



E. coli (*Escherichia coli*)

What is *E. coli*?

E. coli (abbreviated for *Escherichia coli*) is a germ (bacteria) that normally lives in the intestines of people and animals. There are many different types of *E. coli*. Most *E. coli* are found naturally in our intestines and play an important role in helping our bodies digest food. However, a few types of *E. coli* can cause diarrhea and other illnesses when swallowed.



What is *E. coli* O157:H7?

E. coli O157:H7 (also referred to as *E. coli* O157 or just “O157”) is the most common type of *E. coli* in North America that causes illness and is responsible for most of the outbreaks of “*E. coli*” seen in the news. *E. coli* O157:H7 is a type of bacteria that produces a toxin called Shiga toxin (referred to as “Shiga toxin-producing” *E. coli*). This powerful toxin can cause severe illness in people when swallowed.

What are the symptoms of *E. coli* O157:H7?

It usually takes 3-4 days after swallowing *E. coli* O157:H7 for symptoms to develop. The most common symptoms are diarrhea (often bloody), severe stomach cramps, and vomiting. Some people may have a fever. Symptoms usually go away by themselves after 5 to 7 days. In a small number of people, this type of *E. coli* can cause a rare but serious problem called hemolytic uremic syndrome (HUS).

What is hemolytic uremic syndrome (HUS)?

HUS is a disease that can destroy red blood cells and cause kidney failure. This complication can occur in anyone, but is more common in children under the age of 5. Symptoms can include less frequent urination and feeling tired. Most people who get HUS will recover within a few weeks, but some suffer permanent damages.

How is *E. coli* O157:H7 spread?

E. coli O157:H7 are most often spread to people when they eat or drink contaminated food that has not been pasteurized, properly washed, or properly cooked. *E. coli* are found in the intestines of some cattle and may get in the meat when the animal is slaughtered (most often ground beef and hamburger). *E. coli* can also be found in unpasteurized (raw) milk, raw apple cider, and cheeses made from unpasteurized milk. Vegetables (including lettuce, spinach, and sprouts) can spread *E. coli* if they touch animal stool (feces) while growing and are not properly washed.

E. coli from the stool (feces) of an infected person can be spread to others if the person does not wash their hands thoroughly with soap and water after using the bathroom, especially if they then prepare food. Some people may have no symptoms and can still spread *E. coli*.

People have also gotten sick by swallowing contaminated lake water while swimming or from touching contaminated items at a petting zoo or other animal exhibit.

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How is *E. coli* O157:H7 diagnosed?

Infection with this germ can only be diagnosed by testing a stool (feces) sample. It is not a routine test, but your doctor may ask for a test if they think you have *E. coli* O157:H7.

How is *E. coli* O157:H7 treated?

Most people recover without antibiotic treatment. Supportive treatment, including hydration, is important. There is no evidence that treatment with antibiotics helps people recover faster, but may increase the risk of hemolytic uremic syndrome (HUS). Antidiarrheal medicine should also be avoided.

How can I prevent *E. coli* O157:H7 infection?

- Wash your hands with soap and water for 20 seconds after using the bathroom or changing diapers and before preparing or eating food. Wash your hands after contact with animals and their environments (including farms and petting zoos).
 - If soap and water are not available, use an alcohol-based hand sanitizer.
- Cook meats thoroughly. Ground beef should be cooked to a temperature of at least 160°F (70°C). Visit www.bphc.org/foodpoisoning to learn more.
- 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.
- Always wash hands, counters, cutting boards, and utensils after they have touched food that must be cooked before eating and before they touch ready-to-eat food. Learn more at www.bphc.org/foodpoisoning.

Are there any restrictions for people with *E. coli* O157:H7?

Yes. Because *E. coli* O157:H7 is a disease that can be spread to other people, health care providers in Boston are required by law to report cases of *E. coli* O157:H7 to the Boston Public Health Commission. In order to protect the public, workers at food-related businesses who have *E. coli* O157:H7 must stay out of work until they don't have diarrhea and two lab tests on a stool sample shows that there are no *E. coli* O157:H7 germs.

Workers in food-related businesses who have diarrhea and live with someone who has *E. coli* O157:H7 must also show that they do not have *E. coli* in their stool. Food-related businesses include restaurants, sandwich shops, hospital kitchens, supermarkets, and food-processing plants. This regulation also includes workers in schools, residential programs, child care centers, and health care facilities that feed, give mouth care, or dispense medications to clients.

