DELAWARE HEALTH AND SOCIAL SERVICES
Division of Public Health

Guidelines for Norovirus Prevention and Control in Long Term Care Facilities

Delaware Health and Social Services
Division of Public Health
November, 2011

Guidelines for Norovirus Prevention and Control in Long Term Care Facilities

I. OBJECTIVE

Noroviruses are the most common cause of epidemic gastroenteritis disease worldwide and are frequently associated with outbreaks in Long Term Care Facilities (LTCF). The following guidelines have been developed with the intended goal of interrupting transmission and preventing spread to others when Norovirus is suspected in a LTCF.

II. TRANSMISSION

Noroviruses are highly contagious with as few as 100 virus particles thought to be sufficient to cause infection. Noroviruses are transmitted primarily through the fecal-oral route, either by direct person-to-person spread or fecally contaminated food or water. Noroviruses can also spread via a droplet route from vomitus. These viruses are relatively stable in the environment and can survive freezing and heating to 60°C (140°F). In healthcare facilities, transmission can additionally occur through hand transfer of the virus to the oral mucosa via contact with materials, fomites, and environmental surfaces that have been contaminated with either feces or vomitus.

III. CLINICAL FEATURES

Noroviruses cause acute gastroenteritis in persons of all ages. The illness typically begins after an incubation period of 12 – 48 hours and is characterized by acute onset of non-bloody diarrhea, vomiting, nausea and abdominal cramps. Symptomology is variable and persons may experience only vomiting or diarrhea. Low-grade fever and body aches may be associated with infection, and thus the term “stomach flu” is often used to describe the illness. However, there is no biologic association with influenza. Although symptoms can be severe; they are typically self-limiting and resolve without treatment after 1–3 days in otherwise healthy persons. However, more prolonged courses of illness lasting 4–6 days can occur, particularly among young children, elderly persons, and hospitalized patients. Norovirus-associated deaths have been reported among elderly persons and in the context of outbreaks in LTCF.

IV. OUTBREAKS

The classic definition of an outbreak is two or more healthcare-associated cases which are epidemiologically linked.

Determination of an outbreak should include review of the chart to confirm actual symptoms exist and eventually laboratory confirmation (lab confirmation may only be necessary in the initial phase of the outbreak). Chart review and questioning should include:

- How many loose stools in a 24-hour period?
- Are there other symptoms, i.e. vomiting, or diarrhea?
- Are loose stools unusual for this resident?
- Has the resident had a laxative?
- Is the resident receiving tube feedings?
- Is he or she on new medication that may cause theses symptoms?

- Is there another plausible etiology for loose stools?

Health-care facilities including LTCF and hospitals are the most commonly reported settings of norovirus outbreaks in the United States. Virus can be introduced from the community into health-care facilities by staff, visitors, and patients who might either be incubating or infected with norovirus upon admission or by contaminated food products. Outbreaks in these settings can be prolonged, sometimes lasting months. Strict control measures (including isolation or cohorting of symptomatic patients, exclusion of affected staff, and restricting new admissions into affected units) are disruptive and costly but are often required to curtail outbreaks.

V. GUIDELINES FOR CONTROL WHEN OUTBREAK SUSPECTED:

Control and Prevention Measures

- Considering the highly infectious nature of Norovirus, strict standard precautions must be practiced facility-wide.
- Strict Contact Precautions for symptomatic residents. This includes the acute phase of illness, a period following recovery while the individual is still shedding virus at high levels (usually 24-72hours), and, in some situations, isolation of both exposed and potentially incubating residents.
- Increased hand washing using soap and water for 20 seconds is the most effective way to reduce Norovirus contamination on the hands.
- Masks (and eye protection) should be worn in addition to gloves and gown when assisting suspected Norovirus patients who are actively vomiting or having diarrhea, or when flushing the contents of their emesis basins, bedpans or commodes. The virus can be aerosolized during vomiting, diarrhea, and flushing a toilet that contains vomitus or stool from an ill person. Anyone in close contact during these events could possibly inhale the aerosolized virus into the nasopharynx and become ill.
- To minimize the risk of spread from incubating or asymptomatic infected residents and staff, such persons should not be transferred to or work on (respectively) unaffected areas, typically for 48 hours after exposure.
- Ill staff members and food handlers should be excluded during their illness and for 48-72 hours following resolution of symptoms. Asymptomatic food service workers who have tested positive for Norovirus should be excluded per the FDA Food Code. Regulatory authority might be required for excluded food service workers to return to work.
- Nonessential personnel, including visitors, should be screened for symptoms and excluded or, at a minimum, should be cautioned about the risks and made aware of heightened importance of hand washing with soap and water.
- Terminal cleaning throughout the facility followed by routine daily cleaning of common touch surfaces by disinfection with a Norovirus EPA approved bleach solution to achieve the recommended 5000 ppm.(e.g. mix 12 ounces of Clorox Ultra with one gallon of water). The solution will be mixed fresh for each use. Keep solution in contact with the surface per the product recommendations (Contact Time). Initial cleaning of contaminated surfaces to remove organic loads such as fecal material must be performed before using the solution to disinfect the surface.
- Cancel all group activities, outside appointments and communal dining.
- Meal service utilizing disposable utensils – residents to eat in rooms.
- Restrict residents to rooms as much as possible.
- Increase surveillance for ill pt. care givers and food service workers (have a low threshold for excluding ill employees). When feasible, cohort staff to one unit (limit floating b/t units).
- Post sign for visitors discouraging visitation at this time, discourage any ill visitors from entering, and provide capabilities for visitors to wash hands when entering and before leaving

the facility. (May need to cancel visitation if cluster increases). Limiting visitation is for the protection of the residents, as well as their visitors. Educate Staff, Residents, and Visitors

- Inform staff about existing outbreak, their individual responsibilities, and the importance of the compliance with isolation. Frequently reinforce the importance of hand washing and appropriate use of PPE.
- In order to diagnose a cluster, Delaware Division of Public Health (DPH), Bureau of Epidemiology will coordinate stool testing at DPH Laboratory (R/O Norovirus) from symptomatic individuals. Norovirus requisition forms may be faxed to the facility and arrangements for courier pick-up by Public Health.

VI. Notifications

- Contact DPH, Bureau of Epidemiology (302-744-1033 or 888-295-5156) for guidance at the first possible suspicion of an outbreak.
- Director of Nursing, or designee, should notify LTCRP when any outbreak is suspected.
- DPH, Bureau of Epidemiology will communicate daily & PRN with the facility. Please make arrangements for a representative to collaborate with DPH on a daily basis.
- DPH, Bureau of Epidemiology will provide final documentation of the outbreak.

VII. Outbreak Resolution

After 2 full incubation periods (generally 4 days) have lapsed without onset of new cases, restrictions can generally begin to be lifted. High levels of hand washing should be reinforced as well as strict standard precautions. The decision to begin lifting restrictions should be made in collaboration with DPH, Bureau of Epidemiology.

VIII. Internal Documentation

- Begin a line listing for all ill residents and staff and update daily or as needed.
  Keep records of how events transpired, who was notified and when, what specimens were collected and their results. Also document when resident was seen by a doctor and if resident required hospitalization, etc.
- Internal report may include a narrative summary, a final line listing, infection rates, laboratory findings, severity of illnesses, education in-services for staff, residents and visitors, effectiveness and compliance of control and prevention measures, affected staff, hospitalized residents, and plans to prevent an outbreak in the future.
- Consider graphing the outbreak by date of onset, number of cases, location, symptoms, etc
- An interdisciplinary evaluation of the outbreak will be completed and recommendations for preventive measures should be presented in Quality Assurance and/or Infection control committee meetings.

References

APIC Text 2009, section 98A

APIC Infection Prevention Manual For Long Term Care Facilities, 2nd Edition

CDC, Norovirus in Healthcare Settings

MMWR, Vol.60/No.RR3, Updated Norovirus Outbreak Management and Disease Prevention Guidelines, March 4, 2011