

Norovirus Outbreak Control Checklist for Local Health Jurisdictions: Schools or Child Care Centers

The following checklist is intended to help guide local health jurisdictions (LHJs) responding to potential norovirus outbreaks in schools and child care centers. 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: 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 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. 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 checklist) to educate staff and parents 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 children, public vomiting/fecal accidents, handwashing sinks that need to be stocked, etc.¹ 	<input type="checkbox"/>	__/__/__
<p>c. 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>	<input type="checkbox"/>	__/__/__
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.³ 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)⁴ after a shared food exposure. If the outbreak is foodborne, consult the CDC Foodborne Outbreak website for additional information and resources.</p>	<input type="checkbox"/>	__/__/__
<p>b. 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>	<input type="checkbox"/>	__/__/__
<p>c. If seeking collaboration with other public health agencies for outbreak investigation, send the line list of infected individuals to collaborators as needed.</p>	<input type="checkbox"/>	__/__/__
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 such items 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 breadings, salt, pepper, hot sauce, ketchup, etc.; • condiment bottles that are refilled, if they cannot be thoroughly cleaned and sanitized; 	<input type="checkbox"/>	__/__/__

<ul style="list-style-type: none"> open cases of single service articles including to-go boxes, wax paper, napkins, etc.; ice and other beverage ingredients. 		
<p>b. 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.</p>	□	_/_/_
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.⁵ Ensure that handwashing stations have soap, paper towels, and hands-free trash bins. Provide alcohol-based hand sanitizers with at least 60%-95% ethanol⁶ (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 	□	_/_/_
6. Prevent employee transmission of illness.		
<p>a. 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 	□	_/_/_
7. Minimize transmission between children.		
<p>a. Advise the facility to take the following actions (also in the facility checklists) to minimize transmission:</p> <ul style="list-style-type: none"> 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. <i>See Guidance for Parents.</i> 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} 	□	_/_/_

<ul style="list-style-type: none"> • 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 • If the setting is an overnight camp or boarding school and a person ill with norovirus does not return home: <ul style="list-style-type: none"> ○ Isolate ill children from well children 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.^{2,5} ○ 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 		
8. 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.⁷ • 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.⁷ 	<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.⁵ Use a concentration of 1,000-5,000 ppm (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.⁵ 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.⁵ ○ 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; reusable food storage containers; tables; chairs and chair backs; counters; shelves; equipment faces; kitchen preparation surfaces; 	<input type="checkbox"/>	_/_/_/_

<p>equipment (e.g., microwaves, refrigerators); and ice machine interiors.^{1,2,5}</p> <ul style="list-style-type: none">○ 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 LHH 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.● 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.⁷		
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References

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