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<td>SUMMARY</td>
<td>To outline the infection control principles for the management of a patient with suspected or confirmed Clostridium difficile infection (CDI)</td>
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1. **POLICY STATEMENT**

   Patients with suspected or confirmed *Clostridium difficile infection (CDI)* will be managed using the infection control principles outlined in this document. Refer to Appendix 1.

2. **BACKGROUND**

   CDI can cause major complications for patients whilst in healthcare facilities. Patients with suspected or confirmed *Clostridium difficile infection (CDI)* will be managed using standard and contact precautions until diarrhoea has been resolved for 48 hours.

   A number of risk factors for the development of CDI have been identified including exposure to medications such as antibiotics (particularly 3rd generation cephalosporins) and proton-pump inhibitors (used to reduce gastric acid production), increased age and the presence of comorbidities.

3. **Definitions**

   **Alcohol-based hand rub/gel (ABHR):** an alcohol-containing preparation designed to reduce the number of viable micro-organisms on the hands.

   **Cleaning:** removal of soil/dirt/dust from a surface involving water and physical or mechanical action and a cleaning agent such as neutral detergent.

   **Clostridium difficile:** *Clostridium difficile* is a spore-forming, slow growing, gram-positive anaerobic bacillus that produces exotoxins. It is present in the large intestine of up to 3% of healthy adults and 66% of infants. However, *Clostridium difficile* rarely causes problems in children or healthy adults, as it is kept in check by the normal bacterial population of the intestine.

   **Clostridium difficile Infection (CDI):** When certain antibiotics disturb the balance of bacteria in the gut, *Clostridium difficile* can multiply rapidly and produce toxins which cause diarrhoea, ranging from a mild disturbance to a very severe illness with ulceration and bleeding from the colon (colitis) and, at worst, perforation of the intestine leading to peritonitis.

   **Clostridium difficile toxin:** toxigenic isolates of *Clostridium difficile* usually produce two toxins, toxin A and toxin B, which are considered the major virulence factors. The toxins cause damage to the lining of the intestine causing diarrhoea and abdominal pain.

   **Diarrhoea:** 3 or more loose stools (liquid or soft, conforming to the shape of the container) within a 24 hour period.

   **Health care settings:** any place where health care is provided to patients on a commercial or public health basis.

   **Health care workers (HCWs):** persons, including students and trainees, whose activities involve contact with patients or with blood or body substances from patients.

   **Personal protective equipment (PPE):** equipment designed to prevent contamination of the health care worker and/or their clothing, for example gloves, goggles, face shield, gown, mask.
Standard Precautions: precautions designed to reduce the risk of transmission of microorganisms from both recognised and unrecognised sources of infections in health care settings.

Transmission based precautions: are designed for patients known or suspected to be infected with pathogens for which additional precautions beyond Standard Precautions are needed to interrupt transmission in health organisations. Transmission based precautions are also designed to protect immunocompromised patients from acquiring healthcare associated infections whilst in protective isolation.

4. Responsibilities
4.1 Employees will:
- Comply with the patient management procedures for all patients with suspected or confirmed Clostridium difficile infection (CDI)
- Ensure the patient and their visitors understand the need for these transmission based precautions
- Provide education to the patient and visitors on how they must comply with the management procedure
- Document the care/education provided to the patient

4.2 Line Managers will:
- Ensure all patients with suspected or confirmed Clostridium difficile infection (CDI) are managed as outlined in this document
- Ensure all staff comply with this procedure
- Ensure staff receive appropriate education regarding the management of patients with suspected or confirmed Clostridium difficile infection (CDI)
- Ensure the patient and their visitors understand the need for these transmission based precautions

4.3 Infection Prevention and Control Staff will:
- Provide education to staff to ensure they understand the rationale for this procedure
- Assist with ensuring the patient and their visitors understand the need for these transmission based precautions
- Assist with providing education to the patient and visitors on how they must comply with the management procedure
- Provide Clinical indicator surveillance data to Clinical Governance Unit
- Report surveillance data at local facilities and provide feedback to clinical areas in the event of increased acquisition

4.4 Patient Flow/Bed Managers will:
- Ensure single room with bathroom allocation of known/suspected patients with CDI

4.5 Sector Managers/Service Managers will:
- Distribute relevant information to line managers
- Assign responsibility and provide resources to ensure appropriate management of patients with suspected or confirmed Clostridium difficile infection (CDI)
Ensure mandatory clinical indicators are reported and results tabled at relevant clinical meetings

4.6 Medical staff will:
- Comply with the patient management procedures for all patients with suspected or confirmed *Clostridium difficile* infection (CDI)
- Inform and educate the patient on their disease process
- Ensure consultant is aware of severe CDI e.g. endoscopic evidence of pseudomembranous colitis or treatment in ICU or toxic megacolon
- Ensure appropriate antibiotic therapy prescribed as per antibiotic: therapeutic guidelines. Consult Infectious Diseases Physician as required

5. PROCEDURE (see appendix 2)

5.1 Standard and Contact Precautions
- Use Contact Precautions for patients with known or suspected CDI
- Continue Contact Precautions until diarrhoea resolved for 48 hours and terminal cleaning of room has occurred
- An accurate record of the patient’s bowel motions must be maintained, including frequency, amount and consistency. The Bristol Stool Chart (Appendix 3) should be used for descriptive criteria

5.2 Patient Accommodation
- Single room with ensuite facilities or dedicated toilet/commode
- A Contact Precautions sign is to be placed at the entrance to the room/bed space
- Do not place patient into an isolation room with carpet. Carpet cannot be adequately disinfected

5.3 PPE
Gloves and apron must be worn in patient zone to prevent the transfer of *clostridium difficile* spores also as per Standard and Transmission Based (Additional) Precautions with Infectious Diseases

5.4 Cleaning and Disinfection
- The physical removal of organisms and spores is paramount for the control of *Clostridium difficile*
- The patient’s room (or bedspace) and all items within to be cleaned daily with neutral detergent. Particular attention to frequently touched surfaces e.g. bed rails, bed side tables, door handles
- A combined cleaner/disinfectant product should be used (if available) to clean and disinfect the patient’s environment for the terminal clean
- All shared patient care equipment must be cleaned and disinfected in between use or dedicate shared equipment for the duration of the admission
- For premature baby and neonatal cribs/cots: following a terminal clean, all surfaces in contact with a baby’s skin to be rinsed off with water and dried
5.5 **Patient Care Equipment**
- Dedicated patient care equipment is to be used whenever possible
- Equipment to be cleaned/disinfected as appropriate before being used by another patient
- Equipment that cannot be cleaned/disinfected between use (e.g. lifting sling) **MUST** be dedicated to the patient then sent to the laundry once the patient’s CDI has resolved

5.6 **Patient/ Visitor Education**
- Patient must be educated regarding their diagnosis by medical staff and provided with **written information**
- Patients/visitors should be informed regarding:
  - hand hygiene, particularly after using the toilet and before eating
  - the need for isolation precautions

5.7 **Specimen Collection**
- Testing should only be performed on unformed stool (liquid or soft, conforming to the shape of the container) unless ileus due to *Clostridium difficile* is suspected
- Do not test patients without diarrhoea or who have had a positive test within the previous eight weeks

5.8 **Transport/transfer of patient**
- Limit transfer to other wards/facilities until the patient's diarrhoea has resolved
- Receiving department/facility and transport services **MUST** be notified PRIOR to patient transfer

5.9 **Mandatory Reporting**
- All cases of CDI are reportable as part of NSW Health Infection Control Clinical Indicator reporting. This data submission is the responsibility of the Infection Prevention and Control staff.
- CDI Hospital identified cases are reportable to:
  - SESLHD Clinical Governance Unit, monthly
  - Local Infection Prevention and Control Committees
  - Australian Commission of Quality and Safety in Healthcare

6. **DOCUMENTATION**
- Patient healthcare record notes and forms
- Pathology is reported in Powerchart and iPM
- Stool Chart (see Appendix 3)

7. **AUDIT**
- Standard and Contact precautions audit
8. REFERENCES

- NSW Health *PD2007_036: Infection Control Policy 2007*
- NSW Health. *Clostridium difficile. Information for healthcare professional’s factsheet June 2010.*
- ACSQHC. Implementation guide for surveillance of *Clostridium difficile* infection 2013.
- Australasian Society for Infectious Diseases/ Australian Infection Control Association (ASID/AICA). Position Statement: *Infection Control Guidelines for Patients with Clostridium difficile Infection in Healthcare Settings August 2010*

9. REVISION AND APPROVAL HISTORY

<table>
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<tr>
<th>Date</th>
<th>Revision No.</th>
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<tr>
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<td>2</td>
<td>Approved by Executive Sponsor.</td>
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Appendix 1: Management of the patient with Clostridium Difficile associated diarrhoea in the hospital setting:

**DIARRHOEA?**

**Clostridium difficile.**

A diagnosis in its own right.

**The SIGHT protocol**

*Suspect* that a case may be infective where there is no clear alternative cause for diarrhoea

*Isolate* the patient and consult with the infection control team (ICT) while determining the cause of the diarrhoea

*Gloves* and aprons/gown must be used for all contacts with the patient and their environment

*Hand hygiene* must be carried out prior to entering the room and before and after each contact with the patient and the environment as it will be contaminated by spores.

*Test* the stool for toxin, by sending a specimen immediately.

Source: Health Protection Agency British Journal of Healthcare Assistants Dec 2009 Vol 03 No 12


- Ensure the patient’s environment is adequately cleaned.
- Stop or substitute contributing antibiotics where possible
- Seek advice on appropriate treatment by contacting the Infectious Diseases Team or Microbiology

**Contact your local infection prevention and control staff**

Considerations in choosing an apron or gown that is appropriate for the activity is:

- The volume of body substances likely to be encountered - the extent and type of exposure to blood and body substances
- The probable type and route of transmission.
Appendix 2

*DIARRHOEA +
Patient received antibiotics in the last two months
Patient has sudden hospital onset of diarrhoea (>48 hours after admission

Implement Contact Precautions in a single room with ensuite toilet or dedicated commode
Send 1 faecal sample for culture and for *C. difficile* toxin analysis

Is stool *C. difficile* toxin +ve?

Yes

Medical team review current antibiotic treatment. Continue isolation until diarrhoea is resolved (48 hours no type 6 or 7 stools) [see Appendix 3]
Screen for other enteric pathogens

No

Diarrhoea ongoing

Yes

Discontinue contact precautions when diarrhoea resolved. Room to be cleaned and disinfected

No

Once resolved 48 hours, room to be cleaned and disinfected

If diarrhoea returns, reinstate contact precautions

*Diarrhoea: 3 or more loose stools (liquid or soft, conforming to the shape of the container) within a 24 hour period
Appendix 3: Bristol Stool Chart

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<thead>
<tr>
<th>Type</th>
<th>Description</th>
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<tbody>
<tr>
<td>1</td>
<td>Separate hard lumps, like nuts (hard to pass)</td>
</tr>
<tr>
<td>2</td>
<td>Sausage-shaped but lumpy</td>
</tr>
<tr>
<td>3</td>
<td>Like a sausage but with cracks on its surface</td>
</tr>
<tr>
<td>4</td>
<td>Like a sausage or snake, smooth and soft</td>
</tr>
<tr>
<td>5</td>
<td>Soft blobs with clear-cut edges (passed easily)</td>
</tr>
<tr>
<td>6</td>
<td>Fluffy pieces with ragged edges, a mushy stool</td>
</tr>
<tr>
<td>7</td>
<td>Watery, no solid pieces. Entirely Liquid</td>
</tr>
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