

Health Advisory: Shiga toxin-producing *E. coli* in Patients with Bloody Diarrhea

Health Advisory:

Minnesota Department of Health, Thurs, Nov 14 15:00 CST 2024

Action Steps

Local and tribal health department: Please forward to hospitals, clinics, emergency departments, urgent care centers, and convenience clinics in your jurisdiction.

Hospitals, clinics and other facilities: Please distribute to all health care providers in these facilities.

Health care providers:

- Always consider Shiga toxin-producing *E. coli* (including *E. coli* O157) infection in patients presenting with bloody diarrhea, including adults.
- Do not treat Shiga toxin-producing *E. coli* (including *E. coli* O157) gastroenteritis with antibiotics
- Adequate rehydration is important for all patients presenting with diarrhea, including those with Shiga toxin-producing *E. coli* (including *E. coli* O157) gastroenteritis
- Remember that patients with Shiga toxin-producing *E. coli* (including *E. coli* O157) infection may be subject to exclusion if they attend/work in food service, child care, or healthcare – please call MDH at 651-201-5414

Summary

Eight recent cases of *E. coli* O157 infection (seven adults and one child) were linked to burger consumption at multiple locations of a local table-service restaurant chain with locations in Hennepin, Ramsey, and Olmsted counties. Additional potential cases are under investigation. All cases sought medical care, and two cases were hospitalized. The cases submitted stool specimens for testing from November 8 to 12, tested positive for Shiga toxin 2 producing *E. coli*, confirmed as *E. coli* O157:H7 at the Minnesota Department of Health (MDH) Public Health Laboratory. MDH epidemiologists and multiple environmental health agencies implemented interventions at the restaurants to prevent further transmission. The investigation is on-going.

Hemolytic uremic syndrome (HUS) is a serious complication of STEC infection. HUS is defined by microangiopathic hemolytic anemia, thrombocytopenia, and acute renal failure.

Approximately 100 cases of *E. coli* O157 are reported each year in Minnesota; approximately 6% develop HUS. HUS can occur at any age; however, the risk of HUS is highest in children, and the risk is also elevated in older adults. HUS typically develops around 7 days (up to 2-3 weeks) after onset of diarrhea.

HEALTH ADVISORY: SHIGA TOXIN-PRODUCING *E. COLI* IN PATIENTS WITH BLOODY DIARRHEA

Antimicrobials have not been shown to be beneficial in treating *E. coli* O157 gastroenteritis, and treatment with some classes of antimicrobials increase the risk of HUS development. In addition, parenteral rehydration is recommended for children possibly infected with *E. coli* O157, at the time of presentation of bloody diarrhea and in advance of culture results. Adequate rehydration is important for all patients presenting with diarrhea, including those with Shiga toxin-producing *E. coli* (including *E. coli* O157) gastroenteritis.

Clinical Presentation

Gastroenteritis due to *E. coli* O157 typically begins as watery diarrhea with prominent abdominal cramping; diarrhea frequently turns bloody after 1-2 days. Fever is usually absent or low-grade. The typical incubation period for *E. coli* O157 is 2-5 days (range, 1-8 days).

For More Information

- [Pub Med: Antibiotic treatment of Escherichia coli O157 infection and the risk of hemolytic uremic syndrome, Minnesota \(https://pubmed.ncbi.nlm.nih.gov/21892124/\)](https://pubmed.ncbi.nlm.nih.gov/21892124/)
- [Pub Med: Shiga Toxin-Producing Escherichia coli Infection, Antibiotics, and Risk of Developing Hemolytic Uremic Syndrome: A Meta-analysis \(https://pubmed.ncbi.nlm.nih.gov/26917812/\)](https://pubmed.ncbi.nlm.nih.gov/26917812/)
- [Pub Med: Early volume expansion during diarrhea and relative nephroprotection during subsequent hemolytic uremic syndrome \(https://pubmed.ncbi.nlm.nih.gov/21784993/\)](https://pubmed.ncbi.nlm.nih.gov/21784993/)

A copy of this HAN is available at: [MDH Health Alert Network \(http://www.health.state.mn.us/han\)](http://www.health.state.mn.us/han)

The content of this message is intended for public health and health care personnel and response partners who have a need to know the information to perform their duties.