Kidney
Kids
NZ

Acute kidney injury (AKI)

Facts for whānau

Advice in this pamphlet is only intended as a guideline.

Please check with your GP or specialist if you have any questions relating to your child's condition.

What is acute kidney injury (AKI)?

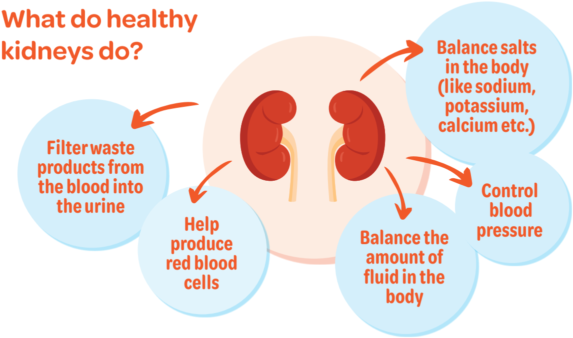
Acute kidney injury (AKI), also known as "acute renal failure", is when the kidneys suddenly stop working.

The most obvious sign is not being able to urinate (pee). Sometimes kidneys continue to make urine but can't clear toxins (waste) from the body.

What causes AKI?

- Significant infection, dehydration, blood loss, or injury to the kidney.
- Some medications can harm the kidneys.
- Sometimes, more than one thing happens at the same time to cause kidney injury.
- This can even happen to healthy kidneys.

What do healthy kidneys do?



What happens to tamariki with AKI?

- Waste builds up in the body, causing tiredness, nausea and vomiting.
- Kidneys stop making, or make very little, urine (wee).
- You may notice increased puffiness and swelling in your child.
- As the kidneys aren't helping to make new red blood cells, your child may become pale and breathless. This is particularly obvious if the condition that caused the AKI also causes breakdown or loss of red blood cells.
- Salts in the body become unbalanced - some go high, some low - which can cause problems.

How is AKI treated?

The first step is to know what is happening and how severe the AKI is.

Once this is known, you and your child's doctors can work together to treat the cause of the AKI so the kidneys can recover faster.

You and your child's doctor can also help by compensating for the things your child's kidneys can't do by:

- Making sure that the body gets the right amount of fluids and salt. This might mean changing your child's diet, giving medication and supplements, or dialysis to remove toxins and salts.
- Giving blood pressure medications if the blood pressure is high.
- Giving injections to make more red blood cells or a blood transfusion.

What procedures might my tamariki have?

- **An operation** to insert a catheter into the body, either into the abdomen for peritoneal dialysis or into a neck vein for haemodialysis.
- **Blood tests** to check salt levels, red blood cells and how well the kidneys are recovering.
- **Blood pressure**, temperature, **heart rate** and **breathing** are checked regularly.
- **Weight** is checked daily and a detailed recording is made of everything that goes in and out of their body.
- **Special high-calorie milk** or a **kidney-friendly diet** may be given. Your child might not feel like eating much, or feel nauseous, so a tube may be put in through their nose and into their stomach to make sure your child gets the nutrition they need.
- **Scans or x-rays** of the kidneys, chest and abdomen may be required.
- If the cause of AKI is not clear, a test called a **renal biopsy** may be needed. This procedure removes small tissue samples from the kidney for examination to help diagnose and determine treatment.

What happens next?

Usually, the kidneys will regain all or some of their function. At the start, it is difficult to predict how long this will take.

- Blood tests, weight and blood pressure checks are important to show if things are getting better.
- As the kidneys start working, they make more urine (wee) and blood results improve.
- If your child is on dialysis, the dialysis time is reduced before stopping. If this happens:
  - There will be a small operation to remove the dialysis catheter.
  - Kidney function may not be normal by the time the catheter is removed.
  - Regular blood tests and checks may still be needed to continue to make sure your child's kidneys are working normally.

Whatever the outcome, all tamariki should be seen by their doctor regularly for checkups. Possible long-term effects on the kidneys may not be seen until adulthood. This could include:

- Kidney scarring (which shows up as protein in the urine, or kidneys that don’t grow).
- High blood pressure.
- Chronic kidney disease (chronic abnormal kidney function) may be a result of severe AKI.

Kidney Kids has plenty of information about conditions that can affect children’s kidneys. If you can’t find the information you are looking for, please contact us.

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What is dialysis?

Some children might be required to go on dialysis to remove waste products and fluid from the body.

There are two types of dialysis: ***peritoneal dialysis*** and ***haemodialysis***. The kidney specialist may recommend one form of dialysis over another, depending on the best method for your child.

Peritoneal dialysis

- Uses a natural membrane inside the abdomen to filter out waste products and extra fluid.
- An operation is required to put a ***catheter*** (tube) that runs from the skin of the tummy into the space around the abdominal organs.
- The tube is used to put in a special fluid called ***dialysate***. Dialysate stays in the space for some time (usually an hour), then is removed and replaced by more dialysate.
- The fluid that is removed is clear (can sometimes be whitish or slightly yellow).
- A machine is used to push the fluid in and out of the abdominal space, so this doesn't need to be done by hand.
- Peritoneal dialysis is usually done daily.

Haemodialysis

- Filters waste and fluid from the blood directly.
- Tamariki usually have a temporary ***catheter*** (tube) with two openings inserted into one of the large neck veins.
- The catheter is attached through long tubes to a machine which pumps and filters blood before returning it to the body.
- Haemodialysis is usually done for short periods, 1–4 hours per day, by a special technician.
- There is a special type of haemodialysis known as ***CVVH (continuous veno-venous haemofiltration)*** that can be done around the clock in the paediatric intensive care unit.
- When your child doesn't need dialysis any longer, the catheter is removed.

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Our vision is for all Kidney Kids and their whānau to lead their best lives and to feel supported, understood and connected in a caring community.

Get in touch

If you would like more information about our organisation, or if you, your whānau or friends have a child with a kidney condition and you would like to register with us, please get in touch.

Find us

0800 215 437 – Monday to Friday 8.30am to 5pm
or email **support@kidneykids.org.nz**

kidneykids.org.nz

**Pamphlet prepared for Kidney Kids of New Zealand Inc.
by the Nephrology team at Starship Hospital**