



## ESCHERICHIA COLI

### **What is *Escherichia coli*?**

There are hundreds of different serotypes or kinds of bacteria *Escherichia coli* (*E. Coli*). Most serotypes of the bacteria live in the intestines of healthy humans and animals and cause no harm or illness. The bacteria helps the body break down and digest food. Unfortunately, some types of *E. coli* produce special toxins or poisonous substances which can get from the intestines into the blood and cause illness.

Shiga toxin-producing *E. coli* (STEC) is one type of *Escherichia coli* bacteria. Other types of the bacteria, including *E. coli* O157:H7, have been identified in past outbreaks and food recalls in the United States.

### **What are the symptoms?**

The most common symptoms of illness include severe abdominal cramping and diarrhea, which may start and remain watery or may start watery but progress to mostly bloody. Vomiting and a low grade fever can also occur. Some infected persons may have no symptoms. Illness usually occurs from 3 to 4 days after exposure to the germ (can range from 1 to 8 days).

Usually, symptoms are very mild, require only rest and fluids, and last only a few days. However, the toxin may trigger life-threatening complications such as kidney failure and/or bleeding disorders. Anyone can get infected with *E. coli*. However, those at most risk of severe illness and complications are children under age 5 and the elderly.

### **How is *Escherichia coli* spread?**

Individual cases and outbreaks of *Escherichia coli* have been associated with eating undercooked beef (especially ground beef) and drinking unpasteurized milk. Unpasteurized apple juice, contaminated water, red leaf lettuce, alfalfa sprouts, and venison jerky have also been related to reported cases. The bacteria have been isolated from poultry, pork and lamb.

Person-to-person spread, via fecal-oral transmission, may occur in high-risk settings like day care centers and nursing homes. Animal-to-person transmission at petting zoos or farms is also common.

### **How is it treated?**

For mild illness, antibiotics do not appear to shorten the duration of symptoms and may result in more severe symptoms. Severe illness may require intensive care and hospitalization.

### **How can it be prevented?**

The local health department gathers information about reported cases, provides education, and offers guidance on prevention and control of illness.

Persons working in “sensitive occupations”, such as food handlers, health care workers, child care providers, and children who attend day care centers, are at greater risk of spreading infectious illness.

*All infected persons involved in these activities should **not** work (or attend daycare) until diarrhea has stopped, two negative stool tests are obtained AND approval to return is given by the local health department.*

## TIPS FOR PREVENTION

- Avoid cross-contamination of raw foods and surfaces.
  - ✓ Use hot soapy water on knives, countertops and cutting boards before and after they come into contact with fresh produce or raw meat.
  - ✓ Never put cooked hamburgers on the same plate you used for raw patties.
- Wash your hands frequently with soap and water for at least 20 seconds-
  - ✓ after using the bathroom
  - ✓ after changing diapers
  - ✓ before preparing or eating food.
  - ✓ after contact with pets, and other animals
- Cook all ground meats (beef, pork, veal, lamb) *thoroughly*. An internal temperature of at least 160 degrees is recommended.
- Avoid eating any ground beef patties that are pink in the center. Assure the interior is gray or brown and juices run clear.
- If you are served an undercooked hamburger or other ground beef dish in a restaurant, send it back for further cooking. You may also want to ask for a new bun and a clean plate to avoid cross contamination.
- Keep raw meat separate from ready-to-eat foods. Wash hands, counters, and utensils with hot soapy water after they touch raw meat. Never place cooked hamburgers or ground beef on the unwashed plate that held raw patties. (If meat thermometers are used, wash between tests of patties that require further cooking).
- Drink only pasteurized milk, juice or cider. Store-bought juice sold at room temperature (such as juice in cardboard boxes, vacuum sealed juice in glass containers) has an extended shelf-life and has been pasteurized, although this is generally not indicated on the label. Juice concentrates are also heated sufficiently to kill germs.
- Wash all fruits and vegetables thoroughly, especially those that will not be cooked. Careful rinsing can remove dirt and reduce the amount of bacteria that may be clinging to the produce.
- Avoid swallowing lake or pool water while swimming.
- Make sure that persons with diarrhea, especially children, wash their hands carefully with soap after bowel movements to reduce the risk of spreading infection. Washing hands after changing soiled diapers is also important. Anyone with diarrheal illness should avoid swimming in public pools or lakes, sharing baths with each other, and preparing food for others.

### FOR MORE INFORMATION:

SCHD Communicable Disease Unit 330-375-2662  
Centers for Disease Control and Prevention [www.cdc.gov](http://www.cdc.gov)  
Mayo Clinic [www.mayoclinic.com](http://www.mayoclinic.com)  
Minnesota Department of Health [www.health.state.mn.us](http://www.health.state.mn.us)