

# Infection Prevention Office Hours

3/3/2023



LONG TERM  
CARE RESOURCE  
COLLABORATIVE

SOUTH CENTRAL  
LTC RISE

What are we discussing today?

Any guesses?

Free Infection Control Resources:

<https://www.infectioncontroltoday.com/>

hand hygiene

## I'm Downright Nasty and Clever to Boot

BY FRANK DIAMOND

Coronavirus disease 2019 (COVID-19) has made hand hygiene all the rage. That's too bad. Because hand hygiene doesn't only help to slow the spread of COVID-19, but a slew of other dirty bugs, as well. Me, for instance. I am a bacteria that causes diarrhea, and we're not just talking a little bit of discomfort, either. If you have me, then you can have diarrhea up to 10 times a day. If you're 65 or older and taking antibiotics, then you'd better watch out. You're especially vulnerable. I infect about 500,000 people in the United States each year. If you're diagnosed with me, within a month 1 of 11 of you will be dead. And some of the survivors might wish they were dead. On top of diarrhea, I can cause fever, stomach tenderness, severe cramping, nausea, loss of appetite, dehydration, and rapid heart rate. All of the above.

I love hospitals or nursing homes. I really thrive there. The healthcare workers are more likely to come into contact with me and that gives me access to vulnerable patients

and/or residents. I can also infect you if you touch clothes, sheets, or other surfaces that have been in contact with feces.

I'm difficult to shake off. About 1 in 6 people that I'll infect I'll be able to infect again within 2 to 8 weeks. I'm not only confined to hospitals, though. If you have a weakened immune system for any reason, I could be coming after you, as well.

Yes, good hand hygiene can keep me at bay, but not everybody practices good hand hygiene, not even in healthcare settings. Doctors, nurses, infection preventionists—they all need to wash their hands and wash their hands often. COVID-19 underscores that, but let's see what happens when COVID-19 goes away.

One of the ways I work my mischief is through something else that's a huge issue in healthcare: antibiotics. I'm one of the reasons why hospitals have antimicrobial stewardship programs. You're 7 to 10 times more likely to get me if you're taking antibiotics or the month after

you've stopped taking antibiotics. Here's another interesting tidbit: I'm starting to infect an increasing number of younger people who aren't taking antibiotics or are in the hospital.

I'm everywhere in the environment: air, water, soil. I'm in the feces of humans and animals. Many people have the bacteria in their intestines and never have any symptoms. But I'll find someone to infect. I'm patient.

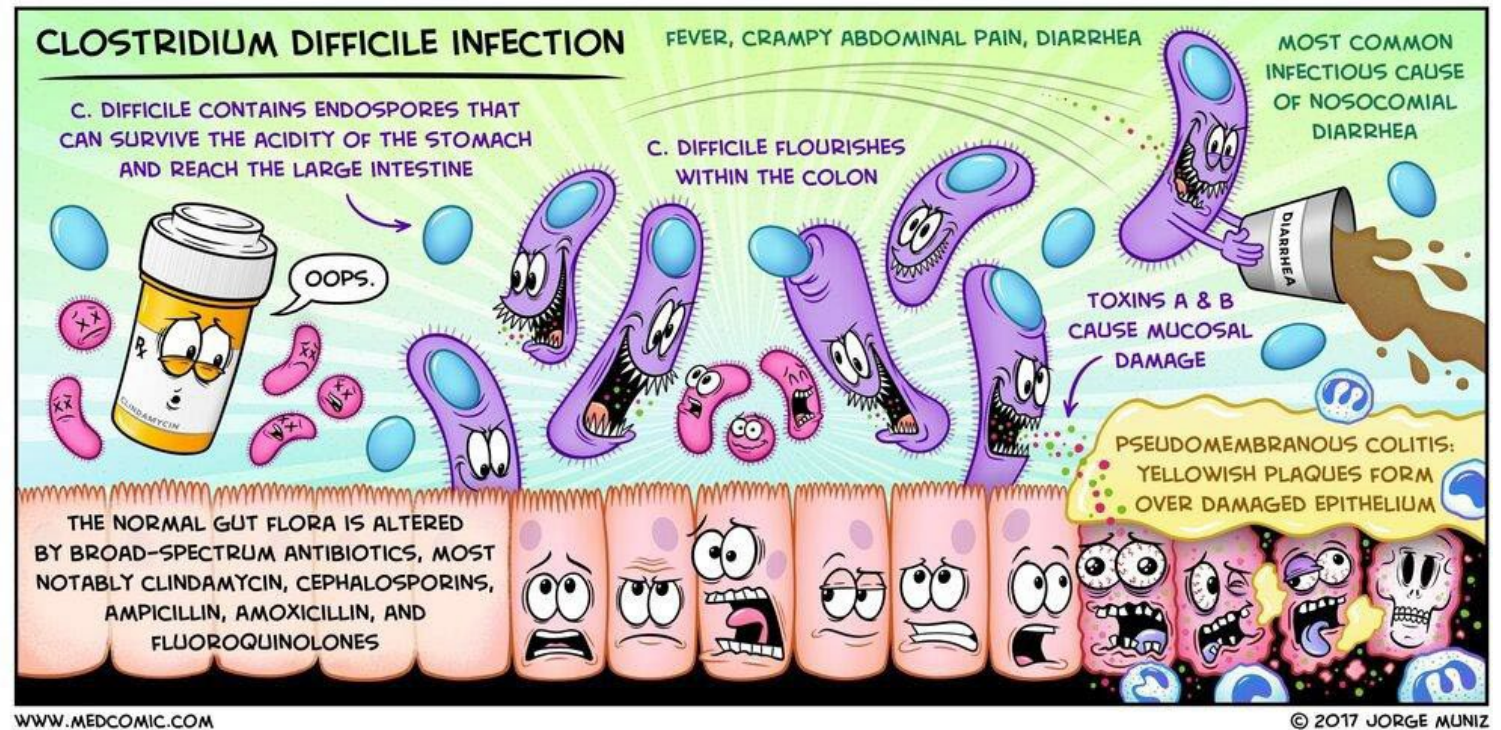
I'm a spore, and inactive but thanks to a protective coating, I can live for months or even years on surfaces. I spring back to life if somehow I reach somebody's intestines. Again, though, if you're healthy I can't really do much damage. In fact, I live in a lot of intestines and the carriers never exhibit any symptoms. Of course, not everybody's healthy, are they? So, I'll just wait. Eventually, I'll find a host.

Who am I? □

# Clostridioides difficile

(best known as C.diff and formerly known as Clostridium difficile)

- Overview
- Testing
- Transmission
- Prevention
- Discussion/Questions
- Resources





# C.diff - Overview

- **About the bacteria**

- Gram positive, anaerobic bacillus
- Spore forming (hard to kill)
- Produces two toxins: A and B

- **Common clinical symptoms**

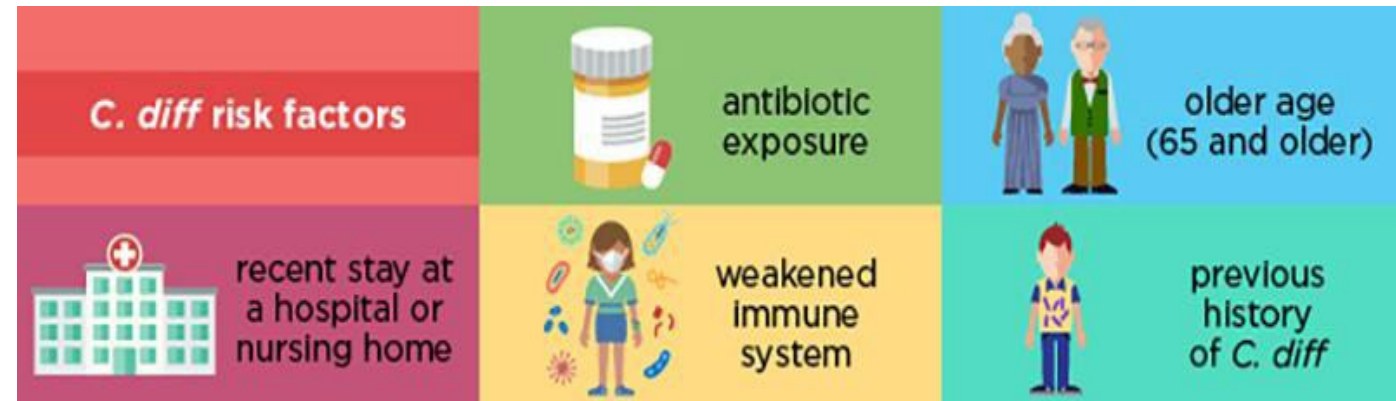
- Watery diarrhea
- Fever
- Abdominal pain

- **Risk factors for infection**

- Antibiotic use
- Long admissions in healthcare settings
- Being immunocompromised or of advanced age

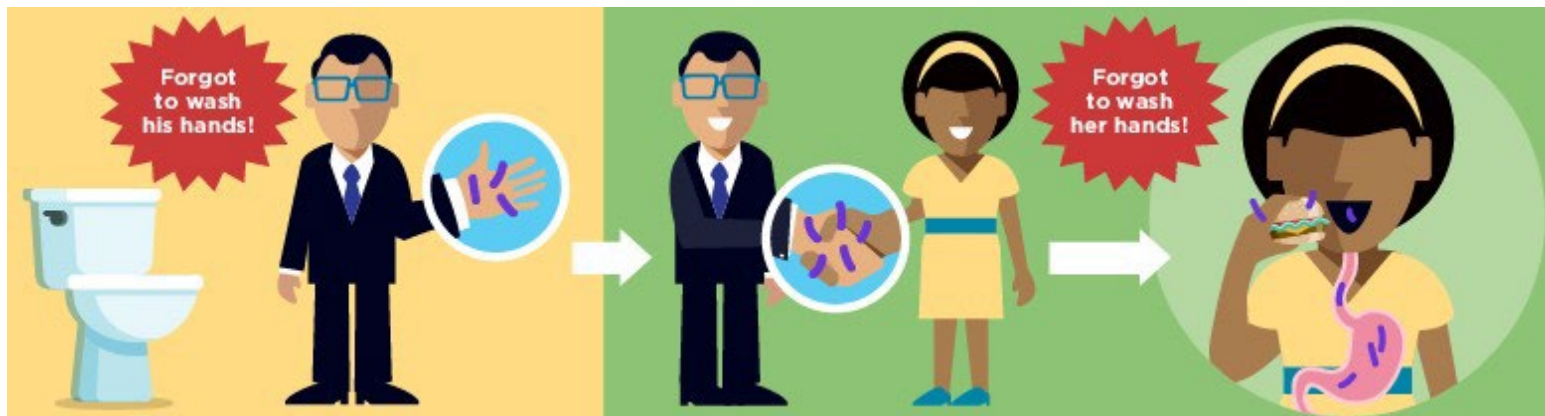
- **Colonization vs. Infection**

- Colonization= positive for C.diff without clinical symptoms and/or disease caused by Cdiff
- Infection= positive for Cdiff organism with clinical symptoms (active disease)
- Cdiff can be spread from feces of colonized **AND** actively infected individuals



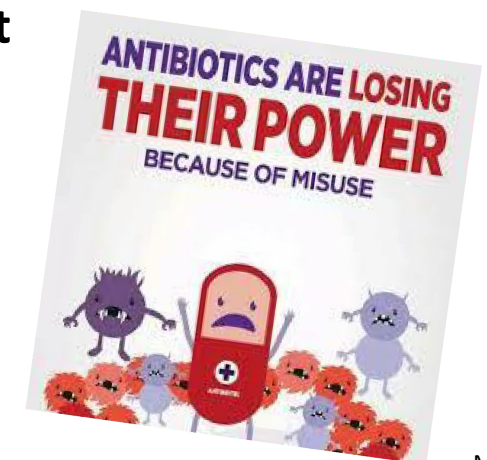
# C.diff - Transmission

- Spread via **CONTACT** transmission
  - This can be through **direct contact** (*coming into contact with feces containing C.diff spores*)
  - This can be through **indirect contact** (*coming into contact with equipment contaminated by C.diff spores*)
- Cdiff spores can contaminate many surfaces (hands, equipment, curtains, furniture, toilets etc.)
- Contact with contaminated surfaces can transmit infection to a new host
- Healthcare personnel can transmit C.diff via contaminated hands



# C.diff- Prevention

- Use contact precautions (**contact plus or contact enteric often used**) and a private room residents with known or suspected CDI
  - CDI PPE = gown and gloves; assure PPE is stocked and available for use
  - May cohort with another CDI resident if private rooms are not available
  - Assure isolation signage is displayed outside of the resident's room
  - Continue contact precautions for **at least** 48 hours after diarrhea has stopped (due to C.diff shedding); extended periods of isolation may be needed for incontinent residents or until the end of treatment. The longer you can maintain isolation, the better!
  - Consider increased rounding to observe IP practices for CDI rooms
- Perform excellent hand hygiene; soap and water is preferred for CDI
- Use disposable patient equipment as much as possible
- Clean and disinfect rooms and shared equipment with an EPA registered, sporicidal agent
  - Follow the wet times for disinfection/change curtains upon discharge/etc.
  - See the [EPA List K](#) for approved disinfectants
- Practice good antibiotic stewardship (*correct indication, correct antibiotic, correct duration*)
- Educate staff, residents and family on C.diff prevention strategies



# C.diff - Testing



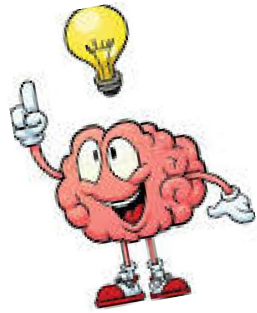
## • Appropriate testing

- $\geq 3$  Watery, unformed stools in 24 hours (*formed stools should be rejected for testing*)
- Send specimens promptly to lab in a tightly sealed container
- Testing for cure is not recommended for a confirmed CDI resident
- Repeat testing not recommended during the same course of illness/episodes of diarrhea for a confirmed CDI resident

## • Types of Lab Tests

- Molecular Tests
  - fast turnaround, highly sensitive.
  - Molecular PCR assay can detect toxigenic C.diff
  - May be positive for individuals without active infection (colonized)
- Antigen Tests
  - Rapid, non-specific results
  - Detects Antigen glutamate dehydrogenase (GDH); doesn't confirm presence of toxins
  - Often used in a two-step testing process with a toxin detection test
- Toxin Testing
  - Enzyme immunoassay (EIA) detects toxin A, B, or both
  - Same day turnaround and inexpensive
- Stool culture
  - Most sensitive (false negatives), labor intensive and long turnaround time (a few days)
  - Organism detection, not toxin detection





# Let's Discuss!

*Remember - The Best Learning We Do is from Each Other!*

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- **What are your Facility Practices/Protocols?**
- **What are your Successes?**
- **What are your Challenges?**
- **Do you have any Questions or Topic Suggestions?**







# References and Helpful Resources



- Cohen SH, Gerding DN, Johnson S, et al. Clinical Practice Guidelines for Clostridium difficile Infection in Adults: 2010 Update by the Society for Health care Epidemiology of America (SHEA) and the Infectious Diseases Society of America (IDSA). Infect Control Hosp Epidemiol. 2010 May;31(5):431-55. <http://www.processcleaningsolutions.com/pdf/Cohen-IDSA-SHEA-CDI-guidelines-2010.pdf>
- Clinical Practice Guideline by the Infectious Diseases Society of America (IDSA) and Society for Healthcare Epidemiology of America (SHEA): 2021 Focused Update Guidelines on Management of Clostridioides difficile Infection in Adults: <https://www.idsociety.org/practice-guideline/clostridioides-difficile-2021-focused-update/>
- APIC Toolkit: [https://apic.org/Resource\\_/TinyMceFileManager/Practice\\_Guidance/cdiff/C.Diff\\_Digital\\_Toolkit\\_GNYHA.pdf](https://apic.org/Resource_/TinyMceFileManager/Practice_Guidance/cdiff/C.Diff_Digital_Toolkit_GNYHA.pdf)
- CDC C. diff Guidelines and Prevention Resources: <https://www.cdc.gov/cdiff/clinicians/resources.html>
- CDC Cdiff FAQs: <https://www.cdc.gov/cdiff/clinicians/faq.html#clean>
- Early Identification and Containment of CDI Checklist: [https://qioprogram.org/sites/default/files/2022-09/EarlyID\\_Assessment.pdf](https://qioprogram.org/sites/default/files/2022-09/EarlyID_Assessment.pdf)
- System wide Algorithmic Approach to C. diff Testing: How a hospital system drastically reduced the number of tests and positive cases of C. difficile, cutting costs and improving overall care: <https://www.cap.org/member-resources/case-examples/systemwide-algorithmic-approach-to-c-diff-testing>
- C. difficile Infection (CDI) Testing Algorithm: [https://physicianforum.nm.org/uploads/1/1/9/4/119404942/c\\_diff\\_updates\\_and\\_algorithm.pdf](https://physicianforum.nm.org/uploads/1/1/9/4/119404942/c_diff_updates_and_algorithm.pdf)
- Diarrhea Decision Tree: [https://infectioncontrol.ucsfmedicalcenter.org/sites/g/files/tkssra4681/f/Diarrhea\\_Decision\\_Tree%2011.14.2019.pdf](https://infectioncontrol.ucsfmedicalcenter.org/sites/g/files/tkssra4681/f/Diarrhea_Decision_Tree%2011.14.2019.pdf)