



ENVIRON HEALTH ASSOCIATES, INC.

PROTECTING FOOD, WATER AND AIR

INFORMATION

Norovirus

OUTBREAK CONTROL GUIDELINES

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NOROVIRUS OUTBREAK CONTROL – GUIDELINES

Background

These guidelines should be used in conjunction with the other laws and rules governing sanitation and communicable disease control in the lodging industry and advice from medical or public health advisers. The local circumstances should always be taken into account when deciding on a plan of action.

1 Introduction

Outbreaks of gastroenteritis referred to as stomach flu, winter vomiting disease, small round structured virus (SRSV) infection, Norwalk Like Virus (NLV) infection or norovirus gastroenteritis, are increasingly being reported in guests at hotels and resorts.

2 Clinical Features

The predominant symptom is vomiting but occasional clusters of cases occur where vomiting is infrequent or absent. The vomiting is usually of sudden onset and may be projectile resulting in widespread environmental contamination. Diarrhea tends to be short-lived and less severe than with other causes of gastro-enteritis. Other symptoms include nausea, abdominal cramps, headache, muscle aches, chills and fever. Symptoms generally last between one and three days and recovery is usually rapid thereafter. The severity of the vomiting may be result in dehydration especially in the elderly and very young. The stress caused may also be detrimental to persons with other underlying diseases. All age groups are affected, although rapid spread has been noted in children. It is recognized that norovirus infection results in short-term immunity only.

3 The cause of the illness

The family of viruses known as norovirus causes the illness. This virus and others from similar outbreaks when seen under an electron microscope were small and round. They were termed for many years as small round-structured viruses (SRSVs) but are now officially referred to as norovirus.

4 Where does the virus come from and how is it spread?

The main source of infection in a hotel/resort is an infected guest, member of staff or a visitor. They may be unaware that they are infected becoming ill only when they are in the hotel/resort. The virus has also been associated with contaminated shellfish e.g. raw oysters and similar bivalve mollusks.

- Raw shellfish including oysters are a well-understood hazard and is associated with outbreaks of viral gastro-enteritis. All prawns and shellfish should be purchased from reputable suppliers and should be thoroughly cooked. If in doubt your hotel/resort should not include them on the menu.

- Water contaminated with sewerage has also been implicated in outbreaks. Salad type foods from areas irrigated with wastewater are a potential source of infection.



The virus is primarily spread in hotel/resorts from the vomit of a sick person. When sudden projectile vomiting occurs a fine mist of virus particles is introduced into the air and can readily be spread to others in a wide area. Similar spread can also occur from diarrhea stools although the main risk for this will be in toilet areas. Environmental contamination from both vomit and diarrhea stools can occur with subsequent transfer of the virus onto the hands of guests/residents and staff and then into their mouths – the fecal–oral route of spread.

More importantly, any food item can potentially transmit the virus if handled by an infected or contaminated food-handler, guest or resident, for example by hand contact during self-service from a buffet, (secondary food-borne spread). Cold foods such as salad and sandwiches are usually implicated in this setting and have been a source for several institutional outbreaks of viral gastro-enteritis.

NOROVIRUS OUTBREAK CONTROL – GUIDELINES

Outbreak recognition and action control

What to do.....

1. Outbreak Recognition

The onset of vomiting with some diarrhea in a number of guests/residents and/or staff within 1-3 day period is highly suggestive that the virus is in the hotel/resort and causing infections. Unless the source of the infection is contaminated food the outbreak takes a few days to develop as the infection is spread through the air from person to person and through a contaminated environment. The illness is of short duration and the period between guests/residents being exposed to an infected person and then developing symptoms is about 15–48 hours.

Criteria for suspecting an outbreak is due to norovirus

- 1. Vomiting (often projectile) in more than half the cases**
- 2. Duration of illness 12–60 hours**
- 3. Incubation period of 15–48 hours**
- 4. Guests/resident's and staff affected**

2. Actions to control infection due to norovirus - The action plan

2.1 Sickness Log

Every hotel/resort should maintain a simple sickness log at all times in which all reports of sickness by guests/residents are recorded. Basic data should include name, booking reference,



child/adult, room number, date of arrival, date of onset of illness, symptoms and whether seen by a doctor.

2.2 Staff Health

- The hotel/resort administration should be encouraged to include this advice in their staff health policy.
- Ensure that the staff health policy requires staff feeling unwell with vomiting; nausea and/or diarrhea do not enter the hotel/resort but report in sick. If there is any doubt that they could be suffering from gastro-enteritis they must be excluded from work. This applies to all staff including administrative and maintenance.
- Enquire about similar illness in the families and household contacts of staff.
- Close relatives or household contacts who may have become exposed to the virus should not work in a hotel/resort or food establishment until they have remained well for 72 hours after being contact with a sick person. Contacts working in a hospital or residential home should notify their supervisor before reporting for work.
- Staff sickness reporting logs should be kept recording similar information in the guests/residents sickness log.
- If staff is affected they should not return to work until 72 hours has elapsed since the last symptom. If ill staff lives in the hotel/resort they should remain confined to their quarters until 72 hours after the last symptom.

2.3 Doctors and Nurses Clinics

Guests/residents who have vomiting or diarrhea should not attend a clinic or consulting room, as there is a risk that they may spread the infection to others. The doctor or nurse should be requested to visit sick people in their room.

2.4 Food

- Guests/residents should be reminded of the importance of washing their hands before eating.
- Consider handing out sterile wipes for people to clean their hands as they come to the buffet. (This worked very well in a ship- borne outbreak and helped to stop the spread.)
- Consider serving only hot plated food and temporarily stopping buffet service. If buffet style is still provided finger foods and cold foods should be limited.
- Alternatively staff could be available to serve from the buffet, reducing the risk of hand contact or accidental contact with food. In hotels, if not available adults should serve children. **Adequate utensils to serve food should be provided, of sufficient size and length so not as to fall into the food and changed for clean utensils at least hourly or if considered contaminated.**

If anyone, guests/residents or staff vomits in an area with uncovered food including food display areas there is a risk that uncovered food and surrounding surfaces will have been contaminated by the virus. **The food must be discarded, all surfaces thoroughly cleaned with a disinfectant solution as described in appendix 1.** The area should be aired for at least one hour by opening doors and windows. Normally windows should be kept closed to prevent the entry of flies.



2.5 Toilets

In the event of an outbreak the frequency of cleaning public toilets should be increased to at least every hour during the day and evening. All surfaces in the toilet areas should be cleaned using a bleach disinfectant using disposable cloths.

NOROVIRUS OUTBREAK CONTROL – GUIDELINES

Cleaning

1. General Cleaning

Particular attention should be given to the cleaning of rooms containing ill guests/residents. Particular attention should be given to cleaning objects that are frequently handled such as taps, door handles and toilet or bath rails, telephones, banisters to stairs/passageways and rails to balconies. Think of items or fittings that are touched regularly and make sure that they are **all** cleaned. Cleaning should be with a solution containing an approved disinfectant (See Appendix 1) and using separate disposable cloths for toilet areas.

Hotels

Rooms that have accommodated ill guests/residents should be thoroughly cleaned when the guests/residents depart. Priority should be given to cleaning these rooms so that the rooms remain empty of guests/residents for the greatest possible time. All windows and doors should be opened. Contaminated bed coverings can be made safe by ordinary laundry processing. Mattresses should be thoroughly aired in bright sunlight. Soft furnishings should be placed in bright sunlight for a few hours. All mattresses and soft furnishings have been contaminated by vomit should be removed for steam cleaning.

One report, in which two carpet fitters developed symptoms of gastro-enteritis after removing a contaminated carpet, suggests that the virus remains infectious for at least 12 days and is not removed by vacuum cleaning. Steam cleaning may be used for carpets and soft furnishings, provided they are heat tolerant (some modern carpets are 'bonded' to the underlying floor with heat sensitive materials). However, there is evidence that steam cleaners do not always achieve temperatures of 60°C within carpets. If used they should be operated by trained personnel. Vacuum cleaning carpets and buffing floors during an outbreak have the potential to re-circulate norovirus and are not recommended.

The **recommended disinfectant** is hypochlorite (bleach) solution containing 1000ppm chlorine although hypochlorite is not generally recommended for disinfecting carpets and soft furnishings as prolonged contact is required and many such items are not bleach-resistant. Other less corrosive and environmentally safe compounds should be evaluated. Accelerated potassium peroxymonosulphate (Virkon®) has shown efficacy against feline calicivirus (a related viral strain) and can be used safely on soft furnishings. Soft furnishings and carpets should be cleaned thoroughly with hot soapy water then steam cleaned.

2. Hotel/resort Closure



Responsibility for closing the hotel/resort if the outbreak continues rests with the hotel/resort manager and the local public health authorities. If the outbreak is not giving signs of being under control within two to three weeks the manager should seek professional advice in respect of not placing new guests/residents within the hotel/resort until the manager has satisfied the authorities that the outbreak has ceased and adequate deep cleaning has been undertaken and staff are free from infection.

Guests/residents currently at the hotel/resort at the time of the decision to close must not be transferred to other hotels/resorts, as there is a great risk that they could transfer the virus. Guests should travel home as normal subject to being symptom free, and residents not transferred again until symptom free.

At the same time strict exclusion of any staff or other visitors or workmen to the hotel/resort with symptoms must be excluded for at least 72 hours after symptoms have ceased.

During any closure, an expert cleaning contractor should undertake a deep cleaning of the hotel/resort preferably. Soft furnishings should be steam cleaned.

It must be recognized that there is no guarantee that further cases will not occur when the hotel/resort is reopened. If cases do occur it will be probably because guests/residents or staff has reintroduced the virus, or a reservoir of virus was left on the premises.

NOROVIRUS CONTROL GUIDELINES

Communications

1. Outbreak Notification

In the event of a suspected outbreak the following should be notified

- The local public health authority – Environmental Health at the local public health unit
- The local hospital if a large number of ill guest are expected

Hotels - Guests in residence

Consideration should be given to issuing a letter or posting a notice informing guests in residence of the situation stressing that the condition is common in the U.S. particularly during winter months. Guests who feel unwell should be requested to stay in their rooms and contact the front desk by phone. This will reduce the risk of them vomiting in a public area. Arrangements should be made to provide food to them in their rooms.

Appendix 2 is a letter that has been used. It is an example only and needs to be reworded for every occasion AND the contents cleared with legal departments before issue.

Hotels - Guests not yet arrived

Consideration should be given to advising would be guests of the situation where the illness has not been controlled within two weeks. The incidence may initially drop but if there is a rise again after new guests have arrived this should trigger consideration of notifying new potential



guests. It is recognized that this has many difficulties but legal advice has been that it would be difficult to argue that guests should not be informed of a potential risk to their health.

Caveat

These notes have been prepared using the available knowledge. It should be recognized that while they represent good practice there is no guarantee that their implementation will result in the prevention of or control of an outbreak. There is much that is still to be learnt about the control of norovirus.

A more detailed examination of norovirus and its control is available from Environ Health Associates; they can be reached at 1 (866) 734-5187, or rcosta1@cfl.rr.com.



Appendix

Appendix 1 – Cleaning and disinfection procedures

Appendix 2 - Hotel sample guest letter

Appendix 3 - Guest Information

Appendix 4 – Outbreak Control Summary Sheet



Appendix 1: Cleaning and disinfection procedures

Virkon®

The recommended level of Virkon® is.

- 1:100 dilution
- 1:50 dilution for hard to clean areas

Cleaning Cloths

- Disposable clothes should be used.
- Separate colored cloths should be used in toilet areas.

Guidance on cleaning up vomit and feces.

Individuals, who clean up vomit or feces, in order to minimize the risk of infection to themselves, should use the following precautions.

1. Wear disposable gloves and plastic disposable apron.
2. Wear a mask if available.
3. Use paper towels to soak up excess liquid. Transfer these and any solid matter directly into a plastic waste bag.
4. Clean the soiled area with Virkon® and hot water, using a disposable cloth.
5. Disinfect the contaminated area with freshly made Virkon® at one of the recommended dilutions.
6. Dispose of apron and cloths into a waste bag for incineration.
7. Wash hands thoroughly using soap and water for **at least 1 minute** and then dry them thoroughly.

Treatment of specific materials

- Contaminated linen and bedding should be placed carefully into separate laundry bags. They should be washed in a hot wash. If an outside laundry is used they should be consulted, as the laundry is potentially infectious. If there is extensive soiling of bedding, give consideration to disposing.
- Soft furnishings such as chairs can be placed outside in the sun for a few hours and cleaned and disinfected with Virkon®.
- Mattresses from affected guests/residents rooms that have not been soiled can be thoroughly aired in the sun for a few hours. Soiled mattresses should be removed for steam cleaning.
- Contaminated carpets should be cleaned with Virkon®, then disinfected with Virkon® and steam cleaned.
- Contaminated hard surfaces should be washed with Virkon® and hot water, using a disposable cloth, then disinfected with Virkon®. Cloths should be disposed of as waste. Non-disposable mop heads should be laundered in a hot wash with Virkon®.
- Horizontal surfaces, furniture and soft furnishings in the vicinity of the soiled area should be cleaned with Virkon® and hot water, using a disposable cloth.
- Fixtures and fittings in toilet areas should be cleaned with Virkon® and hot water using a disposable cloth, then disinfected with Virkon®.

Cleaning up vomit in food preparation areas



1. Using the above principles, carefully remove all vomit and clean the entire area.
2. Disinfect the food preparation area (including vertical surfaces) with a freshly prepared Virkon®.
3. Destroy any exposed food, food that may have been contaminated and food that has been handled by an infected person.

Other sources of contamination

Other sources of norovirus include water, so swimming pools, spas and other similar areas must be treated as potential sources of virus. Contact Environ Health Associates at 1(866) 734-5187 or your local Environmental Health section at the health department for advise on decontaminating swimming areas.

Gyms are also a potential source of norovirus and must be evaluated for specific detailed decontamination procedures.

Laundry areas are subject to contamination and need to be evaluated for specific detailed decontamination procedures.

Gambling areas are subject to contamination and must be evaluated for specific decontamination procedures.



Appendix 2: Hotels sample guest letter

Dear Guest,

We hope that you are enjoying your stay at _____. The health and safety of our customers is of paramount importance and we have an on-going system of assessing and monitoring standards to ensure a high level of guest satisfaction.

You may be aware that some guests staying at _____ have reported that they are suffering from stomach upsets. We are writing to advise you that following a thorough investigation the upsets have been attributed to a virus, similar to one that has been prevalent in cruise ships.

While we are confident that we are taking every precaution possible to safeguard the health and well being of our guests, we feel that it is our responsibility to inform you of the situation. You may also be aware that the property is closing between _____ to carry out maintenance work, which at the same time, will assist in reducing the possibility of the virus reoccurring.

We hope that this has not affected the enjoyment of your stay, and if you have any concerns regarding this letter please do not hesitate to contact management.

Yours sincerely,



Appendix 3: Guest Information

Norovirus

What is norovirus?

Norovirus causes sickness (vomiting) that starts very suddenly and often shoots out without control. The sickness usually lasts 6 – 18 hours usually although the affected person may only be sick 2 –3 times. Some diarrhea or loose bowel movements may accompany the sickness.

Can I eat or drink anything?

Yes if you feel like it. Do not attempt to eat normal amounts of food but stick to small portions of light food. You should drink bottled water with some sugar and a pinch of salt. It is best to avoid carbonated drinks and alcoholic drinks.

What medicines can I take to help me?

It is not normally necessary to take a medicine as the illness only lasts a few hours.

What if I do not feel better in two days?

It is advisable to consult a doctor if you are not improving.

Can it spread to my family and friends?

Yes. When you are sick (vomit) large amounts of the virus pass into the air as an invisible mist. The virus particles can pass to others in the room or area.

What can I do to protect others and myself?

- Wash your hands using soap and hot water for at least 1 minute after going to the toilet, being sick, helping someone else who has been sick, changing diapers and always before eating, and dry thoroughly.
- Let the front desk know if you have been sick.

How long will it be before they become ill if they have caught the virus?

It usually takes 1 –2 days for the illness to develop although it can happen within 12 hours or take up to 3 days.

Why has the infection hit this hotel/resort?

There is no particular reason. The infection can occur anywhere – in a hotel, nursing home, a hospital, a residential home, a school and even throughout a town or community.

How did it get into the hotel/resort?

Another guest or someone else in the hotel that was developing the infection but was not yet ill most probably brought the virus into the premises.

Could it be anything I ate?

Occasionally outbreaks have been associated with certain foods and particularly raw shellfish such as oysters.

What should I do if I feel sick?

Return to your room as soon as possible or, if you do not think that you will make it, go outside. This will reduce the risk of spreading the infection to others. Get someone to notify the hotel management.



NOROVIRUS OUTBREAK CONTROL SUMMARY

SUSPECTED OUTBREAK

Vomiting/Diarrhea by a number of guests or staff within 1-3 day period



RECORD

Details in sickness log



INFORM

Environmental Health



ISOLATE

Staff - Exclude until 72 hours after last symptom, visit own GP

Guests – Confine to room, visit by GP



CLEAN

(Appendix 1)

Toilets – every hour during outbreak including touch surfaces using bleach disinfectant and disposable cloths

Food Areas – discard all food on display if vomiting occurs in food area, clean all surfaces with disinfectant solution using disposable cloths, air once an hour by opening doors and windows

Rooms of Ill Guests – Once vacated, open doors and windows, air mattresses and soft furnishings in sunlight, steam clean any contaminated with vomit. Thoroughly clean room and surfaces leave empty for as long as possible.



COMMUNICATE

Residents/Guests – Q/A sheet (Appendix 3)

Future Guests – Letter (Appendix 2)



CLOSURE

If cases persist over 2-3 weeks, consider closure.

Do not transfer residents/guests, travel home once symptom free.

Carry out strict exclusion of staff, visitors or workmen.

Deep clean including soft furnishings, use contract cleaners

Detailed advice is given in the document “Norovirus Outbreak Control Guidelines”. If there is any doubt as to what action to take, contact your Environmental Health Division, or Environ Health Associates at 1-866-734-5187