Vancouver Coastal Health

Infection Prevention and Control

Best Practice Guideline	Care and Management of *Clostridioides difficile* Infection (CDI) in Long-Term Care (LTC) and Assisted Living (AL)
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Site Applicability

All Vancouver Coastal Health Owned, Operated and Contracted Long Term Care (LTC) and Assisted Living (AL) homes.

Scope of Practice

All healthcare providers, contractors, residents and visitors are responsible to follow these guidelines for management of residents with *Clostridioides difficile* infection (CDI).

Purpose

To provide guidelines for direct care staff for Infection prevention and control and operational measures to decrease cases of healthcare associated CDI. To outline Infection Control responsibilities.

Background

CDI is a common hospital acquired infection causing mild to severe diarrhea and inflammation of the colon. Infection is associated with the widespread use of antibiotics. If certain antibiotics are used in high doses or over a prolonged period, they can interfere with the normal flora of the bowel that can result in the growth of CDI bacteria. CDI bacteria produce toxins that damage the bowel and cause diarrhea, however, in some circumstances a person can have CDI bacteria present in their bowel and remain asymptomatic. Residents who are elderly and people treated with antibiotics and certain other stomach medications are at the greatest risk of developing a CDI infection.

Transmission

CDI bacteria and spores are found in feces. Infection can happen when hands have contact with surfaces contaminated with feces that then touch the mouth (fecal-oral). Transmission can also occur indirectly through contaminated healthcare worker hands or from contact with the resident environment, care equipment or supplies. CDI spores can live on environmental surfaces for long periods of time, thus diligent hand hygiene and cleaning and disinfection using a sporicidal agent are paramount to reducing transmission.

Incubation Period

The incubation period of CDI following acquisition has not been clearly defined. Studies have determined that onset of infection can occur within 48 hours after exposure and up to 3 months post exposure.

Period of Communicability

The period of communicability is unknown; it may vary depending on the amount of toxin in the stool, which can vary. Spores are resistant to many disinfectants and are very difficult to eliminate from surfaces and objects.

Procedure

Staff to consider the resident's clinical baseline and assess the resident suspected of having CDI by clinical symptoms, characteristics of the stool and the number of stools**.** Rule out other possibilities such as recent laxative use or other causes of infectious diarrhea. MRP may consider sending stool for microbiology testing if appropriate.

Case Definitions

CDI Case:

Acute onset of diarrhea (3 or more unexplained loose or liquid stools in a 24-hour period) above what is normal for the individual and not attributed to another cause (e.g., laxatives, medication side effect, diet, prior medical condition).

And one or more of the following:

- Laboratory confirmation (positive toxin or culture with evidence of toxin production)
- Diagnosis of typical pseudo-membranes on sigmoidoscopy, colonoscopy or histological/pathological diagnosis of CDI
- Diagnosis of toxic mega colon.

A case is a continuation of the same CDI episode if it occurs within 2 weeks (14 days) from the last episode.

Community-Associated CDI – A confirmed case of CDI that meets all 3 of the following criteria:

- Symptom onset in the community **or** 3 calendar days or less after admission to a LTC or AL care home.
- Symptom onset was more than four weeks after the last discharge from a healthcare home (Acute and/or Long-Term Care)
- The case has no history of CDI in the previous 8 weeks.

Health Care Associated/Nosocomial case of CDI – A confirmed case of CDI that has no history of CDI for a period of 8 weeks prior to diagnosis who meets one of the following three criteria:

- Symptom onset occurring more than three calendar days after admission to a LTC or AL care home.
  or
- Symptom onset in the community less than four weeks after discharge from an LTC or AL care home.
  or
- Symptom onset occurring less than three calendar days after admission to an acute care facility **if** the new admission occurred within 4 weeks of discharge from a LTC or AL home.

CDI Reinfection (counted as new case) – A confirmed case whose symptoms started greater than 8 weeks from a previous CDI infection (as determined by the date of a previous positive lab test, chart note, or diagnosis by endoscopy or pathological specimen).

CDI Relapse – A confirmed case with recurrence of diarrhea within 2 to 8 weeks of a previous CDI infection (as determined by the date of a previous lab test, chart notes or diagnosis by endoscopy or pathological specimen) if CDI symptoms from the earlier episode resolved with or without treatment.

Nosocomial to Unit - The unit from which the case most likely contracted the causative organism. In the case of CDI, the most likely unit is the one where the resident spent 72hrs or longer or where the resident had a previous recent admission (within 4 weeks) prior to symptom onset. If the resident spent 72 hours or longer on more than one unit within this period, select the most recent or longest stay.

Resolved case of CDI – Confirmed CDI case (as defined above), but the bowel habits of the CDI case have returned to normal patterns for that resident for a period of at least 48 hours.

Assessment

CDI Symptoms:

- Watery diarrhea
- Fever
- Loss of appetite
- Nausea
- Abdominal pain and tenderness, cramping.

Risk factors for CDI

- A history of antibiotic usage, particularly broad-spectrum antibiotics that affect the normal gut bacterial flora, such as fluoroquinolones.
- Immunosuppressive therapy post-transplant
- Use of proton pump inhibitors
- Bowel disease and bowel surgery
- Chemotherapy; and/or hospitalization
- History of CDI
- Increased age
- Immunosuppressive therapy
- Recent surgery

Testing/Sample Collection

- Collect a stool sample when a resident has 3 episodes of diarrhea, Bristol stool chart 6 or 7, within a 24 hour period.
- Inform the MRP regarding resident's clinical status to request order when case definition met.

  - If collecting a stool sample, send the sample to your regular lab through your established courier service.
  - Stool samples can be stored in the fridge ≤ 24hr, at 4°C (fridge), or ≤ 2hr at room temperature.
  - Indicate CDI on lab requisition.
- There is no requirement to test asymptomatic residents.

Management of suspected or confirmed residents.

- Maintain Contact Plus Precautions until 48 hours after symptoms have resolved. Continue using Point of Care Risk Assessment (PCRA) when performing tasks with a risk of splashes and sprays.
- For residents that test indeterminate, MRP to assess the resident to identify the need to continue Contact plus precautions.
- For residents that test negative, assess alternate diagnosis, and maintain Contact Plus precautions for 48 hours after resolution of symptoms.
- For treatment, refer to *Clostridioides difficile* Infection document.
- Initiate a paper line list on the unit to document the number of loose stools using the Bristol stool chart.
- Hand Hygiene with the first available product (ABHR or soap and water).
  If your hands are visibly soiled:
  - Use the dedicated hand hygiene sink if available.
  - If a dedicated hand hygiene sink is not available use ABHR then go to a dedicated hand hygiene sink as soon as possible.
- Dedicate toileting facility/commode for residents where possible.
- Use disposable hygienic products for symptomatic residents for the duration of the illness when unable to dedicate toilet.
- Dedicate shared equipment where possible.
  - Clean and disinfect equipment using the 2-step process after each use.
  - When unable to dedicate, clean and disinfect all shared items using a Health Canada approved sporicidal agent effective against *CDI* spores. See Commonly used Disinfectants Table.
- Monitor close contacts for symptoms. Consult with ICP if requiring more guidance.
  - Close contacts are residents sharing a room including toileting facilities.
- Close privacy curtains for residents in shared rooms.
- Assess and ensure adequate nutrition and hydration see Hypodermoclysis. Refer to a dietician, if necessary.
- No special handling of linen required; routine practice is sufficient, have an in room linen hamper for hospital linen and personal laundry and garbage when resident is on precautions.
- No special handling of dishes and cutlery required, routine practice is sufficient.

Outbreak Definition

Medical Health Officer (MHO) may call an outbreak following discussion with the medical microbiologist, Communicable Disease Environmental Health Officer and IPAC when there are two or more Healthcare associated CDI cases in a 4-week period on the same unit.

ICP to reach out to MHO to consider calling a CDI outbreak.

Admissions/Transfers

- There are no halts to admissions or transfers for residents with CDI.
- When transferring a resident, notify the transferring service, receiving unit, or facility/home care agency of the necessary requirements in advance.

Enhanced cleaning

ICP will ask for enhanced cleaning when there is a positive CDI case on the unit. Environmental services should use a Health Canada approved sporicidal agent effective against CDI to clean and disinfect the environment. Use a cleaning agent followed by a disinfectant with sporicidal activity. See Commonly Used Disinfectant Table.

For owned and operated sites:

- ICP to request enhanced cleaning.

Contracted and private sites:

Leadership to coordinate enhanced cleaning.

Discontinuation of Precautions

- Continue Contact Plus Precautions until bowel habits have returned to normal patterns for 48 hours.
  - Maintain resident on Contact Plus Precautions until Isolation discharge clean of the room is complete along with a resident bath/shower.
  - Discard toilet brush.
- If ongoing transmission is occurring and if there is suspicion for viral GI, consult with IPAC team for further guidance. See VGI Leadership Toolkit or VGI Frontline Staff Toolkit

References

1. Canadian Centre for Occupation Health and Safety, (2018). Fact Sheet
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3. PIC Net BC, (2018). Toolkit for Management of CDI in Acute care settings
4. PHAC, (2012). C. difficile (Clostridium difficile)
5. PHAC, (2014). Fact Sheet - Clostridium difficile (C. difficile)
6. CLOSTRIDIUM DIFFICILE INFECTION TREATMENT ORDERS
7. Canadian Standards Association Group. (2018). CSA Z8000-11: Canadian Health Care Facilities- Planning, Design and Construction (second edition).