Shiga toxin-producing E. coli (STEC) and Haemolytic Uraemic Syndrome (HUS)

*Escherichia coli (E.coli)* are bacteria (germs) which are present in large numbers in the intestines of humans and animals. Most of these bacteria are not harmful. However, some types, such as Shiga toxin-producing E.coli (STEC), produce toxins which can cause illness in humans and may lead to serious complications in the bowel and kidney including a condition known as haemolytic uremic syndrome (HUS).

**Signs and Symptoms:**

Symptoms of STEC infection include abdominal pain and watery or bloody diarrhoea. Vomiting and fever may occur. Symptoms can begin anywhere between 2 to 10 days but usually 3 – 4 days after ingesting the bacteria. Infection may sometimes cause no or very mild symptoms.

With HUS symptoms may also include bruising or a rash with fine spots, reduced urination and reduced consciousness.

**Treatment:**

Most people with mild illness recover without any specific treatment. Occasionally complications such as dehydration and kidney failure may require hospitalisation, sometimes in intensive care. The role of antibiotics in the management of STEC is unclear. Antibiotics are generally not recommended as they may increase the risk of HUS (see below).

**Transmission:**

STEC is carried by animals, particularly cattle and sheep. People are infected when they come into contact with the faeces of an infected animal or person, either directly or indirectly. The infection is spread through people eating contaminated food or ingesting contaminated water, and direct contact with infected animals. Meat can be contaminated during slaughter and processing, particularly if minced. Unpasteurised (raw) milk, contaminated raw vegetables and contaminated drinking and recreational water are also potential sources of infection. It can also spread from person to person if hands are not washed thoroughly after going to the toilet or changing nappies. People infected and their close household contacts should consult a doctor before returning to work or school. Adults are generally infectious for one week or less while one third of children can continue to pass on the infection for around three weeks. Occasionally people can remain infectious for considerably longer.

**Prevention:**

Cook meat thoroughly, especially minced meat e.g. hamburgers, until the juices run clear and there are no pink areas inside. Do not consume unpasteurised milk and its products. Wash raw fruit and vegetables thoroughly before eating.

Always wash your hands after going to the toilet, changing nappies, before and after handling food, before eating and after touching animals or their environments. Thorough hand washing with soap and water is the key to preventing the spread of this infection. Good hygiene practices are necessary when caring for suspected or diagnosed cases of this infection. The sick room, toilet and kitchen are high risk areas. Surfaces in these areas should be cleaned regularly with detergent and water.

To reduce the chance of spreading the disease to others, especially those who may develop serious illness, extra care needs to be taken for those in the following high risk groups:

- food handlers in the home, in institutions or in industry, especially those handling raw or uncooked foods
- carers (e.g. nurses, doctors, childcare centre staff) of vulnerable people
- children under five years of age who attend childcare
- people who have difficulties in practising good personal hygiene.

In order to prevent the spread of infection, people in the higher risk groups listed above should not return to work/school or childcare until they have been shown to be clear of infection on two faecal specimen tests. In some circumstances people in close contact with someone with STEC infection may need to be tested and stay away from work/childcare etc.

**Health outcome:**

Most people with STEC infection recover fully. Occasionally, people with this infection can go on to develop HUS. The risk of HUS following STEC infection has been estimated to be up to 8%. Older people and children are at highest risk. HUS develops between 2 and 14 days after the onset of diarrhoea and is characterised by kidney failure and anaemia. It can sometimes be fatal.

**Other resources:**


**Help and assistance:**

For further information please contact your local doctor, community health centre, nearest public health unit, or the 13HEALTH information line (1300 235 070).
If you are in an emergency situation, call 000