Public health advice for schools and education settings managing gastroenteritis outbreaks

Tāmaki Makaurau

Te Whatu Ora
Health New Zealand

Auckland Regional Public Health Service | Ratonga Hauora-ā-Iwi o Tāmaki Makaurau
TeWhatuOra.govt.nz | arphs.health.nz | +64 9 623 4600

Kia ora

This resource provides guidance on the management of gastroenteritis illnesses (tummy bugs) in education facilities and institutions, including:

- public schools, including kura kaupapa and language nests
- colleges
- private schools
- boarding schools and
- school camps

Gastroenteritis illnesses cause vomiting and/or diarrhoea (runny poo). Some gastroenteritis illnesses can spread very easily in places where people use shared facilities and spend large amounts of time together, such as education institutions.

This resource should be used alongside Ministry of Education guidance on disease management and cleaning / disinfection processes, as well as existing policies in place at your own institution.

The role of public health in supporting outbreak management

Auckland Regional Public Health Service (ARPHS) is an agency of Te Whatu Ora – Health New Zealand.

We are responsibile for protecting population health within Tāmaki Makaurau. This includes supporting institutions managing infectious disease and illness outbreaks, such as gastroenteritis. We help institutions to identify the source of the illness, and then work with them to implement control measures that prevent others also becoming infected.

If you require assistance and your institution is located outside of the Auckland region please contact your local Public Health Service: https://www.health.govt.nz/new-zealand-health-system/key-health-sector-organisations-and-people/national-public-health-service/public-health-contacts

If you are an Auckland school or education facilitiy managing a diarrhoea or vomiting outbreak you can contact ARPHS for support and guidance:

- P: 09 623 4600
- E: shedinbox@adhb.govt.nz

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Section 1: Types of gastroenteritis

Gastroenteritis illnesses are commonly referred to as tummy bugs or gastro. They cause vomiting and diarrhoea, as well as other symptoms.

Viral gastroenteritis and bacterial/protozoan gastroenteritis are the two main types of gastroenteritis. Viral gastroenteritis can spread more easily from person to person, while bacterial gastroenteritis is more commonly spread through contaminated food and drink.

VIRAL GASTROENTERITIS

How it spreads

There are various types of viral gastroenteritis, but the most common is norovirus. When people are ill with norovirus they pass the virus out of their body through their vomit (sick) and faeces (poo).

If you then eat food, drink water or touch items contaminated with germs from the infected poo or vomit, you can become infected too. You can also get it from breathing in virus particles in the air, which are released when someone with the virus vomits.

Norovirus is very hardy. It can survive for a long time on surfaces and objects touched by someone who has the virus, if they have not properly washed their hands or areas are not disinfected properly.

Symptoms

Symptoms of norovirus include:

- vomiting and diarrhoea (runny poo), which are often very severe
- tummy pain
- fever

A person usually develops symptoms 10 to 50 hours after getting the virus.

Treatment & recovery

There is no specific treatment for the virus. It's recommended people drink lots of fluids and get plenty of rest. Most people are able to self recover at home.

Most people with norovirus illness will recover within one to three days, however they can still pass on the virus to others for several days following this so it is important to be 48 hours free of symptoms before returning to school.

BACTERIAL AND PROTOZOAN GASTROENTERITIS

Common types of bacterial gastroenteritis infections in New Zealand include:

- Campylobacter
- Yersinia
- Listeriosis
- Salmonella
- Shigella
- Some types of Escershia coli (E. Coli)

Protozoan gastroenteritis is similar to bacterial forms and includes for example:

- Giardia
- Cryptosporidium

How they spread

Bacterial gastroenteritis usually occurs when people eat food or drink water contaminated with harmful bacteria. For example raw chicken, or unsafe water in lakes or private roof top water supplies. Protozoan causes of gastro such as giardia are more likely to occur via unsafe water supplies.

People and animals with these types of infections can also pass the bacteria out of their body in their faeces, and can then contaminate food, drink and surfaces or objects. If others then

swallow the bacteria they can become infected too.

Bacterial and protozoan gastroenteritis infections are less commonly spread through close contact.

Symptoms

Symptoms vary, but typically include:

- diarrhoea
- feeling or being sick
- tummy pain
- fever
- headaches

Symptoms may occur anywhere from one day to one month after becoming infected.

Treatment & recovery

Some infections can be treated with antibiotics, but these are not usually required.

Most people are able to self recover at home. Drinking lots of fluids and getting plenty of rest are important to recovery.

Section 2: When you supspect an outbreak

IDENTIFYING AND NOTIFYING AN OUTBREAK

An outbreak is when an increased number of people report similar symptoms, and are linked by time or place.

If two or more people from the same class or group report diarhoea and/or vomiting on the same day you should treat it as a gastroenteritis outbreak, and notify public health so we can provide support and guidance to your institution.

Contact public health if you suspect there is an outbreak at your institution.
Call 09 623 4600.

OUTBREAK RESPONSE CONTROL MEASURES

If you suspect a gastroenteritis outbreak you should implement control measures to prevent further spread of the illness:

- implement heightened cleaning, disinfection and infection control measures
- ensure unwell people are isolated and excluded as necessary and only return 48 hours after symptoms have settled
- encourage everyone to practice good hand hygeine, to minimise the risk of the bug spreading
- adopt other measures as recommended by public health to bring the outbreak under control

These measures should remain in place until at least 48 hours (two days) after:

- people who are unwell with diarhhoea no longer have symptoms, AND
- no new cases have been reported

All staff, including cleaning staff, should be provided with information on heightened cleaning and disinfection procedures, including food hygeine and catering procedures.

SET UP AN ILLNESS LOG

An illness log is a tool to record how many people are unwell and how they may be linked. It helps identify how an outbreak may have started and whether control measures are stamping it out.

If an outbreak is suspected you should set up an illness log. Record each time someone reports being unwell with a gastro illness (usually diarrhoea and or vomiting) , including information on where they are located, when they became unwell and recover, and what actions have been taken.

See Appendix II for a template illness log.

During an outbreak the illness log should be sent to public health daily. This will help us assess the status of an outbreak and identify what actions are required.

TESTING OF PEOPLE WHO ARE UNWELL

Testing is required in an outbreak, to identify:

- what illness people have and whether they are linked
- what the cause of the illness is, and
- whether people are still infectious (able to pass on the illness or disease)

Testing for gastroenteritis happens through testing samples of people's faeces (poo). Testing samples should be collected from ill students and staff as soon as possible following the onset of symptoms.

During an outbreak, the collection of samples for testing is organised by public health or via a person's GP. Testing kits are delivered directly to an unwell person's home if public health are organising the sampling .

Some people, such as those involved in food preparation, can only return to your facility once their testing shows they are no longer infectious.

If the cause of the illness is thought to be a certain type food or drinking water, MPI may be called in to collect samples of this for testing.

Section 3: Managing an outbreak

PUBLIC HEALTH SUPPORT

If an outbreak is suspected public health can support you by:

- Confirming an outbreak is occurring and what illness is causing it
- Identifying the likely cause of the outbreak and how it spread
- Reviewing your outbreak control measures and advising on any further actions required
- Inspecting your site, and assessing hygeine, cleaning and disinfection measures
- Advising on the exclusion of people with symptoms
- Providing communications with health advice to send out to staff, parents and visitors

Sometimes when an outbreak occurs in a public setting, such as a school, it generates media interest. Public health can also manage any media queries on your behalf to let you focus on outbreak management and help maintain confidentiality.

See section X for detailed guidance on cleaning and disinfection measures to put in place during an outbreak.

ISOLATION AND EXCLUSION

Isolating people who are unwell and requiring them to stay away, are key to preventing the spread of gastroenteritis.

The following should be included as part of your institution's sickness and absence policy:

Exclusion

- Staff and parents should infom you if they / their child are unwell with vomiting or diarrhoea, and then stay home.
- If someone on site is unwell with vomiting, diarrhoea, stomach pain or generally appearing unwell they should be isolated and then sent home.
- Sick children should be collected and taken home as soon as possible.

Returning

- People with diarrhoea should stay at home until at least 2 days (48 hours) after the end of their symptoms.
- For certain illnesses they may also need to carry out further testing to confirm they are no longer infectious before they can return. Staff involved in food preparation are also sometimes required to carry out further testing before being given clearance to return..

Keep people with diarrhoea symptoms away until at least 48 hours after their symptoms stop.

COMMUNICATION

During the outbreak it is essential that all staff (including causal staff, contractors and cleaners) and parents are aware of the outbreak and the control measures in place.

Communications to staff and parents should:

- Confirm an outbreak has occurred
- Explain how gastroenteritis spreads, symptoms, and how to prevent it
- Outline what control measures are in place
- Encourage proper hand hygeine
- Explain what to do if staff or children have symptoms
- Explain how long people with symptoms need to stay home

PROTECTING AND MAINTAINING PRIVACY

In an outbreak situation, education facilities are required to provide information to public health so we can help stop the spread of illness.

This may include:

- the names and contact details of students, staff and parents
- information recorded in the illness log

All information collected by public health will be managed in line with our privacy policy. To learn more visit https://www.arphs.nz/your-information

This privacy policy can also be shared with staff and parents.

It's also important private health information regarding people who are unwell is kept confidential and protected where possible.

If staff and pupils become aware of private health information about others they should be reminded to keep it confidential. Sharing information about people's health, especially on social media, can lead to bullying and abuse from others.

Section 4: Hand hygeine, food safety and water safety

This section outlines best practice for hygeine, cleaning and disinfection processes.

HAND HYGEINE

Effective hand washing is the most important way to prevent the spread of infection, and should be practised by all.

It's important to encourage proper handwashing and drying, before and after:

- going to the toilet
- preparing or eating food and having drinks

To wash your hands properly:

- use warm water and soap
- rub hands together vigorously for 20 seconds, ensuring that your whole hands are washed, including the wrists and around the nails
- dry thoroughly using disposable paper towels for 20 seconds

Alcohol wipes and antibacterial gels are far less effective against viruses.

If staff involved in food preparation choose to wear disposable gloves, ensure these are single use only, changed between every task and disposed of safely.

During an outbreak it's important to encourage everyone to wash and dry their hands, and young children may need to be supervised.

Resources to promote handwashing are available from Health Ed: https://healthed.govt.nz/products/wash-and-dry-your-hands

FOOD SAFETY

Gastroenteritis illnesses can be caused by eating food that is contaminated with nasty bugs.

In addition to practising good hand hygeine, it's important to ensure food is handled, prepared, cooked and stored safely.

To help prevent the spread of foodborne illness you should:

- Educate all staff and pupils on food hygiene and good hand hygeine.
- Require all staff to undergo a Basic Food Hygiene course.
- Only source catered food from registered food premises.

Keeping food at the right temperature

- Keep food hot (over 60°C) or keep food cold (5°C or less).
- If food has not been stored under 5°C or over 60°C, follow the 4 hour/2 hour rule.
- If reheating, it is recommended that food should be reheated to 70°C for 2 minutes. (the best way of checking food temperatures is with a probe thermometer.)
- Only reheat food once.
- Use a non-mercury thermometer to check the fridge temperature is 5°C or less.
- When food has not been stored under 5°C or over 60°C, the 4 hour / 2 hour rule should be followed.

The '4 hour / 2 hour rule'

If ready-to-eat food has been at temperatures between 5°C and 60°C for a total of:

- less than 2 hours: it must be it must be refrigerated or used immediately.
- between 2 and 4 hours: it must be used immediately.
- 4 hours or longer: it must be thrown

Further information on food safety for schools and kura is available from the Ministry of Education: https://www.education.govt.nz/school/health-

safety-and-wellbeing/legislative-overview/food-safety-for-schools-and-kura-food-act-requirements/

Support following a food-borne illness outbreak

New Zealand Food Safety (Ministry for Primary Industries) are responsible for providing advice to registered food premise settings (involving food for sale) that have a food-borne illness outbreak.

If you do not have food for sale then public health will undertake this role.

WATER SAFETY

Gastroenteritis illnesses can also be caused by drinking water that is contaminated with bacteria, viruses or parasites.

Most schools in the Auckland region access their water from Watercare, and are on a 'reticulated' or 'town water supply'. Watercare are responsible for ensuring this water is safe to drink and use.

However, some schools are 'self-supplying', which means they get their water from private water sources (such as roof water or bores). These schools are required to register with Taumata Arowai, the drinking water regulator.

If your school is a registered drinking water supplier, you have new responsibilities under the Water Services Act 2021.

Further information on water safety requirements for self-supplying schools is available from the Ministry of Education: https://www.education.govt.nz/school/property-and-transport/school-facilities/energy-water-and-waste-management/drinking-water-quality/self-supplying-schools

Section 5: Cleaning and disinfection

This section provideds recommended cleaning and infection control measures to be implemented during a gastroenteritis outbreak.

Cleaning and disinfection

Only use chlorine based sanitisers (bleach solutions) for disinfection during outbreaks.

While non-bleach disinfectants are effective against some bacteria, they do not destroy viruses such as norovirus.

Bleach based products include 'Janola' for surfaces and objects, and 'Harpic Plus Bleach Liquid Toilet Cleaner' and 'Janola Bleach Powder Toilet Gel' for toilets.

These are very effective, widely available and relatively cheap. They are commonly used in homes, ECEs, hospitals, swimming pools and in drinking water supplies.

BLEACH SOLUTIONS

Household bleaches are sold in different strengths, usually 2 - 5% hypochlorite. The strength is normally written on the label.

The bleach then needs to be diluted with water to create a bleach 'solution'. Different strength solutions are required for different areas. Instructions on doing this safely are below.

The recommended concentration of bleach for disinfection is generally 1,000ppm (0.1%). Objects used in food preparation (e.g. utensils) should be sanitised using a weaker solution.

Creating a 1,000ppm (0.1%) bleach solution

Original strength of bleach	Bleach volume (mls)	Water volume (mls)	Total volume (mls)	Parts per million (ppm)
1%	1000	9000	10,000	**10,000**
2%	500	9500	10,000	**10,000**
3%	333	9677	10,000	**10,000**
4%	250	9750	10,000	**10,000**
5%	200	9800	10,000	**10,000**

Safety tips

- ☐ Never mix disinfectant chemicals, as it can produce harmful toxic gases.
- ☐ Bleach can irritate the nose, lungs and skin, and some people are particularly sensitive. It can help to wear a face mask and long sleeved clothing.
- ☐ Wear gloves, especially if handling undiluted bleach.

Storage tips

- ☐ Make up a fresh solution of the bleach each day and discard it if not used within 24 hours. Bleach solutions lose strength over time and may not be powerful enough to destroy germs if kept for more than one day.
- ☐ If you need to store a bleach solution keep it in a cool dark place to maintain strength.
- ☐ Store disinfectants and diluted disinfectants safely away from children and label them properly.

USING BLEACH SOLUTIONS

To use bleach effectively:

- ☐ **Clean**: wipe away muck and dirt and clean the area to be disinfected.

- ☐ **Dilute**: mix the bleach with water to make a 1,000ppm (0.1%) strength bleach solution.
- ☐ **Saturate**: the area that needs to be disinfected with the hypochlorite solution.
- ☐ **Wait**: leave the solution on the area for as long as possible, preferably 30 minutes.
- ☐ **Wash off**: wash away the solution using lots amounts of water. This prevents pupils and staff being exposed to bleach solution. If outside, use a hose.

CLEANING AND DISINFECTION GUIDANCE

All areas

- ☐ Cleaning and disinfection should take place at least twice a day until the outbreak is over.
- ☐ All cafeteria / tuck shop areas should be cleaned and disinfected at the outset of any outbreak being identified.
- ☐ A final clean-up and disinfection of all areas should be completed at the end of every outbreak. This will be once no new people have reported symptoms for at least 48 hours.

Food preparation areas and objects

These steps should always be followed to ensure that the cleaning of food areas is effective:

- ☐ Clean all work surfaces, benches, shelving, doors, door and cupboard handles, storage areas, sinks, floors and any other areas possibly contaminated.
- ☐ Wash with hot water and detergent, then saturate with a bleach solution of 1,000ppm for disinfection. Leave the disinfectant on surfaces for at least 30 minutes, then rinse with cold water.
- ☐ Sanitise all objects used for food prep, cooking and eating (such as utensils, equipment, crockery and cutlery). Wash with hot water and detergent, sanitise and then rinse with clean cold water. Sanitising can be carried out by one of the following methods:
    - immersing in hot water at a minimum of 82°C for two minutes (this can be done in a dishwasher as long as the rinse cycle reaches this temperature)
    - washing by hand then immersing in bleach solution of 100ppm for at least three minutes, using water from a hot water tap (at 50°C)
    - for equipment that cannot be completely immersed, disinfect using bleach solution of 100ppm and leave for 10 minutes before wiping off

Toilets and bathrooms

- ☐ Clean all areas in the toilet/bathroom, including toilet bowls, wash-hand basins, tap handles, doors, door handles, toilet flush buttons/handles, floors and any other areas that may have been contaminated.
- ☐ Clean and then wash using hot water and detergent, then saturate with a bleach solution of 1,000ppm for disinfection. Leave the disinfectant on surfaces for at least 30 minutes, then rinse with cold water.

Other areas

- ☐ Clean and then wash using hot water and detergent, then saturate with a bleach solution of 1,000ppm for disinfection. Leave the disinfectant on surfaces for at least 30 minutes, then rinse with cold water.

Cleaning faeces and vomit

When a faecal accident has occurred:

- ☐ Ensure all surrounding surfaces are cleaned using hot water and detergent, then saturate with a bleach solution of 1,000ppm for disinfection. Leave the disinfectant on surfaces for at least 30 minutes, then rinse with cold water.

Where vomiting has occurred:

- ☐ Ensure all surrounding surfaces are cleaned using hot water and detergent, then saturate with a bleach solution of 1,000ppm for disinfection. Leave the disinfectant on surfaces for at least 30 minutes, then rinse with cold water.

- ☐ Keep people away from rooms where someone has vomited, until at least one hour afterwards. This is because norovirus germs can be breathed in after someone has been sick.

- ☐ Any uncovered food in the same area as someone who vomited must be thrown away.

When cleaning vomit or faeces:

- ☐ Use disposable brushes, mops and cloths and discard after use.

- ☐ Clean all surface soiling thoroughly with hot water and detergent, then use a vapour steam cleaner that boils the water until it turns to steam.

- ☐ All carpets contaminated by vomit or faeces should be steam cleaned as high temperature and moisture are required to kill viruses.

Appendix I: Outbreak management checklist

Download checklist template (word doc) >

Name of facility or school	
Outbreak number	
Any prior outbreaks not reported	
Date reported to public health	
Contact details	

Actions taken			
Task	**Yes**	**No**	**Comments**
Illness log started			
Communication sent to staff & parents			
Public health notified of outbreak			
Unwell children isolated until parents collected them			
Unwell staff and pupils excluded until symptom free for at least 48 hours			
Sufficient resources for hand washing and hand drying (e.g. soap, paper towels)			
Cleaning and disinfection commenced			
1,000ppm (0.1 % hypochlorite) bleach solution prepared			
Appropriate signage displayed to staff and visitors			
Reminders sent to staff and pupils on hand hygiene and posters put up			
Suitable PPE available and worn during cleaning and disinfection			

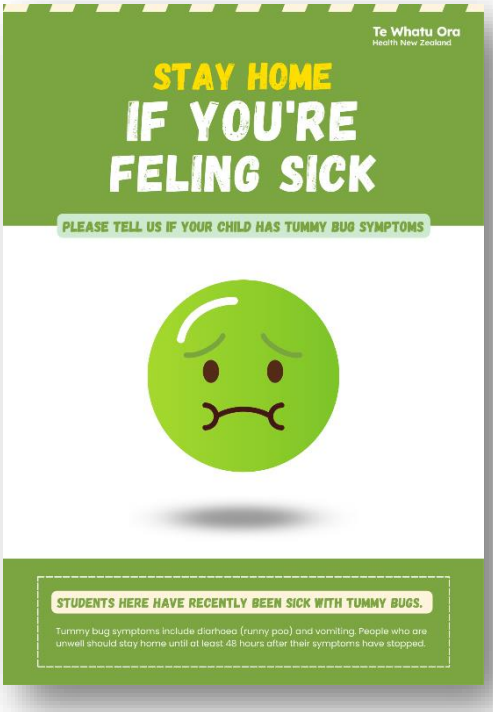
Appendix II: Illness log

Download illness log template (word doc) >

Name (student or staff)	Parents contact details	Date of Birth	Sex	Room number / work area	Illness start date	Symptoms (diarrhea, vomiting, stomach pain, feeling sick, fever, headache)	Date illness stopped	Date absentee from school	Date returned to school	GP visit?

Appendix III: Stop signs for parents and visitors

Download posters >



Appendix IV: External resources and guidance

Health Ed

- Infectious diseases summary card (PDF): https://healthed.govt.nz/products/infectious-diseases-1
- Wash and dry your hands poster (PDF): https://healthed.govt.nz/products/wash-and-dry-your-hands