

What is Verotoxin-producing *E.coli*?

Verotoxin-producing *E.coli* (VTEC, often called STEC) belongs to a large group of bacteria called *Escherichia coli* (*E.coli*).

Many *E.coli* are harmless and are normally found in the intestines (gut). But VTEC/STEC bacteria produce a toxin or poison that can cause serious illness. Although anyone can get VTEC/STEC, it most common and **serious in young children and the elderly**.

How is VTEC/STEC spread from animals to people?

VTEC/STEC can live in the intestines of cattle and sometimes in sheep. The dung of these animals contains VTEC/STEC bacteria. People can get VTEC/STEC from:

- contact with these animals, or their dung (poo or manure)
- touching dirty boots or wellies and then touching mouth

This VTEC/STEC from animal dung spreads into the ground and can also can enter wells and waterways. It can then spread to humans who:

- have contact with contaminated land, for example, when camping, walking or picnicking
- use water from undertreated or poorly protected wells
- swim in contaminated water
- eat unwashed or poorly washed raw vegetables and salad vegetables
- eat undercooked meat (especially minced beef)
- eat “ready to eat” food contaminated by an infected food handler

How is VTEC/STEC spread between people?

VTEC/STEC spreads through the faecal-oral route. This means that the bacteria from the faeces (poo) of an infected person is ingested by another person. This can easily happen if you touch your mouth with unwashed hands after:

- coming in close contact with someone who has VTEC/STEC. This is common in families with small children. It is also common where groups of young children come together, like in crèches and play schools;
- nappy changing or helping a child to use the potty or toilet;
- touching objects contaminated with VTEC/STEC such as light switches, clothing, footwear, door handles or toys.

About the illness

An incubation period refers to the time between becoming infected and becoming unwell. This is usually 3 to 4 days for VTEC/STEC. The illness may last for 2 weeks. Some patients infected with VTEC/STEC are asymptomatic (do not show any symptoms). But most people do develop symptoms. These can include:

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|--------------------------------|---------------------------------------|
| ◆ Abdominal pain or cramps | ◆ Vomiting |
| ◆ Diarrhoea (sometimes bloody) | ◆ Sometimes fever or high temperature |

VTEC/STEC infection can cause serious problems

Infants and younger children are at highest risk of being very sick with VTEC/STEC.

It can also cause a complication called **Haemolytic Uraemic Syndrome** (HUS). This happens when VTEC/STEC toxins attack your red blood cells. It can cause your kidneys to stop working properly. Up to 10% of

people who get VTEC will develop HUS. Even after you have recovered from VTEC/STEC, it is important to **watch out for signs of HUS** for another 2 weeks.

Up to 5% of children who get HUS will develop severe complications. This could include damage to their kidneys or other organs. HUS is the principal cause of acute kidney failure in children. HUS, in some circumstances, can even cause death.

What are the signs of HUS?

Signs include:

- Irritability
- Weakness
- Passing only small amounts of urine or none at all
- Tiredness
- Paleness
- Decreased consciousness
- In some cases there may also be bruising, skin rash (little red spots), or yellowish colour to the skin
- Seizures – this is rare

For how long is a person infectious?

People with diarrhoea are most infectious. But even if you do not have symptoms you can spread the bacteria to others. The bacteria can remain in the faeces (poo) for up to 2 weeks and, in some cases, even longer. Strict **hand hygiene** is **very important**.

If you or anyone in your family has symptoms of VTEC/STEC:

- Get medical help from your GP if you or someone you care for has gastroenteritis and is not able to drink fluids, is producing less wee than normal, has blood in their poo, is unable to take their regular medications or you are worried about yourself or them.
- Your GP may arrange for a test on a sample from your stool (poo).
- Sometimes people with VTEC/STEC need to be admitted to hospital if the symptoms are severe, they are becoming dehydrated (low on fluids) or if they are developing HUS.
- Stay at home if you, or any person in your family, has diarrhoea or vomiting.
- Drink plenty of fluids to prevent dehydration - sip lots of clear fluids such as water or speak to your pharmacist about oral rehydration fluids.
- Do not give your child sports drinks - the caffeine in these drinks can be dangerous for children.
- Get medical advice from your nearest Emergency Department if you think you or your child has HUS.
- Phone 999 or 112 in an emergency.

What to do to help prevent VTEC/STEC infection:

- **Wash hands** fully and often with soap and warm water and especially:

Before *and* after:

- * preparing, serving or eating food
- * dealing with sick people
- * changing a nappy
- * treating a cut or a wound

After:

- * going or bringing someone to the toilet
- * blowing your nose, coughing or sneezing
- * handling rubbish or bins
- * handling an animal or animal litter, droppings, toys, and bowls
- * being on the farm

- Teach your children how and when to wash their hands.
- Make sure that private wells are properly protected, maintained and treated.
- Be careful when choosing a swimming spot. Use recognised bathing areas only and follow any warnings displayed.
- Do not use public swimming facilities if you are suffering from diarrhoea.
- Try to leave cuddly toys, blankies and soothers (dummies) in the house so that they are not dropped.

- Keep floors clean. Young children will pick bits from the floor to eat. They will also suck their hands and fingers after touching the floor. These things allow germs to enter their bodies.
- Leave overalls and boots outside the home where possible - store them out of reach of children.
- Keep yards clean and regularly clean jeeps and cars, especially if you bring children in them.
- **Do not allow** children to attend crèche or school if they have vomiting or diarrhoea.
- If you are a health care worker or food handler, **do not attend work** while you have vomiting or diarrhoea.
- Prevent cross-contamination. Never let raw meat and poultry, or their juices, come into contact with cooked meat or any other food.
- Keep perishable foods refrigerated at between 0 and 5⁰C. Refrigeration prevents the spread of most germs.
- Never leave raw meats at room temperature.
- Proper cooking time and temperature kills VTEC/STEC bacteria.
- Cook minced meat until it is brown throughout and juices run clear.
- Always wash raw fruit and vegetables with safe water before eating - it may be necessary to peel them.
- Do not drink unpasteurised milk or eat unpasteurised milk products.
- Supervise children at all times when they are on the farm, around animals or near water.

Further information:

There is useful information in the following Department of Public Health factsheets:

- ◇ Washing your hands
- ◇ Handling food and cleaning
- ◇ Diarrhoea and vomiting
- ◇ Could your well make you unwell?
- ◇ VTEC (STEC) on the farm

Visit <https://bit.ly/publichealthploughing> to download the fact sheets or scan the QR below:



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