

Operating instructions for preventing a norovirus epidemic

General

Noroviruses are the most common cause of stomach flu epidemics. A norovirus can easily spread directly from an infected person to other people via water or food contaminated with the virus, contaminated surfaces, or air due to someone vomiting. An infected person may secrete the virus in their faeces from a few hours before the symptoms start. The virus may also be spread by an asymptomatic infected person.

Noroviruses are able to survive in very different environmental conditions. The virus is destroyed in two minutes at a temperature of 90 °C. Without thorough cleaning, a norovirus may remain infectious on surfaces for two weeks.

The site must take immediate action to prevent a stomach flu epidemic even if the cause of the epidemic is unknown. If a food product is suspected as the cause of the symptoms, the product must be removed from use and stored in a freezer for potential samples. Furthermore, when a stomach flu is suspected, the site must start intensified cleaning with a suitable disinfectant. The intensified cleaning routine must be continued until no more infections occur.

The site must report any suspected instances of food poisoning to the City of Helsinki's Food Safety Unit (<https://ilppa.fi/etusivu>, website available in Finnish and Swedish), which will then investigate the potential food poisoning epidemic in cooperation with the City's epidemiological operations unit. Environmental Services will provide instructions and advice on matters such as cleaning and hygiene for sites such as restaurants, accommodation facilities, schools, daycare centres and other social care units.

Incubation period and symptoms of a norovirus infection

The incubation period for the infection is 12–48 hours. The symptoms start suddenly. They include cramping stomach pains and nausea followed by vomiting. Most infected people also experience diarrhoea, which is usually brief and mild. Some may also have fever. The symptoms typically last for 12–72 hours.

It is characteristic of a norovirus epidemic that more than half of those exposed get a brief stomach flu after a short incubation period. Rapid secondary infections from one person to another are typical. Some of the infected experience no symptoms at all. A norovirus infection does not confer a lasting immunity against a new infection. Short-term immunity prevents new infections by the same virus genotype for the next 4–6 months.

Food

Food handled by a kitchen worker who got sick during the workday must be disposed of. If the employee has vomited in the kitchen, all food within the droplet contamination zone must be disposed of. In addition, all food in open containers that will not be heated must also be disposed of.

Imported frozen berries must always be heated thoroughly and remain at 90 degrees Celsius for 5 minutes or boiled for 2 minutes.

In epidemic situations, buffet servings can be replaced with pre-portioned food to reduce infections through serving utensils. In prolonged epidemics, it is advisable to consider replacing cold and hand-sliced dishes fully with cooked dishes.

Household water

When it is suspected that an epidemic has been caused by tap water, the operator must immediately notify the City of Helsinki's Environmental Services (<https://ilppa.fi/etusivu>) and Helsinki Region Environmental Services (HSY). Environmental Services will then provide instructions on using boiled or bottled water. The authorities will sample the tap water.

The use of ice cubes must be stopped in these cases.

People who have fallen ill

Any workers exhibiting symptoms must stay absent from on-site work. People may resume their work in the food industry, health care patient work and work with customers at social welfare institutions once two days have passed since the last instance of diarrhoea or vomiting. Likewise, it is recommended for daycare centre workers to remain absent until then.

People engaging in care work with children or patients exhibiting symptoms must not take part in food distribution at daycare centres and care institutions.

An infected person will secrete the largest amounts of norovirus in their faeces for 72 hours after the start of the symptoms.

Hand hygiene

People participating in the preparation and distribution of food, as well as cleaning and care work, must take care of good hand hygiene.

Careful hand washing with water and soap for 15–30 seconds effectively prevents noroviruses from spreading. Wash your hands with soap before putting on disposable gloves and immediately after taking them off. Disposable gloves must be put on dry hands. Merely disinfecting your hands with an alcohol-based hand sanitiser does not destroy noroviruses effectively enough and is therefore not a substitute for washing your hands with soap. Hand sanitiser is used in addition to hand washing at sites such as accommodation facilities, daycare centres and social care units, where hand contact is common. When using alcohol-based hand sanitisers, safety measures must be taken, e.g. by keeping the sanitisers out of the reach of children. If ingested, they may cause poisoning. Alcohol-based hand sanitisers are also highly flammable.

When having a meal, wash your hands in particular before the meal and after using the toilet. Dry your hands with disposable paper towels or hand towels (e.g. a towel roll). The paper towels and hand towels must be protected from dirt and splashes.

Cleaning of premises and surfaces

The removal of noroviruses from surfaces is affected by factors such as the surface materials, the type and amount of dirt, the amount of noroviruses and the temperature.

Secretion stains

Always start cleaning secretions by removing visible stains. Cover the stain with/absorb it into paper and put the paper in a garbage bag. Remove the secretion from the contaminated area with water and an ordinary cleaning agent, after which the cleaned surface must be disinfected with a disinfectant suitable for the surface material in question, e.g. one containing 1,000–5,000 ppm active chlorite. Allow the disinfectant to take effect for the length of time specified in the instructions provided. Disinfectants are described in the appendix.

Use disposable cloths to clean off vomit and diarrhoea. When cleaning, always wear disposable protective equipment: an apron or protective clothing, gloves, shoe covers and a surgical face mask. Put the protective equipment and disposable cloths in a garbage bag directly after cleaning. Wash your hands with water and soap. Protective equipment must

also be worn when handling contaminated laundry. Textiles with secretion stains must be kept aside and cleaned separately from other laundry.

Serving dishes and trays with secretion stains must be cleaned and disinfected before taking them to the dishwashing area, to prevent the virus from spreading to the kitchen.

Where possible, an area where someone has vomited must be cleared of people until it has been cleaned. The area must also be aired out thoroughly if possible.

The site must have written instructions for workers on cleaning secretion stains, as well as access to appropriate cleaning supplies and protective equipment.

Restaurants and other catering establishments

Surfaces and process equipment in food production facilities with no visible dirt or secretion stains must be first cleaned mechanically with water and a cleaning agent. Potentially contaminated objects and surfaces must be disinfected. Examples of such surfaces include tables, utensils, door handles, drawer handles, knives, cutting boards, switches, taps and the bases of paper towel holders. Use the best-suited disinfectant for each surface (containing hypochlorite, peracetic acid or peroxymonosulphate, for example) in accordance with the instructions provided. Disinfectants are described in the appendix. After the disinfectant's duration of effect, the surfaces should be rinsed with water.

Always clean surfaces from the cleanest to the dirtiest and from top to bottom. Change disposable cloths often so that the virus does not spread via a contaminated cloth.

When cleaning toilet facilities, use different cloths to when cleaning kitchen facilities and other rooms.

Other sites (e.g. daycare centres, social care units and accommodation facilities)

In a room where someone has vomited:

- Wash stained furniture with suitable cleaning agent solution.
- Air out any soft furniture, rugs and mattresses that are not visibly stained.
- Air out the entire room thoroughly.
- It is not recommended to use a vacuum cleaner on contaminated rugs or carpets as it may spread the virus – use disposable cloths when cleaning.
- Use different cloths for toilet and shower facilities to those used for other rooms.

- After general cleaning, bowls and sinks in toilet facilities, all table surfaces and contact surfaces, such as taps, door handles, railings, phones and remote controls used by infected people, must be wiped with disinfectant.
- Handle bedclothes according to the regular practices.

At daycare centres, any toys that children put in their mouth must be cleaned after every use and other toys must be cleaned daily. Where possible, remove from use any toys and other equipment needed in the operations that cannot be washed.

Any aid devices in shared use at social care units must be cleaned at least once a day.

If an epidemic is prolonged in accommodation facilities, contaminated and cleaned rooms must be kept vacant for as long as possible. After regular cleaning, these rooms must be separately cleaned and disinfected one more time, floor by floor or wing by wing. The best time to do a systematic final cleaning is after 48 hours have passed since the last person with symptoms left the building.

In spaces that can be sealed, such as ship cabins and other accommodation rooms, dry hydrogen peroxide steam may also be used for disinfection.

Additional information

City of Helsinki, environmental services

Advice related to food premises (e.g. restaurants and serving points):

kymp.elintarviketurvallisuus@hel.fi

Advice related to other establishments (e.g. daycare centers, social services units and accommodation facilities): kymp.terveydensuojelu@hel.fi

City of Helsinki, Social Services, Health Care and Rescue Services Division

Epidemiological operations (epidemic investigations, no contacts related to patient care):

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References

THL: [Toimenpideohje norovirustartuntojen ehkäisemiseksi](#). Updated 7.12.2023

Finnish Food Authority: [Usein kysyttyä noroviruksesta](#). Updated 6.4.2023

Appendix

Disinfectants that are effective against noroviruses are made by manufacturers such as the following, under the trade names listed below (updated in 2023). The operator must check with the manufacturer to ensure the effectiveness of the disinfectant, the correct concentration at a usable dilution, and the suitability of the disinfectant for the intended purpose and surfaces. User instructions and product safety must be checked with the manufacturer.

- Berner: HETI Desipesu Pro, Heti Jälkidesi Spray
- Diversey: Oxivir Excel Wipe, Oxivir Excel Foam, Oxivir Plus, Oxivir Plus Spray, Suma Tab D4, Suma Alcohol Spray and Suma Alcohol Wipe
- Ecolab: Sator, Shirafan Speed, Mikro-Quat ekstra, Kitchen Pro des special, Drysan Oxywipes, Drysan Oxy
- Kiilto: Kiilto Pluschlor and Desichlor