



Pat Quinn, Governor
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To: Illinois School Principals and School Nurses

Re: Guidance for Prevention of Norovirus Outbreaks in Daycare Facilities and Schools

Norovirus, formerly called norwalk-like virus, is a virus that causes acute gastroenteritis in humans. The most common symptoms of norovirus are diarrhea, vomiting, and stomach pain. Norovirus is very contagious, and is spread through contaminated food or water, by contact with an infected person, or by contamination in the environment. The virus has an incubation period of 24-48 hours. Infected individuals are symptomatic for 1-2 days, but may shed the virus for up to 2 weeks after recovering. Norovirus outbreaks are common in schools and daycare facilities. In 2010, Illinois has experienced a greater number of outbreaks than is normally expected.

Steps daycare facilities and schools can take to reduce transmission of norovirus are outlined below.

Exclusion:

- Children and staff who are experiencing symptoms of norovirus should stay home from school or daycare until **24 hours** after symptoms have stopped.
- Staff involved in food preparation should be restricted from preparing food for **48 hours** after symptoms stop. The staff may perform other duties not associated with food preparation 24 hours after symptoms have stopped.

Hand hygiene:

Good hand hygiene is the best way to prevent transmission of norovirus.

- Hands should be washed with warm water and soap for 15-20 seconds.
- Children should be taught good hand hygiene practices, and should wash their hands after using the bathroom and before eating.
- Staff, especially staff responsible for caring for diapered children, should wash their hands frequently.
- During outbreaks, washing hands with soap and water is preferable to using alcohol-based hand sanitizers. Hand sanitizers are only minimally effective against norovirus¹.

¹ Liu et al. (2010). Effectiveness of Liquid Soap and Hand Sanitizer against Norwalk Virus on Contaminated Hands. *Applied and Environmental Microbiology* 76(2): 394-399

Housekeeping:

Norovirus is highly contagious. The virus can live on surfaces for up to 12 days and has a very low infective dose (<100 viral particles). Proper environmental control measures are essential to preventing infection.

If a vomit or fecal spillage occurs, the area should be sanitized with an Environmental Protection Agency-approved disinfectant or a freshly prepared sodium hypochlorite solution². The hypochlorite (bleach) solution should be a **1:50 dilution**; mix 1/3 cup bleach with 1 gallon water. For heavily soiled surfaces, use a dilution of 1:10, or 1 2/3 cup bleach to one gallon of water. **Allow the solution to be in contact with the surface for 10-20 minutes**³ or until it has air dried. Materials that may be put in children's mouths (e.g. toys) should be rinsed. For porous surfaces such as upholstered furniture, carpets or clothing, clean visible debris with an absorbent, double-layer material. Steam clean or wash the contaminated surface at 158° F for 5 minutes or 212° F for 1 minute. Custodial staff should wear masks and gloves when cleaning areas contaminated by feces or vomitus. Throw away all disposable materials in sealed bags.

Bathrooms and other communal spaces should be cleaned more frequently during suspected norovirus outbreaks. Frequently touched surfaces, such as door handles, telephones, and computer mice, should be disinfected with an approved product.

Food:

Norovirus is often spread through contaminated food or water. Facilities serving or sharing food should take these extra precautions:

- Restrict sharing of foods brought from private homes.
- Restrict students' sharing of any communal food items in classrooms. Instead, the teacher should hand out items to be shared after washing his/her hands.
- Stop using self-service food bars. Do not let children serve themselves in any manner which might promote direct hand contact with shared foods.

Outbreak detection and reporting:

Daycare facilities and schools should report all confirmed or suspected outbreaks of norovirus to the local health department as soon as possible. It is reasonable to initiate investigation, implement prevention and control measures, and contact the local health department in the following situations:

- Two or more students in a classroom or group of students with onset of vomiting and or diarrhea on the same day
- A doubling in the number of students absent due to a vomiting and/or diarrhea over that of normal for a particular time of year is indicative of an outbreak.
 - Maintaining a daily log of the number of students and teachers absent due to GI illness can assist with this.

Although the number of cases might not meet the above definition of an outbreak, it is prudent to contact the local health department with any unusual cluster of gastrointestinal illness. Please also refer to any additional guidance from local health departments regarding reporting of suspected norovirus outbreaks.

² See http://www.epa.gov/oppad001/list_g_norovirus.pdf for a list of EPA approved antimicrobial products effective against norovirus.

³ See <http://www.osha.gov/Publications/norovirus-factsheet.pdf> for additional information