



FACT SHEET

Shiga toxin-producing Escherichia coli (STEC) [non- O157]

Common clinical features

Shiga toxin-producing Escherichia coli (STEC) [non- O157]. In the UK these are also known as Verocytotoxin-producing Escherichia coli (VTEC) [non-O157].

Symptoms are variable, from asymptomatic to diarrhoea, which may be mild to severe and can contain a large amount of blood (haemorrhagic colitis). In severe cases (which are rare) haemolytic uraemic syndrome (HUS) may occur leading to renal failure, particularly in the very young and very old.

Outbreaks and individual cases of severe diarrhoea caused by STEC (producing ST1 and/or ST2 toxins) that belong to serogroups other than O157 are rarely identified in the UK, but reported more frequently from mainland Europe and the rest of the world. It is not clear whether all non-O157 STEC are capable of causing human illness.

Incubation period

Generally 1 - 6 days.

Where is it found?

The gastrointestinal tract of humans, cattle, sheep, pigs and some wild animals. Some of the animal strains are known to be non-pathogenic in humans and the source of most human infections is not identified.

How is it acquired by affected individuals?

Presumed to be similar sources or vehicles to *E. coli* O157. Potentially, therefore:

- From contaminated food, generally animal products – meat, particularly undercooked beef, gravy, milk, cheese and occasionally contaminated vegetables.
- Direct contact with infected animals on farms or animal sanctuaries, or contaminated land.
- Person to person spread by direct contact (faecal oral), particularly in households, nurseries and infant schools.

How does the laboratory confirm the diagnosis?

In the UK, *E. coli* producing ST1 and ST2 toxins that cause disease are most commonly the O157 serogroup. Less is known about the other *E. coli* serogroups and there is no test available to identify them in routine diagnostic laboratories.

In this **study** all samples will be tested by a molecular test (Luminex xTAG® GPP) and results will be available within 24 hours. It may take several days to confirm any presumptive positive results. Where possible presumptive positive tests are followed by culture of the suspected *E.coli* strains from the faeces for typing and testing for other properties associated with the capacity to cause illness. Suspected foods and other potential sources are tested when outbreaks occur.

How is it treated?

Rehydration and symptomatic treatment of diarrhoea. Some reports suggest that antibiotics may be harmful rather than beneficial (killing the bacteria and releasing more toxins into the bloodstream). Hospital treatment is required for severe cases. HUS, although rare, is one of the most common causes of acute renal failure in children. Treatment for bloody diarrhoea and HUS is related to clinical need and the same approach is required irrespective of whether an O157 or non-O157 strain of *E. coli* is the causative infective agent.