

Acute kidney injury (AKI) Overview

This infoKID topic is for parents and carers about children's kidney conditions.

This leaflet has the overview only.

Go to www.infoKID.org.uk to find out more about this topic or other topics.

Acute kidney injury (AKI) is when the kidneys stop working over a short period of time – a few days or a few weeks. It is sometimes called acute kidney failure (AKF) or acute renal failure (ARF).

Children with AKI have different symptoms, and this depends in part on what has caused AKI. Some children get better after a few weeks, without treatment. Some need to take medicines or have more intensive treatment. In a few children it can be very serious.

This topic covers:

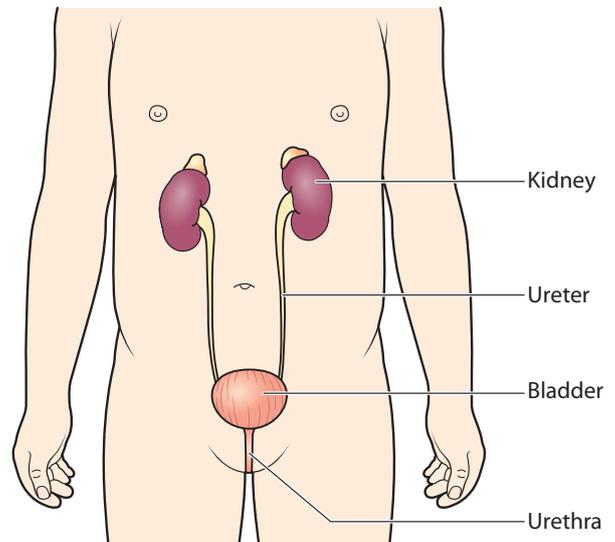
- what AKI is
- what may cause AKI
- tests your child needs to find out whether your child has AKI and what is causing it
- treatment that your child may need
- any long-term effects of AKI



About the urinary system

The **urinary system** gets rid of things that the body no longer needs, so that we can grow and stay healthy.

- The **kidneys** are bean-shaped organs. They filter blood to remove extra water and waste in urine (wee). Most of us have two kidneys. They are at the back on either side of our spine (backbone), near the bottom edge of our ribs.
- The two **ureters** are long tubes that carry urine from the kidneys to the bladder.
- The **bladder** is a bag that stores urine until we are ready to urinate. It sits low down in the tummy area.
- The **urethra** is a tube that carries urine from the bladder to the outside of the body.



Symptoms and complications

Symptoms and signs

The symptoms and signs of AKI are different in different children, depending on what is causing the AKI and how severe it is, and some children do not notice any symptoms. They include:

- blood in the urine (**haematuria**) – you cannot always see the blood, but if there is a lot, the urine may be coloured red or dark brown (like a cola drink)
- urinating less often or passing smaller amounts
- swelling or puffiness in different parts of the body, especially around the eyes, legs and feet (**oedema**).

Complications

Some children have complications – health problems that happen because of the condition. These include:

- blood pressure that is too high (**hypertension**)
- too much water in the body (fluid overload)
- rarely, too much fluid in the lungs, which may cause breathlessness (pulmonary oedema).

Causes

In AKI, the kidneys suddenly fail, or stop working. They are not able to get rid of extra water and waste from the body. This can happen over a few days or a few weeks. Doctors use the term **acute** for a condition that happens over a short period of time.

AKI can happen in people of all ages. However, it is very rare in children and young people. It is rare in babies.

Types of AKI

There are three types of AKI, depending on what has caused the kidneys to stop working:

- **pre-renal AKI** – there is not enough blood flow to the kidneys
- **renal AKI** – there is a problem inside the kidneys
- **post-renal AKI** – there is a problem that affects how urine leaves the kidneys

Tests and diagnosis

Your child's doctor can **diagnose** (identify) AKI by doing some tests. If your child has certain symptoms, such as red or brown urine, your doctor may arrange a **urine test**. Your doctor will speak with you and your child about the symptoms and do a physical examination.

Your child may also need other tests, such as **blood tests** and **imaging tests** (scans), to find out more about what has caused AKI.

Some children need a **kidney biopsy** to find out more information. A tiny piece of one kidney is removed from their body with a needle. This is examined under special microscopes in a laboratory. Special medicines are used so your child does not feel any pain or can sleep through the procedure.

Treatment

Most children with AKI need treatment and monitoring in hospital.

Where will my child be treated?

Your child will probably need to stay in a hospital for a few days, while his or her kidneys get better. This is usually in a **paediatric renal unit**, a special unit for children with kidney problems, which may be in a different hospital to your own. He or she will be looked after by a **paediatric nephrologist**, a children's kidney doctor.

Your child can go home when the doctor thinks that his or her health is stable.

What does treatment do?

- Many children will not need special treatment, but will be monitored to make sure they have the right amount of water and salts in their body, and to measure their **blood pressure**.
- Your child may need to make temporary changes to what they eat and drink, and may need a feeding device to make sure they get the nutrients they need.
- Some children get AKI because of problems with their immune system, which normally protects the body from disease or infection. They may need special medicines or treatment to stop it from harming their kidneys.
- Some children get AKI because of a blockage that affects how they pass urine. They may need a **urinary catheter** to drain urine from their bladder, or an operation.
- Some children need medicines to treat complications – such as swelling in their body (oedema) or high blood pressure (hypertension).

What happens if my child does not get better?

If your child does not get better, or if his or her kidneys stop working as well as they should, he or she may need special treatment. This may include **dialysis**, which uses special machines to help do the job of healthy kidneys.

➔ It is important that your child follows any treatment plan outlined by your doctor.

About the future

Recovery

In some children, AKI can be quite mild and uncomplicated. Their kidneys can get better by themselves over a few days or weeks.

In others, it can be very serious (severe) and complicated. Your child's healthcare professionals will let you know how the AKI is affecting your child.

Long-term problems

After children have had AKI, they usually need to visit the doctor regularly, to check whether their kidneys have got better and are healthy.

A small number of children will have long-term problems with their kidneys. These children may need further care and specialist treatment in the future.

» [Read more about AKI on www.infoKID.org.uk](http://www.infoKID.org.uk)

Your notes and contact information

www.infoKID.org.uk



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For details on any sources of information used in this topic, please contact us through our website, www.infoKID.org.uk.

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