

Escherichia coli O157:H7 Q&A

What is *E. coli* O157:H7 infection?

E. coli O157:H7 is one of hundreds of strains of the bacterium *Escherichia coli*. The combination of letters and numbers in the name of the bacterium refers to the specific markers found on its surface, which distinguish it from other types of *E. coli*. Although most strains are harmless and live in the intestines of healthy humans and animals, this strain produces a powerful toxin and can cause severe illness. Most infections have come from eating undercooked ground beef, but outbreaks have also been traced to unpasteurized milk, fruit juice, raw vegetables, and drinking contaminated water.

Who gets *E. coli* O157:H7 infection?

Anyone of any age can become infected with *E. coli* O157:H7, but children less than five years old and the elderly are more likely to develop serious complications.

How does *E. coli* O157:H7 infection spread?

The infection is usually acquired by eating food containing the bacteria. The bacteria live in the intestine of some healthy cattle, and contamination of the meat may occur in the slaughtering process. Eating undercooked meat, especially undercooked ground meat, is the most common way of getting the infection. Drinking unpasteurized milk and eating fruit or vegetables contaminated with feces are other known sources of infection. Person-to-person transmission can happen if infected persons do not wash their hands after using the toilet or diapering a baby infected with the bacteria. Swimming in or drinking sewage-contaminated water can also cause infection.

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

People infected with *E. coli* O157:H7 can develop a range of symptoms. Some individuals may have mild diarrhea or no symptoms at all. Most identified cases develop severe diarrhea and abdominal cramps. Blood is often seen in the stool. Usually little or no fever is present.

How soon after the exposure do symptoms appear?

The symptoms usually appear about 3 to 4 days after exposure, with a range of 2 to 8 days.

When and for how long is a person able to spread *E. coli* O157:H7?

Adults typically shed *E. coli* O157:H7 in their feces for a week or less, but one-third of children shed the organism in stool for 3 weeks.

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

Infection with *E. coli* O157:H7 is diagnosed by detecting the bacterium in the stool. All persons who suddenly have diarrhea with blood should get their stool tested for *E. coli* O157:H7.

Most laboratories that culture stool do not routinely test for this organism, so it is important to request that the stool specimen be tested on sorbitol-MacConkey (SMAC) agar for *E. coli* O157:H7. The Georgia Public Health Laboratory conducts serotyping, as well as other types of testing to confirm the diagnosis.

What is the treatment for infection with *E. coli* O157:H7?

Most persons recover without antibiotics or other specific treatment in 5-10 days. Anti-diarrheal agents, such as loperamide (Imodium), should be avoided. There is no evidence that antibiotics improve the course of disease, and treatment with some antibiotics may lead to hemolytic uremic syndrome (HUS). HUS is a life-threatening condition, in which red blood cells are destroyed and the kidneys fail.

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

- Cook all ground beef and hamburger thoroughly. A thermometer inserted into

several parts of the patty should read at least 160° F. If no thermometer is used, make certain the cooked meat is brown throughout (not pink) and the juices run clear.

- Keep raw meat separate from ready-to-eat foods in the kitchen. Wash hands, counters, and utensils with hot soapy water after they touch raw meat.
- Drink only pasteurized milk, juice, or cider.
- Wash fruits and vegetables thoroughly.
- Drink municipal water that has been treated with chlorine or other effective disinfectants. Avoid swallowing lake or pool water while swimming.
- Wash your hands carefully with soap after using the toilet, especially if you have diarrhea. Also wash hands after changing soiled diapers.
- Avoid swimming in public pools or lakes, sharing baths with others, and preparing food for others if you have a diarrheal illness.

Where can I get additional information on E. coli O157:H7 infection?

Contact the Georgia Division of Public Health, Epidemiology Branch, by email at gaepinfo@dhr.state.ga.us. The following websites may also be useful:

- USDA Food Safety and Inspection Service – <http://www.fsis.usda.gov>
- USDA Cooking ground beef safely – <http://www.fsis.usda.gov/OA/topics/gb.htm>
- CDC *Escherichia coli* O157:H7 fact sheet – http://www.cdc.gov/ncidod/dbmd/diseaseinfo/escherichiacoli_g.htm
- CDC PulseNet – <http://www.cdc.gov/ncidod/dbmd/pulsenet/pulsenet.htm>
- CDC Foodnet – <http://www.cdc.gov/ncidod/dbmd/foodnet/default.htm>

