

Fact Sheet

Escherichia Coli

Also Known as: E.Coli O157:H7

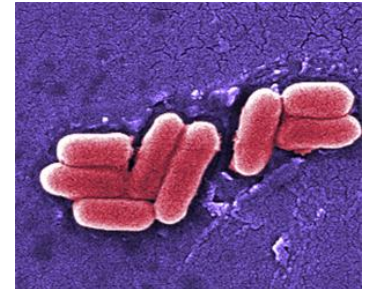


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What is Escherichia Coli?

Escherichia coli (*E. coli*) bacteria normally live in the intestines of people and animals. Most *E. coli* are harmless and actually are an important part of a healthy human intestinal tract. However, some *E. coli* are pathogenic, meaning they can cause illness, either diarrhea or illness outside of the intestinal tract.

Some kinds of *E. coli* cause disease by making a toxin called Shiga toxin. The bacteria that make these toxins are called “Shiga toxin-producing” *E. coli*, or STEC for short.



How is it Spread?

Infections start when you swallow STEC—in other words, when you get tiny (usually invisible) amounts of human or animal feces in your mouth. Unfortunately, this happens more often than we would like to think about. Exposures that result in illness include consumption of contaminated food, consumption of unpasteurized (raw) milk, consumption of water that has not been disinfected, contact with cattle, or contact with the feces of infected people. Some foods are considered to carry such a high risk of infection with *E. coli* O157 or another germ that health officials recommend that people avoid them completely. These foods include unpasteurized (raw) milk, unpasteurized apple cider, and soft cheeses made from raw milk. Sometimes the contact is pretty obvious (working with cows at a dairy or changing diapers, for example), but sometimes it is not (like eating an undercooked hamburger or a contaminated piece of lettuce). People have gotten infected by swallowing lake water while swimming, touching the environment in petting zoos and other animal exhibits, and by eating food prepared by people who did not wash their hands well after using the toilet. Almost everyone has some risk of infection.

Signs and Symptoms

The symptoms of STEC infections vary for each person but often include severe stomach cramps, diarrhea (often bloody), and vomiting. If there is fever, it usually is not very high (less than 101°F/less than 38.5°C). Most people get better within 5–7 days. Some infections are very mild, but others are severe or even life-threatening.

Treatment and Complications

Around 5–10% of those who are diagnosed with STEC infection develop a potentially life-threatening complication known as hemolytic uremic syndrome (HUS). Clues that a person is developing HUS include decreased frequency of urination, feeling very tired, and losing pink color in cheeks and inside the lower eyelids. Persons with HUS should be hospitalized because their kidneys may stop working and they may develop other serious problems. Most persons with HUS recover within a few weeks, but some suffer permanent damage or die.

Diagnosis

STEC infections are usually diagnosed through laboratory testing of stool specimens (feces). Identifying the specific strain of STEC is essential for public health purposes, such as finding outbreaks. Many labs can determine if STEC are present, and most can identify *E. coli* O157. Labs that test for the presence of Shiga toxins in stool can detect non-O157 STEC infections. However, for the O group (serogroup) and other characteristics of non-O157 STEC to be identified, Shiga toxin-positive specimens must be sent to a state public health laboratory.

Contact your healthcare provider if you have diarrhea that lasts for more than 3 days, or is accompanied by high fever, blood in the stool, or so much vomiting that you cannot keep liquids down and you pass very little urine.

Prevention

- Wash your hands thoroughly after using the bathroom or changing diapers and before preparing or eating food. Wash your hands after contact with animals or their environments (at farms, petting zoos, fairs, even your own backyard).
- Cook meats thoroughly. Ground beef and meat that has been needle-tenderized should be cooked to a temperature of at least 160°F/70°C. It's best to use a thermometer, as color is not a very reliable indicator of "doneness".
- Avoid raw milk, unpasteurized dairy products, and unpasteurized juices (like fresh apple cider).
- Avoid swallowing water when swimming or playing in lakes, ponds, streams, swimming pools, and backyard "kiddie" pools.
- Prevent cross contamination in food preparation areas by thoroughly washing hands, counters, cutting boards, and utensils after they touch raw meat.

People at Risk

People of any age can become infected. Very young children and the elderly are more likely to develop severe illness and hemolytic uremic syndrome (HUS) than others, but even healthy older children and young adults can become seriously ill.



For more sources of information on this topic visit:

ST. CLAIR COUNTY HEALTH DEPARTMENT www.scchealth.co

MICHIGAN DEPARTMENT OF HEALTH AND HUMAN SERVICES www.michigan.gov/mdhhs

CENTERS FOR DISEASE CONTROL AND PREVENTION www.cdc.gov