

Information for residential aged care

December 2010

Clostridium difficile

The bowel contains a variety of organisms most of which are bacteria. These organisms perform many functions including helping the body to digest food. The balance of bacteria in the bowel can be disrupted by a variety of factors including antibiotics which can lead to an increase in harmful bacteria in the bowel causing diarrhoea.

Clostridium difficile [klo-STRID-ee-um dif-uh-SEEL] is a spore forming bacteria that some healthy people may carry without any ill effect. *Clostridium difficile* is one of many types of bacteria that can cause diarrhoea and gastroenteritis in older people who live in residential aged care facilities.

Elderly people who live in residential aged care are especially at risk of *Clostridium difficile* due to their age and high levels of chronic disease. Risk factors that increase the chances of residents acquiring *Clostridium difficile* include antibiotic treatment and chronic health problems. The supplying pharmacist can assist with the identification of these medicines.

Due to their increased age and co-morbidities residents who are diagnosed with *Clostridium difficile* can often become unwell quickly and require close monitoring and supervision of their care needs. People with *Clostridium difficile* infection can have symptoms ranging from mild diarrhoea to an infection of the large bowel (pseudomembranous colitis) with symptoms including fever, diarrhoea, crampy lower abdominal pain, and sometimes life threatening abdominal bloating, and perforation of the bowel wall.

Clinical features and diagnosis of *Clostridium difficile* infection:

Diagnosis should be guided by the resident's local doctor. Laboratory testing will confirm a diagnosis of *Clostridium difficile*. Clinical features include:

- increased frequency of watery, loose or unformed stools which has no other cause or source
- fever
- loss of appetite
- abdominal pain/tenderness or crampy lower abdominal pain

Clostridium difficile can be transmitted easily from an infected resident with diarrhoea to other non-infected residents. Staff therefore need to perform strict hand washing, maintain vigilant environmental cleaning and clean all surfaces contacted by any person with diarrhoea. Cleaning and disinfection of equipment and the environment should be performed with a chlorine based disinfectant (1 in 1000 ppm hypochlorite solution in cold water). Please see individual material safety data sheet for the safe handling of cleaning products.

Residents who have diarrhoea including those who have confirmed *Clostridium difficile* infection in other health care settings should not be admitted until they have been free from diarrhoea for 48 hours.

Residents who have previously been diagnosed with *Clostridium difficile* and do not have any symptoms of *Clostridium difficile* infection (diarrhoea, fever, loss of appetite or abdominal pain) can be managed in residential aged care without any additional infection control precautions.

Recently, there has been a new form of *Clostridium difficile* identified in Australia often referred to as a hypervirulent strain of *Clostridium difficile*. Hypervirulent *Clostridium difficile* may cause a more severe illness and it is resistant to commonly prescribed antibiotics. Hypervirulent strains of *Clostridium difficile* have been identified in Australian healthcare facilities including residential care facilities.

Regardless of the strain of *Clostridium difficile* the recommended treatment and precautions are no different.

Further information on *Clostridium difficile* for aged care staff:

Infectious agent

Clostridium difficile is the most common cause of antibiotic associated diarrhoea.

Method of diagnosis

- Diagnosis should be guided by the resident's local doctor.
- Laboratory testing will confirm a diagnosis of *Clostridium difficile*.

How is *Clostridium difficile* spread?

- *Clostridium difficile* is primarily spread in the faeces of infected residents with diarrhoea.
- *Clostridium difficile* can survive for long periods of time on contaminated environmental surfaces and equipment
- Surfaces, equipment and devices that become contaminated with infected faeces can be a source of *Clostridium difficile* and may include the following:
 - commodes or toilets
 - baths
 - telephones
 - electronic thermometers
 - surfaces in residents rooms

Environmental cleaning is therefore essential in reducing the risk of illnesses such as *Clostridium difficile* spreading to non-infected residents.

Prevention and Control Measures

Standard precautions

The use of standard precautions is an essential infection control strategy for the successful prevention and minimisation of transmission of infections between residents and consists of the following elements:

Routine hand hygiene

- Use alcohol based hand rubs routinely.
- Use soap and running water if hands are visibly soiled. See handwashing diagram for how to perform hand hygiene using soap and water

When to perform hand hygiene

- Before touching a resident (including undertaking personal care, administering medicines, assisting with toileting or meals)
- Before an aseptic procedure (including wound care)
- After a body substance exposure risk (including handling a urinary bottle, bedpan, tissues, cleaning dentures, cleaning spills of urine, faeces or vomit from resident's surroundings)
- After touching a resident (after any activities described above)
- After touching a residents' surroundings (including beds, curtains, linen, mobility aids)
- After removing gloves.

Care of linen

Staff should take a linen bag into each resident's room to dispose of soiled linen.

Linen washing should be in accordance with the Australian Standard.

Regular environmental cleaning should be maintained.

Contact precautions for residents with suspected *C. difficile* infection

Contact precautions are precautions in addition to standard precautions described above. Contact precautions should be used for all residents with suspected gastroenteritis including suspected or confirmed *Clostridium difficile*. Contact precautions are intended to prevent spread of infections to other residents, visitors and staff.

Contact precautions include the following:

Isolation or cohort

All residents with *Clostridium difficile* who have diarrhoea should be isolated in a single room with an ensuite or dedicated toilet/commode/bed pan where practical.

If single rooms are limited, residents with the same *Clostridium difficile* strain and diarrhoea can be cohorted (grouped or roomed together).

Place a contact precaution isolation sign outside the residents room to remind staff and others about the strict protocols required.

Gloves and apron/gowns

- Aprons or gowns must be made of impervious material
- All staff must wear gloves and an apron or gown for all contact with residents who have confirmed *Clostridium difficile* and any associated diarrhoea.
- Staff should remove apron/gown and gloves before exiting the resident's room and perform hand hygiene on removal of gloves.

- If visitors do not have contact with other residents in the facility they are not required to wear gloves and aprons/gowns as they are unlikely to transmit *Clostridium difficile* between residents.
- Visitors of residents with *Clostridium difficile* or diarrhoea should be instructed in hand hygiene whenever entering and leaving the isolation area.
- Visitors of residents with *Clostridium difficile* or diarrhoea should be discouraged from visiting other residents in the home.

Hand hygiene

Conducting meticulous hand hygiene is essential.

- Use alcohol based hand rub for hand hygiene before putting on and after removal of personal protective equipment used for contact precautions.
- If gloves have not been worn (when contacting the patient and/or their immediate surroundings) or hands are visibly soiled then hands must be washed with soap (or an antimicrobial soap) and running water to facilitate the mechanical removal of spores. Dry hands thoroughly with paper towels.
- Alcohol based hand rubs are not effective at removal of *Clostridium difficile* spores.

Environmental cleaning

Clean and disinfect each resident's surroundings daily with an agent such as sodium hypochlorite (bleach containing) and include the following:

- All surfaces such as door handles, bed rails
- Room furnishings including over-bed tables, bedside tables, chairs, furniture, telephone, sinks, floors, commodes and toilets
- Dedicated equipment including commodes, thermometers, stethoscopes, blood pressure cuffs, walking aids and wheel chairs
- Note that some disinfectants such as sodium hypochlorite (bleach containing) should not be used on particular surfaces such as metal and some fabrics. Read the label instructions of all disinfectants before using

Ceasing contact precautions

Residents may have contact precautions ceased when they have been free from diarrhoea for 48 hours.

A bowel chart should be used to determine when a resident meets this criterium of ceasing contact precautions.

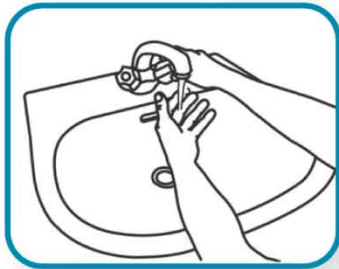
Communication with families:

As part of a residential aged care facility's usual protocols family members and visitors should be advised against visiting the facility if they are unwell with symptoms such as diarrhoea, vomiting, coughing that are potentially infectious illnesses, to prevent the spread of these illnesses to residents. This message should be considered for inclusion in the facilities admission pack to advise prospective residents and their relatives of the facility's expectations. It is also important for residential providers to continue to remind families and visitors periodically about this issue.

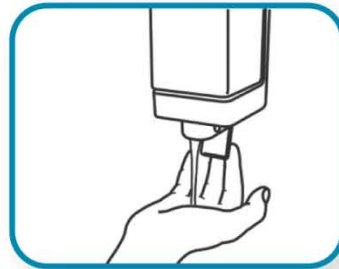
How to wash and dry hands with liquid soap and water



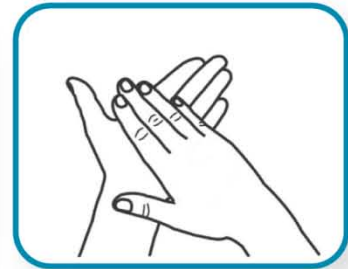
Duration of the entire procedure: **40–60 secs.**



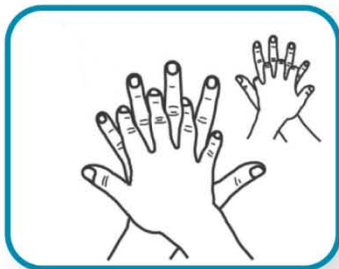
Wet hands with water



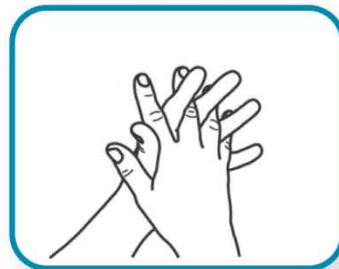
apply enough soap to all hand surfaces



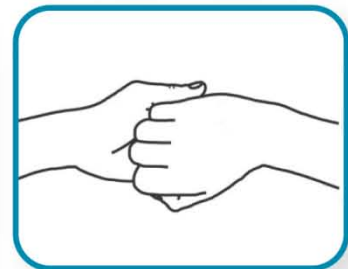
rub hands palm to palm



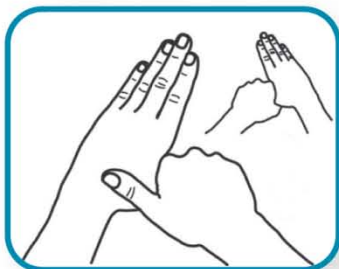
right palm over left dorsum with interlaced fingers and vice versa



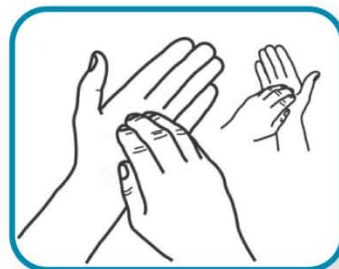
palm to palm with fingers interlaced



backs of fingers to opposing palms with fingers interlocked



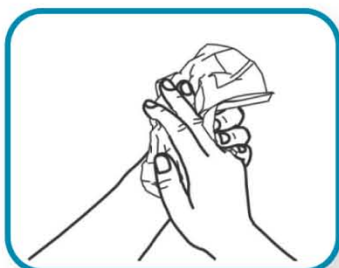
rotational rubbing of left thumb clasped in right palm and vice versa



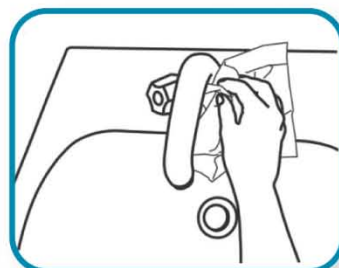
rotational rubbing, backwards and forwards with clasped fingers of right hand in palm and vice versa



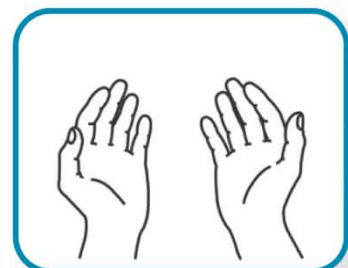
rinse hands with water



dry thoroughly with single use towel



use towel to turn off faucet



...and your hands are safe.

Additional resources:

This information has been adapted from *Information for residential aged care*, December 2010 prepared by the Victorian Department of Health.

Australia - NHMRC (2010) Australian Guidelines for the Prevention and Control of Infection in Healthcare.
Commonwealth of Australia <http://nhmrc.gov.au>

NSW Health - website for Healthcare Associated Infections <http://www.health.nsw.gov.au/quality/hai/index.asp>

NSW Health – *Clostridium difficile* resources for clinicians and patients
http://www.health.nsw.gov.au/quality/hai/clostridium_difficile.asp