



Acute Renal Failure

How your kidneys work and what happens when they are injured

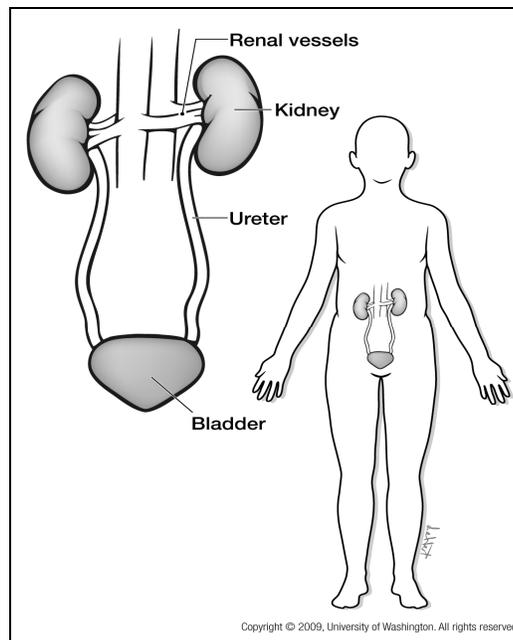
This handout describes what your kidneys do and the causes, symptoms, and treatment of acute renal failure. It also includes resources where you can find more information.

What do my kidneys do?

Almost all people have 2 kidneys. They are kidney-bean-shaped organs about the size of a fist. They are located near the middle of your back, below your rib cage.

Renal arteries and renal veins connect each kidney to your blood system. The word *renal* means “related to the kidneys.” Kidneys filter your blood by keeping substances that your body needs and removing waste and extra fluid. They also help control blood pressure and help produce red blood cells. Every 30 minutes, your kidneys filter all the blood in your body.

Urine is made in your kidneys and stored in your bladder. Narrow tubes called *ureters* connect each kidney to your bladder.



What causes acute renal failure?

Acute renal failure is also called *acute kidney injury*. Many things can damage your kidneys, but the most common cause is lack of blood flow. When the kidneys do not get enough blood from the rest of the body, they also do not get enough oxygen. Lack of oxygen can make them stop working well.

Two of the most common reasons for lack of blood flow are large amounts of blood loss and severe infection. Sometimes, medicines or dyes used in procedures may also damage the kidneys. This is more common in people who already have kidney problems.

What are the symptoms of kidney injury?

- Little or no urine output.
- Swelling, especially in the legs and feet.
- Thirst and dry mouth.
- Rapid heart rate.
- Feeling dizzy when going from sitting to standing up.
- Loss of appetite, nausea, or vomiting.
- Feeling confused, anxious, restless, or sleepy.
- Pain on one side of the back, above the waist or below the ribs.

How is acute renal failure diagnosed?

Making less urine is usually the main clue that you may have kidney damage. You will have blood tests to measure the levels of 2 waste products your body makes. These 2 products are *urea* and *creatinine*. High levels of these in your blood mean that your kidneys are not working well.

You may also need other blood tests, urine tests, X-rays, or ultrasound to help your doctor diagnose your kidney problem. A urine test will check for inflammatory cells or bacteria. Ultrasound may be used to see the size of your kidneys and to see if urine is blocked from flowing.

How is acute renal failure treated?

Treatment of acute kidney failure depends on the cause of the kidney injury. Treatment may include:

- Giving fluids and stopping bleeding so that blood flow to the kidneys returns.
- Stopping medicines that may be causing the injury.

- Using anti-inflammatory medicines or *plasma exchange* to treat some *autoimmune* diseases that cause kidney injury. Autoimmune diseases occur when your own immune system attacks tissues of your body. Plasma exchange is a process that takes blood from your body, removes and replaces the *plasma* (the liquid part), and then returns the blood to your body through a transfusion.
- Removing blockages in the urinary tract so the urine can flow.
- Starting *dialysis* if too many waste products or fluids are building up.

What is dialysis?

Dialysis is a procedure that filters waste and removes extra fluid from your body. There are 2 main types. *Hemodialysis* filters your blood, and *peritoneal dialysis* filters the fluid in your *peritoneum*. The peritoneum is the membrane that lines the inside of your abdomen.

Both types of dialysis use a *dialysis access* device. This device stays in place during your treatment. Blood or fluid is removed and returned to your body through it. In hemodialysis, the access is usually placed in a vein in your neck or groin. In peritoneal dialysis, it is usually placed in your abdomen.

Talk with a member of your *nephrology* (kidney) health care team to learn more about dialysis.



Hemodialysis uses a machine to filter blood, usually through a temporary access in your neck or groin. Long-term access can be created in the arm.

Questions?

Your questions are important. Call your doctor or health care provider if you have questions or concerns. UWMC clinic staff are also available to help.

Outpatient Renal
Nurses:
206-598-2844

Renal Clinical Nurse
Specialist:
206-598-4442

Your Nephrologist:

Will my kidneys recover?

About half the people who have acute renal failure or a kidney injury recover fully and do not need further treatment. Some people will need to keep having their kidneys checked to avoid further injury.

When will my kidneys recover?

Once your kidney problem is diagnosed and treated, your kidney function may return to normal within a few days to a few months. Your recovery depends on:

- What caused your kidney injury.
- How severe your injury was.
- How long your kidneys remained injured.
- How quickly your acute renal failure was diagnosed and treated.
- What other medical conditions you may have that make you more prone to kidney disease.

What happens if my kidneys do not recover?

Some peoples' kidneys do not recover. These people may need long-term dialysis or a kidney transplant. Your health care team will work with you to help you decide how to care for your kidneys in the future.

Where can I get more information?

- Ask a member of your nephrology health care team for more information. This team includes doctors, nurses, pharmacists, social workers, and dietitians.
- Talk with your primary care provider.
- Contact the Northwest Kidney Center at 206-292-2771 or visit www.nwkidney.org.
- Contact the National Kidney Foundation toll-free at 800-622-9010 or visit www.kidney.org.

UNIVERSITY OF WASHINGTON
MEDICAL CENTER
UW Medicine

4-Southeast

Box 356086

1959 N.E. Pacific St. Seattle, WA 98195
206-598-4400