

Norovirus Toolkit for LTCFs

This toolkit is designed to be used in conjunction with the guidance *Recommendations for the Prevention and Control of Viral Gastroenteritis Outbreaks in California Long-Term Care Facilities* (October 2006), authored by the California Department of Health Services in consultation with the Licensing and Certification Program. This document is available at: <http://www.cdph.ca.gov/pubsforms/Guidelines/Documents/PCofViralGastroenteritisOutbreaks.pdf>.

This toolkit contains supplementary documents authored by the County of San Diego that are intended to help long-term care and other group residence facilities in San Diego County implement the aforementioned guidelines.

1. Best Practices: Control of Viral Gastroenteritis Outbreaks in Group Residence Facilities
2. Norovirus Cleaning and Disinfection
3. Q & A: Norovirus
4. NORO-Clean!
5. Case Log of Residents and Staff with Acute Gastrointestinal Illness

This sample case log may be used in place of the CDPH Appendix I Sample Case Log from the CDPH guidance document referenced above. It may be completed electronically or printed for completion by hand. The log included here is a fillable PDF; however, without Adobe Acrobat Standard (i.e., more than the free Acrobat Reader), the data entered cannot be saved, only printed. A fillable Microsoft Word version that can be saved is available upon request from the Epidemiology Program.

Questions related to these documents may be directed to the Epidemiology Program at 619-692-8499.



BEST PRACTICES: CONTROL OF VIRAL GASTROENTERITIS OUTBREAKS IN GROUP RESIDENCE FACILITIES

Outbreak definition: 2 or more epidemiologically-linked cases of new onset vomiting and/or diarrhea within a 1-2 day period

NOTIFICATION AND CONSULTATION

Review the document, *Recommendations for the Prevention and Control of Viral Gastroenteritis Outbreaks in California Long-Term Care Facilities (CDPH, Oct 2006)*

Keep a line list of ill residents and staff. Use the case log in the toolkit or the one at the back of the guidelines mentioned above.

- List ill staff on separate pages (state work location and job title)

Notify the facility medical director, director of nursing or infection control, supervisors, staff, and residents.

Notify the appropriate California Licensing and Certification district office.

Notify the County of San Diego Epidemiology Program (EPI) and submit the following:

- Line list of ill residents and staff (to be maintained throughout the outbreak)
- Site map with location of ill residents and staff indicated

Notify EPI of any of the following events while the outbreak is ongoing:

- Sudden increase in number of cases over a 24-hour period
- A symptomatic food handler is identified
- A death is potentially linked to the outbreak

BASIC INFECTION CONTROL AND EDUCATION

Educate staff, residents, and visitors about proper hand washing practices. Distribute written materials about proper hand hygiene. ***Proper hand washing using soap and water is the most effective way to reduce norovirus contamination on the hands. Do not rely on alcohol-based hand sanitizers as they appear to be relatively ineffective against norovirus.***

Ensure the facility has adequate supplies of hand washing products (liquid soap) and paper towels, and that these items are replenished in a timely fashion. Hand washing products should be easily accessible for staff and residents.

Post contact precaution signs on ill residents' rooms.

Post signs prominently in affected areas discouraging non-essential visitation.

Educate staff and resident about viral gastroenteritis and norovirus via handouts and/or signs.

Discontinue staff potlucks and parties until at least 4 days (2 incubation periods=96 hrs) after last case onset.

INFECTION CONTROL: ISOLATION AND COHORTING

- **Goal of Isolation:** Limit the spread of organisms from a contaminated area to an uncontaminated area.
- **Method:** Cohorting. Requires modification of resident movement and staff work practices, initiation of contact precautions, and dedication of equipment and supplies for at least 4 days after last case onset. Cohorting modifications apply to an affected area.
- **Affected Area:** May be a group of rooms, a hallway, a ward, a unit, a floor, or a building where symptomatic individuals reside or where symptomatic staff worked and exposed residents or other staff. Affected area may change during the course of the outbreak.

INFECTION CONTROL: RESIDENTS

Keep symptomatic residents in their rooms on contact precautions until symptom-free (no diarrhea/vomiting) for at least 48 hrs.

Minimize movement of residents between affected and unaffected areas and within affected areas. Do **not** move asymptomatic, exposed residents from an affected area to an unaffected area.

(As needed) Keep all residents in affected areas (ill *and* well) in their rooms until all residents are symptom-free at least 48 hrs.

Serve meals to residents in affected areas in their own rooms.

(As needed) Discontinue group meal service facility-wide when more than one area is affected.

Discontinue group social and therapy activities in the affected area, or facility-wide as appropriate, until at least 4 days (2 incubation periods=96 hrs) after last case onset (in residents or staff).

Remove all food items shared among residents, staff, visitors (coffee pots, bowls/bags of candy, cookies, popcorn, etc.).

Discontinue all new admissions and transfer of residents between units and to other facilities until 4 days after last onset.

Dedicate the use of patient care equipment to a single resident within the affected area. If this is not possible, clean and disinfect equipment before use with another resident. Equipment includes, but is not limited to:

- BP Cuffs
- Bedside Commodes
- Stethoscopes
- Wheelchairs
- Thermometers
- Therapy Equipment

Ensure that residents' personal items are not shared and not left in common areas. Label items such as cups and pitchers.

INFECTION CONTROL: ALL STAFF

Inform all staff immediately of the outbreak and their specific role in containing it.

Ensure staff are not responsible for multiple task types; e.g., caregivers should not be involved in food preparation.

Exclusion from Work

Identify symptomatic staff throughout the facility and exclude them from work until they are symptom-free for at least 48 hrs.

Instruct symptomatic staff to notify supervisors of their illness immediately. Update staff illness log.

Assign staff returning to work after illness to affected areas only and ensure that they observe strict hand washing precautions.

Discourage ill and exposed staff from working in patient care or food handling at other facilities.

Dedicated Staffing

Discontinue "floating staff" between affected and non-affected areas.

Maintain work assignments: staff exposed in an affected area should continue to work only within that area.

BEST PRACTICES: CONTROL OF VIRAL GASTROENTERITIS OUTBREAKS IN GROUP RESIDENCE FACILITIES

Exclude non-essential personnel, including volunteers, from rooms of symptomatic residents and affected areas.

Contact Precautions and Personal Protective Equipment (PPE)

Observe contact precautions in rooms of symptomatic residents until symptom-free (no diarrhea or vomiting) a minimum of 48 hrs. Contact precautions should be observed by *all* staff (professional/caregiving, housekeeping, kitchen, administrative).

Wear gloves, gown, shoe covers, and a surgical or procedure mask when in contact with feces or vomitus and the immediate or contaminated environment.

Fully train all staff in the use of contact precautions and PPE.

Ensure that sufficient supplies for contact precautions (disposable gowns, gloves, mask or face shield, shoe covers) are accessible near point of use to facilitate usage requirements. Access to gloves in resident rooms must be unobstructed.

Place used PPE in sealable, preferably biohazard, containers after use and before exiting the area.

INFECTION CONTROL: HOUSEKEEPING AND MATERIALS

Inform housekeeping staff immediately of the outbreak and their specific role in containing it.

Dedicate housekeeping staff to an affected unit and do not rotate them to other units.

If possible, make housekeeping staff with appropriate PPE available 24/7 to respond to ‘clean-up’ calls in a timely manner and to provide more frequent routine sanitation during the outbreak.

Sanitize common and residential areas at least twice daily with a disinfectant effective against norovirus (see *Norovirus Cleaning and Disinfection*). Common and residential areas include cafeterias/dining areas, restrooms, activity rooms, libraries, waiting rooms/lobbies, lounges, computer rooms, staff break rooms, bedrooms. Cleaning and sanitizing of “high touch” surfaces within these areas (examples below) should be increased to at least three times daily:

- Bathroom Surfaces
- Drinking Fountains
- Doorknobs & Handles
- Recreation Equipment
- Light Switch Plates
- Telephones
- Computer Keyboards
- Railings
- Elevator Buttons
- Tables & Chairs
- Wheelchairs & Walkers
- Remote Controls

Wear gloves at all times when cleaning. Gloves should be changed after each task, from area to area.

Clean rooms of asymptomatic residents in affected areas before cleaning rooms of symptomatic residents.

Start by cleaning and disinfecting surfaces with a lower likelihood of norovirus contamination (e.g., countertops) then moving to surfaces likely to be highly contaminated (e.g., bathroom surfaces).

Emergency or Stat Cleaning

Treat as a biohazard any vomiting or fecal accident, especially in a food service area or other common area.

Close or cordon off the area immediately and clean and disinfect according to the instructions in *Norovirus Cleaning and Disinfection*. Full personal protective equipment (PPE) should be used (see above).

Cleaning Supplies and Equipment

Dedicate cleaning equipment and materials to the affected area.

Use disposable cleaning cloths and mop heads whenever possible. Ideally, use one wipe/cloth per one surface.

Launder cleaning supplies according to *Norovirus Cleaning and Disinfection* (when laundry is done onsite).

Sanitize cleaning carts and equipment after use in contaminated areas. Store separately.

Waste Handling and Removal

Provide sealable, preferably biohazard, waste disposal containers in ill residents’ rooms for disposal of contaminated waste.

Empty waste promptly. Use gloves. Do not allow waste bags or containers to come into contact with clothing.

Transport biohazard waste safely; do not contaminate clean areas.

Laundry

Store and launder contaminated and uncontaminated laundry items separately.

Treat as biohazards contaminated linens, clothing, privacy curtains, etc. When laundry is done onsite, staff should observe biohazard precautions when handling, transporting, and laundering. See *Norovirus Cleaning and Disinfection*.

Consider using a laundry service during an outbreak if residents typically share a common laundry area.

INFECTION CONTROL: KITCHEN

Inform food service management and staff of the outbreak and their specific role in containing it.

Clean up vomitus and feces immediately from kitchen and dining areas following instructions in *Norovirus Cleaning and Disinfection*. Full PPE should be worn (see above).

Mandate glove use for all kitchen staff during an outbreak. Wash hands and change gloves between tasks.

Discontinue all self service of food items, including salad bars, drink stations, family-style dining, and any other self-service practices until at least 7 days after last case onset.

When group meal service is continued during an outbreak:

- Stringently clean high touch surfaces in the dining room after each meal service. This is critical.
- Wear gloves, protect clothing, and use disposable cleaning supplies when cleaning kitchen/food service areas.

When meals are served in rooms:

- Serve well residents first (when all residents are served in rooms).
- Clean and disinfect promptly any utensils, serving items, and delivery carts returned from affected areas.

For more information on norovirus or to report individuals with vomiting, diarrhea, or fever associated with food consumption, contact:
 Email: epidemiology.fhd@sdcounty.ca.gov
 Phone: 858-505-6814
 Website: www.sdcdeh.org



NOROVIRUS CLEANING AND DISINFECTION

Norovirus causes a highly contagious gastrointestinal infection. It is easily spread through contact with contaminated surfaces. Any surface can become contaminated if touched by the hands of an infected individual. Surfaces in direct contact with vomit or fecal material from an infected person are of highest concern. Such areas should be treated immediately. Disinfect as a matter of urgency. See below for directions. Surfaces that are frequently touched should be cleaned and sanitized often:

- Bathroom Surfaces
- Kitchen Surfaces
- Doorknobs
- Recreation Equipment
- Light Switch Plates
- Phones
- Computer Keyboards
- Railings
- Toys & Games
- Tables & Chairs
- Wheelchairs & Walkers
- Remote Controls

Disinfectants Effective Against Norovirus

- **Fresh Chlorine Bleach:** Allow 10-20 minutes of contact time, then rinse with water
 - **200ppm** (parts per million): 1 tablespoon in 1 gallon water
Use for stainless steel, food/mouth contact items, toys
 - **1000ppm:** 1/3 cup in 1 gallon water
Use for nonporous surfaces, tile floors, counters, sinks, toilets
 - **5000ppm:** 1-2/3 cups bleach in 1 gallon water
Use for porous surfaces, wooden floors
- **Glutaraldehyde (0.5%):** Mix and apply according to the manufacturer's recommendations
- **Iodine (0.8%):** Mix and apply according to the manufacturer's recommendations
- EPA website for registered products effective against norovirus: <http://www.epa.gov/oppad001/chemregindex.htm>

Disinfectants Not Effective Against Norovirus

- Quaternary, ethanol, and anionic compounds are not effective

Cleaning Spills of Vomit or Feces

- Use personal protective equipment (PPE = gloves, masks, gowns).
- Cordon off area immediately.
- Clean up visible debris using disposable absorbent material (paper towels or other disposable cloths), minimizing aerosolization.
- Discard soiled items carefully in an impervious plastic bag.
- Liberally clean and disinfect area and objects surrounding the contamination with an appropriate effective disinfectant. Use 5000ppm solution of bleach to clean up vomit and feces.
- Take off gloves, gown, and mask, in that order, and discard before exiting contaminated clean-up area.
- Place discarded PPE in an impervious plastic bag.
- Re-glove and transport bag to a secure trash container; do not allow the bag to come into contact with clothing.
- Always wash hands after handling any biohazardous material, trash, or waste.

Specific Cleaning Methods

- **ALWAYS wear gloves and protect clothing**
- **Hard Surfaces**
 - Disinfect with bleach; then rinse with water if in food preparation area.
- **Carpet and Upholstered Furniture**
 - Visible debris should be removed with disposable absorbent materials and discarded in an impervious plastic bag. Handle carefully to minimize aerosols.
 - Carpet should be cleaned by heat inactivation using steam: 158°F for 5 minutes or 212°F for 1 minute (disinfecting with bleach may discolor carpet).
- **Linens, Clothing, and Textiles**
 - Remove visible debris from items before washing.
 - Handle contaminated items with gloves.
 - Keep contaminated items away from uncontaminated items.
 - Wash contaminated items in a pre-wash cycle followed by a regular wash cycle.
 - Use HOT water. Use detergent and bleach. Use oxygenated detergent alone when bleach cannot be used.
 - Dry contaminated items separately from uncontaminated items at a temperature of 170° F or above.
- **Surfaces Corrodible or Damageable by Bleach**
 - Use registered products effective against norovirus
EPA website: <http://www.epa.gov/oppad001/chemregindex.htm>

Proper Handling

- Manage waste safely and dispose to a secure trash container.
- Use chemicals in well-ventilated areas.
- Avoid contact between incompatible chemicals.
- Prevent chemical contact with food during cleaning.
- Handle contaminated material as little as possible and with minimal agitation to reduce aerosols.

Q & A: Norovirus (“Stomach Virus”)

WHAT IS NOROVIRUS?

Norovirus is a virus that causes illness often referred to as “stomach flu” or viral gastroenteritis. Infection with norovirus is NOT related to the influenza or “flu” virus, which causes respiratory illness.



WHAT ARE THE SYMPTOMS?

Vomiting and diarrhea are the most common symptoms. Symptoms may also include nausea, stomach cramps, fever, chills, aches, and fatigue. Children may experience more vomiting than adults.

WHEN DO SYMPTOMS START?

Symptoms typically begin 1 to 2 days after contact with the virus.

HOW LONG DO SYMPTOMS LAST?

Symptoms usually last 1 to 2 days. Symptoms may last longer in the very young, the elderly, and persons with weakened immune systems.

HOW IS NOROVIRUS DIAGNOSED?

A health care provider may diagnose norovirus infection based on your symptoms or by testing your feces. The San Diego County Public Health Laboratory may also test for norovirus during an outbreak.

HOW IS NOROVIRUS TREATED?

There is no specific treatment for norovirus infection. Most people get better on their own within 1-2 days. If you experience diarrhea or vomiting, drink plenty of fluids to prevent dehydration. Preventing dehydration is most important for the very young, the elderly, and persons with weakened immune systems. People with severe dehydration may require hospitalization.

IS NOROVIRUS CONTAGIOUS?

Norovirus is very contagious. It spreads easily from person to person. It takes as few as 10 virus particles to cause illness. Norovirus can live from weeks to months on surfaces.

SHOULD AN INFECTED PERSON STAY HOME?

Yes. People with norovirus should stay home until they no longer experience vomiting or diarrhea. Food handlers, health care workers, and child care workers should not return to work for at least 2 days after their last episode of diarrhea.

HOW LONG IS IT CONTAGIOUS?

People with norovirus infection are especially contagious during the first few days of their illness and for several days after they feel better.

HOW IS NOROVIRUS SPREAD?

Norovirus is found in the vomit and feces of an infected person. Norovirus can be spread through direct contact with an infected person or by eating food prepared by that person. It can also be spread by touching surfaces contaminated with the virus and then touching your mouth.

HOW CAN I AVOID NOROVIRUS?



▪ **Handwashing.** This is the number one way to avoid getting ill with norovirus. Talk to your household about hand washing, and teach children when and how to wash their hands. Wash your hands with liquid soap and warm water, scrub for about 20 seconds, and dry hands with clean towels:

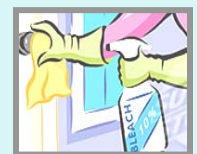
- After using the bathroom or changing diapers
- Before and after preparing, serving, or eating food
- After work, recreation, and visiting public places
- After contact with trash or soiled laundry
- After cleaning tasks
- Before and after visiting a day care, nursing home, hospital, or doctor’s office

▪ **Fast clean up after accidents involving vomit or feces.**

- Protect your clothes and wear gloves
- Use a mask if available
- Remove the vomit or feces carefully
- Use disposable towels and a bleach and water solution
- Disinfect the stain and the area and objects nearby
- Wash your hands with soap and water afterwards
- For complete details, see “NORO-Clean!” document

▪ **Frequent disinfection of frequently touched surfaces.**

Kitchen and bathroom surfaces, remote controls, doorknobs, handles, sports gear, toys, tables, chairs, handrails, strollers, grooming items, phones, computer mouse and keyboards, light switches, car interiors, etc.



WHERE CAN I GET MORE INFORMATION?

More information about norovirus is available at the Centers for Disease Control and Prevention (CDC) website at <http://www.cdc.gov> Search Term: norovirus



NOROVIRUS

WHAT IS IT?

- Norovirus is a viral infection. It is the most common infectious cause of diarrhea and vomiting.
- Norovirus is highly contagious – as few as 10 virus particles can make you sick.
- Norovirus can live on surfaces from 10 days to more than a month.
- Anyone can get norovirus.

HOW IS NOROVIRUS SPREAD?

- Touching surfaces that have the virus on them
- Direct contact with an infected person
- Eating food handled by an infected person

WHAT ARE THE SYMPTOMS?

- Vomiting
- Nausea
- Diarrhea
- Abdominal cramping

NORO-Clean!

How to Clean your House When the People who Live in it Have Norovirus



NOROVIRUS CAN BE FOUND ANYWHERE PEOPLE GATHER AND LIVE THEIR EVERYDAY LIVES.

Because norovirus is so contagious, it is very easy to spread the virus at work, in public places, at school, and at home. It is more easily transmitted in situations where people live closely with each other, such as nursing homes or hotels. Norovirus has also been called “the cruise ship virus.”

HANDWASHING IS THE #1 WAY TO PREVENT THE SPREAD OF NOROVIRUS

- Wash your hands before and after preparing, serving or eating food; providing personal care for others; and personal grooming
- Wash your hands after using the bathroom, changing diapers, cleaning and laundry tasks, handling trash, handling pets or pet waste, recreation and sports, visiting public places, and close personal contact



CLEANING SUPPLIES YOU WILL NEED

- Cleaning products effective against norovirus; household bleach is preferred
 - Make a disinfectant using 1/3 cup household bleach to 1 gallon of water – mix fresh daily
 - Other EPA-approved products for norovirus: <http://www.epa.gov/oppad001/chemregindex.htm>
- Spray bottles and buckets – you can buy or mix the right disinfectant to use in these containers
- Cleaning cloths and mops – disposable ones are best
- Mop bucket (always disinfect after use and before storing)
- Disposable gloves and clothing protection (also use a mask to clean vomit or fecal accidents)
- Plastic trash bags that can be sealed

CLEANING UP ACCIDENTS: SAFE CLEANING – THE RIGHT WAY

1. Clean up vomit or fecal accidents immediately!
2. Wear gloves, protect your clothing, and use the mask – the virus particles can be airborne
3. Open the sealable plastic bag and have it ready for use
4. CAREFULLY remove fecal matter or vomitus with absorbent disposable towels – place in plastic bag
5. Use bleach safely – ventilate, don't mix chemicals, and rinse after 20 minutes in food prep areas
6. Clean (scrub with friction) and disinfect spill areas and surrounding objects and spaces at least once
7. Dispose of cleaning cloths or paper towels used for cleaning in plastic bag
8. When the task is done, remove gloves and discard in plastic bag
9. Remove clothing protection carefully and discard, or wash if not disposable. Wash your hands!
10. Steam-clean soiled carpets and upholstery – use caution with steam

EVERYDAY CLEANING PRIORITY: SURFACES OFTEN TOUCHED BY HANDS

- Clean and disinfect the items below often, especially when household members are ill. Use gloves. Bathroom and kitchen surfaces, handles, doorknobs, light switches, remote controls, phones, toys (rinse after), computer mouse and keyboards, handrails, car interiors, tables and chairs, grooming items, sports equipment, strollers, etc.

LAUNDRY

- While household members are ill, do laundry often
- Store all laundry in closed containers; store and wash contaminated laundry separately
- Hold dirty laundry away from your body when carrying it
- Pre-wash first, then re-wash using a regular cycle
- Use HOT water. Use either oxygenated detergent or regular detergent and bleach
- Dry laundry in a hot dryer until completely dry
- Clean and disinfect the surfaces of laundry appliances after washing contaminated items

Case Log of Residents and Staff with Acute Gastrointestinal Illness

Facility Name:	Facility Type:
Person Completing Form:	Title:
	Phone:

Resident/Staff Information				Location		Signs/Symptoms							Illness Outcomes				Testing & Diagnosis	
Name [Resident/Staff]	Resident or Staff Member (R/S)	Age	Gender (M/F)	Building	Unit/Room #	Date of Symptom Onset	Vomiting	Diarrhea	Bloody Diarrhea	Fever	Highest Temp	Other (specify)	Symptom Duration (Days)	Hospitalized (Y/N)	Days Hospitalized	Died (Y/N) If Yes, Date	MD Diagnosis (if any)	Laboratory Test Results (if any)

This case log may be used in place of the CDPH Appendix 1 Sample Case Log of Residents and Staff with Acute Gastrointestinal Illness. It can be completed electronically or printed out for completion by hand.