

Diseases Fact Sheet – Shiga Toxin-Producing E. Coli

South Dakota Department of Health

Office of Disease Prevention Services - 605-773-3737 -(1-800-592-1861 in South Dakota only)

This material is provided for informational purposes only and is not a substitute for medical care. We are not able to answer personal medical questions. Please see your health care provider concerning appropriate care, treatment or other medical advice.

What is it?

Shiga toxin-producing *E. coli* is one strain of the *Escherichia coli* bacteria. There are hundreds of strains of *Escherichia coli* that live in the intestines of healthy people and animals. Shiga toxin-producing *E. coli* is a strain that can cause severe illness and even death.

Who gets shiga toxin-producing E. coli?

Anyone can get Shiga toxin-producing *E. coli* infection, but children and older adults tend to be at most risk of severe disease.

How is it spread?

Shiga toxin-producing *E. coli* can be spread in a variety of ways. These include contaminated food such as undercooked meat or fresh produce (including leafy greens), person to person contact (especially in households and daycares), and through contaminated drinking or swimming water. Raw (unpasteurized) milk may also be contaminated with *E. coli* and spread illness to people. Direct contact with animals, especially farm animals, can also spread the bacteria.

What are the symptoms of shiga toxin-producing E. coli?

People infected with shiga toxin-producing *E. coli* can develop severe, bloody diarrhea and painful abdominal cramps. In some people, the infection can cause a condition known as hemolytic uremic syndrome (HUS) which results in acute kidney failure, and other complications such as seizures and stroke can occur. Less than 10% of shiga toxin-producing *E. coli* infections lead to HUS, but persons with this illness often require intensive care, blood transfusions, and kidney dialysis to survive. Most at risk are children under 5 and the elderly. Survivors of HUS may have high blood pressure and kidney problems later in life.

How soon do symptoms appear?

Symptoms can appear from one to ten days after infection with an average of three to four days.

Where are the shiga toxin-producing E. coli bacteria found?

Shiga toxin-producing *E. coli* can be present in the intestines of humans, cattle, and other animals such as sheep, goats, and deer. The bacteria can be passed into raw milk. Shiga toxin-producing *E. coli* can be found in untreated water. The bacteria passes easily from person to person.

Should an infected person be excluded from work or school?

People with active diarrhea who are unable to control their bowel habits (infants, young children, certain handicapped individuals) should stay home. Most infected people may return to work or school when their stools become formed provided that they carefully wash their hands after toilet visits. Food handlers, staff and children in day care, and health care workers should obtain the approval of the state health department before returning to their routine activities. These persons should be excluded from their duties until receiving two negative stool tests at least 24 hours apart. If antibiotics have been given, the initial specimen should be obtained 48 hours after the last dose.

What is the treatment for shiga toxin-producing *E. coli*?

Most people will recover on their own. Primary treatment includes giving adequate fluids to prevent dehydration.

What can be done to prevent the spread of shiga toxin-producing *E. coli*?

- Careful handwashing with soap will reduce the risk of spreading the bacteria. This is especially critical for food handlers, day care settings and health care workers. Always wash hands after contact with animals and livestock.
- Young children are at highest risk of STEC infection and severe complications of illness, including HUS and hospitalization. Consider keeping young children and infants away from direct contact with livestock or their environment, especially young animals exhibiting signs of illness. Good hand hygiene after contact with livestock and other animals is especially important for children; supervise hand washing/sanitation after livestock contact and prevent children from touching their mouth or face before hands can be washed.
- Avoid eating raw, rare, or undercooked ground beef or hamburger. The bacteria in meat are killed by heat when thoroughly cooked. Cook ground beef or hamburger to [a minimum internal temperature](#) of 160°F (71.1°C).
- Avoid raw, unpasteurized milk/dairy products. Pasteurization kills bacteria and viruses.
- Avoid drinking from untreated water supplies. Chlorine or other effective disinfectants will kill bacteria.
- Don't swallow water while swimming. Untreated or improperly treated water can be contaminated by animals, such as cattle.

Additional information about diarrheal illness

- If you or your child have a diarrheal illness, remember a stool sample is needed to determine what is causing the diarrhea and who might be at risk for spread of the disease from the ill individual.
- If shiga-toxin producing *E. coli* is found, department staff may contact you about potential exposures such as food, farm animals or other ill individuals.
- [FoodSafety.gov — E. coli information](#)
- [About Escherichia coli Infection | E. coli infection | CDC](#)
- [Signs of Hemolytic Uremic Syndrome | E. coli infection | CDC](#)