



**COUNTY OF ORANGE
HEALTH CARE AGENCY**

**PUBLIC HEALTH
EPIDEMIOLOGY & ASSESSMENT**

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Pediatric *E. coli* O157:H7 Infections in Santa Ana

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The Orange County Health Care Agency has had an increase in reports of pediatric *Escherichia coli* (*E. coli*) O157:H7 infection since the start of November. Four cases have been reported with illness onsets ranging from November 4-9. The cases range from 5-8 years in age; all live in the city of Santa Ana. One child developed hemolytic uremic syndrome (HUS). An investigation into a potential source is ongoing. Providers should consider *E. coli* O157:H7 infection in patients with bloody or unusually severe diarrhea and when appropriate send stool for testing for shiga toxin-producing *E. coli* (STEC). All suspect or confirmed cases of *E. coli* O157:H7 should be reported immediately by phone to the Orange County Health Care Agency at 714-834-8180.

Description of Illness

E. coli O157:H7 is one of many STEC strains which cause disease. Symptoms of infection typically include diarrhea (frequently bloody), abdominal pain, and low grade fever. The diarrhea is often initially watery and progresses in 2-3 days to a bloody character. Clinical manifestations range from loose stools with minimal constitutional symptoms to hemorrhagic colitis. Vomiting is not a prominent feature of infection. Symptoms generally last from 5-10 days.

HUS is a serious sequela of *E. coli* O157:H7 infection. It typically develops 7-14 days after diarrhea starts, and consists of some combination of hemolytic anemia, thrombocytopenia, and acute renal dysfunction.

Laboratory Testing

Diagnosis is established by a combination of stool shiga toxin assay and culture testing. A shiga toxin assay positive result indicates infection with either *E. coli* O157:H7 or a different STEC strain. All stool samples that test positive for shiga toxin must have follow-up bacterial culture performed to isolate an organism, both to confirm infection and assist with public health surveillance. All shiga toxin-producing *E. coli* isolates should be forwarded to the Orange County Public Health Laboratory for pulsed field gel electrophoresis (PFGE) testing.

Treatment

Correction of fluid and electrolyte losses may be necessary. Most experts advise against prescribing antimicrobial therapy for suspected or proven *E. coli* O157:H7 disease. While studies have shown inconsistent results, the most recently published observational studies found that treatment of *E. coli* O157:H7 diarrhea with at least some classes of antibiotics is associated with HUS development.

Epidemiology

A person can become ill with *E. coli* O157:H7 1-8 days after consuming food or water contaminated with the bacteria or by direct contact with infected persons or animals or their environments. Shedding in the stool generally occurs for several days to a few weeks. Children with *E. coli* O157:H7 infection should not attend child care programs until they are cleared by the Orange County Health Care Agency (OCHCA). Child care workers, food handlers, and healthcare workers who provide direct patient care should not perform these activities until they are cleared by OCHCA.

Additional information

For more information on *E. coli* O157:H7 infection, see <https://www.cdph.ca.gov/HealthInfo/discond/Pages/EscherichiacoliO157H7.aspx>.