

GASTROINTESTINAL DISEASE

Infection Control Guidelines for Long-Term Care Facilities

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The elderly (≥ 65 years of age) are more susceptible to the consequences of gastrointestinal infections than younger individuals. This population is at increased risk for infectious gastroenteritis due to the age-related decrease in secretions of gastric acid, as well as a higher prevalence of incontinence (where the risk of cross-contamination is substantial). Therefore, it is important to prevent gastrointestinal disease outbreaks by implementing appropriate food handling procedures, in addition to standard precautions which should be used at all times, consistently, by all staff in long-term care facilities.

Gastrointestinal disease is not valid grounds for denial of admission to a long-term care facility.

Infectious Agents: There are many enteric pathogens implicated in outbreaks of gastrointestinal disease, including bacteria such as *Campylobacter*, *E. coli* O157:H7, *Salmonella* and *Shigella*; parasites such as *Cryptosporidium*, *Cyclospora*, and *Giardia*; and viruses such as norovirus. *Clostridium difficile* can also cause diarrhea but is addressed in separate guidelines.

Reservoirs: Variable, depending upon what agent is involved; may include humans, animals, water, and soil.

Modes of Transmission: Variable, depending upon the agent; may be foodborne, waterborne and/or spread person to person via the fecal-oral route.

Incubation Periods: Variable, depending upon what agent is involved.

<i>Organism</i>	<i>Usual incubation (range)</i>
<i>Campylobacter</i>	2-5 days (1-10 days)
<i>Salmonella</i>	12-36 hours (6-72 hours)
<i>Shigella</i>	1-3 days (12-96 hours)
<i>E. coli</i> O157:H7	3-4 days (1-10 days)

<i>Organism</i>	<i>Usual incubation (range)</i>
<i>Giardia</i>	7-10 days (3-25 days)
<i>Cryptosporidium</i>	7 days (1-12 days)
<i>Cyclospora</i>	7 days (1-2 weeks)
Norovirus	1-2 days (10-72 hours)

Diagnosis: Stool specimens can be tested for the presence of any of the above enteric pathogens. In outbreak situations arrangements can be made on a case-by-case basis to test stool specimens at the MDPH William A. Hinton State Laboratory Institute (SLI) for the enteric bacterial pathogens, i.e. *Campylobacter*, *Salmonella*, *Shigella* and *E. coli* O157:H7.

Treatment: Treatment of gastrointestinal illness, including the use of antibiotics, should be addressed by the patient's clinician.

PREVENTION AND CONTROL

Implementation of, and adherence to, prevention and infection control practices are keys to preventing the transmission of infectious diseases in all healthcare facilities. Standard precautions should be used at all times, consistently, by all staff in long-term care facilities and should be sufficient for handling cases of gastrointestinal illness. However, contact precautions should be considered when caring for patients with confirmed or suspect norovirus infection who are diapered or incontinent, to avoid contamination of the environment and transmission via fomites. Persons cleaning areas heavily contaminated with vomitus or feces of persons with confirmed or suspected norovirus should wear surgical masks as part of standard precautions. **General infection control measures for healthcare providers can be found at <http://www.mass.gov/dph/epi>.**

In isolated cases of gastrointestinal illness, the individual's health care provider will decide whether or not stool tests are indicated. Single cases of reportable disease should be reported to the local health department. If more than one case of enteric illness (vomiting and/or diarrhea) occurs in any long-term care facility within a limited time period, the patients' healthcare providers should be notified and stool and other specimens, as appropriate, should be submitted for testing as soon as possible.

OUTBREAKS

Outbreaks of gastrointestinal infection in long-term care facilities are not uncommon. While outbreaks can be caused by many enteric pathogens, most outbreaks of gastrointestinal illness in this setting are caused by viruses and are transmitted from person to person among staff, residents and visitors.

Outbreaks should be reported to your local board of health and the Division of Health Care Quality (DHCQ) (617) 753-8150 during normal business hours (8:45am-5pm). Outside of normal business hours the DHCQ hotline (800) 462-5540 will direct you to leave a message or call an emergency number, if the situation is urgent. You should also contact the MDPH Division of Epidemiology and Immunization at (617) 983-6800 for additional advice or assistance with control measures.

Investigation:

It is important to identify all new cases of enteric illness. This includes a daily symptom review and temperature checks on each patient in the unit(s) affected, chart reviews, and interviews with staff. During a suspected outbreak, include in daily surveillance all individuals with loose bowel movements (even if, on occasion, this normally occurs), and individuals with elevated temperatures that may appear to be due to different causes (e.g., respiratory illnesses, UTIs).

Collect the following information to create a line listing of ill patients and staff:

- a. Age and sex of cases
- b. symptoms
- c. date and time of onset of symptoms
- d. duration of symptoms

- e. what foods were consumed in the 72 hours (or other appropriate time frame) prior to onset of symptoms

The pattern of illness can help determine if transmission is occurring from person to person or from a single source, such as a common food. Person-to-person transmitted outbreaks often begin with a small number of cases and then rise either gradually or quickly. In a point source outbreak, there is a tight clustering of cases in time, with a sharp increase in cases followed by a gradual decline in number of cases.

If food is suspected as a possible cause of the illness, the MDPH Division of Epidemiology and Immunization and the MDPH Food Protection Program will assist you in investigating the outbreak. You may be asked to interview and obtain food histories from individuals who are not ill. Depending on the extent of the outbreak, a stool survey might be considered. Options include testing:

- a. all patients and staff,
- b. all patients and staff on affected units, or
- c. all patients, direct-care staff, and food handling staff, whether symptomatic or not.

Control Measures:

1. Cohorting of symptomatic patients is essential. Individual staff should be restricted to caring for only one cohort of patients.
2. Staff floating should be minimized.
3. If norovirus is suspected or confirmed as the cause of an outbreak, symptomatic staff should be excluded from all food handling duties for 72 hours past symptom resolution or 72 hours past the date a specimen positive for norovirus was provided, whichever occurs last. If a bacterial or parasitic agent is suspected or confirmed, symptomatic staff should be tested and allowed to return to food handling duties when diarrhea is resolved and requirements of 105 CMR 300.200 are met. Please note that food handling duties include direct patient care such as feeding or assisting clients in eating, giving oral medications, or giving mouth or denture care. See 105 CMR 300.020.
4. Patients with gastrointestinal symptoms should be placed on standard plus contact precautions for the duration of their illness. Patients who test positive for a bacterial or parasitic agent should remain on precautions until a negative stool specimen is produced. For patients treated with antibiotics the stool specimens should not be collected until 48 hours after cessation of antibiotic therapy. During confirmed or suspected norovirus outbreaks, symptomatic patients should remain on precautions for 72 hours past the resolution of their symptoms.
5. Proper hand hygiene should be emphasized to all staff and residents especially in outbreaks caused by noroviruses. Noroviruses are highly infectious, requiring only a few particles to cause illness. They are easily spread from one person to another and are found in large quantities in the stool or vomitus of an infected person. Staff should wash their hands with soap and water after patient care. Hands should be dried with a dry, disposable paper towel, and faucets should be turned off using a paper towel. If patients cannot wash their own hands after bathroom use, their hands should be washed for them. Since there are insufficient data to determine the efficacy of alcohol-based hand sanitizers against norovirus, it is recommended that staff caring for patients with suspect or confirmed norovirus infection

wash their hands with soap and water, which then can be followed with use of an alcohol-based sanitizer.

6. Articles contaminated with infective material, such as soiled linens and clothing, should be discarded or bagged and labeled before being sent for washing.
7. Special attention should be paid to environmental cleaning and disinfection. For norovirus outbreaks, the Centers for Disease Control and Prevention (CDC) recommend either chlorine bleach or U.S. Environmental Protection Agency (EPA) approved disinfectants. A list of hospital disinfectants registered by the EPA with specific claims for activity against noroviruses can be found on the EPA website <http://www.epa.gov/oppad001/chemregindex.htm> . A useful guide specific to norovirus environmental cleaning and disinfection has been developed by the Michigan Department of Community Health and may be found at their website: http://www.michigan.gov/documents/GEC_165404_7.pdf. It is titled: *Local Health Department Guidelines for Environmental Cleaning and Disinfection of Norovirus*. Please note that quaternary ammonium compounds do not have significant activity against noroviruses.
8. During an outbreak, closing the facility to new admissions should be considered. Also, family members and visitors should be notified of the outbreak.
9. In the event of a suspected foodborne outbreak, you may consider restricting foods being brought into the facility by visitors until the source of the outbreak is known.

For further information, contact the MDPH Division of Epidemiology and Immunization at (617) 983-6800. The following resources can also be found at <http://www.mass.gov/dph/epi>

- Fact sheets on enteric pathogens
- *Foodborne Illness Investigation and Control Reference Manual*
- *Guide to Surveillance, Reporting and Control (2nd Edition)*
- *Summary of 105 CMR 300.000: Reportable Diseases, Surveillance, and Isolation and Quarantine Requirements*

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