneys telling it not to get rid of fluids, so the kidneys hold on to the fluids until the person drinks water or fluids. The kidneys keeping the balance of fluids and minerals is known as homeostasis.

Name _____

Date _____

Kidneys (Cont'd)

4. Help regulate blood pressure: Kidneys make a hormone that can make the arteries in the body get narrower, which leads the kidneys to reabsorb more salt and water and resulting in an increase in blood pressure.
5. Help make red blood cells: Kidneys produce a hormone that tells the body when to make more red blood cells.

To look after kidneys, a person should drink between 6 to 8 glasses of water or other healthy drinks, such as fresh juices and milk, a day. The person should eat a healthy diet and exercise.

Name _____

Date _____

Kidneys Questions

Multiple Choice:

1. Homeostasis is:
- a. Kidneys getting rid of waste
 - b. Kidneys keeping the balance of fluids in the body
 - c. Kidneys making red blood cells
 - d. All of the above

Matching:

- | | |
|-------------------|---|
| _____ 2. Nephrons | a. Tiny filters in the kidneys |
| _____ 3. Bladder | b. Long tubes that connect the kidneys to the bladder |
| _____ 4. Ureters | c. Tube that carries urine out of the body |
| _____ 5. Urethra | d. Bag made of muscle that carries urine |

List briefly three functions the kidneys perform:

6. _____

7. _____

8. _____

True or False:

- _____ 9. A person cannot live on one healthy kidney.
- _____ 10. To help the kidneys be healthy and perform well, a person should drink between 6-8 glasses of water or fresh juices.
- _____ 11. Anything having to do with the kidneys is called renal.
- _____ 12. Humans are born with one kidney.
- _____ 13. Kidneys are covered in two layers of fat to protect them.

Name _____

Date _____

Kidneys Answers

Multiple Choice:

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- c. Kidneys making red blood cells
- d. All of the above

Matching:

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 d 3. Bladder

b. Long tubes that connect the kidneys to the bladder

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c. Tube that carries urine out of the body

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List briefly three functions the kidneys perform:

 Blood filtering

 Make urine

 Keep balance in the body

 Regulating blood pressure

 Help make blood cells

True or False:

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