



# *E.coli* O157:H7

## Information for Healthcare Facilities

Adapted with permission from the Kansas Poison Control.

Last revised: July 2026

### Causative Agent

*Escherichia coli* O157:H7, also known as STEC (Shiga toxin producing *E.coli*)

### Hospital Precautions

Contact Precautions

### Transmission

Transmission occurs after consumption of contaminated food, unpasteurized milk, water that has not been disinfected, contact with cattle, or contact with the feces of infected people.

## Decontamination

External and internal decontamination techniques are not applicable. Practice proper hygiene, handwashing after every patient interaction.

## Mechanism

*E.coli* O157:H7 causes infection after ingestion by a host, introducing the bacteria into the GI tract. Here, the bacteria attach to the intestinal epithelial cells and secrete bacterial proteins into the cells. This mechanism, along with toxin production, are responsible for vascular damage and systemic dissemination of the bacteria, in addition to the typical gastroenteritis symptoms.

## Routes

Ingestion of contaminated particles, food, water.

## Symptoms/ Onset

Onset usually occurs within 3 to 4 days but can be seen up to 1-10 days after exposure.

Symptoms include nausea, vomiting, abdominal pain, and diarrhea (often bloody). If there is fever, it usually is less than 101°F/38.5°C. About 5-10% of people infected will develop hemolytic uremic syndrome (HUS). HUS develops about 7 days after symptoms first appear, when diarrhea is improving.

## Treatment

- The mainstay of therapy is supportive care. Antibiotics should not be used. Taking antibiotics may increase the risk of HUS (hemolytic uremic syndrome). Antidiarrheal agents like loperamide may also increase the risk of HUS.
- Stool samples cultured for *E.coli* O157:H7 and immunoassay testing for Shiga toxins (or the genes that encode them) should be performed.
- Laboratory findings of HUS include anemia, thrombocytopenia, and renal injury such as elevated serum creatinine, hematuria, or proteinuria.
- Symptoms of developing HUS include: urinating less often, losing pink color in cheeks and inside the lower eyelids, unexplained bruising or tiny red spots on the skin, having blood in the urine, feeling very tired or irritable, decrease alertness.
- If HUS is suspected, frequent monitoring of hemoglobin and platelet counts, electrolytes, and blood urea nitrogen and creatinine is recommended to detect hematologic and renal function abnormalities. Blood transfusions and dialysis may be needed to support patients.

Centers for Disease Control and Prevention. *E. coli*. Last reviewed May 14, 2024. <https://www.cdc.gov/ecoli/general/index.html>.

World Health Organization. *E. coli*. Last reviewed February 7, 2018. <https://www.who.int/news-room/fact-sheets/detail/e-coli>

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