



# Six Things You Can Do Today to Prevent Hospital-Onset *C. difficile* Tomorrow

Some lesser-known advice on keeping patients safe.

Most nurses know the drill about *Clostridium difficile*: wash your hands, use contact precautions, and clean with bleach. But a closer look might reveal nuances in *C. difficile* prevention that not everyone is aware of. Here are six things you can change in your practice immediately to help prevent transmission of *C. difficile* in your health care facility.

## PREVENTING *C. DIFFICILE* TRANSMISSION IN YOUR FACILITY

**1. Know the risk factors.** There are more risk factors for *C. difficile* infection than a history of antibiotic use and older age. Those are both important risk factors, but there are many others as well. A history of *C. difficile* infection, for instance, increases risk. A broad 2011 review of the literature by Fashner and colleagues shows that certain types of antibiotics—cephalosporins, penicillins, quinolones, and clindamycin—are associated with an even greater risk of *C. difficile* infection than others.<sup>1</sup> Therapy with multiple antibiotics can increase risk, too, as can recent hospitalization.<sup>1</sup> Some research has connected the use of proton pump inhibitors and histamine H<sub>2</sub>-receptor antagonists to an elevated risk of *C. difficile* infection, although that research has been called into question.<sup>2</sup> Other identified risk factors include longer hospitalization (which increases opportunities for contact with infected patients or contaminated surfaces), cancer chemotherapy, HIV, and gastrointestinal surgery or “manipulation of the gastrointestinal tract” (such as feeding through a gastrointestinal tube).<sup>2</sup> Because the proportions of patients with risk factors for *C. difficile* infection at long-term care facilities are likely to be high, residence in a long-term care or skilled nursing facility can also be considered a risk factor. A recent history of loose stools prior to admission should also raise suspicion.<sup>3</sup>

*Change your practice:* A recent history of treatment with antibiotics and a patient’s age should be part of your *C. difficile* risk assessment, but not all. Keep the whole patient in mind, and have a high level of suspicion for *C. difficile* if the answer to questions about any of the other risk factors listed above is yes.



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**2. Stop the spread.** Early testing can prevent the spread of disease in a facility and correctly identify a new case as a community-acquired infection or one that was acquired in the facility. Although it may not be possible to prevent that one patient’s illness, knowing whether transmission is occurring in an organization or in the community helps the facility determine whether practices need to be changed or the incidence of disease in the community is high. (There are also financial penalties for hospital-acquired infections, so it’s important to ensure that data are correct.)

The national reporting system of the National Healthcare Safety Network (NHSN) is part of the Centers for Disease Control and Prevention. The NHSN establishes the criteria that determine whether an infection is counted as hospital acquired or not. It’s very important that the numbers of hospital-onset cases be counted accurately. Infection preventionists, including infection control nurses, are highly trained in surveillance techniques, in this case understanding and applying the definitions.<sup>4</sup>

*Change your practice:* Become familiar with the NHSN definitions of hospital-acquired infection. Nurses who provide patient care don’t need a high

level of expertise in determining the origin of a *C. difficile* infection (hospital or community), but having some basic knowledge can be very helpful. The key is to ensure that testing occurs within the specified time frame. If a patient is tested between day 1 and day 3 of hospitalization (with the day of admission considered day 1), with positive results, then according to the definition, that counts as present on admission. But if testing is not done until day 4 or after, a positive result must be considered hospital acquired. Know the risk factors and symptoms. Maintain a high level of suspicion. And if you suspect your patient may have *C. difficile*, facilitate having them tested by day 3 at the latest.

## If a patient has diarrhea with no apparent cause, begin contact isolation right away.

**3. Start isolation stat.** If a patient has diarrhea with no apparent cause, isolation precautions should be implemented right away. Clinicians should not wait for test results to begin isolation.<sup>5</sup> Any patient in whom *C. difficile* is being ruled out is potentially very contagious and, if positive, can pass the organism on to others.<sup>6</sup>

*Change your practice:* Don't wait for positive test results. Initiate contact isolation as soon as there is suspicion of *C. difficile* infection or a test is ordered (depending on facility policy).

**4. Use proper handwashing technique.** Is it better to use soap and water or an alcohol-based hand rub? There remains a lack of compelling evidence for the use of one over the other when caring for a patient with *C. difficile*. *C. difficile* is a spore-forming organism, and alcohol does not kill spores. A spore is a very hard shell around the *C. difficile* bacterium. Ideally, in order to be effectively removed from the hands, the spores would be washed down the drain through use of a combination of mechanical friction and soap and water. It is possible that using alcohol-based hand rubs might only move the spores around on the hands, not remove or kill them. However, although alcohol-based hand rubs have shown little efficacy in terms of spore removal or disinfection under strict laboratory conditions, neither handwashing technique has proved more effective in clinical settings.<sup>5</sup>

*Change your practice:* Updated practice recommendations from Dubberke and colleagues, released in 2014, recommend performing “meticulous hand hygiene” with either soap and water or an alcohol-based rub before entering the room and after removing your gloves following care of a patient with

*C. difficile* infection.<sup>5</sup> However, the guideline continues, “in outbreak or hyperendemic settings,” use of soap and water is preferred.<sup>5</sup>

In my personal experience as an infection control specialist, every hospital I have worked in requires soap-and-water handwashing for all cases of *C. difficile*, not just in the presence of outbreaks or in a hyperendemic setting. Although there is an ongoing debate over the subject,<sup>7</sup> it was clear at the 2017 conference of the Association for Professionals in Infection Control and Epidemiology that many institutions are not waiting to make what is considered a commonsense change merely because the literature hasn't caught up.

If sinks are difficult to access quickly and easily, it may be necessary to do an initial wash using the sink in the patient's room. You should use one paper towel to turn on the faucet and a new, clean paper towel to turn it off. If you must use a door handle to exit the patient's room, use a paper towel to avoid touching it directly. After exiting the room, you should locate a sink right away and repeat handwashing with soap and water.

**5. Clean surfaces.** *C. difficile* spores can live for months on environmental surfaces and are very hard to kill. Even when a patient's treatment has been effective and the patient is no longer symptomatic, a dirty room can lead to reinfection.

*Change your practice:* Don't keep an asymptomatic patient in a dirty room. If your patient was positive for *C. difficile*, was treated, and no longer has diarrhea, the entire room needs to have a full (“terminal”) cleaning. You should use a bleach product. During the cleaning, move the patient either to a clean room or, if that is not possible, out of the room.

**6. Keep reusable equipment clean.** Most health care facilities have moved to the use of disposable equipment whenever possible over the last several years. However, there remain some patient care items that must be reused. Environmental services staff are often restricted from cleaning equipment such as IV pumps or “computers on wheels” in patient rooms. It is often unclear who is responsible for cleaning such items, the result being that they may not get cleaned and will create a risk of *C. difficile* transmission (and transmission of other organisms).

*Change your practice:* Commit to increasing your observation of what goes in and out of a room occupied by a patient with *C. difficile* infection. Is equipment cleaned before it is taken into another room? Determine who is supposed to clean which items. If no one knows, chances are that the equipment is not being cleaned by anyone. Make it a point to find out and get it cleaned. Any reusable items used in the treatment of a patient with *C. difficile* must be either

dedicated to that patient during her or his hospitalization or cleaned with a bleach product when removed from the room and before being taken into another patient's room.

#### THE BOTTOM LINE

*C. difficile* causes approximately 15,000 deaths and 450,000 illnesses a year.<sup>8</sup> Even if you make only one of these changes in your practice today, you may be able to prevent a case of *C. difficile* tomorrow. Share these six strategies with your coworkers. Spread the facts, not the germs. ▼

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