

Outbreak Management Supplementary Resource

Residential Care Facilities



The Ministry of Health have published guidelines on the management of norovirus outbreaks, which should be used as a reference document in controlling any suspected gastroenteritis outbreak. The *Guidelines for the Management of Norovirus Outbreaks in Hospitals and Elderly Care Institutions* (Ministry of Health, 2009) can be downloaded from the Ministry of Health's website <http://www.health.govt.nz/publication/guidelines-management-norovirus-outbreaks-hospitals-and-elderly-care-institutions-0>

This is a resource of supplementary information to assist residential care facilities in the event of a gastroenteritis outbreak. This information is not designed to supersede any legislation or guidelines but to assist in the implementation of them at a local level.

The information in this document reflects the current state of infection control and communicable disease transmission knowledge, and while every effort has been made to ensure its accuracy, users should be aware that it could be altered in the future to reflect changes in knowledge concerning transmission of disease. Neither the Southern District Health Board, nor any person involved in the preparation of these Guidelines accepts any liability in respect to the contents of these Guidelines nor any consequences arising from their use or representations made in relation to them. The mention of specific companies or products does not imply that they are endorsed or recommended over others of a similar nature that are not mentioned.

The following are acknowledged as sources of ideas, diagrams, and formatting for this resource:

Gastro-Info: Outbreak Coordinator's Handbook. Department of Health and Ageing, Australian Government, **2014**.

Guidelines for the management of gastroenteritis outbreaks in residential care facilities. Communicable Disease Control Directorate, Western Australia, Department of Health, **2008**.

Capital & Coast District Health Board. *Donning and Removing Personal Protective Equipment Poster*. Available on <http://www.docstoc.com/docs/>.

World Health Organisation. *WHO Guidelines on Hand Hygiene in Health Care*. **2009**, p 123 & 156. Available on <http://www.who.int/gpsc/5may/background/5moments/en/>.

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Introduction

The control measures in this resource are based on the management of Norovirus as it is the most common cause of outbreaks in New Zealand. While Norovirus is not the only possible cause of an outbreak it is one of the most difficult to contain.

The methods used to control Norovirus are applicable to all outbreaks of gastroenteritis regardless of causative agent, particularly in the early stages when the exact cause is not known.

The *Guidelines for the Management of Norovirus Outbreaks in Hospitals and Elderly Care Institutions* (Ministry of Health, 2009) is New Zealand's primary reference document for managing outbreaks in residential care facilities. It is updated regularly and can be downloaded from the Ministry of Health's website. <http://www.health.govt.nz/publication/guidelines-management-norovirus-outbreaks-hospitals-and-elderly-care-institutions-0>

This supplementary resource has been developed from international and national resources to provide more detailed and locally appropriate information.

Public Health South

The Public Health Service is a service entity of the Southern District Health Board which serves a population of 304,000 people living south of the Waitaki River. It is one of twelve Public Health Units in New Zealand.

Public health services are provided to populations rather than individuals and are considered a "public good". Services fall into two broad categories - health protection and health promotion and aim to create or advocate for healthy social, physical and cultural environments. The goal of Public Health Services is to prevent disease, minimise health risks and maximise health for the population of the Southern district.

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Recognising & Managing an Outbreak

The key steps to managing an outbreak are:



Outbreak Management Checklist

Notify

- ☐ • notify the suspected outbreak to Public Health South as soon as possible
- arrange to have specimens collected and tested

Communicate

- ☐ • inform staff, residents & visitors of the outbreak (e.g. put up warning notices, contact resident's families)
- provide information on gastroenteritis (e.g. pamphlet, fact sheet)
- inform relevant services if moving patients (e.g. medical centre, hospital, funeral services)
- prepare to respond to media

Isolate & Exclude

- ☐ • exclude sick staff until free of symptoms for **at least 48 hours**
- isolate sick residents until free of symptoms for **at least 48 hours**
 - if possible, move sick residents to individual rooms or cohort sick residents together
 - put notices on doors of sick residents

Restrict Movement

Restricting the movement of people in and around the facility reduces the opportunities for the infection to spread.

- ☐ • discourage visitors particularly if they are young, old, pregnant or immunocompromised. If visitors cannot be discouraged request that they wear protective equipment, wash hands before and after visiting, and enter through the closest door to avoid unnecessary movement through the facility
- suspend group activities or outings
- dedicate/cohort staff to caring for sick residents or cleaning contaminated areas to minimise the number of people exposed to infection
- **do not** allocate kitchen staff to cleaning or caring for infected residents

Clean

- ☐ • increase frequency and standard of cleaning
- use sodium hypochlorite or approved disinfectant according to directions
- instruct staff on precautions when handling waste or soiled linen

Hygiene

- ☐ • provide hand hygiene supplies (e.g. soap, paper towels, alcohol hand rub)
- emphasise the importance of meticulous and frequent hand hygiene for staff, residents & visitors

Protect

- ☐ • provide an accessible supply of Personal Protective Equipment (PPE) including masks, gloves, and aprons
- clean up incidents using Personal Protective Equipment (PPE)
- ensure staff are familiar with how to use protective and cleaning equipment

Document

- ☐ • keep a case log
- record reasons for staff sickness

Notification

If you suspect there is an outbreak notify a Health Protection Officer at Public Health South.

The Health Protection Officer's role is to support you through the outbreak and to investigate, analyse, and report on the outbreak to the Ministry of Health for the purpose of national surveillance.

The information that you will be asked for when notifying includes:

- Name and details of contact person
- Number of residents sick and total number of residents
- Number of staff sick and total number of staff
- Symptoms
- Date of index case
- Details of specimens taken
- Infection control measures put in place

Case Logs

The completion of case logs is crucial to monitoring an outbreak and to our national surveillance.

The information can be analysed to determine the source of the outbreak, the mode of transmission, and if control measures are effective.

The information collected in the case log includes:

- Name
- Age
- Sex
- Date and time of onset
- Date and time of recovery
- Symptoms

Complete as much of the log as you can at the time. The log can be updated as information becomes available and should be reviewed at the end of the outbreak to make sure it is complete and correct.

In a large outbreak it can be easier to use separate sheets for each wing or unit. If recording cases on the same log, please note which unit the resident or staff member lives or works in.

It is important to note the reason for staff sickness during an outbreak. When a staff member calls in sick it is valuable to determine if it is connected to the outbreak.

An example of a case log is in the Appendix and is available in Word and Excel format on request.

Specimen Collection

It can be difficult to determine the cause of gastroenteritis, particularly if residents are prone to gastrointestinal symptoms or are on medications that might cloud the clinical picture. Determining the exact cause of gastroenteritis requires laboratory testing.

It is best to collect specimens as soon as an outbreak is suspected, but it is still possible to detect the bacteria and viruses that cause gastroenteritis once symptoms have finished.

If possible, collect 3 to 5 specimens from a range of people (e.g. some from staff and some from patients, some from each affected wing/unit). It is not necessary to collect a specimen for each and every case. The laboratory will not continue testing specimens once the causative organism is established. A single specimen is all that is needed from each individual identified for specimen collection.

The specimen needs to be 10 to 15 grams (roughly the size of a walnut).

The specimens are initially sent to Southern Community Laboratories to be screened for bacteria and protozoa. If the initial tests are negative, the specimens can be sent on to the Norovirus Laboratory in Wellington for viral testing. In order to be tested for Norovirus, the specimens must have the outbreak number on the pottle. And it should be noted on the Southern Community Laboratories request form that the specimen is intended to be sent on for Norovirus testing.

If you have already sent specimens to Southern Community Laboratories prior to notification that do not have the outbreak number, please inform the Health Protection Officer so that they can contact the lab and arrange for these samples to be sent for further testing.

If the clinical picture strongly suggests *Clostridium difficile* as a possible cause you can request that specimens are tested for it. If you think it is necessary to include this test please discuss this with the Health Protection Officer as it is not included in the general screen due to the significant cost.

It is important to talk to your local Health Protection Officer regarding specimen collection because they will provide you with an outbreak number. The outbreak number is required for Norovirus testing.

Common Causes

The most common causes of gastroenteritis outbreaks in rest homes and hospitals in New Zealand are Norovirus, Salmonella, and *Clostridium difficile*.

If seeking more information on a specific disease see the Ministry of Health's *Communicable Disease Control Manual* (<http://www.health.govt.nz/publication/communicable-disease-control-manual-2012>).

Norovirus

Noroviruses are a group of viruses that cause gastroenteritis in people.

Symptoms

- diarrhoea
- abdominal pain
- headache
- nausea
- myalgia
- vomiting
- tiredness

Incubation

10 to 50 hours (usually 24 to 48 hours).

Duration

The infection is usually brief (12 to 60 hours) in healthy individuals, but can be severe in young children, the elderly and immunocompromised people. As it is a virus, it cannot be treated using antibiotics.

Transmission

The virus is excreted in the faeces and vomit. It is highly contagious and can spread rapidly in closed settings such as healthcare facilities through:

- direct contact with infected person
- consuming contaminated food or drink
- touching a contaminated surface or object and then ingesting the virus off the hands

Prevention

If Norovirus is suspected, it is important to remain vigilant for a number of reasons:

- it is highly infectious
- it is possible for an infected person to be contagious prior to the onset of symptoms
- an infected person remains contagious for at least 2 weeks once symptoms resolve
- it is relatively common for cases to be completely asymptomatic

It is for these reasons it is so important to remain cautious at all times during and for at least a couple of weeks following an outbreak, as it isn't always easy to tell if an individual is contagious or not.

It is also possible for the infection to be reintroduced to a facility if thorough terminal cleaning is not carried out to remove the virus from the environment, as the virus survives for some time on surfaces.

Salmonella

Salmonellosis is an infection of the bowel or blood caused by the *Salmonella* bacteria.

Symptoms

- diarrhoea
- abdominal pain
- nausea
- fever
- vomiting

Incubation & Duration

6 to 72 hours (usually 12 to 36 hours). The symptoms usually last 4 to 7 days and most people don't require treatment. In some cases, the diarrhoea can be so severe the patient needs to be hospitalised.

Transmission

The bacteria live in the intestinal tracts of humans and animals and are spread by:

- consuming contaminated food or drink
- direct contact with infected person or animal

The bacteria are killed if food is cooked properly, but food can be contaminated when it is already cooked if not handled or stored correctly.

Prevention

It is particularly important that kitchen staff do not come to work if they develop symptoms.

Clostridium difficile

Clostridium difficile is a bacteria. It is found in the environment and can be a normal member of the gut bacteria. It is more likely to cause disease if the natural balance of the gut is disrupted.

Symptoms

- diarrhoea
- fever
- nausea
- loss of appetite
- abdominal pain

Incubation & Duration

The incubation and duration are highly variable.

Transmission

The bacteria and spores are shed in the faeces. The spores can survive outside the human body for a long time and can be spread by contact with contaminated surfaces, objects, and people (on the hands).

The risk for disease increases in patients with:

- antibiotic exposure
- proton pump inhibitors
- gastrointestinal surgery
- advanced age
- underlying conditions
- immunocompromising conditions
- long stays in healthcare settings

Prevention

It is important to focus on hand hygiene. The spores are resistant to alcohol hand sanitisers. The best way to reduce the risk of transmission is to wear gloves and to washing hands with soap and hot water.

Outbreak Kit

It may be useful to put together a kit for responding to outbreaks or incidents of vomiting or diarrhoea. It reduces the time it takes to respond to an outbreak or incident by bringing everything you need together so you can simply “grab and go”.

An outbreak kit could include:

 <p>Gloves</p>  <p>Mask</p>  <p>Gown</p>	 <p>Hazard Tape</p>  <p>Warning Signs</p>  <p>Cones</p>	 <p>Policies & Procedures</p>
 <p>Bucket</p>  <p>Cloths</p>  <p>Mop</p>  <p>Detergents & Disinfectants</p>		

A reminder regarding masks:

It is important to wear a mask, particularly if the person is actively vomiting or there is a risk of aerosolised droplets. The mask must be a P2 or N95 particulate respirator approved by the National Institute for Occupational Safety and Health (NIOSH) in order to protect against Norovirus.



Appendices

Personal Protective Equipment Poster 12

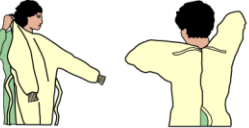


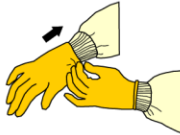
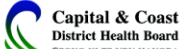




Hand Hygiene Posters 13

Visitor Warning Posters 14

Outbreak Case Log 17

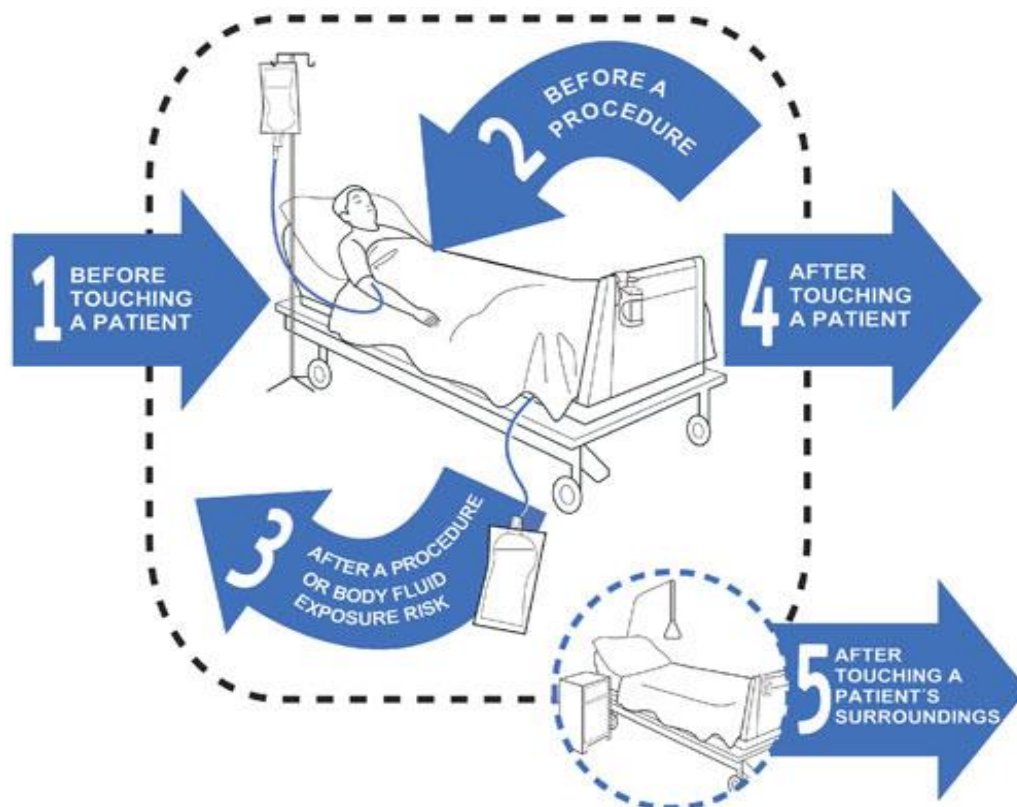
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Personal Protective Equipment Posters

CORRECT SEQUENCE FOR DONNING PERSONAL PROTECTIVE EQUIPMENT (PPE)	CORRECT SEQUENCE FOR REMOVING PERSONAL PROTECTIVE EQUIPMENT (PPE)
<p>The type of PPE used will vary based on the level of precautions required; e.g., Standard and Contact, Droplet or Airborne Infection Isolation.</p> <p>Remove hand jewellery and tie back hair.</p> <p>Clean and dry hands thoroughly.</p> <ol style="list-style-type: none"> GOWN / APRON Fully cover torso from neck to knees, arms to end of wrists, and wrap around the back Fasten in back of neck and waist  MASK OR RESPIRATOR Secure ties or elastic bands at middle of head and neck Fit flexible band to nose bridge Fit snug to face and below chin Fit-check respirator  GOGGLES OR FACE SHIELD If you wear glasses put them on. Place goggles or face shield over face and eyes and adjust to fit  GLOVES Extend to cover wrist  <p>  Capital & Coast District Health Board <small>ŌPŌKO KI TE URU HAUORA</small> Infection control January 2005. Developed using CDC Guidelines 2005 </p>	<ol style="list-style-type: none"> GLOVES Outside of gloves are contaminated—DO NOT TOUCH! Grasp outside of glove with opposite gloved hand; peel off Hold removed glove in gloved hand Slide fingers of ungloved hand under remaining glove at wrist Peel glove off over first glove Discard gloves in waste container Clean and dry your hands thoroughly  GOGGLES OR FACE SHIELD Outside of goggles or face shield are contaminated—DO NOT TOUCH! To remove, handle by head band or ear pieces Place in designated receptacle for reprocessing or in waste container Clean and dry your hands thoroughly  GOWN / APRON Gown front and sleeves are contaminated—DO NOT TOUCH! Unfasten ties Pull away from neck and shoulders, touching inside of gown only Turn gown inside out Fold or roll into a bundle and discard Clean and dry your hands thoroughly  MASK OR RESPIRATOR Front of mask/respirator is contaminated—DO NOT TOUCH! Grasp bottom, then top ties or elastics and remove Discard in waste container Clean and dry your hands thoroughly 

[http://www.docstoc.com/docs/46347682/CORRECT-SEQUENCE-FOR-PERSONAL-PROTECTIVE-EQUIPMENT-\(PPE\)](http://www.docstoc.com/docs/46347682/CORRECT-SEQUENCE-FOR-PERSONAL-PROTECTIVE-EQUIPMENT-(PPE))

Hand Hygiene Posters



<http://www.who.int/gpsc/5may/background/5moments/en/index.html>. World Health Organisation.



http://whqlibdoc.who.int/publications/2009/9789241597906_eng.pdf?ua=1. World Health Organisation.



ATTENTION VISITORS

**We are experiencing an outbreak of gastroenteritis.
It is advised you reconsider visiting at this time.**

**The symptoms of gastroenteritis include vomiting and
diarrhoea. It is highly infectious.**

**If you can't delay your visit, please speak to a member
of staff and they'll tell you how to protect yourself.**

**Remember to wash and dry your hands before
leaving.**



ATTENTION VISITORS

**We are experiencing an outbreak of gastroenteritis.
It is advised you reconsider visiting at this time.**

The symptoms of gastroenteritis include nausea, vomiting, diarrhoea, abdominal pain and fever. It is highly infectious.

If you can't delay your visit, please speak to a member of staff so they can tell you what to do to protect yourself and our residents.

Remember to wash and dry your hands before leaving.



ATTENTION VISITORS

**We are experiencing an outbreak of gastroenteritis.
It is advised you reconsider visiting at this time.**

The symptoms of gastroenteritis include nausea, vomiting, diarrhoea, abdominal pain and fever. It is highly infectious and can be caused by a number of different bugs such as bacteria, viruses, and protozoa.

The infection usually lasts a few days to a week in a healthy person, but can cause serious illness in certain people. If you visit today, please take precautions to protect yourself and our residents.

If you can't delay your visit, please speak to a member of staff so they can tell you what to do to avoid catching or spreading the infection.

Remember to wash and dry your hands before leaving.

[illegible]

[illegible]

Outbreak Meeting Agenda Template

Date:

Time:

Attendees:

Apologies:

	Discussion	Action	Person responsible	Date to be completed
Summary <ul style="list-style-type: none">• Location of outbreak• Symptoms• Case definition• Date & time of onset in first case• Date & time of onset in most recent case• No. of confirmed and suspected cases in residents• No. of confirmed and suspected cases in staff•••				
Management <p>What needs to be done to in relation to infection control measures:</p> <ul style="list-style-type: none">• Isolation of sick residents• Exclusion of sick staff• Cohorting of staff & sick residents• Possible closure of unit or facility				

<ul style="list-style-type: none"> • Cleaning (e.g. are extra cleaning shifts required?) • Hand hygiene (e.g. provision of equipment, adherence to procedure) • Sourcing & providing of PPE • Handling of laundry& waste(e.g. frequency of waste collection) • Food handling staff • • 				
Investigation <ul style="list-style-type: none"> • Specimen collection • Results of specimens? • Completion of case logs • Is there a suspected source? • Are cases clustered or confined to a defined area? • • 				
Communication <ul style="list-style-type: none"> • Notify residents, family, staff & external agencies • Provide information to residents, visitors & staff • Select a media spokesperson • Is a proactive media release warranted? 				

Meeting closed:

Next meeting: