

Shiga Toxin Producing *E. Coli* (STEC) Infections

Factsheet

What are STEC infections?

STEC (for example, *E. coli* O157:H7) are a group of *E. coli* bacteria that can cause bloody diarrhea, severe complications, and sometimes death. STEC are found in the guts of animals such as cows, goats, sheep, deer, and elk, or may be picked up from the environment by pigs and birds. Not all types of *E. coli* cause illness.

What are the symptoms of a STEC infection?

Symptoms usually start within 3 to 4 days, but the range is usually 1 to 10 days after exposure.

- The most common symptoms are stomach cramps, vomiting, and diarrhea (often containing blood).
- Sometimes people will also have fever (usually under 101°F) or chills.
- Some people may not have any symptoms at all.
- According to the Centers for Disease Control and Prevention (CDC) in about 5-10% of diagnosed cases the infection may cause the kidneys to stop working, especially in young children. Known as hemolytic uremic syndrome (HUS), people may develop decreased urine frequency, severe fatigue, and paleness of the cheeks/insides of the lower eyelids about 7 days after the symptoms start even though diarrhea may be improving.

How is STEC spread?

STEC bacteria may be spread by eating “dirty” or contaminated water or food (particularly ground beef or raw milk). Infected persons can spread the bacteria by not washing their hands after going to the toilet and then handling food that other people will eat. Another way to get this disease is by having direct contact with stool (feces) from an infected person or animal and then transferring the bacteria to the mouth from the hands.

How long are people contagious?

An infected person may spread the bacteria to others for as long as the bacteria remain in the stool, usually one week but up to three weeks or more.

Who gets STEC infections?

Anyone can get STEC, but it is recognized more often in children than adults. Those at higher risk include “pregnant, women, newborns, children, older adults, and those with weak immune systems, such as people with cancer, diabetes, or HIV/AIDS” according to the CDC. Because there are many different strains of STEC, people can become re-infected.

What treatment is available for people with STEC?

- Most STEC infections will go away in a few days without treatment.
- Persons with diarrhea should drink plenty of fluids to prevent dehydration.

- If you have bloody diarrhea, inability to stay hydrated, persistent high fever, or other concerning signs or symptoms you should see a healthcare provider.
- People who have STEC **should not** take antibiotics or use anti-diarrheal treatments such as Imodium® unless advised by their healthcare provider. These agents may increase the risk of HUS.
- Those with symptoms of HUS will need hospitalization.

Do infected people need to be kept home from daycare, school, or work?

Since the bacteria is found in stool, children **should not** go to daycare or school while they have diarrhea. Daycare workers and food handlers should be excluded from work. Infected persons should only return to daycare, school, or work after two negative (normal) stool culture results 24 hours apart (and at least 48 hours after the completion of antibiotic medicine, if prescribed by a healthcare provider).

How can I protect myself and my family from getting STEC?

- Wash hands frequently with soap and water especially after using the toilet, changing a diaper, handling animals/pets, or before preparing and/or eating food. Sanitizing gel may be substituted when hands are not visibly soiled.
- Avoid food or water from sources that may be contaminated.
- Wash raw fruits and vegetables prior to chopping or eating. Keep these items separate from uncooked meat products.
- Always treat raw poultry, beef, and pork as if they are contaminated and handle accordingly.
- Wrap fresh meat in plastic bags at the market to prevent blood from dripping on other foods.
- Refrigerate foods promptly and minimize the time kept at room temperature.
- Immediately wash cutting boards, knives or other utensils, and counters used for preparation to prevent cross contamination with other foods. Promptly clean contaminated surfaces with household chlorine bleach-based cleaners.
- Ensure that the correct internal cooking temperature is reached, particularly when cooking using a microwave.
 - Ground meat (beef, veal, lamb, and pork) should be cooked to 160°F.
 - Whole cuts/other meats (beef, veal, and lamb) should be cooked to 145°F **followed** by a 3-minute rest time (the time the meat remains at the final temperature after being removed from heat).
 - Poultry (whole or ground chicken or turkey) should be cooked to 145°F.
- The CDC recommends **avoiding** the following altogether due to high STEC infection risk: unpasteurized (raw) milk, soft cheeses made from raw milk, or unpasteurized apple cider.
- If you or a family member has diarrhea, stay out of shared water such as swimming pools.
- Children swimming should take bathroom breaks. For those in diapers, check diapers and change soiled diaper before they return to the pool.