E. coli O157:H7 Infections

Disease Fact Sheet Series

What is *E. coli* 0157:H7?
Escherichia coli O157:H7 is a bacterium that infects the intestinal tract and may produce a toxin that affects other parts of the body as well. *E. coli* O157:H7 infections can occur as isolated cases or as part of an outbreak; cases are seen more frequently during the summer months.

What are the symptoms of *E. coli* O157:H7 infections?
E. coli O157:H7 infections usually cause diarrhea, which is often bloody, and severe abdominal cramps. There is generally little or no fever. Some individuals may become infected but display no symptoms.

How soon after exposure do symptoms appear?
The symptoms *of E. coli* O157:H7 infection typically appears from 3-8 days, but usually about 3-4 days, following exposure.

What are the complications of *E. coli* O157:H7 infections?
Two complications of *E. coli* infections have been reported: hemolytic-uremic syndrome (HUS) and thrombotic thrombocytopenic purpura (TTP). HUS and TTP are serious illnesses characterized by kidney failure and destruction of the red blood cells leading to anemia, respectively. Young children and the elderly appear to be at greatest risk of developing HUS or TTP following infection with *E. coli* O157:H7.

How does a person acquire this infection?
Infection with *E. coli* O157:H7 can be acquired by eating contaminated food or water and by contact with fecal material from infected persons or animals. Foods that have been associated with *E. coli* O157:H7 infections are raw or undercooked beef (especially ground beef) and unpasteurized (raw) milk. Person-to-person spread of the bacteria is possible and has occurred in family settings, in day care centers and in nursing homes. It is not known if infected persons who do not have symptoms are an important factor in spreading this infection.

How is the infection and its complications treated?
Treatment with antibiotics has not been shown to be effective. Antibiotic treatment does not alter the severity or duration of diarrhea, or shorten the period of time someone has *E. coli* O157:H7 in their stool. More importantly, antibiotic treatment does not reduce the risk of developing complications of *E. coli O*157:H7 infection and may, in fact, increase the risk of developing HUS. It is important to prevent and treat dehydration. HUS and TTP require hospitalization for transfusions and kidney dialysis.

How long can a person carry *E. coli* O157:H7*?*
In adults, *E. coli* O157:H7 infections generally resolve within one week. In children infected with this bacteria about one third will carry and shed the organism in their stool for up to three weeks.

Is this a new disease?
Diarrhea caused by *E. coli* O157:H7 was first recognized in 1982. HUS and TTP have been known to exist for many years but their association with *E. coli* O157:H7 infections have only recently been identified.

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Do infected people need to be excluded from school or work?
Since the organism is passed in the feces, infected persons with diarrhea and those who are unable to control their bowel habits (particularly children in day care centers and individuals in nursing homes) should be excluded until they have two negative stool specimens. Specific guidelines regarding return to work or school may vary depending on individual parameters; consultations with the local or state health department is recommended.

How can *E. coli* O157:H7 infections be prevented?

- Avoid eating raw or undercooked beef (steak tartare or rare hamburgers, for example).
- Avoid drinking unpasteurized (raw) milk or unpasteurized milk products.
- Avoid drinking unpasteurized fruit juices (e.g., apple juice or apple cider).
- Always carefully wash your hands with plenty of soap and water after bowel movements, and before and after food preparation. Parents should stress proper hand washing habits to their children.
- Wash hands following contact with cattle and cattle fecal material including manure used for farming or domestic gardening practices.

DEVELOPED BY THE DIVISION OF PUBLIC HEALTH, BUREAU OF COMMUNICABLE DISEASE
COMMUNICABLE DISEASE EPIDEMIOLOGY SECTION
PPH 42044 (Rev. 05/04)