

# Gastroenteritis Fact Sheet

Whether you are escaping the Christmas cold or eating your way through the holidays, gastroenteritis is one way to give you the Holiday blues. Gastroenteritis is commonly referred to as the stomach flu and is caused by irritated and inflamed intestines or stomach typically caused by a bacterial or viral infection such as *E. Coli*, *Salmonella* and Norovirus.

## General Information

### Bacteriology

***E. coli***- *E. coli* is a gram-negative facultative anaerobic bacterium that is commonly found in the lower intestine of humans and warm-blooded animals. *E. coli* is expelled into the environment within fecal matter. Optimal growth of *E. coli* occurs at 37 degrees Celsius or 99 degrees Fahrenheit, and uses oxygen when present or available, but can continue to grow in the absence of oxygen using fermentation or anaerobic respiration.

***Salmonella*** - *Salmonella* is a genus of rod-shaped (bacillus) gram-negative bacteria of the Enterobacteriaceae family. *Salmonella* species are non-spore forming, predominantly motile enterobacteria and obtain their energy from oxidation and reduction reactions using organic sources. They are also capable of surviving with or without oxygen.

### Virology

**Norovirus** - Noroviruses are a group of related, single-stranded RNA, non-enveloped viruses that cause acute gastroenteritis in humans. Norovirus is the official genus name for the group of viruses previously described as "Norwalk-like viruses" (NLV) or small round structured viruses (SRSVs) because of their morphologic features. Noroviruses are part of the larger Caliciviridae family.

### Epidemiology of transmission

***E. coli* and *Salmonella*** - *E. coli* and *Salmonella* are considered food borne illnesses and transmission is usually person-to-person via the fecal-oral route, through ingestion of the organism via contaminated or improperly cooked foods, such as holiday favorite's turkey and eggnog.

**Norovirus** – If you are trying to exchange a snowy white Christmas with a sandy white Christmas, Norovirus may find you there. Norovirus is very contagious and only a few virus particles are needed to cause illness. People are the only known reservoir for Norovirus and the disease is transmitted easily from person to person. The virus is spread through exposure to food, water, and/or surfaces contaminated by an infected person. Although it has not been proven, airborne transmission has been suggested as a possible explanation for rapid spread of outbreaks.

### Clinical manifestations

With gastroenteritis, the main symptoms are commonly diarrhea and vomiting. Infectious individuals may also experience stomach pain, cramping, fever, nausea and headache.

Diarrhea and vomiting may cause dehydration. It is important to watch for signs of dehydration and call a physician. Signs of dehydration include:

- Dry skin
- Dry mouth
- Feeling lightheaded
- Feeling really thirsty



### Basic Prevention

***E. coli* and *Salmonella*** – Hand washing is one of the best ways to prevent the spread of food borne illness. Contaminated foods may look and smell normal so it is important to ensure that foods are thoroughly cooked to destroy bacteria.

**Norovirus** - The most important means of preventing Norovirus transmission and infection is exercising frequent and appropriate hand washing. Alcohol based hand sanitizers (≥62% ethanol) may be helpful as an adjunct method of hand hygiene, but should not replace washing with soap and water. Simple measures, such as correct handling of cold foods, frequent hand washing and staying home when sick, may substantially reduce transmission of Norovirus.



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## Infection Prevention and Control Measures

### Facility Prevention Measures

Routine/Standard Precautions are sufficient preventative measures to follow when providing care to patients who are suspected or confirmed to have Gastroenteritis caused by *E. coli* and *Salmonella*. Use Contact Precautions for diapered or incontinent persons for the duration of the illness. Contact Precautions should be implemented for individuals who are suspected or confirmed to have Norovirus.

- Use PPE barriers (such as gloves) when anticipating contact with blood or body fluids
- Perform hand hygiene after removal of PPE. Use soap and water when hands are visibly soiled (e.g., blood, body fluids), or after caring for patients with known or suspected infectious diarrhea
- Gloves should be worn when handling potentially infectious specimens, cultures or tissues; laboratory coats, gowns or suitable protective clothing should be worn
- Clean/disinfect the patient room and shared patient care devices accordingly

### Environmental control measures

Hospital-grade cleaning and disinfecting agents are sufficient for environmental cleaning in the event of *Salmonella* or *E. coli* infection. Products used for disinfection of Norovirus must have an appropriate virucidal claim. As a non-enveloped virus, Norovirus is known to be more difficult to inactivate for many traditional disinfectant chemicals. For that reason, it is important that products used for disinfection of Norovirus must have an appropriate virucidal label claim.

Routine cleaning and disinfection should be performed on frequently touched environmental surfaces, as contaminated surfaces are one of the primary routes of transmission. All patient care equipment should be cleaned and disinfected as per Routine/Standard Practices before reuse with another patient or a single use device should be used and discarded in a waste receptacle after use.

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