



Acute kidney injury (AKI) is a sudden episode of kidney failure or kidney damage that happens within a few hours or a few days. AKI causes a build-up of waste products in your blood and makes it hard for your kidneys to keep the right balance of fluid in your body. AKI can also affect other organs such as the brain, heart, and lungs. AKI is common in patients who are in the hospital, in intensive care units, and especially in older adults.

Signs and symptoms

Signs and symptoms of AKI differ depending on the cause and may include:

- Too little urine leaving the body
- Swelling in legs, ankles, and around the eyes
- Fatigue or tiredness
- Shortness of breath
- Confusion
- Nausea
- Seizures or coma in severe cases
- Chest pain or pressure

In some cases, AKI causes no symptoms and is only found through other tests done by your healthcare provider.

Causes

DECREASED BLOOD FLOW TO THE KIDNEYS

Some diseases and conditions can slow blood flow to your kidneys and cause AKI including:

- Low blood pressure (called hypotension) or shock
- Blood or fluid loss (such as bleeding and severe diarrhea)
- Heart attack, heart failure, and other conditions leading to decreased heart function
- Solid organ failure (eg, heart, liver, kidney)
- Overuse of common, over-the-counter pain medicines, which are used to reduce swelling or relieve pain from headaches, colds, flu, fever, and other ailments (eg, ibuprofen, ketoprofen, and naproxen)
- Severe allergic reactions
- Burns
- Injury
- Major surgery

DIRECT DAMAGE TO THE KIDNEYS

Some disease and conditions can damage your kidneys and lead to AKI such as:

- Sepsis, a severe, life-threatening infection
- Multiple myeloma, a type of blood cancer
- Vasculitis, a rare condition that causes inflammation and scarring to blood vessels, making them stiff, weak, and narrow
- Interstitial nephritis, an allergic reaction to certain types of drugs
- Scleroderma, an autoimmune connective tissue and rheumatic disease that causes inflammation in the skin and other areas of the body
- Conditions that cause inflammation or damage to the kidney tubules, to the small blood vessels in the kidneys, or to the filtering units in the kidneys

BLOCKAGE OF THE URINARY TRACT

In some people, conditions or diseases can block the passage of urine out of the body and can lead to AKI. Blockages can be caused by:

- Bladder, prostate, or cervical cancer
- Enlarged prostate
- Problems with the nervous system that affect the bladder and urination
- Kidney stones
- Blood clots in the urinary tract



Diagnosis

If your healthcare provider suspects that you may have an AKI, there are several tests that can be ordered to confirm or rule out a diagnosis. It is important that AKI is found as soon as possible because if untreated, it can lead to chronic kidney disease or even kidney failure. AKI can also lead to heart disease or death.

The tests most commonly used to diagnosis AKI include:

- Measuring urine output, which tracks how much urine is passed each day
- Urinalysis, which is a urine test used to find signs of kidney disease and kidney failure
- Blood tests to check creatinine, urea nitrogen phosphorus, protein, and potassium levels
- eGFR is another kind of blood test, which is an estimate of glomerular filtration rate and is used to check how well the kidneys are working
- Imaging tests, such as ultrasound, looks at the kidneys for any abnormalities
- Kidney biopsy, which is a procedure where a tiny piece of your kidney is removed with a special needle, and looked at under a microscope

Treatment

Treatment for AKI usually means a hospital stay. Most people with AKI are already in the hospital for another reason. How long you will need to stay in the hospital depends on the cause of your AKI and how quickly your kidneys recover.

In more serious cases, dialysis may be needed to take over your kidney function until your kidneys recover. The main goal of your healthcare provider is to treat the cause of your AKI.

Recovery

After recovering from an AKI, you will be at higher risk for developing other health problems (such as kidney disease, stroke, heart disease) or having an AKI again in the future. The chances for developing kidney disease and kidney failure increase every time an AKI occurs.

To protect yourself, you should follow up with your healthcare provider to keep track of your kidney function and recovery. The best ways to lower your chances of having kidney damage and to save kidney function are to take steps to prevent AKI or to find and treat it as early as possible.

For more information, contact the National Kidney Foundation

Toll-free help line: **855.NKF.CARES** or email: **nkfcare@kidney.org**