Kidney Kids NZ

E. coli and HUS

Haemolytic Uraemic Syndrome

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 haemolytic uraemic syndrome (HUS)

Haemolytic uraemic syndrome (HUS) is a condition affecting the kidneys, most commonly following a diarrhoeal illness.

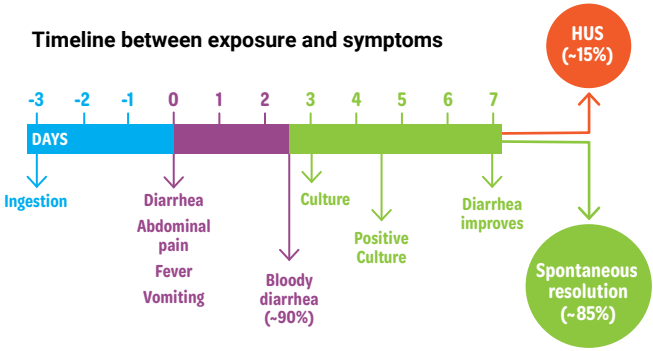
HUS can lead to acute kidney failure and anaemia and is the most common cause of acute kidney injury in tamariki in New Zealand (please refer to the *Acute Kidney Injury* pamphlet).

What causes HUS?

In New Zealand, HUS is usually caused by the bacteria ***E. coli***. There are a few types of *E. coli*, but most can cause diarrhoea.

The *E. coli* type that causes bloody diarrhoea in some children may go on to cause their kidneys to temporarily stop working.

Timeline between exposure and symptoms



(Tarr PI Lancet 2005; 365:1073)

Where does *E. coli* come from?

- You can catch *E. coli* from contaminated water, vegetables or farm animals, animal poop, or raw (farm) milk.
- More than one person in the community or household can get sick at the same time or close in time.
- Public health will contact you to try and locate the source to try to prevent further cases of *E. coli* infection.

Why does an *E. coli* infection lead to HUS?

Toxins from *E. coli* cause red blood cells (RBC) to break down and clog up the filtering units of the kidneys.

When the kidneys stop working, waste products (toxins) build up in the body and your child may stop making urine (wee).

When waste products in the blood get to a high level, and your child can't get rid of them, they need dialysis to keep them well until the kidneys recover.

How does HUS affect tamariki?

- Waste products build up in the blood, causing nausea, vomiting, sleepiness and irritability.
- Water builds up, causing your child to become swollen which increases the possibility of high blood pressure.
- It can also cause the breakdown of red blood cells causing ***anaemia*** (low haemoglobin). This can make your child look pale and feel very tired or breathless.
- The cells in the blood that help with clotting (platelets) can be low too, so your child may bruise easily.
- During the early stages of the illness, your child may feel very unwell and seem confused and disoriented. This will get better with time and treatment.

What happens in hospital?

If your healthcare provider is worried your child needs dialysis, you will be looked after by doctors and nurses who are kidney specialists.

- Your child may need dialysis until their kidneys recover (see *Acute Kidney Injury* pamphlet).
- In hospital your child will be closely monitored with blood, weight and blood-pressure tests. Fluid intake and output (including diarrhoea) will be recorded and accounted for.
- Your child may not want to eat or may vomit up food. When that happens, your specialist kidney team may help by feeding your tamariki special milk via a temporary tube that runs from their nose into their stomach.
- Quite often, blood transfusion(s) will also be needed.

How long does it last for?

Most children regain kidney function within a couple of weeks.

- As their kidneys start working, they produce more urine (wee) and then it may be possible for your kidney team to reduce the time your child spends on dialysis until it is safe to stop.
- Each child is different, so it is difficult to predict when your child's kidneys will recover. Your child will be assessed every day and you will be kept fully informed.
- When they recover, they will then have another small operation to remove the catheter.
- Once they have recovered from the operation they can usually go home and be followed up by a local paediatrician if they are not from Auckland.
- They may also be put on ***folate*** for a few weeks to help them make red blood cells.
- Some children may need blood pressure-lowering medications for a few weeks after recovering.

What are the long-term effects?

Most children recover kidney function to normal levels, but this can take some time after dialysis is stopped.

- To make sure this recovery has happened, blood tests are done regularly.
- HUS can cause long-term strain on the kidneys, but you may not see the effects of this until your child is an adult. This is often seen as protein in the urine or high blood pressure.
- If your child spends a long time (weeks or more) on dialysis, they may be left with some permanent damage to the kidneys. If this happens your child's medical team will talk to you and whānau about this.
- Even if kidney function goes back to normal, your child should have their blood pressure and urine checked at least once a year.
- Diarrhoea-related HUS is unlikely to happen again. However, if it does, your child may have a different HUS condition which can recur, most likely with another infection (not always diarrhoea).

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.

Kidney Kids NZ

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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