

Shiga toxin-producing *E. coli* (STEC) & haemolytic uraemic syndrome (HUS)

What are STEC and HUS?

Escherichia coli (*E. coli*) is a bacteria that can be found in the intestinal tract of humans and animals. Most *E. coli* are harmless and are an important part of a healthy human intestinal tract. Some kinds of *E. coli* cause disease by making a toxin called Shiga toxin. The bacteria that make these toxins are called “Shiga toxin-producing” *E. coli*, or STEC. Around 5-10% of STEC cases may develop a sometimes fatal condition called haemolytic uraemic syndrome (HUS), characterised by acute kidney failure, low platelets and anaemia.

What are the symptoms?

The main symptoms of STEC infection are diarrhoea and abdominal pain. Sometimes the diarrhoea may have blood in it. Symptoms usually begin between 2-10 days after the bacteria are ingested.

The symptoms of HUS include decreased urine output, lethargy (tiredness), bruising, reduced consciousness and seizures. If HUS develops, it typically occurs around a week after the diarrhoea starts.

How is it diagnosed?

STEC is diagnosed by laboratory testing of a faeces sample. HUS is diagnosed by blood tests.

How is it spread?

People become ill when they come into contact with the faeces of an infected animal or person, either directly or indirectly. The common sources of STEC infections include:

- eating raw or undercooked beef mince;
- eating uncooked meat products (such as mettwurst and salami);
- eating vegetables, salads and fruit juices contaminated with animal faeces;
- contact with farm animals; and
- swallowing water contaminated with animal faeces.

STEC can be spread from one person to another, especially on the hands of someone who is either infected or carrying the organism. People and animals can carry STEC in their faeces without showing any symptoms and still pass the infection to others.

What treatment is available?

Non-specific therapy, including rehydration is important. Antibiotics are not usually recommended for STEC infections and may increase the risk of developing HUS.

HUS is a serious condition that requires treatment in a hospital intensive care unit. Kidney dialysis and blood transfusions are often necessary.

Who is at risk?

Anyone can be infected with STEC, but young children, the elderly and those with reduced immunity are more susceptible. Children under 5 years are at greatest risk of HUS following an STEC infection.

Should I be at work/school?

Until the diarrhoea has stopped for at least 48 hours, anyone with diarrhoea should:

- rest at home;
- not attend work, school or childcare;
- not visit a hospital or residential/aged care facility;
- not go swimming;
- not prepare food for others; and
- not care for patients, children or the elderly.

How is it prevented?

To help prevent infection with STEC and the development of HUS:

- wash hands with soap and running water for 15 seconds after contact with animals, before preparing or eating food, and after using the toilet;
- do not use the same implements (such as tongs, knives and cutting boards) to handle raw and cooked foods, unless they have been washed thoroughly between uses;
- do not drink unpasteurised milk;
- thoroughly cook raw meat, including minced meat (which should not be eaten if any part of the meat is still pink);
- children should avoid eating meat products, such as salami, which have not been pasteurised or cooked;
- thoroughly wash all fruit, vegetables and salad ingredients that are intended to be eaten raw;
- do not drink untreated water that comes directly from lakes or rivers.

Need more information?

For more information about STEC infections or HUS, contact your doctor or call the Health Protection Service, Communicable Disease Control Information Line during business hours on **(02) 6205 2155**.

Communicable Disease Control Section at Health Protection Service is responsible for the investigation and surveillance of notifiable or infectious conditions in the ACT in order to control or prevent their spread in the community. This includes the promotion of immunisation, education and other strategies that help to limit the spread of diseases.

Both STEC infections and HUS are notifiable diseases. Cases notified to ACT Health are investigated by Public Health Officers.

Acknowledgements

Heymann DL, 2015, *Control of Communicable Diseases Manual*, 20th edition.

SA Health Fact Sheet, 2016, [Shiga toxin producing *Escherichia coli* \(STEC\) and haemolytic uraemic syndrome \(HUS\) - symptoms, treatment and prevention](#).

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