A guide for the management and control of gastroenteritis outbreaks in children's centres

Communicable Disease Prevention and Control Unit
Department of Health

Victoria
The Place To Be

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* This guide is a supplement to the *Guidelines for the investigation of gastroenteritis*, which is a comprehensive guide to assist environmental health officers to investigate gastroenteritis outbreaks. The appendices listed here are appropriate to the industry-specific setting, and are therefore not in sequential order.

1. Introduction

This guide has been produced to assist in the management and control of outbreaks of gastroenteritis (gastro) in child care centres, kindergartens and children's play centres. Owners, managers and staff of these facilities should follow these guidelines to manage gastrointestinal outbreaks, and may also need to liaise with council environmental health officers (EHOs) and the Department of Health (DH) if an outbreak investigation is conducted.

This guide is a supplement to the *Guidelines for the investigation of gastroenteritis*, which is a comprehensive guide to assist EHOs in their role of investigating gastro outbreaks. The *Guidelines for the investigation of gastroenteritis* is available at www.health.vic.gov.au/ideas.

1.1 Gastroenteritis

Gastroenteritis may be caused by a variety of different bacteria, viruses or parasites. Symptoms of diarrhoea, nausea, vomiting and abdominal pains may be experienced over several hours, days or weeks, and may also be accompanied by fever, headache and lethargy. Generally, gastrointestinal pathogens are spread by direct person-to–person transmission (viruses), via aerosols of vomit, from contact with contaminated surfaces, or by consuming contaminated food or water (bacteria, viruses or parasites). The time from becoming infected to the commencement of symptoms (the incubation period) can vary from a few hours to several days.

In recent years, the numbers of gastroenteritis outbreaks has increased. Young preschool children are at particularly high risk for gastroenteritis. They appear to be highly susceptible to gastroenteritis and are more likely to experience uncontrolled vomiting and/or diarrhoea, so enhancing the spread of illness to others. When outbreaks occur in child care centres, kindergartens or children's play centres, specific control measures need to be undertaken and consideration should be given to the issues unique to child-focused settings.

Gastroenteritis is generally self-limiting and no treatment is recommended, however, this is a decision for the treating doctor. Given the high susceptibility of young children, it is essential that outbreaks of gastroenteritis are contained (keeping the number infected to a minimum) as quickly as possible by implementing the infection control procedures outlined in these guidelines.

1.2 Viral gastroenteritis

Recent increases in gastro outbreaks in child care, aged care, hospitals and residential facilities are largely due to a highly infectious virus called norovirus. Norovirus is transmitted from person-to-person by faecal-oral spread, via aerosolised vomit or by consuming food contaminated by an infected person. It is a very hardy virus and can survive in the environment for weeks and withstand freezing, heating to 60°C and weak chlorine solutions. The incubation period is thought to be 10–50 hours and symptoms, predominantly of vomiting, diarrhoea and abdominal pain, usually last for only 24–48 hours. As the virus passes from one person to the next, onset of illness in cases tends to occur over several days, rather than all at the same time.

Another virus, called rotavirus, also causes gastroenteritis and commonly infects very young children. Again, it is highly infectious and may cause outbreaks where numbers of children gather together. The incubation period for rotavirus is 24–72 hours and symptoms last for an average of 4–6 days.

1.3 Foodborne illness

Gastroenteritis can also be caused by eating contaminated food. Most foodborne illness is caused by bacteria which, given the right conditions, can grow in food to numbers sufficient to infect the consumer – this is called the infective dose. If there is no further cooking, or the cooking process is inadequate, the bacteria may survive and infect those who eat the food.

Certain foods are considered to be high risk for susceptible populations such as the elderly, very young children and those who are already ill. Eggs can be high risk as they may be contaminated with *Salmonella* bacteria, and so should not be eaten raw or undercooked. Eggs should always be kept in the fridge in the original carton and used before the best-before date on the carton. Cracked and/or dirty eggs should be discarded. When storing, handling and preparing eggs, always take the same precautions as you would for raw chicken, meat, seafood and dairy products.

Bacteria called *Clostridium* perfringens can survive the cooking process in a spore state. The spores may then germinate to live bacteria that can then grow to large numbers in the food and produce a toxin (poison) in the gut of the consumer. These bacteria may be found in meat based foods such as soups, gravies, casseroles and roasts, so if these foods are prepared ahead of serving time, they must be cooled quickly and stored in the fridge, and then re-heated quickly to at least 75°C before serving. It is not safe practice to repeatedly cool and reheat food over several meals or days – re-heat food only once.

Bacteria called *Staphylococcus* aureus can also produce toxins in food if allowed to grow to high numbers. As food can be contaminated with *Staphylococcus* aureus from a food handler's hands it is essential that ready-to-eat food is not handled with bare hands. It is also important to keep food at less than 5°C or above 60°C to reduce the risk of any bacterial growth.

Care should be taken to always follow all aspects of the Food Safety Program (FSP), especially with regard to personal hygiene of food handlers, temperature control, cross-contamination, and cleaning and sanitising procedures. Food safety records should be maintained continually to show that food is being stored, prepared and served safely, and that food handling staff are well trained in all aspects of food hygiene.

1.4 Waterborne illness

Gastroenteritis can be caused by drinking contaminated water. Waterborne illness may be caused by parasites such as *Giardia* and *Cryptosporidium*, by bacteria or by viruses. It is therefore essential that all facilities provide safe water for the children and staff at all times.

All water used for drinking and food preparation must be potable (safe to drink). The water quality standards for potable water are described in the Australian drinking water guidelines, available at http://www.nhmrc.gov.au/

Private water supplies, such as dams, rivers, bores and rainwater tanks, cannot be guaranteed to be free of pathogens. For this reason, private water supplies that need to be potable should be treated to prevent the risk of waterborne illness. As the level of treatment is dependent on the quality of the source water, proprietors should seek advice from a water quality specialist to ensure the treatment system is appropriate for their circumstances.

If water used at a centre, at the time of an outbreak, is other than mains supplied, such as from a bore, rainwater tank or dam, the proprietor must provide the council environmental health officer (EHO) with the most recent evidence of potability (a sampling laboratory report showing that the water is safe to drink). If the cause of an outbreak is suspected to be waterborne (for example, from contaminated rainwater tanks, bore water or other private water supplies), the EHO may collect samples of water for laboratory testing.

1.5 Animal–to-person infection

Many animals carry bacteria even if they have no signs of illness, and these bacteria can contaminate the animal environment. After touching animals and their surroundings bacteria can easily be taken into the mouth when eating or drinking, or when children put their fingers into their mouths. For this reason, it is essential that children's centres implement simple procedures to prevent infection from animals kept at the centre such as eggs and chicks, reptiles, rabbits or guinea pigs, or animals visiting the centre (such as petting zoos). All children and staff must wash their hands thoroughly (section 2.2.1 and Appendix 13) after touching any animals, and after leaving an animal enclosure. Children must be carefully supervised at all times when amongst animals, and should not be permitted to take dummies, bottles or toys into animal enclosures.

2. What should happen in the event of a gastro outbreak?

This section describes the various steps that need to be undertaken in the event of a gastroenteritis outbreak, including notification, control measures, and other actions required to assist in the investigation of the outbreak, such as faecal specimen collection. These steps are summarised in a flow chart at the end of this guide (Gastro outbreak management summary).

2.1 Notify the outbreak

Is a gastro outbreak occurring?

An outbreak may be defined as two or more cases of vomiting and/or diarrhoea occurring among children and/or staff within 48 hours of each other. If this occurs and the symptoms cannot be explained by medication or other medical conditions, you may have an outbreak.

How do you notify a gastro outbreak?

If you suspect you have a gastro outbreak, the first step is to notify the Department of Health on 1300 651 160 within 24 hours. The department officer will collect information on the number of cases, symptoms, duration of illness and other details, and can discuss any issues you may have and provide advice if necessary. Based on the information you provide, the officer will assess the probable cause of the outbreak and the way in which it is likely to spread.

What can be done to control the spread of illness?

Once an outbreak of gastroenteritis has been identified, it is essential that cleaning and infection control measures are implemented immediately to reduce the risk of the infection spreading and the number of cases increasing. Clean-up and control measures must be implemented for **all** gastrointestinal outbreaks as soon as possible after an outbreak is suspected, and should continue until the outbreak has been confirmed as being over (48 hours after symptoms have ceased in the last case - no further cases of illness occurring).

Premises registered with local government will be contacted by your council EHO, who may visit the facility to conduct an inspection, check that infection control measures have been implemented, collect further information and provide advice.

The control measures outlined in this guide have been suggested to reduce the risk of:

- people contracting the illness from contaminated food or drink
- infected people passing the pathogen to others
- the pathogen remaining in the environment and being able to infect others.

Specific control measures may depend upon:

- **the pathogen (bacteria or virus) known or suspected to be responsible for the illness**
- **the way in which the pathogen spreads to others (known or unknown)**
- **the setting where the outbreak has occurred.**

2.2 Implement cleaning and infection control procedures

This section describes the various clean-up and control measures that should be implemented for all outbreaks of gastroenteritis, as well as additional control or investigational measures that should be implemented for food or water borne outbreaks.

2.2.1 Control measures for all gastro outbreaks

While spills and accidents should be cleaned immediately, the full clean-up should be conducted when there are no children at the centre.

General clean-up procedures for all outbreaks

For all gastrointestinal outbreaks, the following cleaning procedures must be carried out to ensure that all areas in the facility are effectively cleaned and sanitised:

- **In the kitchen** clean all work surfaces, benches, shelving, doors, door and cupboard handles, storage areas, sinks, floors and any other areas possibly contaminated. Hot water and detergent should be used to wash, followed by a solution of 1,000ppm of available chlorine as a disinfectant (Appendix 6). Leave disinfectant on surfaces for ten minutes then rinse with cold water and dry.
- **All kitchen food contact surfaces** must be sanitised (such as utensils, equipment, crockery and cutlery), which should be done by washing with hot water and detergent, sanitising, and then rinsing with clean cold water. Sanitising can be carried out in one of the following ways:
  - 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 100ppm of available chlorine for at least three minutes at 50°C. Water from the hot water tap should be 50°C.
  - For equipment that cannot be completely immersed, 200ppm of chlorine should be used on all surfaces for 10 minutes.
- **All other areas** of the premises should be cleaned. Hot water and detergent should be used to wash, followed by a solution of 1,000ppm of available chlorine as a disinfectant. Leave disinfectant for ten minutes then rinse with cold water and dry.
- **Toilet/bathroom areas** must be cleaned, including toilet bowls, hand wash basins, tap handles, doors, door handles, toilet flush buttons/handles, floors and any other areas that may have been contaminated. Hot water and detergent should be used to wash, followed by a solution of 1,000ppm of available chlorine as a disinfectant. Leave disinfectant on surfaces for ten minutes then rinse with cold water and dry.
- **All items or fittings that are touched frequently** must be washed with detergent and hot water, sanitised for ten minutes with 1,000ppm chlorine solution, then rinsed with cold water. This includes toilet seats, potties, cupboard handles, tables, cots, high chairs, booster seats and change tables – always use disposable cleaning equipment.
- Ensure that when **a faecal accident** has occurred, all surrounding surfaces are cleaned using hot water and detergent followed by 1,000ppm of available chlorine for 10 minutes as a disinfectant and rinsed with cold water and dried – this includes nappy changing tables.

- Ensure that when **vomiting** has occurred, all surrounding surfaces are cleaned using hot water and detergent followed by 1,000ppm of available chlorine for 10 minutes as a disinfectant, and rinsed with cold water and dried. All children and staff should be immediately removed from the area for at least one hour (when a case vomits a fine mist of virus particles is introduced into the air and can easily infect others and contaminate surfaces). Any uncovered food in the immediate area must be discarded.
- For **cleaning of faecal accidents and vomit** ensure that disposable brushes, mops and cloths are used, and discarded after use.
- All **carpets contaminated by vomit and/or faeces** should be steam cleaned, as high temperature and moisture are required to kill viruses. 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, rather than carpet cleaners as these use lower temperature hot water to wet the carpet (they are often called 'steam cleaners' but do not actually use steam). True steam cleaners release steam under pressure, which ensures that the temperature is above 100°C, and the carpet dries quickly.
- **Do not** allow babies and toddlers to crawl, sit or play on carpeted areas where vomiting has occurred until after steam cleaning has been conducted – it is advisable to barricade/close the area.
- **Cleaning of toys** is important to reduce the spread of disease, especially during an outbreak. Toys should be washed regularly throughout the day with detergent and hot water, and then sanitised for ten minutes with100ppm of available chlorine, and rinsed in cold water. Some toys can be washed in a dishwasher at the end of each day, and these will be effectively sanitised if the rinse cycle is 82° C or above.
- Remove any soiled toys from use until they can be washed, sanitised and dried.
- All rooms used for family groupings and combined group activities should be cleaned at the beginning and end of every day.
- All outdoor play equipment should be cleaned at the end of every day.

As some viruses can survive for extended periods of time in the environment, and infection generally results in short-term immunity only, the following is advised:

- Mattresses and soft furnishings (including pillows, curtains, couches, cushions and doonas) that have been contaminated by vomit and/or faeces should be steam cleaned. If this is not possible, consider discarding them.
- All soiled linen, including sheets, towels and blankets, should be laundered separately on the hottest washing machine cycle. The Australian Standard AS/NZS4146 (2000) provides guidelines for correct laundry practice, including water temperatures and times for correct disinfection.
- Always wear disposable gloves when handling soiled linen, soft furnishings and toys, and wash hands thoroughly immediately after removing gloves.
- Avoid vacuuming carpets and polishing floors during an outbreak, as these can cause viruses to recirculate and continue to infect people.

- **Chlorine based sanitisers must be used for cleaning in outbreak situations, as other disinfectants (such as quaternary ammonium compounds) can be effective against some bacteria but have little effect in destroying viruses such as norovirus.**
- **All kitchen areas should be cleaned as described here at the start of every outbreak investigation.**
- **Cleaning should be conducted at least twice a day until the outbreak is over.**
- **A final clean-up of all areas needs to be completed at the end of every outbreak (when there have been no symptomatic cases for 48 hours).**

General infection control measures for all outbreaks

For all gastroenteritis outbreaks, the following infection control measures must be implemented as soon as possible to reduce the risk of spreading the illness:

- Ill children should be isolated if onset of illness occurs while at the centre, and parents should be contacted immediately and requested to take the child home as soon as possible.
- All ill children are required to remain at home until 48 hours after symptoms have ceased.
- Inform parents of **all** children at the centre (including those who do not attend every day) of the outbreak, the symptoms they need to be aware of, and that ill children must be kept at home for 48 hours after symptoms have ceased. This may be relayed to parents via a letter, a telephone call or a poster at the centre.
- Ensure that parents of children who have been ill at home (for example, children who only attend the centre occasionally or casually) are informed that they should advise the child care centre if their child is or has been ill with symptoms of gastroenteritis at home (and these children must also stay at home until 48 hours after symptoms have stopped).
- Ascertain if any food handling staff have been ill with symptoms of gastroenteritis (this includes all kitchen staff and anyone who helps with food preparation) and ensure that they are sent home and do not return to work until 48 hours after symptoms have stopped, or, if the pathogen is known, for the time period specified in the guidelines for exclusion (Appendix 3).
- Send all other ill staff home and request that they do not return to work until 48 hours after their symptoms have ceased or, if the pathogen is known, for the time period specified in the advice for exclusion (Appendix 3).
- Review current hygiene, cleaning and food handling practices throughout the facility/premises (includes kitchen areas) and make any improvements found to be necessary.
- Ensure that **all** staff observe strict hand washing procedures and that they ensure that children's hands are washed thoroughly and often. You may also suggest the use of protective clothing, such as disposable gloves (and hand washing when gloves are removed), plastic aprons, and/or gowns, when cleaning up after ill children.
- Always wash children's hands after every nappy change.
- If possible, to reduce the risk of transmission, assign staff to specific duties during an outbreak rather than multiple tasks in several areas (for example, carers should not also prepare or serve food; food handlers should not also assist with cleaning).
- Remove soft toys and do not use sandpits, wading pools and water play tables/areas during an outbreak.
- Do not move toys from room to room during outbreaks unless they have been washed and sanitised first.

The following is also advised:

- Ensure staff take extra care when changing nappies and assisting with toileting. They should use disposable gloves and place all gloves, soiled disposable nappies and wiping cloths into a plastic bag for disposal, and soiled cloth nappies and clothing into a plastic bag for laundering by parents. Change tables should be cleaned after each nappy change.
- Consider rotating toys, so that only a proportion of the toys are used at any one time – this will reduce the amount of cleaning each day.
- Suspend cookery activities with the children during an outbreak, and do not allow children to assist with meals.
- Suspend combined activities between rooms and age groups during an outbreak to further reduce the risk of disease transmission from one group of children to another.
- Avoid serving 'self-serve' foods at the centre, such as fruit platters, cheese platters, biscuit containers, sandwich plates and lolly bowls, where children's hands may contaminate the foods and therefore each other. Individually served portions are a safer alternative.
- Address issues of consent if staff at a child care centre are to collect the faecal specimens from ill children/students – some parents may prefer to take their child to their GP for specimen collection.
- Post signs at all entrances stating that a gastroenteritis outbreak is occurring. Signs advising of hand washing should also be posted above hand washbasins in all toilet, bathroom and kitchen areas (Appendix 12).

Hand washing for all outbreaks

Effective hand washing is the **most important measure** in preventing the spread of infection and should be practised by all staff at all times. Children's centres may generally use alcohol wipes or antibacterial gels. However, while these products are able to kill bacteria on the hands, they are far less effective against viruses. While washing with soap and running water does not kill viruses, it can physically wash them off the skin and down the drain, which reduces the numbers of viruses on the hands to a safer level. **In outbreak situations where the pathogen is often unknown, it is essential that thorough hand washing is undertaken by ALL staff as follows:**

- Using warm water and soap, rub hands together vigorously for 40-60 seconds, ensuring that all surfaces are washed thoroughly including the wrists and around the nails.
- Rinse well under running water to remove all soap residues.
- Dry thoroughly using disposable paper towels (multi-use cloth towels and air driers are not suitable during outbreaks).

Hands should be washed in this way:

- before entering a food preparation area
- after any break
- after eating or smoking
- after going to the toilet
- after using a handkerchief or tissue
- after touching hair, scalp, nose or mouth
- after handling any raw food
- anytime hands are visibly soiled
- before putting on disposable gloves
- after removing disposable gloves
- after any cleaning tasks, and especially after cleaning toilets and bathroom areas
- after emptying garbage containers
- after assisting children with the toilet or changing nappies (remember: children with no symptoms may be incubating the disease, and could therefore be infectious)
- after handling any potentially soiled bed linen or clothes
- after cleaning up of any vomit or diarrhoeal accidents
- after handling any dishes and cutlery used by children or staff
- before and after assisting children with meals
- after touching animals, or coming into contact with an animal environment
- always wash the child's hands after changing their nappy.

Regularly wash children's hands, and supervise hand washing by older children.

If food handling staff choose to wear disposable gloves, ensure they understand that these are single use only and need to be changed between every task and disposed of safely.

Ensure that the need for careful hand washing during outbreaks is communicated to all staff (including child care staff, food handlers, cleaners, casual staff, teachers and assistants) and all visitors, volunteers and parents. They should all understand that thorough hand washing during outbreaks is necessary to reduce the risk of infecting themselves and passing the infection on to others, both at work and at home.

Hand washing, as described here, should be continued until the outbreak has been declared to be over, and staff may then return to their routine hand hygiene practices.

2.2.2 Additional control measures for food or water borne outbreaks

If it is suspected that the outbreak is food or water borne (caused by eating contaminated food or drinking contaminated water), you may be required to undertake tasks in addition to those control measures described above.

Additional infection control measures

Food

- Ensure that any suspect food or drink is not served.
- Allow the council EHO to collect all appropriate food samples and environmental swabs (if indicated) before commencing cleaning procedures. Store all food in the refrigerator until it is collected by the EHO.
- Allow the EHO to take away any equipment that is suspected to be contaminated, such as a blender used to blend raw ingredients.
- Ensure all contaminated food is disposed of adequately under supervision by the EHO, who will advise on what food needs to be discarded.

Water

If the facility uses non-mains water (such as water from rainwater tanks):

- allow the EHO to collect samples of water
- provide the EHO with the most recent documentation proving potability of the water (the water is safe to drink)
- ensure that all water intended for drinking, food preparation and brushing teeth is boiled before use, until results of laboratory testing are available. Alternatively, water must be brought in from a safe source, or existing water supplies must be treated by the most appropriate method.

Additional information to assist the outbreak investigation

As part of a foodborne disease investigation the EHO may also:

- conduct a food safety compliance check/inspection
- request a list of all people who may have consumed the suspect meal(s) (including children and staff)
- request a copy of the menus for all meals served in the week before onset of illness in the first case
- request details of three-day food history for all cases (this information may best be obtained from staff)
- require as much detail as possible of the food process steps for preparing any implicated foods
- require a copy of the suppliers list for the business (this should be easily available as a part of your FSP)

- review your FSP, particularly with regard to processes in place for the preparation of suspect foods and maintenance of records
- require a copy of the most recent food safety auditor's report and/or council's inspection report
- occasionally need to conduct interviews with all exposed people (or their parents/guardians).

2.3 Complete case lists

Each centre should prepare a list of all children and staff who have been ill (Appendix 9). Ensure that ill children or staff are included on the case lists, even if they have not been attending/working at the centre while ill. These case lists must be faxed to the council EHO and to the department.

So that the outbreak can be monitored effectively, you will be requested to update this list and send it to your council EHO at least twice per week during an outbreak, or more often as requested, for example during suspected food or water borne outbreaks. This means that new cases (people who have started to have symptoms since the last case list was completed) should be added to the list, and any additional information on cases already on the list should be added (for example, a case may have been sent to hospital or a case's symptoms may have stopped since the last time you updated the list).

2.4 Collect faecal specimens

Faecal specimens from ill children and staff should be collected for laboratory testing in outbreak situations. Unless advised otherwise, a faecal specimen should be collected from five ill people during each outbreak. Always record the date of faecal specimen collection for each case on the case list.

All outbreak faecal specimens will be tested by the Microbiological Diagnostic Unit (MDU) at the University of Melbourne. The EHO can provide faecal specimen collection kits to distribute to ill staff and parents of ill children. They will also arrange to collect the completed specimens and deliver them to the laboratory for testing. Ensure that all ill staff and parents of ill children also receive a copy of the *Faecal specimen collection instructions* (Appendix 10). Some parents may prefer to take ill children to their doctor for treatment, advice and faecal specimen collection. Issues of consent may need to be discussed with parents if staff are to collect faecal specimens from children while they are at the centre.

Council EHOs can arrange to deliver faecal specimen collection kits to the homes of ill children who are currently not attending the child care centre.

In certain circumstances some ill food handling staff, or all food handling staff, may be requested to give faecal specimens. The EHO will advise if this is the case.

3. Communication

It is essential that details of the outbreak, and the control measures in place, are conveyed to ALL staff (including casual or agency staff), and that staff are updated as the outbreak progresses. Staff briefings should give clear instructions on:

- transmission of gastroenteritis
- infection control procedures
- cleaning and sanitation procedures
- collection of faecal specimens
- exclusion of ill children for 48 hours after symptoms cease
- exclusion of ill staff for 48 hours after symptoms cease
- the need to liaise closely with council and/or department during the outbreak investigation.

All staff should be informed that the outbreak will not be declared to have ended until 48 hours after symptoms have ceased in the last case (that is, no ongoing illness, and no new cases occurring).

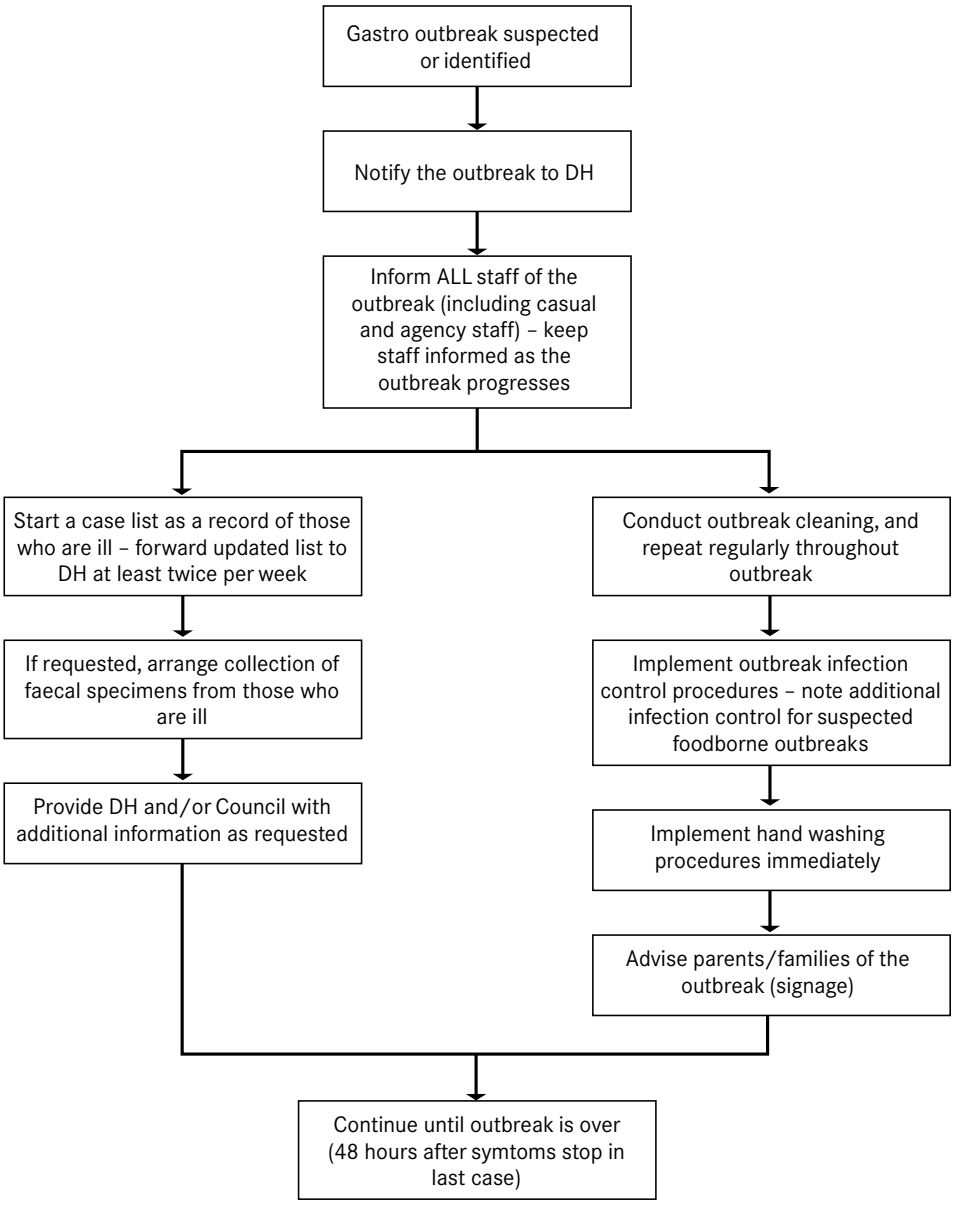
4. Privacy

In an outbreak situation, children's centres are requested to provide council EHOs and the department with information pertinent to the investigation. Councils and the department are required to adhere to privacy legislation governing the collection, use and dissemination of personal information. This information includes names and contact details of staff and parents, as well as names and illness information for children and staff, which will be needed to complete the case lists.

5. Further information

For further information on the management of infectious diseases in child care centres refer to the NHMRC document *Staying healthy in child care – preventing infectious diseases in child care*, Edition 4, 2006.

Gastro outbreak management summary



6. Appendices

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Chlorine concentrations required for disinfection

Chlorine based sanitisers (like household bleach) should be used in outbreak situations, as other sanitisers and disinfectants (such as quaternary ammonium compounds) are only effective against some bacteria but have very little effect on destroying viruses.

Chlorine solutions must be made up freshly as the chlorine deteriorates over time. To make the concentration required dilute the chlorine as follows:

Milton disinfectant (with 1% available chlorine)

	Add following amounts of Milton to the water to give the required concentration		
Volume of warm water to which chlorine is added	**100ppm**	**200ppm**	**1000ppm**
5 litres	50 ml	100 ml	500 ml
10 litres	100 ml	200 ml	1000 ml
50 litres	500 ml	1000 ml	5000 ml

Household bleach (with 4% available chlorine)

	Add following amounts of bleach to the water to give the required concentration		
Volume of warm water to which chlorine is added	**100ppm**	**200ppm**	**1000ppm**
5 litres	12.5 ml	25 ml	125 ml
10 litres	25 ml	50 ml	250 ml
50 litres	125 ml	250 ml	1250 ml

Liquid pool chlorine (with 12.5% available chlorine – concentrations based on 10% available chlorine)

	Add following amounts of liquid pool chlorine to the water to give the required concentration		
Volume of warm water to which chlorine is added	**100ppm**	**200ppm**	**1000ppm**
5 litres	5 ml	10 ml	50 ml
10 litres	10 ml	20 ml	100 ml
50 litres	50 ml	100 ml	500 ml

Granular chlorine (with 65% available chlorine) – if using sachets follow manufacturers instructions

	Add following amounts of granular chlorine to the water to give the required concentration		
Volume of warm water to which chlorine is added	**100ppm**	**200ppm**	**1000ppm**
5 litres	0.8 g	1.5 g	8 g
10 litres	1.5 g	3 g	15 g
50 litres	8 g	15 g	77 g

ppm = parts per million (a measure of concentration of chlorine)

5ml = 1 teaspoon. A standard bucket holds approximately 9-10 litres

Important safety notes:

- It is safer to add chlorine to water – do not add water to chlorine.
- Do not heat water to make up chlorine solutions – warm tap water is safer (up to 50°C).
- Use gloves when preparing and handling chlorine solutions.
- Use chlorine carefully as it is corrosive to metals, bleaches fabrics and may irritate the skin, nose and lungs.
- Follow safety, storage and handling instructions on all bleach and chlorine containers.

Exclusion guidelines for food handlers, health care workers and childcare workers

Gastrointestinal illness/pathogen	Exclusion period advised
Cholera, *Shigella*, STEC/VTEC	Until 2 successive negative faecal specimens are taken 24 hours apart, and not less than 48 hours after taking antimicrobials. Food handlers, health care workers and childcare workers need to be counselled on personal hygiene before returning to work.
Typhoid and Paratyphoid	Until 3 consecutive negative stools are taken one week apart, and not less than 48 hours after taking antimicrobials. Cases who continue to excrete for 90 days or more are not to engage in food handling.
Other bacterial gastroenteritis (including *Campylobacter, Salmonella, Staphylococcus, Clostridium, Helicobacter, Vibrio, Listeria, Entamoeba*). *Giardia* or *Cryptosporidium*	Until diarrhoea has ceased. Food handlers, health care workers and childcare workers to be counselled on personal hygiene before returning to work.
Hepatitis A or E	Until a medical certificate of recovery is received, but not before 7 days after onset of jaundice or illness. Food handlers with acute hepatitis illness should be excluded from work until laboratory tests confirm that the infection is not due to either Hepatitis A or E.
Other viral gastroenteritis (including rotavirus and norovirus), or when the pathogen is unknown	Until 48 hours after symptoms have ceased.

Outbreak case list
Child care facility – ill children/staff

State Government Victoria Department of Health

Information about cases is important as it allows the outbreak to be described and monitored, and can assist in identifying the cause of illness. Please keep this coversheet together with your case list.

Instructions

1. Update the information on the case list (making a notation of any hospitalisations) and adding new cases where applicable. There is no need to rewrite the whole list each time it is updated.
2. On the case list:
   - 'symptoms started' means the date and time the case had the first symptom(s).
   - 'symptoms ended' means the date and time the case had the last symptom(s).
3. **Fax this coversheet and case list to your council EHO and DH twice per week (or as requested)**.

Fax to:

DH Officer:

Communicable Disease Prevention & Control Unit, Department of Health

Fax: 1300 651 170

and: Please print clearly

Council EHO:

Council:

Fax:

Fax from

Premises/outbreak name:		
Contact person:	Position:	
Tel:	Fax:	Email:

Dates case list faxed

	Comments:	Faxed by:	No. pages faxed (incl coversheet):
Date: ☐ New cases added ☐ Existing cases updated ☐ No new cases ☐ Final list			
Date: ☐ New cases added ☐ Existing cases updated ☐ No new cases ☐ Final list			
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Premises/outbreak name:

Child/staff name [and] Room + parent contact/position worked	Case (circle)		Birth date (date)			Sex (circle)		Symptoms started (date)			Symptoms started (time)		Symptoms (circle all that apply)					Symptoms ended (date)			Symptoms ended (time)		Faecal specimen collected (circle)		Faecal specimen collected (if yes, when)			Hospitalised (circle)		Hospitalised (if yes, when)		
	child	staff	day	month	year	male	female	day	month	year	hour	minute	vomiting	diarrhoea	fever	nausea	abdominal pain	day	month	year	hour	minute	no	yes	day	month	year	no	yes	day	month	year
(example) *James Brown* *Room 2 - Mary Brown 0432 123 456*	c	s	*03/03/2006*			m	f	*22/01/2009*			*20:15*		v	d	f	n	a						n	y	*23/01/2009*			n	y	*24/01/2009*		
(example) *Sue Smith* *Room 2 - teacher*	c	s				m	f	*23/01/09*			*20:15*		v	d	f	n	a						n	y	*24/01/2009*			n	y			
(1)	c	s				m	f						v	d	f	n	a						n	y				n	y			
(2)	c	s				m	f						v	d	f	n	a						n	y				n	y			
(3)	c	s				m	f						v	d	f	n	a						n	y				n	y			
(4)	c	s				m	f						v	d	f	n	a						n	y				n	y			
(5)	c	s				m	f						v	d	f	n	a						n	y				n	y			
(6)	c	s				m	f						v	d	f	n	a						n	y				n	y			
(7)	c	s				m	f						v	d	f	n	a						n	y				n	y			
(8)	c	s				m	f						v	d	f	n	a						n	y				n	y			
(9)	c	s				m	f						v	d	f	n	a						n	y				n	y			
(10)	c	s				m	f						v	d	f	n	a						n	y				n	y			

Instructions for the collection of faeces

Patients should collect specimen as soon as possible

1. Label the specimen jar (and swab's transport medium container, if used) carefully, with your name, age/date of birth and date and time (noting AM or PM) of collection. The outbreak name should be included if known.
2. Place a large clean container (e.g. plastic ice cream container), plastic wrap, or newspaper in the toilet bowl.
3. Pass faeces directly into large container or onto the plastic wrap or newspaper.
4. Do not contaminate faeces with urine.
5. Using a disposable wooden spatula or plastic spoon, scoop enough of the faeces to at least half fill the specimen jar taking care not to contaminate the outside of the jar. If a specimen jar is not available, place a sample at least as large as an adult thumb or walnut into a clean jar.
6. Dispose of excess faecal matter from large container, plastic wrap or newspaper into the toilet, then place all soiled articles inside 2 plastic bags and dispose of in domestic waste.
7. If blood is seen mixed in the stool insert the swab (from the transport medium kit provided) into the faeces in the pot, then remove the swab and replace it in the transport medium (you will be instructed to take this step if it is necessary).
8. Screw the lid on the specimen jar firmly. Place in a zip-lock plastic bag taking care not to contaminate the outside of the bag, seal it and then place into a brown paper bag (if provided).
9. Wash your hands well.
10. Keep specimen cool (at 2 - 8°C) in the fridge - but DO NOT FREEZE.
11. Telephone the council EHO without delay, and request that they pick up the specimen.

A faecal specimen collection kit should include:

- A faecal pot
- A wooden spatula or plastic spoon
- A zip-lock bag
- A brown paper bag
- Instructions

Attention

Our centre currently has children and/or staff with gastroenteritis (vomiting and/or diarrhoea).

To protect yourself and others please wash and dry your hands thoroughly and often.

Thank you for your cooperation.

State Government Victoria Department of Health

Attention parents

Our centre currently has children and/or staff with gastroenteritis (vomiting and/or diarrhoea).

Please advise centre manager if your child/children have symptoms of gastroenteritis.

All children with symptoms of gastroenteritis must remain at home until 48 hours after their symptoms have stopped.

State Government Victoria Department of Health

Attention staff

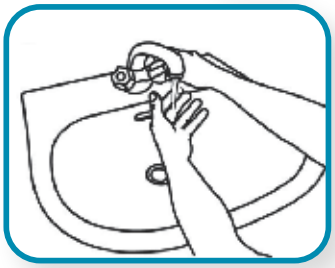
Our centre currently has children and/or staff with gastroenteritis (vomiting and/or diarrhoea).

If you are ill with vomiting and/or diarrhoea, please let management know, and remain at home until 48 hours after symptoms have stopped.

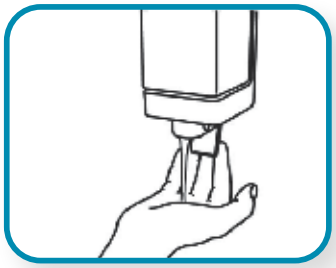
State Government Victoria Department of Health

How to wash and dry hands with liquid soap and water

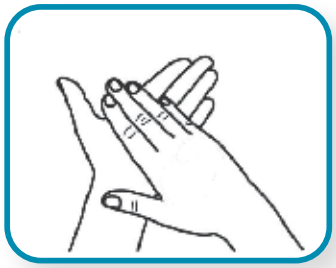
Duration of the entire procedure: **40–60 secs.**



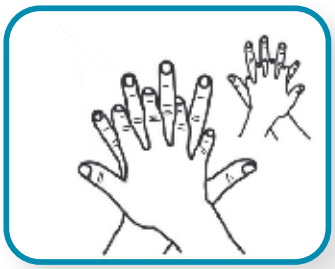
Wet hands with water



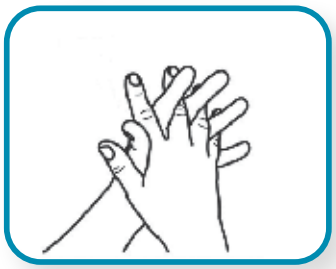
apply enough soap to all hand surfaces



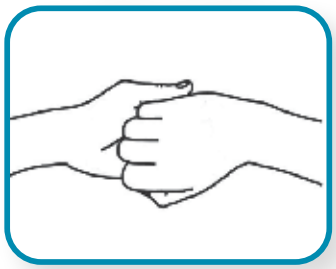
rub hands palm to palm



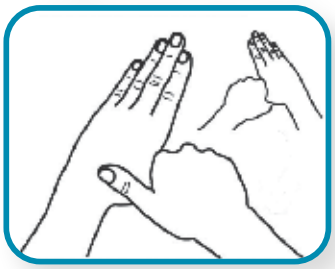
right palm over left dorsum with interlaced fingers and vice versa



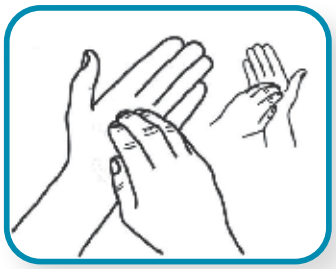
palm to palm with fingers interlaced



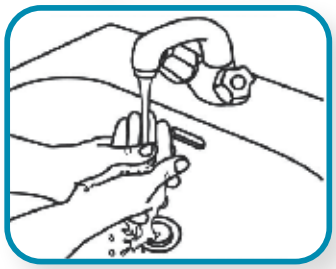
backs of fingers to opposing palms with fingers interlocked



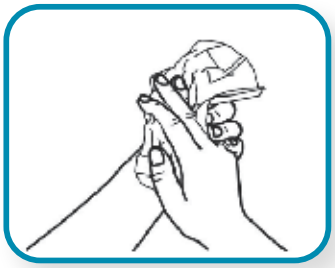
rotational rubbing of left thumb clasped in right palm and vice versa



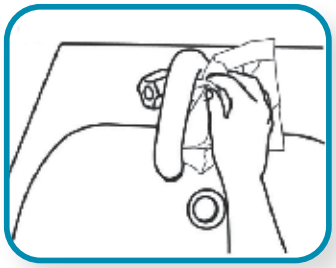
rotational rubbing, backwards and forwards with clasped fingers of right hand in palm and vice versa



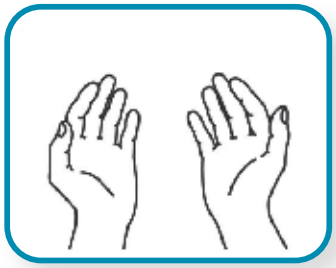
rinse hands with water



dry thoroughly with single use towel



use towel to turn off faucet



…and your hands are safe.

Adapted from World Health Organisation

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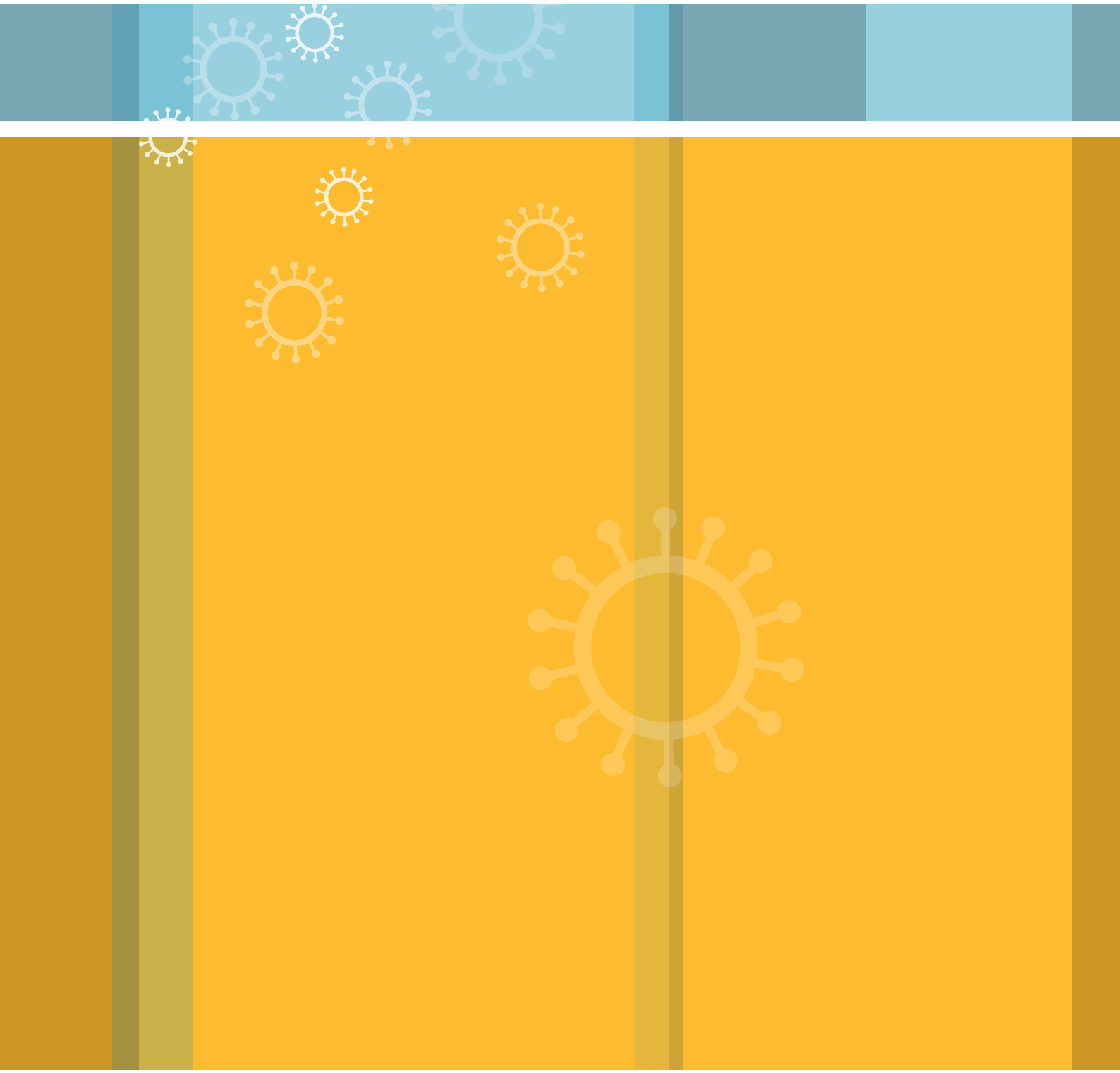

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