

Escherichia coli O157 and Children

Esch*erichia coli* is a common bacterium that is normally present in the human intestine. There are many different types, or strains, of *E coli* that infect many types of animals and most strains are harmless. A few strains can cause illness. These strains are often found in animals such as cattle, goats, and sheep and do not cause illness in these animals. The most common cause of *E coli* infection in humans is ingesting contaminated food or water or having contact with infected animals.

The strain of *E coli* that causes the most serious illness in humans is a strain called *E coli* O157:H7, sometimes called *E coli* O157. The people most at risk for infection with this strain of *E coli* are the very young and very old, but anyone can become ill if infected. Rates of *E coli* O157 have gone down in recent decades; there are around 70 000 infections with *E coli* O157 each year in the United States. The most important risk factor for this illness is bloody diarrhea.



SYMPTOMS AND SIGNS OF E COLI INFECTION

- Severe stomach cramps
- Vomiting
- Diarrhea (often bloody)
- Mild fever

HOW IS E COLI DIAGNOSED AND TREATED?

E coli infections are diagnosed by laboratory testing of stool specimens (feces). Most laboratories will identify whether a dangerous strain of *E coli* such as O157 is present in the stool. Fortunately, most people recover from this illness in about a week and are treated with supportive measures such as rest and fluids. Antibiotics and antidiarrheal medicines are not used to treat this infection and may actually increase the risk of complications.

The most serious illness caused by *E coli* O157 is called hemolytic uremic syndrome (HUS), in which a person becomes anemic because of breakdown of red blood cells (hemolytic) and has kidney problems (uremic). Signs of this illness include fatigue, appearing pale, and decreased urination. If you are concerned that your child might have HUS, you should see a doctor quickly; people with HUS need to be hospitalized since their kidneys may stop working. Most people with HUS recover but some have permanent kidney damage or die.

PREVENTING E COLI INFECTIONS IN YOU AND YOUR FAMILY

A research article in this month's *Archives* describes an outbreak of *E coli* in young children after visiting a petting zoo. The study discovered that young children who visited the petting zoo and who had frequent hand-to-mouth behaviors, such as using pacifiers or sippy cups, were at increased risk of becoming infected with *E coli*. The study also found that using alcohol-based hand-sanitizing gels did not protect against infection with *E coli*, while washing hands with soap and water did protect children against infection.

• **Wash:** Wash your hands and your children's hands frequently with soap and water after using the bathroom, changing diapers, and before preparing or eating food. If you or your children have any contact with animals, wash hands thoroughly with soap and water right after. Wash fruits and vegetables before eating.

• **Cook:** Cook all meats thoroughly. Use a thermometer to ensure meats have been cooked to at least 160°F/70°C.

• **Avoid:** Teach your children to avoid swallowing water when swimming in any location.

• **If you visit a petting zoo:** avoid touching, stepping, or falling in manure. Pay extra attention to toddlers who may fall down frequently. Avoid hand-to-mouth behaviors. Do not let children use pacifiers or sippy cups while in a petting zoo.

• **If someone in your family is diagnosed with an *E coli* infection,** maintain strict hand washing, especially after using the bathroom or changing diapers, to avoid passing the infection to other family members.

FOR MORE INFORMATION

Centers for Disease Control and Prevention:

http://www.cdc.gov/nczved/dfbmd/disease_listing/stec_gi.html

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Megan A. Moreno, MD, MEd, MPH, Writer

Fred Futner, Illustrator

Frederick P. Rivara, MD, MPH, Editor

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