

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

Escherichia coli (also called *E. coli*) are bacteria that normally live in the intestines of humans and animals such as cows. Most strains of the *E. coli* bacteria do not cause illness. However, strains that produce toxins can lead to illness. The most common type of toxin-producing *E. coli* is referred to as Shiga toxin-producing *E. coli* (STEC). *E. coli* O157:H7 is the most common type of STEC, but other types exist.

Who gets STEC?

Anyone can get an STEC infection, but young children, older adults, and those with weakened immune systems are more likely to have severe illness.

How is STEC spread?

STEC has to enter the mouth to cause infection. People and animals infected with STEC shed the bacteria in their feces (stool). The feces can then contaminate surfaces, food, or water. People can become infected by touching contaminated surfaces, getting the bacteria on their hands and then putting their hands in their mouths, or by eating contaminated food or drinking contaminated water. Infected food handlers can contaminate food if they do not wash their hands properly after going to the bathroom and handle food that other people eat. The bacteria can also be spread in settings such as child care centers, where hands contaminated while changing diapers can spread the disease.

STEC has been associated with people eating contaminated products, such as undercooked ground beef, raw produce (e.g., sprouts, lettuce, and spinach), or raw dough or batter, or drinking unpasteurized (raw) milk or juice. It has also been associated with people swimming in water that has been contaminated with feces. Animal-to-human spread can occur by touching contaminated surfaces or animals (e.g., at agricultural fairs, petting zoos, or farm visits) and then putting hands in the mouth.

What are the symptoms of STEC infection?

Some people who are exposed to STEC do not become ill. Others develop stomach cramps and bloody diarrhea. Symptoms can also include vomiting, fever, and chills. In severe cases, the infection can damage organs, such as the kidneys.

How soon after exposure do symptoms appear?

Symptoms can appear anywhere from one to ten days after exposure, but usually appear around three to four days after exposure.

How is STEC diagnosed?

Special laboratory testing of a stool sample is needed to confirm that a person has been infected with STEC.

What is the treatment for STEC?

Persons with diarrhea should drink plenty of liquids to prevent dehydration. Most people get well within one week without being seen by a physician, but it is important for anyone with bloody diarrhea to seek medical attention. Antibiotics or drugs that stop diarrhea (e.g., Imodium) should not be used.

How can STEC infection be prevented?

STEC infection can be prevented by taking the following precautions:

- Never eat rare or undercooked ground beef.
- Cook ground beef and pork to a minimum internal temperature of 160°F.
- Keep raw meat separate from ready-to-eat foods.
- Wash hands, counters, utensils, and plates after contact with raw meat.
- Always refrigerate meat products.
- Never leave raw meats at room temperature.
- Do not drink milk, milk products, fruit juices, or ciders that have not been pasteurized.
- Always wash raw fruits or vegetables before eating.
- Always carefully wash hands before and after preparing foods.
- Wash hands after animal contact and after visiting farms, petting zoos, and agricultural fairs.
- Always carefully wash hands with soap and warm water after using the toilet or changing diapers.
- Clean and disinfect diapering areas, toilets, potty chairs, toys, etc. at least daily and when soiled.
- Make sure children wash their hands carefully, especially after using the toilet or touching animals.
- Do not use public swimming facilities while having diarrhea.
- Avoid swallowing water from a swimming pool or other recreational bodies of water.

How long can an infected person carry STEC?

An infected person can spread the bacteria to others for as long as the bacteria remain in the stool (usually one week, but up to three weeks in children).

Should an infected person be excluded from work or school?

It is best to stay home when you have diarrhea. The health department will give advice on each situation in which the person with STEC infection is a food handler, health care worker, child care worker, or child care attendee. Some people might not be allowed to go back to child care or work until two stool specimens test negative for the bacteria.

How can I get more information about STEC?

- If you have concerns about STEC, contact your healthcare provider.
- Call your local health department. A directory of local health departments is located at <http://www.vdh.virginia.gov/local-health-districts/>.

- Visit the Centers for Disease Control and Prevention website at <http://www.cdc.gov/ecoli/>.

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