



Viral Gastroenteritis Outbreak Guidelines For Community Living Facilities

Outbreaks of gastroenteritis in community living facilities (CLF) are not uncommon. Viruses cause most outbreaks of gastroenteritis, and they are almost always transmitted from person-to-person (including residents, staff, visitors and volunteers), and occasionally by contaminated food. These outbreaks can be detected early by recognizing the typical symptoms of illness, and can be controlled by taking specific steps to prevent the virus from being transmitted from person-to-person.

What causes viral gastroenteritis in CLFs?

A group of viruses known as caliciviruses, which includes norovirus, almost always causes these outbreaks of viral gastroenteritis. Bacteria such as *Salmonella*, *Shigella* or *Campylobacter* occasionally cause gastroenteritis in CLFs, but are more likely to be foodborne; and the patterns of illness that occur are usually different from viral gastroenteritis.

What are the signs and symptoms of viral gastroenteritis?

The main symptoms are vomiting and diarrhea. Vomiting is usually a prominent symptom but may be infrequent or absent. Diarrhea tends to be watery, short-lived and less severe than diarrhea caused by bacteria. Symptoms also may include headache, fever (usually low-grade), chills, and abdominal cramps. Illness begins between one to two days following exposure to a resident or employee who is ill or incubating the infection. Unless complicated by underlying illness, age, or dehydration, the illness is generally mild and of short duration (1-2 days). Some individuals may continue to feel weak. Immunity occurs following infection but lasts only a short time.

How is viral gastroenteritis spread?

Noroviruses are spread when material contaminated by stool or vomitus from an infected person is ingested. Noroviruses are **extremely infectious**. Excretion of virus in stool begins a few hours before the onset of symptoms and reaches a maximum 24-72 hours after exposure. The viruses can continue to be present in the stool of infected persons for a week or more, even after they recover or even if they have never been sick. In CLFs the virus is spread primarily through contamination of the hands of persons who are ill. Vomiting will also suspend viral particles in the air, resulting in contamination of the environment. Noroviruses can remain infectious on environmental surfaces for many days and are relatively resistant to disinfection, heat, and cold.

References:

- ◆ Centers for Disease Control and Prevention. *Norwalk-like viruses: public health consequences and outbreak management*. MMWR 2001; 50 (No. RR9).
- ◆ Oregon Department of Human Services, Office of Disease Prevention & Epidemiology, *Investigating gastroenteritis outbreaks in nursing homes and similar settings*.
- ◆ California Department of Health Services Division of Communicable Disease Control In Conjunction with Licensing and Certification. *Control of Viral Gastroenteritis Outbreaks in California Long-Term Care Facilities*, December 2002.

Can viral gastroenteritis be spread by food and water?

Noroviruses can also be transmitted by food and water. This is uncommon in CLFs where transmission is usually from person-to-person. Persons preparing food or handling food who have viral gastroenteritis may contaminate food, especially if they do not wash their hands regularly after using the bathroom or do not wear gloves while handling food. Cold foods such as salad and sandwiches have been a source for outbreaks. Shellfish may be contaminated by sewage. Drinking water can also be contaminated due to faulty plumbing and can be a source of these viruses.

How is viral gastroenteritis diagnosed?

Viral gastroenteritis cannot be diagnosed by traditional stool cultures or examination of stool for ova and parasites. Noroviruses can be identified by polymerase chain reaction (PCR), which is available at the Nevada State Public Health Laboratory. This requires fresh (unfrozen) stool. PCR can remain positive for at least a week after the symptoms have resolved. Antibody testing is possible but requires convalescent sera (typically collected about four weeks after onset of illness). While PCR can be completed within one day of receiving a specimen, ***decisions to institute control of a possible outbreak should not be delayed while waiting for results.***

How can an outbreak of viral gastroenteritis be identified?

Facilities should establish and maintain a program of surveillance for viral gastrointestinal disease. ***An outbreak of viral gastroenteritis should be suspected when two or more residents and/or staff have vomiting and diarrhea with onset within one to two days.*** Vomiting, often projectile, is present in at least half of those ill. Other symptoms may include nausea with or without vomiting and low-grade fever.

How is an outbreak of viral gastroenteritis controlled?

Interrupting person-to-person transmission controls the outbreak of viral gastroenteritis. There is probably little that can be done to prevent the initial introduction of the virus, since an infected staff member or visitor may be shedding the virus even before they are ill, or may never be symptomatic. The following recommendations may assist facility personnel in controlling an outbreak of viral gastroenteritis.

CONTROLLING PERSON-TO-PERSON TRANSMISSION OF VIRUSES

Rapidly implementing control measures at the first sign of a gastroenteritis outbreak can prevent additional cases.

LIMIT TRANSMISSION WHEN INITIAL CASES OF VIRAL GASTROENTERITIS ARE SUSPECTED

Reporting

- ◆ Immediately report staff or residents with diarrhea or vomiting to the Infection Control Practitioner, Director of Nurses or facility manager.
- ◆ Record cases on a log. Include name, date and time of symptom onset and room number.

Infection Control

- ◆ Institute strict handwashing policy – use soap & water.
- ◆ Activate the “Hit Squad”. Trained and properly equipped staff should tend to public vomiting and diarrhea incidents immediately. Thoroughly clean and disinfect areas where incidents occur (see next page).
- ◆ Confine residents with symptoms to their rooms until symptom-free for 72 hours – deliver meals to room.

INSTITUTE CONTROL MEASURES WHEN A VIRAL GASTROENTERITIS OUTBREAK IS SUSPECTED

DO NOT WAIT FOR DIAGNOSTIC CONFIRMATION

Reporting – when an outbreak is suspected

- ◆ Notify the Washoe District Health Department at **775-328-2447**.
- ◆ If the Bureau of Licensure and Certification licenses the facility, notify them at **775-687-4475**.
- ◆ Notify the Medical Director, if the facility has one.

Infection Control

- ◆ Thoroughly clean fecal and vomiting accidents promptly – follow recommendations on next page.
- ◆ Residents should *not* be moved from an affected area to an unaffected area. Continue to confine symptomatic residents to their rooms.
- ◆ Increase the frequency of bathroom and toilet cleaning (at least daily), especially faucets, door handles, toilet flushers & bath rails.
- ◆ Dedicate patient-care equipment to a single resident or among similarly symptomatic residents – if not possible, clean and disinfect the equipment before another resident uses it.
- ◆ **In addition to Standard Precautions:**
 - Wear gloves and gowns when entering the rooms of residents with gastroenteritis.
 - Remove gloves and gowns after contact with an affected resident and before contact with an unaffected resident in the same room.
 - Remove gloves and gown before leaving the room and dispose of without further contaminating the environment. Wash hands immediately. *Ensure hands and clothing do not touch potentially contaminated environmental surfaces or items in the resident’s room when exiting.*

Personnel & Visitors

- ◆ Furlough staff and volunteers with vomiting until 72 hours after symptoms cease.
- ◆ Maintain the same staff to resident assignments, if possible. Limit staff from moving between affected and unaffected areas.
- ◆ Exclude non-essential personnel from outbreak-affected wards.
- ◆ Request visitors not visit while resident is symptomatic.
- ◆ Request symptomatic family members avoid visitation.

Other

- ◆ Cancel or postpone group activities until ill individuals are asymptomatic for at least 72 hours.
- ◆ Consider use of antiemetics for patients with vomiting.
- ◆ Limit new admissions until the outbreak is over. **Seven days must pass without new cases before an outbreak of norovirus gastroenteritis is over.** If new admissions are necessary, admit resident to an unaffected area or to an area that has had no new cases for at least 48 hours.

CLEANING UP VOMIT AND FECES AND OTHER UNPLEASANT TASKS

Have a trained "hit squad" with the right chemicals & equipment at all times. Only trained staff can clean and disinfect affected areas.

General Principles of Cleaning & Disinfecting

Clean soiled areas

- ◆ Isolate the areas where a vomiting or diarrhea incident occurred (25 feet).
- ◆ Wear disposable gloves, gowns, and masks.¹
- ◆ Absorb and remove as much of the vomit/feces as possible with paper towels or disposable cloths.
- ◆ Clean soiled areas with detergent and hot water *prior to* disinfecting.
- ◆ Dispose of paper towels/cloths in plastic waste bags.

Disinfect soiled areas

- ◆ Use freshly made 1000 ppm chlorine solution² or an effective virucide.³ See manufacturers instructions for appropriate use.
- ◆ Dispose of gloves, gown, mask and cloths in plastic waste bags. Put plastic bags in the regular trash.
- ◆ Wash hands thoroughly using soap and water and dry them just as thoroughly.

Handwashing is the single most important procedure for preventing the spread of infection!

Frequent handwashing with soap and water for at least 20 seconds of vigorous rubbing, thorough rinsing under a stream of clean water, and drying with disposable towels is recommended.

Specific Situations

Cleaning & Disinfecting specific items¹

Always **clean** with detergent and hot water *prior to* disinfecting; **Disinfect** with 1000 ppm chlorine solution² or use an effective virucide.³

- ◆ **Bed linens, bed curtains, & pillows:** Soiled linens should be handled as little as possible and with minimal agitation; launder with detergent at the maximum available cycle length and then machine dry. Recommended drier temperature is 170° F minimum. Disinfect pillows with impermeable covers. Wash twice if gross feces are present. Do not shake.
- ◆ **Carpets:** Use paper towels to soak up excess liquid and dispose of them into a plastic waste bag; clean using a disposable cloth and disinfect. Carpet may be steam cleaned (minimum 170° F) after disinfection. Dry with fan (unit sits over spot-does not blow across). Do not dry or wet vacuum.
- ◆ **Hard surfaces:** Clean and disinfect.
- ◆ **Fixtures and fittings in toilet and public areas:** Clean and disinfect door handles, bath rails, shower chairs, handrails etc.
- ◆ **Common Eating Facilities:** Clean and disinfect chairs, tables, salt and peppershakers, menus (anything that stays on the table); self-service items.
- ◆ **Non-disposable Mop Heads:** Launder in hot wash with bleach.
- ◆ **Horizontal surfaces, furniture and soft furnishings:** Clean and disinfect within 25 feet of the soiled area.

Cleaning & Disinfecting vomit in the kitchen¹

Carefully remove all vomit.

Clean and then disinfect the area using the general principles listed above.

- ◆ **Food preparation area (including vertical surfaces):** Clean area first, then disinfect with a freshly prepared 1000 ppm chlorine solution.² Refer to manufacturer's instructions regarding appropriate contact time.
- ◆ **Food:** destroy any exposed food, food that may have been contaminated and food that was handled by an infected person.
- ◆ **Work restrictions:** furlough anyone with vomiting and/or diarrhea who works in the kitchen until 72 hours after the vomiting stops.
- ◆ **Report** any incident of vomiting to the appropriate staff (see previous page).

¹ With outbreaks of norovirus, it is recommended that persons who clean areas substantially contaminated by feces and/or vomitus wear masks because spattering or aerosols of infectious material might result in disease transmission.

² Prepare 1000 ppm chlorine solution by mixing ½ cup liquid chlorine (bleach) with 1 gallon of water. Make solutions fresh daily, label with date & contents, and store out of reach of residents or children. For questions regarding appropriate use of chlorine solutions or other effective disinfectants, please call Environmental Health Services at 328-2434.

³ Effective virucides are those effective against feline calicivirus (FCV) including: Virkon® (Biosafety USA), Accel® (Virox Technologies), EcoTru, and MiKro BAC 3® (Ecolab).