

Shiga Toxin-Producing *Escherichia coli* (STEC)

Disease Fact Sheet Series

What is Shiga toxin-producing *Escherichia coli* (STEC)?

STEC is a type of *E. coli* bacteria that can cause illness ranging from mild intestinal disease to bloody diarrhea that can result in severe kidney complications. Other types of enterohemorrhagic *E. coli* include the relatively important serotype *E. coli* O157:H7, and more than 100 other non-O157 strains such as O111 and O26.

What are the symptoms of a STEC infection?

Typical symptoms include severe abdominal cramping, sudden onset of watery diarrhea, frequently bloody, and sometimes vomiting and a low-grade fever. Most often the illness is mild and self-limited generally lasting 1-3 days. However, serious complications such as hemorrhagic colitis, Hemolytic Uremic Syndrome (HUS), or postdiarrheal thrombotic thrombocytopenic purpura (TTP) can occur in up to 10% of cases.

How soon do the symptoms appear?

The incubation period ranges from 1-8 days, though typically it is 3-5 days.

How do you get STEC?

Cases and outbreaks of STEC have been associated with the consumption of undercooked beef (especially ground beef), unpasteurized milk, unpasteurized apple juice, contaminated water, lettuce, alfalfa sprouts, and venison jerky. The bacteria have also been isolated from poultry, pork and lamb. Person-to-person spread, via fecal → oral transmission, may occur in high-risk settings like day care centers and nursing homes. Further studies are being done to better understand the modes of transmission.

Who gets infected with STEC?

Anyone can get infected, although the highest infection rates are in children under 5-years old. Elderly patients also account for a large number of cases. Outbreaks have occurred in childcare facilities and nursing homes.

How is it treated?

For mild illness, antibiotics have not been shown to shorten the duration of symptoms and may cause a more severe illness in some people. Severe complications, such as HUS, require hospitalization.

How long can a person carry STEC?

In adults, STEC infections generally resolve within one week. In children infected with this bacteria, about 1/3 will carry and continue to shed the bacteria in their stool for up to 3-weeks.

Do infected people need to be excluded from work, school or day care setting?

Since STEC is passed in the feces, infected persons with diarrhea and those who are unable to control their bowel habits should be excluded until there are two negative stools. Specific guidelines regarding return to work or school may vary depending on individual situations; consultations with the local or state health department is recommended.

How can I keep from getting it?

Control measures emphasize proper food preparation, storage and temperature controls.

Those measures control:

1. Rapid, uniform cooling of cooked foods
2. Hot holding of cooked foods
3. Reheating cooled or chilled foods to a minimum internal temperature of 167° F (75° C)
4. DO NOT consume raw milk or unpasteurized dairy products or fruit juices.
5. WASH YOUR HANDS after using the bathroom or changing diapers and before preparing or eating food.

Adapted from the Colorado Department of Public Health and Environment Disease Fact Sheet, "Shiga Toxin-Producing *Escherichia coli* (STEC)"