

Norovirus Outbreak Control Checklist for Local Health Jurisdictions

The following checklist is intended to help guide local health jurisdictions (LHJs) responding to potential norovirus outbreaks. These steps are recommendations, not requirements, and are subject to LHJ discretion. A [checklist for facility use](#) is also available, should LHJs decide to disseminate the facility checklist to a facility experiencing a potential norovirus outbreak. The LHJ may modify this facility checklist, as needed.

Norovirus Outbreak Interventions:	N/A	Date Completed
1. Determine if norovirus is the cause of gastroenteritis outbreak. See Norovirus Background for a description of norovirus.		
a. Rule out possibility of bacterial infection. If possible, test several stool samples for possible bacterial causes of gastroenteritis, such as Salmonella, <i>E. coli</i> O157:H7, and Shigella, especially if diarrhea is bloody or if diarrhea persists for 2 or more days. ¹	<input type="checkbox"/>	_/_/_
b. Use Kaplan’s criteria <i>if</i> no laboratory diagnostics exist or are delayed. ² Kaplan’s criteria: <ol style="list-style-type: none"> 1. Vomiting in more than half of symptomatic cases, and 2. Mean (or median) incubation period of 24 to 48 hours, and 3. Mean (or median) duration of illness of 12 to 60 hours, and 4. No bacterial pathogen isolated from stool culture Do not delay initiating outbreak control measures when waiting on stool test results.	<input type="checkbox"/>	_/_/_
c. Once the LHJ has determined through the Kaplan criteria that there is a possible norovirus outbreak, the LHJ should coordinate possible testing. <ol style="list-style-type: none"> 1. Document the possible number of cases from whom stool samples could be collected; at least 3 samples from individuals in the acute phase of illness (within 2-3 days of onset)² should be used. 2. Consult with your lab to determine what information is needed about the specimens to be tested, such as patient name and date of birth, specimen collection date, and type of specimen(s) expected. 3. When specimens are collected for diagnostic or outbreak detection testing, they should be individually bagged, sealed, and kept on ice or frozen refrigerant packs at 4 °C (range 2-8 °C) in a waterproof container while being transported to the lab. If testing is to occur within 2-3 weeks, whole stool specimens or vomitus should be kept stored at 4 °C (range 2-8 °C). 	<input type="checkbox"/>	_/_/_
2. Communication. See sample Communication Framework.		
a. Report suspected or confirmed outbreak to the state health department.	<input type="checkbox"/>	_/_/_

<p>b. Advise the facility to take the following actions (also in the facility checklists) to educate staff, visitors, patients/residents, and parents, as applicable to the setting, about the importance of following outbreak control activities:</p> <ul style="list-style-type: none"> • Provide periodic briefings to staff outlining the status of the outbreak and outbreak control activities being implemented.¹ • Provide information about the transmission of viral gastroenteritis and infection control procedures.¹ • Provide clear guidelines on how to report new ill staff, new ill customers, public vomiting/fecal accidents, handwashing sinks that need to be stocked, etc.¹ 	□	_/_/_
<p>c. If the outbreak is in a healthcare or long-term care facility, work with the facility to ensure the following:</p> <ul style="list-style-type: none"> • Facility administration and infection control team are aware of the possible outbreak.³ • Patients/residents, relatives, and visitors are aware of the outbreak, such as through signs at entry/exit and email notifications.³ See sample notification alert. 	□	_/_/_
<p>d. If the outbreak is in a child care facility such as a school or day care, work with the facility to ensure parents and guardians are aware of the outbreak and norovirus control measures, such as by disseminating a child care notification alert and Guidance for Parents.</p>	□	_/_/_
3. Monitor the outbreak.		
<p>a. Determine if the outbreak is foodborne. A foodborne disease outbreak is defined as an incident in which 1) two or more persons experience a similar illness after exposure to the same food source and 2) epidemiologic evidence implicates the food as the likely source of the illness.⁴ One indicator of a foodborne disease outbreak is if all the onset dates are clustered around one point in time that falls within the incubation period for norovirus (12-48 hours)⁵ after a shared food exposure. If the outbreak is foodborne, consult the CDC Foodborne Outbreak website for additional information and resources.</p>	□	_/_/_
<p>b. If the outbreak is in any setting <i>except</i> a food service setting: decide what information on infected individuals is needed to determine the source of the outbreak (e.g., infected individual’s location, date/time of onset, events attended, etc.). Communicate to the facility any appropriate cutoff for them submitting case report line lists, based on facility resources (e.g., requesting line list information daily for the first 100 infected individuals or for all cases over the first 3 days). See case report worksheet for sample form the facility could submit.</p>	□	_/_/_
<p>c. If the outbreak is in a food service setting: decide what information on infected individuals is needed to determine the source of the outbreak (e.g., infection individual’s location, date/time of onset, any meal details, etc.). Instruct the facility to <i>immediately</i> report to the LHJ any incidence of a customer possibly getting ill from the facility, along with any time a food service worker gets sick when there is a potential outbreak at the establishment. See case report worksheet for sample form the facility could submit.</p>	□	_/_/_

d. If seeking collaboration with other public health agencies for outbreak investigation, send the line list of infected individuals to collaborators as needed.	□	_/_/_
4. Identify and eliminate common sources of transmission.		
<p>a. Determine which foods that may have been contaminated need to be removed from service for holding, testing, or discarding, which may include items such as:</p> <ul style="list-style-type: none"> • leftover food from meals implicated in a point-source outbreak (an outbreak where several people who shared the same meal become ill in a short period of time);¹ • open packages and open boxes of food that might be served without thorough cooking; • prepared food and ingredients that may be served without thorough cooking; • condiments that have been out for food worker or customer use including breading, salt, pepper, hot sauce, ketchup, etc.; • condiment bottles that are refilled, if they cannot be thoroughly cleaned and sanitized; • open cases of single service articles including to-go boxes, wax paper, napkins, etc.; • ice and other beverage ingredients. 	□	_/_/_
b. If the outbreak is in any setting except a food service establishment or child care facility: consider advising the facility to discontinue family-style or self-serve buffet meal service and instead designate food service employees to serve visitors/residents until the outbreak is under control. ¹	□	_/_/_
c. If the setting is a food service establishment, consider closing the facility for 24-48 hours to allow for adequate cleaning and sanitizing, removal of contaminated foods, food worker healing, and investigation, after which the facility can open under regular operation.	□	_/_/_
d. If the setting is a child care facility, consider advising the facility to discontinue or modify food service and to have the children bring food from home for the duration of the outbreak.	□	_/_/_
5. Prevent personnel from becoming infected.		

<p>a. Advise the facility to take the following actions (also in the facility checklists) to prevent personnel from becoming infected:</p> <ul style="list-style-type: none"> • Review proper handwashing technique with employees: Use soap and water for at least 20 seconds for hand hygiene after providing care or having contact with patients suspected or confirmed with norovirus.⁶ • Ensure that handwashing stations have soap, paper towels, and hands-free trash bins. • In a healthcare or long-term care facility, provide personal protective equipment (PPE) (gowns, gloves, and masks) to staff.¹ • If the setting is not a food service establishment, provide alcohol-based hand sanitizers with at least 60%-95% ethanol⁷ (not as effective as handwashing). • Educate staff to use sanitizers as an adjunct between handwashing only when hands are not grossly contaminated and when no soap and water are available.¹ • Direct personnel coming into direct contact with ill persons to wear disposable gloves and to remove and properly dispose of them upon completion of the interaction.¹ • Direct personnel to wear gowns when contamination of clothing with fecal material or vomitus is possible.¹ • Direct personnel to wear masks when cleaning areas that are grossly contaminated by feces or vomitus because spattering or aerosols of infectious material may contain infectious virus particles.¹ 	<input type="checkbox"/>	_/_/_
6. Prevent employee transmission of illness.		
<p>a. For facilities that are not food service establishments, advise the facility to take the following actions (also in the facility checklists) to prevent employee transmission of illness:</p> <ul style="list-style-type: none"> • Staff members with symptoms of gastroenteritis should wait at least 48 hours after resolution of symptoms before returning to work.^{1,2} • Exclude non-essential staff, volunteers, etc. from working in areas experiencing norovirus outbreaks.² 	<input type="checkbox"/>	_/_/_
<p>b. For food service establishments, advise the facility to exclude or restrict food employee work per the following regulations and guidance:</p> <ul style="list-style-type: none"> • It is recommended that staff wait at least 48 hours after resolution of symptoms before returning to work.² • The Centers for Disease Control and Prevention (CDC) advise that food employees not prepare food for others while sick and for 2-3 days after recovery.^{6,8} 	<input type="checkbox"/>	_/_/_
<p>c. In long-term or health care settings and cruise ships, establish protocols for staff cohorting in the event of a norovirus outbreak.</p> <p>Staff should care for one patient/resident cohort on their ward and not move between patient cohorts (e.g., cohorts may include symptomatic, asymptomatic exposed, or asymptomatic unexposed patient/resident groups).^{1,2} Staff who have been exposed to or recently recovered from suspected norovirus may best be suited to care for symptomatic patients/residents until the outbreak resolves.</p>	<input type="checkbox"/>	_/_/_

7. Long-term or health care facilities: Prevent visitors from spreading illness to residents/patients.

- a. Advise the facility to take the following actions (also in the facility checklists) to prevent visitors from spreading illness to residents/patients:
- Restrict number of visitors to facilities with potential outbreaks, especially to units with affected patients/residents.¹
 - Ensure that those visiting ill persons wear gowns and wash their hands before and after visiting.¹
 - Caution visitors of ill patients/residents not to visit others until they are sure that they are not sick.¹
 - Restrict persons with recent symptoms of gastroenteritis from visiting the facility.¹

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8. In settings that are not food service establishments, minimize transmission between residents/patients/children/patrons.

- a. Advise the facility to take the following actions (also in the facility checklists) to minimize transmission:
- Restrict new admissions to a facility with an outbreak until the outbreak has ended.¹
 - Consider canceling group activities in a facility with an outbreak, especially activities with possible fomite transmission or where food is shared.^{1,2}
 - Temporarily suspend self-serve snacks in a common bowl for the duration of the outbreak.¹
 - Conduct health assessments for persons with gastroenteritis at their place of residence or in a separate area of the clinic (e.g., separate area of school clinic) to prevent others from getting ill.¹
 - Feed ill individuals in their rooms with disposable cutlery and dinnerware. If convalescing patients resist dining in their rooms, consider cohorting convalescing patients at tables together.¹
 - During a norovirus outbreak, it may be appropriate to exclude children with norovirus from child care facilities for more than 24 hours (e.g., 48 or 72 hours) after resolution of diarrhea, as determined by the LHJ. *See [Guidance for Parents](#).*
 - In health or long-term care facilities (or overnight camps or boarding schools if a person ill with norovirus does not return home): Isolate ill patients/residents from well patients/residents until at least 48 hours after resolution of symptoms.¹ Either use single occupancy rooms or cohort ill patients together separate from asymptomatic patients/residents.^{2,6}
 - In long-term or health care facilities, wait until 48 hours after exposure before transferring exposed, asymptomatic persons to unaffected areas.⁶

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9. Long-term or health care facilities: Prevent transmission to other facilities.

<p>a. Advise the facility to take the following actions (also in the facility checklists) to prevent transmission to other facilities:</p> <ul style="list-style-type: none"> • Suspend transfer of patients/residents from a facility experiencing an outbreak to another ward or facility until patients/residents have been symptom-free for at least 48 hours.^{1,2,6} • Inform staff that they should not report to work at any facility until at least 48 hours after resolution of symptoms.¹ • If a patient/resident must be transferred (either symptomatic or asymptomatic), advise staff of the receiving facility to take appropriate precautions to prevent transmission to others.¹ Use an inter-facility transfer form for the patient. <i>See the sample Inter-Facility Infection Prevention and Safety Form.</i> • Medically suitable individuals recovering from norovirus (asymptomatic for at least 48 hours) can return to their place of residence.² 	<input type="checkbox"/>	__/__/__
10. Environmental disinfection		
<p>a. Advise the facility to take the following actions to handle laundry safely:</p> <ul style="list-style-type: none"> • Individuals who handle soiled linens and clothes should wear disposable gloves and gowns and handle soiled linens and clothes as little as possible, minimizing agitation to prevent microbial contamination of the air.⁸ • Transport laundry in an enclosed and sanitary manner. • Promptly machine-wash soiled linens and clothes with a detergent in water at the maximum length cycle, and machine dry.⁸ 	<input type="checkbox"/>	__/__/__
<p>b. Advise the facility to take the following actions to clean and disinfect:</p> <ul style="list-style-type: none"> • For hard, nonporous environmental surfaces: See the poster “Help Prevent the Spread of Norovirus”. • Clean by removing any visible organic contamination, followed by disinfection with a chlorine bleach solution or antimicrobial disinfectant approved by the Environmental Protection Agency (EPA) as being effective against norovirus for environmental cleaning (see https://www.epa.gov/pesticide-registration/list-g-epas-registered-antimicrobial-products-effective-against-norovirus). This EPA list should be interpreted with caution because the efficacy of these products is tested on the surrogate feline calicivirus, not human norovirus. Therefore, chlorine bleach solutions should be used whenever possible.⁶ Use a concentration of 1,000-5,000ppm (5-25 tablespoons or approximately 1/3 to 1 ½ cups of household bleach [5.25%] per gallon of water) for at least 5 minutes, or according to product directions for norovirus outbreak control if not using household bleach.⁶ Following disinfection, rinse all surfaces intended for food or mouth contact or in child care/school settings with plain water before use. <ul style="list-style-type: none"> ○ Bleach solutions should be freshly prepared for use within 24 hours, or the target concentration should be doubled for storage and used within 30 days.⁶ ○ Particular attention should be paid to high-touch surfaces and areas of likely greatest environmental contamination, including but not limited to: bathrooms including toilets, showers, walls, floors, benches, faucets, etc.; doors; door knobs; hand rails; light switches; elevator buttons; telephones; computer equipment; tableware; flatware; 	<input type="checkbox"/>	__/__/__

reusable food storage containers; tables; chairs and chair backs; counters; shelves; equipment faces; kitchen preparation surfaces; equipment (e.g., microwaves, refrigerators) and ice machine interiors.^{1,2,6}

- Kitchens should be closed, thoroughly cleaned in accordance with the aforementioned norovirus cleaning and disinfection methods, and then re-opened with a cleaning schedule as part of the kitchen operation plan developed with the regulatory authority after the LHI verifies that the cleaning is adequate, the proper foods have been removed, and food workers are well. When the building is norovirus-free, routine cleaning can resume.
- In healthcare settings:
 - Chlorine bleach or EPA-approved products for norovirus should be used to clean on a routine basis (i.e., twice daily ward/unit level cleaning and disinfection of patient/resident care areas, with frequently touched surfaces cleaned and disinfected three times daily).²
 - Cleaning products and disinfectants should be EPA-registered and have label claims for use in health-care settings.⁶
- For carpets and other porous surfaces: use steam cleaning or an EPA approved cleaner. Disinfection with bleach may discolor carpets or fabric.
- Persons cleaning areas heavily contaminated with vomit or feces should wear appropriate protective barriers (e.g., latex gloves – and if splashing is possible, a mask or face shield and garments such as a uniform, jumpsuit, or gown to protect street clothing) and perform disposal in a prompt manner that prevents transfer of this material to other surfaces or persons.⁸

References

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