

## Shiga toxin-producing *E. coli*

### Definition:

Some kinds of *E. coli* cause disease by making a toxin called Shiga toxin. The most common STEC is O157:H7 commonly referred to as O157.

### Signs and symptoms:

Symptoms of STEC include: severe stomach cramps, diarrhea (often bloody) and vomiting. If there is a fever, it usually is not very high. Some cases may develop hemolytic uremic syndrome (HUS). Most people get better within 5-7 days. One complication of STEC in children is HUS, which can affect the kidneys.

### Transmission:

STEC is primarily transmitted to a person through swallowing the bacteria from a contaminated item. Known exposures that result in illness include consumption of contaminated food, consumption of unpasteurized (raw) milk, consumption of water that has not been disinfected, contact with cattle or contact with the feces of infected people or animals.

### Diagnosis:

STEC is diagnosed by clinical symptoms and laboratory tests. Laboratory tests include testing of stool, blood, or other sterile body fluid for the presence of shiga toxin and the presence of *E. coli*.

### Role of the School Nurse:

#### Prevention

- Provide education to students and staff regarding good hand washing with soap and water
- Promote proper hand washing after handling animals
- Avoid swallowing water when swimming or playing in lakes, ponds, streams, swimming pools and backyard “kiddie” pools
- Exclude students symptomatic from school and school trips, especially involving swimming
- Provide education on good food safety practices
- Promote washing of fruits and vegetables
- Avoid unpasteurized dairy and juice products

#### Treatment Recommendations

- If symptoms are noted, the child should be referred to their primary care provider for treatment
- Non-specific supportive therapy, including hydration, is important
- Antibiotics should not be used to treat STEC
- Antibiotics and antidiarrheal agents may increase the risk of complications, such as HUS

#### Exclusions

- Students should be excluded from school while symptomatic with diarrhea
- Educational modifications may be warranted in children with a positive diagnosis
- See Maine Food Code for exclusions for staff handling food

#### Reporting Requirements

- STEC is a reportable disease – report to Maine CDC at 1-800-821-5821
- Post-diarrheal HUS is a reportable disease - report to Maine CDC at 1-800-821-5821

**Resources:**

- Maine CDC STEC website (including fact sheet)  
<http://www.maine.gov/dhhs/boh/ddc/epi/disease/escherichia-coli.shtml>
- Maine Food Code: <http://www.maine.gov/dhhs/mecdc/environmental-health/el/rules.htm>
- DOE Child Nutrition Services <http://www.maine.gov/education/sfs/index.html>
- Federal CDC STEC website <http://www.cdc.gov/ecoli/>
- USDA food safety website [http://www.fsis.usda.gov/food\\_safety\\_education/index.asp](http://www.fsis.usda.gov/food_safety_education/index.asp)
- FDA food safety website <http://www.fda.gov/Food/>
- Federal CDC raw milk website <http://www.cdc.gov/foodsafety/rawmilk/raw-milk-index.html>
- Federal CDC healthy swimming website <http://www.cdc.gov/healthywater/swimming/>