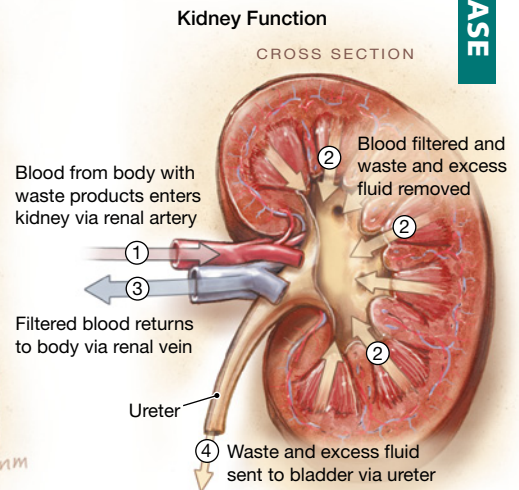
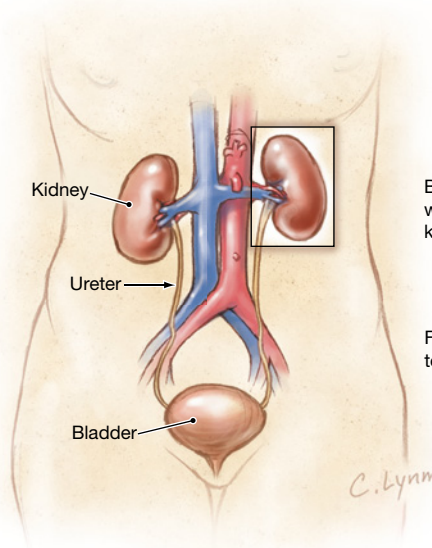


# Kidney Failure

Your kidneys are 2 bean-shaped organs about the size of a fist, located near the middle of the back, below the rib cage. Kidneys filter blood by keeping compounds that are useful and removing waste and excess fluid, and they help regulate blood pressure and the number of red blood cells. Every 30 minutes, your kidneys filter all the blood in your body.

The July 14, 2010, issue of *JAMA* includes an article about regional variations in treatment practices for older adults with end-stage kidney disease. This Patient Page is based on one published in the February 11, 2009, issue of *JAMA*.



## TYPES OF KIDNEY FAILURE

**Kidney failure** occurs when the kidneys cannot properly remove wastes, causing buildup of waste and fluid in the body. By checking blood and urine tests, your doctor can determine if you have kidney failure.

- **Acute kidney failure** develops suddenly, sometimes because of severe infection, drugs or other chemical agents, or physical trauma. If the underlying problem can be successfully treated, complete recovery of the kidneys is possible.
- **Chronic kidney failure** develops gradually over years and may cause weight loss, **anemia** (low blood cell count), nausea or vomiting, tiredness, headaches, decreased mental sharpness, muscle twitches and cramps, yellowish-brown skin color, unusual itching, and trouble sleeping.
- **End-stage kidney disease** causes anemia, high blood pressure, bone disease, heart failure, and poor mental functioning.

## TREATING KIDNEY FAILURE

- **Dialysis** is the treatment used when the kidneys stop working altogether. In **hemodialysis**, blood is sent through a machine that filters away the waste products and returns the clean blood to the body. In **peritoneal dialysis**, a fluid called **dialysate** is introduced into the abdomen; it captures waste products from the blood and can then be drained away.
- **Transplantation** is the use of a new kidney from a donor to replace damaged kidneys. Transplants involve major surgery and usually require treatment to prevent rejection of the new organ.

See a doctor if you have pain or burning when you urinate, frequent urges to urinate, urine that is cloudy or dark, fever or a feeling of shakiness, or pain in your back or side below your ribs that does not go away. Treatment of high blood pressure and diabetes can help prevent kidney disease.

## FOR MORE INFORMATION

- National Institute of Diabetes and Digestive and Kidney Diseases  
[www.niddk.nih.gov](http://www.niddk.nih.gov)
- National Kidney Foundation  
[www.kidney.org](http://www.kidney.org)
- UK National Kidney Federation  
[www.kidney.org.uk](http://www.kidney.org.uk)

## INFORM YOURSELF

To find this and previous JAMA Patient Pages, go to the Patient Page link on JAMA's Web site at [www.jama.com](http://www.jama.com). A Patient Page on kidney transplantation was published in the December 7, 2005, issue and one on organ donation was published in the January 9/16, 2008, issue.

Sources: American Kidney Foundation, American Society of Nephrology, Mayo Clinic Foundation, National Institute of Diabetes and Digestive and Kidney Diseases, National Kidney Foundation, UK National Kidney Federation

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