
WHAT IS ACUTE KIDNEY INJURY?

Acute kidney injury is sudden damage to the kidneys. In many cases, it is temporary but in some people, it may lead to long-term chronic kidney disease.

HOW DOES ACUTE KIDNEY INJURY OCCUR?

The causes of acute kidney injury include:

- reduced blood supply to the kidneys (e.g., as a result of a major surgery, severe burns, severe dehydration or a heart attack)
- damage to the kidney tissue caused by physical injury (e.g., from high-contact sport or a car accident), a drug or poison (plant, animal or chemical) toxic to the kidney, severe infection, or radioactive dye
- something blocking urine leaving the kidney (e.g., kidney stones or an enlarged prostate)

There is a higher risk of acute kidney injury in people who:

- have chronic diseases such as chronic kidney disease, diabetes, heart, lung or liver disease, cancer, or anaemia
- are of advanced age
- are female

HOW IS ACUTE KIDNEY INJURY IDENTIFIED?

The kidney damage usually occurs quite quickly, over a matter of days (compared to the months or years for chronic kidney disease to develop). This leads to reduced output of urine, causing a rapid build-up of fluid and a sudden rise in toxins in the body.

Symptoms of acute kidney injury may include:

- water retention
- changed colour of urine (red/brownish colour)
- reduced urine output compared to normal
- fatigue, lack of concentration, lack of appetite, vomiting, itchiness

Sometimes, with no symptoms present, a Kidney Health Check will identify acute kidney injury.

Acute kidney injury is diagnosed by a blood test that checks your levels of urea and creatinine, and by measuring your urine output and quality.

HOW IS ACUTE KIDNEY INJURY TREATED?

The goals of treatment are to:

- find and treat the cause of the acute kidney injury
- use medications to support the kidneys
- assess kidney function by closely monitoring the urine output and blood levels of creatinine levels and toxins

Severe acute kidney injury may require insertion of a catheter into your bladder, surgery, or dialysis treatment whilst the kidneys recover.

WHAT HAPPENS TO THE KIDNEYS AFTER THE INJURY?

After acute kidney injury, long-term outcomes can vary:

- full recovery and normal kidney function
- partial recovery with lower levels of kidney function
- permanent kidney damage that requires dialysis

After an acute kidney injury, your kidney function can continue to recover over time. It is recommended that you have a Kidney Health Check performed by your doctor every year for the first three years following an acute kidney injury. Your doctor will also advise on how to monitor your kidney function and reduce the risk of another episode of acute kidney injury.

HOW CAN YOU PREVENT ACUTE KIDNEY INJURY?

If you are at increased risk of acute kidney injury, it is important to be aware of your kidney health. Ask your doctor to perform a regular Kidney Health Check.

The test should include a:

- blood test
- urine test
- blood pressure test
- discussion about lifestyle and wellbeing

Below are some tips on how to reduce the risk of acute kidney injury:

- Stay adequately hydrated – drink plenty of water every day
- Avoid long-term use of some common over-the-counter medications that can be harmful to the kidneys, including:
 - Alka-Seltzer, baking powder or bubbling remedies, as they are high in sodium
 - Milk of Magnesia or antacids containing magnesium
 - Aspirin, as it can affect blood clotting and cause bleeding
 - Nonsteroidal anti-inflammatory drugs (NSAIDs), which are anti-inflammatory medications, such as ibuprofen (e.g. Nurofen), naproxen (e.g. Naprosyn), diclofenac (e.g. Voltaren) and celecoxib (e.g. Celebrex)
 - Enemas and laxatives unless suggested by your doctor
 - Vitamins or food supplements, as they may contain potassium and magnesium
 - Herbal or complementary medicines, as they may have side effects, can interact with other medications, or may be unsuitable if you have kidney disease
- Avoid prescribed drugs that can be harmful to the kidneys, including:
 - Lithium
 - Metformin (not recommended if eGFR is less than 30 mL/min/1.73m²)
 - Gadolinium contrast dye (used for magnetic resonance imaging)

If you are currently taking a medication to control your blood pressure, it is important that you discuss appropriate pain relief medication with your doctor or pharmacist. It is important that you do not stop taking any medications without checking first with your health care team. Ask your doctor or pharmacist if you are unsure whether a medication is safe for you.

If your kidneys already have reduced function, it is important to make sure that all health professionals caring for you, particularly radiologists, anaesthetists, and surgeons, are aware of it.

For more information about Kidney or Urinary health, please contact our free call Kidney Health Information Service (KHIS) on 1800 454 363. Alternatively, you may wish to email KHIS@kidney.org.au or visit our website www.kidney.org.au to access free health literature.

This is intended as a general introduction to this topic and is not meant to substitute for your doctor's or Health Professional's advice. All care is taken to ensure that the information is relevant to the reader and applicable to each state in Australia. It should be noted that Kidney Health Australia recognises that each person's experience is individual and that variations do occur in treatment and management due to personal circumstances, the health professional and the state one lives in. Should you require further information always consult your doctor or health professional.

Last reviewed November 2015