

Pathogenic *E. coli*

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What Is Pathogenic Escherichia coli?

Escherichia coli (*E. coli*) are bacteria commonly found in the gastrointestinal tract of people and animals. Many types of *E. coli* are harmless.

Some types of *E. coli* can produce toxins (Shiga toxins). These are called Shiga toxicogenic *E. coli* (STEC) and are sometimes called verocytotoxin producing *E. coli* (VTEC). There are various strains of STEC e.g. *E. coli* O111 and *E. coli* O157.

STEC infections cause a diarrhoeal illness. Sometimes STEC infections can result in **Haemolytic Uraemic Syndrome (HUS)**. HUS is a severe condition characterised by kidney failure, bleeding and anaemia. It can sometimes be fatal.

What are the symptoms?

STEC is highly infectious for infants, where the infective dose has been as low as 10 cells in some food-borne outbreaks. The dose is slightly higher for adults.

The symptoms of STEC infection include:

- Diarrhoea that may have blood in it
- Abdominal cramps
- Nausea and vomiting.

Symptoms can last 5 to 10 days. Symptoms can be severe in children, the elderly and people with reduced immunity.

If **HUS** results from the STEC infection, symptoms may include:

- Bruising, or a rash of fine red spots
- Reduced urination
- Reduced consciousness.

Other complications can develop following HUS including long-term kidney damage, high blood pressure and seizures.

How is it spread?

STEC is carried by animals, such as cattle. People are infected when they come into contact with the faeces of an infected animal or person, either directly or indirectly.

STEC is spread through:

- Consuming contaminated food (eg: undercooked hamburgers, unwashed salad vegetables, and unpasteurised milk and milk products).
- Drinking or swimming in contaminated water.
- Person-to-person contact, for example contact with faeces of an infected child when changing a nappy.
- Animal-to-person contact on farms or petting zoos.

How can the risk of infection be minimised?

The bacteria can spread from person or animal to person through diarrheal stools and improper hygiene and handling.

The following food safety tips will help you avoid spreading harmful *E. coli* in kitchen. These and other tips can be found on the NSW Food Authority's "**SAFE FOOD TIPS**" fact sheet, which is available on the Authority's web site.

- *E. coli* is a type of bacteria which can grow between 7°C and 45°C, this is within the commonly referred to "temperature danger zone" (5°C and 60°C). Keep cold food in the fridge until you are ready to cook or serve; serve hot food steaming hot.
- Cook food thoroughly. Cook poultry, minced meats, and sausages until well done, right through to the centre. No pink should be left visible.
- Separate raw and cooked food and don't use the same utensils, especially cutting boards, for both.
- Thoroughly wash fruits and vegetables before eating
- Wash your hands in hot soapy water and dry thoroughly before preparing food, and after touching raw meat and poultry.
- Keep utensils and kitchen clean.

For more information visit the NSW Health website at www.health.nsw.gov.au.