Clostridium difficile Algorithms for Long-term Care

• A1 Early Recognition and Testing
• A2 Contact Precautions
• A3 Room Placement
• A3.1 Identifying Lower Risk Roommates
• A4 Environmental Cleaning and Disinfection
• A5 Social and Activity Precautions

Definitions and commonly used acronyms
ADL: activities of daily living
CDI: Clostridium difficile infection
HH: hand hygiene
PPE: personal protective equipment
PPIs: proton pump inhibitors

Standard Precautions (SP): for the care of all residents, all of the time
• Wear gloves, gown, mask or eye protection if you anticipate you may have any contact with body fluids (direct contact, spraying, or splashing) while performing care to the resident

Contact Precautions (CP): for the care of residents with CDI symptoms
• Always wear gloves and a gown to provide care to the resident
• Place resident in a private room, if available
• Dedicate equipment to individual residents who have CDI whenever possible (e.g., commodes, blood pressure cuffs, and stethoscopes)
• Clean and disinfect all shared equipment with appropriate cleaner immediately after use and before use with any other resident.
A1. Early Recognition and Testing

Resident experiencing new onset of diarrhea

Has the resident had ≥3 unformed stools in a 24 hour period?  
No: Do not test asymptomatic residents for CDI

Yes: Have other potential causes of loose stool been ruled out? (i.e. other underlying conditions, use of laxatives or stool softeners, tube feeding etc.)

Contact provider, order lab test for CDI. Do not start empiric treatment before collecting sample.

Consider creating a standing order for nursing staff to initiate CDI testing

Collect and submit fresh stool sample

Collect specimen in clean, watertight container

Only unformed stools should be collected

Refrigerate (2-8°C; 36-46°F) until testing can be done

While test results are pending:
- Discontinue all non-essential antibiotics and all anti-peristaltic medications
- Initiate fluid replacement if not contraindicated
- Initiate pre-emptive Contact Precautions (gowns, gloves)

Positive

Contact provider regarding treatment  
(see IDSA Guidelines)

Place resident in appropriate room

A3

Do not perform a "test of cure" or re-test if resident is responding to treatment

Negative

Consider other causes of loose stool; perform testing for other enteric pathogens

If all testing is negative and symptoms continue

Clinically reassess resident. If PCR was initial testing method, do not re-test for *C. diff*. If initial *C. diff* testing method was relatively insensitive (e.g., EIA) and no other cause of diarrhea is found, consider performing additional diagnostic testing for *C. diff* as clinically indicated

Action Items:
- Train staff to recognize CDI symptoms and to submit only unformed stools for CDI testing
- Establish policy with lab to reject formed and repeat stools for CDI testing
- Know what diagnostic testing method is used by your laboratory

Other considerations:
- Contact Precautions
- Room placement
- Social and activity precautions
- Environmental cleaning and disinfection

Please see additional algorithm
Please see toolkit for more information
Resident experiencing new onset of diarrhea

Implement Contact Precautions for suspected infectious diarrhea

Does the diarrhea have an infectious cause? A1

Yes

Continue Contact Precautions

No

Discontinue Contact Precautions if appropriate and continue Standard Precautions

No, confirmed non-infectious

A. Contact Precautions

Always use Standard Precautions with every resident, every time

- Implement Contact Precautions for suspected infectious diarrhea

- Hand hygiene before donning gloves
- Hand hygiene after removing gloves and gown, before leaving room

- Soap & water is preferred
- Alcohol-based hand rubs can be used except when:
  - Hands are visibly soiled
  - There has been contact with bodily fluids
  - In an outbreak situation

- Include Contact Precaution and cleaning symbol on door signs for residents with CDI to alert staff of Contact Precautions and sporicidal disinfection product requirements
- Gloves are always worn when entering resident's room
- Gowns are worn for direct care and any resident or environmental contact
- Change gloves after caring for one resident and before caring for another
- Use single-use, dedicated, or disposable patient care equipment
- If not available, clean and disinfect reusable equipment immediately after each use

Consider continuing Contact Precautions until CDI treatment is complete, even if diarrhea has resolved.

- Continue gown and glove use beyond 72 hours for residents who are incontinent or need significant assistance with ADLs, due to the risk of prolonged shedding of C. difficile bacteria and spore survival

Action Items:
Provide gowns, gloves, and alcohol-based hand rubs outside resident's room
Assure laundry bin, trash can, and alcohol-based hand rubs are readily accessible inside resident's room

Other Considerations:
Early recognition and testing
Room placement
Social and activity precautions
Environmental cleaning and disinfection

Please see additional algorithm
Please see toolkit for more information
Rooming Residents with CDI

Private room, toilet, and shower/bath are recommended and preferred whenever possible

1st Choice
- Private (single) room with private bathroom
  - Move resident to private (single) room
  - Resident should use only the private bathroom while on Contact Precautions

2nd Choice
- Private (single) room with shared bathroom
  - Move resident to private room
  - Resident with active CDI should use a separate toilet (e.g., dedicated commode) while on Contact Precautions

3rd Choice
- Shared room with shared bathroom
  - Move to room with another resident with active diarrhea
  - Move to room with a resident at lower risk for CDI
    - No resident meets criteria

- Perform HH and change PPE between each resident
- Keep a minimum 3 foot barrier between living spaces.
- Use privacy curtain or tape on floor to emphasize separation
- Resident(s) with active CDI should use a separate toilet (e.g., dedicated commode) while a resident in the room is on Contact Precautions

Bathing residents with CDI

- Always have residents with active CDI use a shower and avoid use of bath tubs.
  - Clean and disinfect shower/tub area immediately after every resident use
- Preferably, resident(s) with active CDI shower after residents without active CDI

Other Considerations:
- Early recognition and testing
- Contact Precautions
- Social and activity precautions
- Environmental cleaning and disinfection

Please see additional algorithm
Please see toolkit for more information

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Primary considerations

Not currently taking antibiotics (1st choice)
  or has not taken antibiotics in previous 12 weeks (2nd choice)
  or has not taken antibiotics in previous 4 weeks (3rd choice)

No history of prior CDI (1st choice)
  or has no CDI in previous 12 weeks (2nd choice)
  or has no CDI in previous 4 weeks (3rd choice)

Secondary considerations

• Not currently on proton pump inhibitors (PPIs)
• No GI/bowel condition comorbidities (diverticular disease, inflammatory bowel disease, Crohn's, peptic ulcer disease)
• No PEG/PEJ tube (no tube feeds)
• Not severely immunocompromised (cancer, chemotherapy, or solid organ transplant)
• Not bedbound/heavily dependent on healthcare workers for ADLs
### A4. Environmental Cleaning and Disinfection

**Resident(s) with CDI**

Select proper cleaning and disinfection products. Always follow manufacturer's instructions regarding proper storage, shelf life, contact time, dilution, application, and surface appropriateness.

**Cleaning:** Use a hospital-grade, EPA registered cleaner

**Disinfecting:** Must use a hospital-grade product with a sporicidal claim

Clean first: Mechanically remove visible debris
Disinfect second

#### Every Shift

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<thead>
<tr>
<th>High-Touch Areas:</th>
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<tbody>
<tr>
<td>- Door handles</td>
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<td>- Bed rails</td>
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<tr>
<td>- Chairs</td>
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<td>- Call buttons</td>
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<tr>
<td>- Toilet seats</td>
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<tr>
<td>- Grab bars</td>
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<tr>
<td>- Light switches</td>
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<tr>
<td>- Telephones</td>
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<tr>
<td>- TV remotes</td>
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<tr>
<td>- Sink/faucet</td>
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<tr>
<td>- Toilet flush handle</td>
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<table>
<thead>
<tr>
<th>Horizontal Surfaces:</th>
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<td>- Bedside tables</td>
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<td>- Tray tables</td>
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<tr>
<td>- Counters</td>
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<td>- Floors</td>
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<thead>
<tr>
<th>Dedicated Equipment:</th>
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<td>- Thermometers</td>
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<td>- Stethoscopes</td>
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<td>- Blood pressure cuffs</td>
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<td>- Oximeters</td>
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<td>- Glucometers</td>
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#### Terminal

Target all areas of the room, including all daily areas, plus:
- Bed frames
- Curtains
- Walls
- Mattresses
- Pillows
- Other furniture

#### Bathroom

- Use commode liners whenever possible; if not using, empty commode in resident's toilet (never in the sink)
- Immediately clean and disinfect commode/toilet (including seat, flush handle, arm rests/grab handles) after each use and/or emptying
- Use a separate cloth for cleaning only the commode/toilet
- Always clean bathroom last, and clean from least contaminated (e.g., doorknobs, light switches, handrails) to most contaminated (e.g., sink handles, seat, flush handle)

- Always clean from clean to dirty and from high to low
- Microfiber cloths are preferred over cotton cloths
- Cloths should not be pre-soaked or re-dipped in an open bucket system
- Discard facility items that cannot be disinfected (bag personal items)
- Clean rooms of residents with active CDI last
- Change cleaning solution, mop, bucket, and cloths after cleaning each room

**Action Items:**
Train Environmental Service staff on importance of cleaning and disinfection and the transmission of disease
Establish responsibility for different elements of environmental cleaning and disinfection
Provide Environmental Service staff with high-touch cards for reference
Include cleaning symbol on door signs for residents with CDI to alert Environmental Services staff of rooms requiring sporicidal disinfection products

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Please see additional algorithm
Please see toolkit for more information
A5. Social and Activity Precautions

Resident(s) with CDI

- Consider social and activity restrictions

  Is resident continent or can diarrhea be contained with incontinence products?

  - Yes
  - No

  Resident has mental and physical ability to follow instructions and perform appropriate HH (or can be assisted by staff)?

  - Yes
  - No

  **In case of accident(s):**
  - Clean/disinfect any bodily fluid accidents immediately
  - Return resident to room
  - Shower/bathe resident as needed
  - Change clothes/incontinence products as needed

  **Action Items:**
  - Ensure a facility transfer form exists for transferring residents between facilities
  - Please see additional algorithm

**Other Considerations:**
- Early recognition and testing
- Room placement
- Environmental cleaning and disinfection

Please see toolkit for more information

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