

Escherichia coli 0157:H7

What is *Escherichia coli* 0157:H7?

Escherichia coli (*E. coli*) are bacteria that normally live in the intestines of healthy people and animals, primarily cattle. Most strains of this bacteria are harmless. *E. coli* 0157:H7 is a specific strain of *E. coli* that causes illness. It was first recognized as a cause of illness during an outbreak of hemorrhagic colitis (severe bloody diarrhea) in 1982. The cause of that outbreak was traced to hamburgers contaminated with *E. coli* 0157:H7 bacteria.

Who gets *E. coli* 0157:H7 infection?

Anyone can become infected with *E. coli* 0157:H7. The elderly and children under 5 years of age are at greatest risk of developing a serious illness from *E. coli* 0157:H7 infection.

How is *E. coli* 0157:H7 infection spread?

A person becomes infected with *E. coli* 0157:H7 by swallowing the bacteria. This can occur when an individual eats food which has become contaminated with *E. coli* 0157:H7, most frequently undercooked ground beef and raw milk. Transmission also can occur directly from person-to-person in families, child care centers and custodial institutions. Outbreaks have also been traced to contaminated water.

What are the symptoms of *E. coli* 0157:H7 infection?

The symptoms of *E. coli* 0157:H7 infection are variable. Some individuals have no symptoms (asymptomatic). Others may have mild to severe diarrhea, which may contain blood. Abdominal cramps, nausea and vomiting may occur. Usually there is little or no fever present. A small number of patients develop complications, such as hemolytic-uremic syndrome (HUS). Death due to *E. coli*

0157:H7 infection occurs infrequently, usually as a result of a complication of the infection.

What is Hemolytic-uremic syndrome (HUS)?

Hemolytic-uremic syndrome is an infrequent and serious complication of *E. coli* infection, particularly in children under 5 years old. It is characterized by renal failure, or loss of kidney function. Many patients also develop anemia or a bleeding problem. Hospitalization and dialysis is usually necessary until kidney function recovers. Many patients have some permanent partial loss of kidney function after they have recovered.

How soon do symptoms of *E. coli* 0157:H7 infection develop?

Symptoms of illness usually appear about 3 days after swallowing the bacteria, but can range from 1 to 8 days.

How is *E. coli* 0157:H7 infection diagnosed?

An infection with *E. coli* 0157:H7 is diagnosed by testing the patient's stool for *E. coli* 0157:H7 bacteria. This is a special laboratory test that your doctor must order if he or she feels you have *E. coli* 0157:H7.

What is the treatment for *E. coli* 0157:H7 infection?

Most individuals who become ill with *E. coli* 0157:H7 infection recover on their own within a week. Some however, may require hospitalization to administer IV fluids too prevent dehydration. Antibiotics may be prescribed by a physician to treat severe cases of illness.

How long is an infected person infectious to others?

An infected person is capable of transmitting *E. coli* 0157:H7 infection to others as long as the infectious to others as long as the *E. coli* bacteria are being passed

in his/her stool, usually lasting no more than one week, but it can last as long as 3 weeks in one third of children.

Should an infected person be excluded from work or school?

Most infected persons may return to work or school when they no longer have diarrhea and fever. Since the *E. coli* 0157:H7 bacteria may continue to be passed in their stool for several weeks, they must remember to carefully wash their hands with soap and water after every bathroom visit.

Special precautions are indicated for food handlers, health care workers, and day care providers and children attending day care. These individuals may put multiple other people at risk of contracting this illness. Food handlers, such as cooks and others who prepare or touch food, are excluded from food handling until they no longer have symptoms and they have at least 2 negative stool tests. Health care workers should be excluded from direct patient care until they no longer have symptoms, **and** where practical, they should have 2 negative stool tests before resuming regular duties. In child care settings, if *E. coli* 0157:H7 is identified in either a staff member or a child attendee, stools of all staff, attendees, and household contacts with diarrhea should be tested. Infected individuals should be treated with antibiotics. The local health department should be advised of these circumstances, and their staff will be glad to provide further individualized advice to help eliminate the problem.

How can *E. coli* 0157:H7 infection be prevented?

- Cook ground beef or hamburger thoroughly. Make certain the cooked meat is gray or brown color throughout (not pink) and the meat juices run clear; the inside should be hot.
- Eat and drink only pasteurized milk and milk products (for example, cheese). Do not drink unpasteurized apple cider and untreated water.
- Wash hands thoroughly with soap and warm water before preparing food, before eating, and before feeding children.
- Carefully wash hands after changing diapers or using the toilet.

- Anyone who has diarrhea, should not use a pool or swim in a pond.

Source: NJ Department of Health and Senior Services