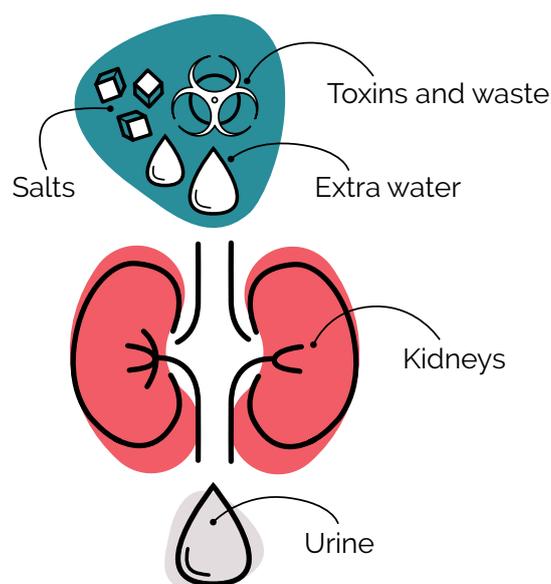


Acute kidney injury

What do kidneys do?

Kidneys are the unsung heroes of your body. Most people are born with two kidneys. Each kidney is about the size of a fist, bean-shaped and located under the rib cage on either side of your spine (backbone).

Your kidneys filter the blood and remove extra fluid and waste products. The extra fluid and waste collect in the bladder before leaving the body as urine (wee). The clean blood continues to circulate around your body.



What is acute kidney injury (AKI)?

Sudden loss of kidney function is called acute kidney injury. Acute kidney injury happens quickly, usually over a few days.

In most cases, acute kidney injury is a temporary (short-term) condition where your kidneys cannot filter waste from your blood as well as they should.

Acute kidney injury is a medical emergency and should be treated right away. In some cases, the injury may lead to chronic kidney disease (CKD).

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Causes of acute kidney injury

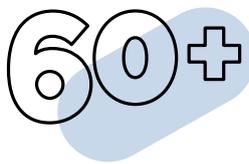
Acute kidney injury can happen to you when there is **added stress on your kidneys**, including:

- reduced blood supply to the kidneys, which can happen in surgery, severe burns, dehydration, infections or a heart attack
- damage to the kidneys caused by certain medicines, poisons, severe infections, or contrast dyes
- physical injury to the kidney, like from a high-contact sport or a car accident
- an obstruction or blockage that prevents your urine from passing out of your kidney. This can happen when you have kidney stones, an enlarged prostate, or damage to kidney structure.



Risk factors

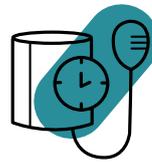
You have a higher risk of acute kidney injury if you:



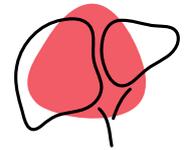
Are over 60



Have diabetes



Have high blood pressure



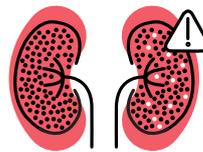
Have liver disease



Have high body weight (obesity)



Have heart disease or a history of heart attack



Have chronic kidney disease



Have had a previous episode of acute kidney injury.

Chronic kidney disease and acute kidney injury are connected - **having chronic kidney disease increases your risk for getting acute kidney injury**. Likewise, having acute injury episodes can increase your chances of developing chronic kidney disease.

Medicines and kidney injury

If you already have chronic kidney disease, be aware of medicines that increase your risk for acute kidney injury:

- **Blood pressure pills can further reduce your blood pressure.**
- **Water pills can lead to dehydration, causing strain to your kidneys.**
- **Diabetes pills may reduce your blood sugars or cause side effects affecting your kidneys.**
- **Pain medicines can impact your kidneys. These include nonsteroidal anti-inflammatory drugs (NSAIDs) like ibuprofen, naproxen, and diclofenac that are available over the counter.**
- **Certain antibiotics used to treat infections can have toxic effects on your kidneys.**

Even if you do not have kidney disease, your risk for kidney injury can increase when certain blood pressure medicines, water pills, and NSAIDs are used all together. Talk to your doctor if you are taking this combination, especially if you fall ill.

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How do you know if you have acute kidney injury?

Signs of acute kidney injury may include changes in your urine including passing less urine and/or dark, red, or brownish coloured urine. You may notice:



Swollen ankles, face or hands



Feeling tired



Confusion or changes in mood



Loss of appetite



Nausea and vomiting.

Acute kidney injury happens quickly, usually within a few hours or days. A blockage that prevents your urine from passing out of your kidneys, such as kidney stones, can cause pain in your groin, lower back, or belly area. If you notice these symptoms, visit your doctor straight away.

Your doctor may order certain blood and urine tests to check for acute kidney injury. Your blood test may show a higher-than-normal **creatinine**. This is a waste product made by your muscles.

Healthy kidneys remove creatinine from your blood, so when your kidneys are not working well, creatinine stays in your blood.

Your doctor checks for acute kidney injury by looking at the creatinine in your blood and how much urine you are passing. High creatinine and passing less urine are signs of acute kidney injury.

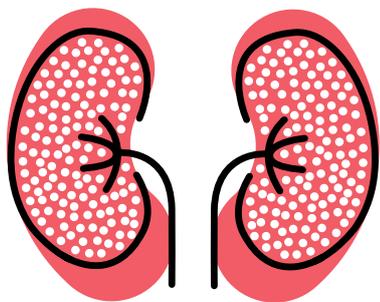


How is acute kidney injury treated?

If you have an acute kidney injury, you must get proper treatment and ongoing medical advice. This is because acute kidney injury raises your risk of developing chronic kidney disease in the future. When you seek medical treatment, your doctor will:

- **find and treat the cause of your acute kidney injury**
- **prescribe medicines and fluids to support your kidneys during recovery**
- **avoid giving medicines that are toxic to your kidneys**
- **closely check how much urine you pass and kidney function levels.**

While your kidneys recover, you may need a catheter in your bladder to relieve the obstruction or to monitor how much urine you are making. In case of severe acute kidney injury, your doctor may ask you to undergo dialysis treatment for one to two weeks while your kidneys recover.



Do my kidneys return to normal?

In most cases, the injury is short-term and kidney function recovers over time. In other cases, the injury can cause long-lasting damage and lead to chronic kidney disease. Outcomes vary from:

- **a full recovery** to normal kidney function in most people
- **partial recovery** with lower levels of kidney function
- **permanent kidney damage**, and on rare occasions kidney failure requiring dialysis.

Following an acute kidney injury, make sure that your healthcare providers are aware that you have a history of acute kidney injury and record this in your medical notes.

Having a history of acute kidney injury will mean that you have an ongoing risk of developing kidney disease. Your healthcare team will need to take this into consideration in your ongoing care.

How can you prevent acute kidney injury?

It is important to be aware if you are at increased risk of acute kidney injury. There are simple things you can do to prevent damage to your kidneys:

- Drink enough water to avoid dehydration.
- Ask your doctor or pharmacist before starting new medicines, especially over-the-counter pain medicines.
- Have a **'Sick Day Plan'** in place. Download the **Sick Day Action Plan** to fill out with your doctor. This plan will tell you what medicines to stop if you are unable to drink enough fluids to stay hydrated.

Tell any doctor that prescribes you medicines that you have kidney disease or you've had acute kidney injury in the past. Your doctor can prescribe or adjust certain medicines, so they are safer for your kidneys. Your pharmacist can also advise you on which medicines can put you at risk for further kidney injury.

Your doctor will need to closely monitor your kidney health for the first few years after you've had kidney injury. The best way to watch your kidney health is to ask for a **Kidney Health Check**.



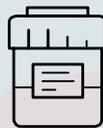
Acute kidney injury will mean that you have an ongoing risk of developing kidney disease.

Get a Kidney Health Check

For the first **three years after acute kidney injury, you should have a yearly check of your kidney's health**. Then, get a Kidney Health Check:

- **every two years if no other risk factors**
- **every year if you have diabetes, high blood pressure, or are First Nations and over 18 years old.**

A Kidney Health Check is quick and simple. You can have a Kidney Health Check at your local health centre, often as part of a regular check-up. It includes three parts:



a blood pressure check

to see if you have high blood pressure. High blood pressure can damage your kidneys and kidney disease can cause your blood pressure to increase.

a urine test

to see how much albumin (protein) is present in your urine. Albumin in your urine is a sign of damage or scarring in the kidneys. This test is called urine-albumin creatinine ration (uACR).

a blood test

to check your kidney function. This test will measure how well your kidneys are filtering your blood and is called estimated glomerular filtration rate (eGFR).

Contrast dyes and AKI

Radiocontrast dyes are used in certain computed tomography (CT) scans and surgeries to help the doctor see your inner organs. Some of these dyes are known as iodine-based contrast media.

Most people who get these dyes do not develop problems with kidney injury. When you already have chronic kidney disease, these dyes can increase the risk for acute kidney injury if you:

- **have poor kidney function, especially if you also have diabetes**
- **take certain medicines, such as metformin.**

If you are planning to get a CT scan or surgery, ask your doctor if radiocontrast dyes will be used and be sure to tell the person doing your scan that you have kidney disease.

You may get a blood test or scan to check your kidneys before the surgery to reduce the risk for acute kidney injury. Your doctor may instruct you to stop certain medicines or drink a lot of water before your scan.



Coping after kidney injury

Having an acute kidney injury can feel very unsettling and confusing. It may leave you feeling worried, low, or unsure about what's happening to your body.

These feelings are normal and okay. To help yourself feel better, ask questions if things aren't clear, and take small steps each day to care for yourself.

Even after you recover, you might feel sad, worried, or scared. You may feel tired, have trouble sleeping, or feel alone. To help yourself feel better, talk to your doctor or someone you trust. Sharing how you feel and getting support can make a big difference.

You're not alone — many people recover with support and time.



Things to remember:

- ✓ Acute kidney injury is usually a **short-term condition**, but sometimes it may lead to long-term chronic kidney disease.
- ✓ **Serious illnesses, medicines, poisons, and trauma** can cause acute kidney injury.
- ✓ If your kidneys already have reduced function, make sure to **tell all the healthcare professionals** caring for you. They can avoid medicines or procedures that can lead to further damage.

What does that word mean?

Acute kidney injury – A loss of kidney function that happens quickly which may or may not be permanent.

Antibiotics – A medication used to treat and prevent a variety of bacterial infections and disease.

Catheter – A plastic tube that is used to take fluid in or out of your body.

Chronic kidney disease (CKD) – A term used widely to describe kidney damage or reduced kidney function (irrespective of the cause) that persists for more than three months. Sometimes CKD leads to kidney failure, which requires dialysis or a kidney transplant to keep you alive.

Computed tomography (CT) scan – An imaging procedure that uses special x-ray equipment to create a series of detailed pictures or scans of areas inside your body.

Dehydration – When you do not have enough fluids in your body. If dehydration is severe, it can cause serious problems and you may need to go to hospital.

Kidney stones – Kidney stones happen when salts in the urine form a solid crystal. These stones can block the flow of urine and cause infection, kidney damage or even kidney failure.

Non-steroidal anti-inflammatory drugs (NSAIDs) – Medications often used to reduce pain and inflammation (swelling and redness). Some commonly used NSAIDs include aspirin (in brands like Disprin), ibuprofen (Nurofen), naproxen (Naprosyn), diclofenac (Voltaren) and celecoxib (Celebrex).

Radiocontrast dye – A chemical that makes it easier to see structures in the body during CT or x-ray scans. A common example is iodinated contrast.

Urine – The name for excess fluid and waste products that are removed from the body by the kidneys. Commonly called wee.

 **Kidney Health**
Australia

Free Kidney Helpline 1800 454 363
kidney.org.au

If you have a hearing or speech impairment, contact the National Relay Service on 1800 555 677 or relayservice.com.au. Have them connect you to the Free Kidney Helpline - 1800 454 363 



**WANT TO
LEARN MORE?**

Kidney Health 4 Life is a health and wellbeing program equipping people, and those that care for them, with the knowledge and resources to take more active management of their kidney health or kidney disease.



**Join Kidney Health 4 Life
by scanning the QR code**

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.

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