

Section: UTMB On-line Documentation	Policy 01.43
Subject: Infection Control & Healthcare Epidemiology Policies and Procedures	2.1.20 Reviewed Author
Topic: 01.43 - Prevention and Control of <i>Clostridium difficile</i> Infections	

### 01.43 - Prevention and Control of *Clostridium difficile* Infections

Purpose To prevent and control the transmission of *Clostridium difficile* infections among hospitalized patients in UTMB hospitals.

Audience UTMB healthcare workers, licensed independent practitioners, personnel working for contractors in UTMB hospitals, students and volunteers.

Update 5/23/17 **New: recommendations for testing (I.B.), discontinuing isolation (II.D)**

Section I. Diagnostic testing for *C. difficile*

A. *Clostridium difficile* is a spore-forming, toxin-producing, gram-positive anaerobic bacterium. *C. difficile* causes 15-25% of all cases of antibiotic-associated colitis. *C. difficile* infection (CDI) may be associated with significant morbidity, particularly in higher-risk patients. The key to preventing transmission is early case recognition, isolation, treatment, and judicious use of antimicrobials.

B. The diagnostic test used at UTMB is the molecular polymerase chain reaction (PCR) test that detects the gene for *C. difficile* toxin B. This test has a sensitivity and specificity of 98%, positive predictive value of 92% and negative predictive value of >99%, compared to the composite gold standard cytotoxin B assay and toxigenic culture. Because this genetic test can detect asymptomatic carriage of *C. difficile*, it is important to select the most appropriate patient population for testing. When a test for *C. difficile* is ordered, guidelines for testing will be displayed in EPIC. The following are recommendations for testing:

1. The test should be performed on patients with clinically-significant diarrhea, defined as 3 or more loose stools per day for -the past 24 hrs.
2. The test should not be performed on patients who have had laxatives administered within the previous 24 hours, since this is an alternate explanation for diarrhea, it is preferable to stop the laxative and observe the patient. Approval from the medical director/associate director of Microbiology is needed to test a patient who is on a laxative but has very profuse diarrhea (>5 episodes in previous 24 hours) with cramps or bloody stool. .
3. Testing is only performed on loose or watery stool (specimens that take the shape of the collection container). The UTMB laboratory will reject test requests on formed stool.
4. Do not order multiple tests. When the initial test is positive, the Clinical Microbiology Laboratory will not accept another stool specimen for *C. difficile* testing **for 7 days** (or for entire hospital stay).
5. Repeat testing for a test of cure is NOT recommended. The test may remain positive despite a clinical response and is not a predictor of recurrence or relapse. A negative test is not required to discontinue isolation. When a patient has a stool test positive for *C. difficile*, no further stool tests for *C. difficile* will be processed by the Clinical Microbiology Laboratory **during that admission**.
6. Patients for whom a *C. difficile* test is ordered is placed in empiric Extended Contact Precautions. If the test is negative, precautions may be

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discontinued.

Section II.  
Surveillance  
for  
*Clostridium  
difficile*  
infection

- A. Laboratory results are reviewed by Infection Control & Healthcare Epidemiology (ICHCE) personnel at least daily and upon receipt of an alert from the electronic surveillance system.
- B. All hospitals report positive cases in the ED and inpatient areas to CDC's National Nosocomial Healthcare Safety Network (NHSN) via the LabID Event module as required by the Centers for Medicaid and Medicare Services (CMS).
- C. Classification by likely exposure source: The Lab ID Event module uses an algorithm to classify onset as follows:
  - 1. Hospital-onset: a patient whose positive test was collected on or after the 3<sup>rd</sup> hospital day.
  - 2. Healthcare facility associated-community onset:
    - 1. Specimen collected within the first two days of admission AND
    - 2. The patient was discharged from UTMB less than 4 weeks prior to specimen collection.
  - 3. Community-associated CDI
    - 1. Specimen collected in the first 2 days of admission and
    - 2. The patient was not admitted or was discharged more than 4 weeks prior to specimen collection.

Section III.  
Isolation  
Precautions-  
Inpatient and  
Emergency  
Department

- A. Extended Contact Precautions will be implemented for patients with suspected or confirmed *Clostridium difficile* infection. A suspected case is a patient who has unexplained diarrhea on admission to the ED or inpatient unit, one who develops unexplained diarrhea after admission, or one for whom a *C. difficile* test is ordered. The isolation order may be entered by the healthcare provider or an isolation screen may be entered by ICHCE personnel.
- B. The patient's record will be flagged in EPIC indicating isolation precautions are in place. ICHCE staff implementing isolation will also enter a progress note stating when and why precautions were ordered.
- C. An Extended Contact Precautions sign will be placed at the patient's door indicating precautions to be followed.
- D. Discontinuing precautions
  - 1. Extended Contact Precautions may be discontinued if a patient suspected of having CDI has a negative test result. The ordering provider may discontinue the isolation order.
  - 2. Patients testing positive for *C. difficile* will remain on precautions until all of the following conditions are met:
    - a. Patient is receiving adequate treatment for *C. difficile*
    - b. Resolution of symptoms for 48 hours
    - c. Patient is discharged or transferred from the room so that all surfaces in the room may be cleaned thoroughly (Note: patient must be bathed, placed in a clean gown, and placed in a clean bed when transferred to a new private room)
    - d. Approval is received from ICHCE (call or page department or infection preventionist assigned to the unit/area). Only ICHCE personnel have access to the infections (ICHCE) flag in EPIC. Contact information:
      - 1) Main campus or LCC: call extension 409-772-3192
      - 2) ADC: call extension 979-848-9186
      - 3) Page 409-643-3133 for all campuses after hours
    - e. TDCJ: Because most rooms are semiprivate, ICHE will review requests to

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discontinue isolation on a case-by-case basis.

E. Personal Protective Equipment (PPE)

1. Prior to entering room:
  - a. Clean hands (may use hand sanitizer or wash with soap and water) prior to donning PPE.
  - b. Don gown and gloves to enter the room.
2. Upon exiting room:
  - a. Remove gown and gloves in the room prior to exiting. Gloves should be removed first. (Remove gloves by using the technique shown in the two figures on Appendix A.) Remove gown by detaching the tabs at the back of the neck and untying the straps around the waist at the back and pulling the gown forward from the shoulders and turning the gown inside out. Take care to avoid contaminating clothing or hands by touching surfaces in the room after removing gloves and gown.
  - b. Discard gowns and gloves in the appropriate receptacle prior to leaving the room.
  - c. Wash hands immediately on exit from the room with soap and water.  
**Alcohol hand rub cannot be used after contact with the patient or patient care space:** alcohol will not remove or kill *C. difficile* spores.

Section IV  
Transportation  
of Patient on  
Extended  
Contact  
Precautions  
(10)

- A. Notification of isolation status: When arranging for transportation, the transferring unit/department will notify the receiving unit/department of the patient's isolation status.
- B. Isolation technique for transport:
  1. When arriving on a nursing unit to transport a patient to another location for diagnostic procedures or treatment, the transporter will perform hand hygiene with an alcohol hand rub or antiseptic soap and water and then don an isolation gown and gloves prior to entering the room.
  2. After covering the wheelchair or stretcher with a clean intact sheet, the transporter will assist with the transfer of the patient to the wheelchair/stretcher. The transporter will then move the patient to the door of the room.
  3. The transporter will remove gloves (**see pictures in Appendix A for the proper technique for removing gloves from hands**) and gown, discard them in the room, push the patient out of the room, and wash hands with soap and water.
  4. The patient will then be moved to the assigned destination.
  5. When the patient is ready for transport back to their room, the transporter will check the PATH form on the first page of the patient's chart to determine whether or not the patient is on isolation. If the patient is on Extended Contact Precautions, the transporter will perform hand hygiene with soap and water or with an alcohol hand rub and then don gown and gloves.
  6. The transporter will cover the wheelchair or stretcher with a clean sheet and assist with moving the patient into the wheelchair or onto the stretcher. The patient will be covered with a clean sheet. If the patient is on isolation precautions, the transporter will then remove gloves and gown and wash hands with soap and water. The patient will then be transported back to their unit.
  7. On arrival at the patient's nursing unit, the transporter will perform hand hygiene, don gown and gloves, and the patient will be transported into their

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room and will be moved into bed.

8. After removing the sheets from the wheelchair or stretcher, the transporter will put them in the dirty laundry receptacle in the room. The transporter will then move the wheelchair or stretcher to the door, remove gloves (**see pictures in Appendix A for the proper technique for removing gloves from hands**) and gown and discard them in the room.
9. The transporter will move the wheelchair or stretcher out of the room and wash hands with soap and water.

Section V.  
Visitation for  
Patients on  
Extended  
Contact  
Precautions

- A. Visitors are limited to visiting one patient unless the visitor has one or more family members in the hospital.
- B. Visitors will not be required to wear gown and gloves unless they are visiting another patient. Family members in the hospital who are in Extended Contact Precautions should be visited last.

Section VI.  
Cleaning and  
Disinfection of  
Equipment

- A. Blood pressure cuffs and thermometers must be assigned to patients on ECPs and must be discarded or decontaminated when the patient is discharged.
- B. A stethoscope will be placed in the room and will be the only stethoscope used for the care of that patient. **Stethoscopes may not be brought into the room by anyone.** (2, 4)
- C. Personal electronic devices: Cell phones may be brought into the room if covered by the gown. Tablet computers (e.g., iPads) may not be brought into the isolation room due to inability to properly disinfect the screen without causing damage to the device.
- D. Mobile Equipment (wheelchairs, stretchers, Dopplers, ultrasound machines, EKG machines, X-ray machines, dialysis machines and OT/PT equipment) used for patients on ECPs will be cleaned with water and detergent without a disinfectant (Cavicide must not be used, because it will react with sodium hypochlorite), and then be disinfected with a 1:10 dilution of sodium hypochlorite prior to use on other patients.
- E. Equipment attached to patients with CDI will be cleaned and disinfected by Clinical Equipment Services (CES) using a **checklist (Appendix B)**.
  1. CES personnel will don a gown and gloves prior to entering the room.
  2. The surfaces of clinical equipment will be cleaned with a detergent without a disinfectant (*Cavicide* must not be used, because it will react with sodium hypochlorite) and then disinfected with a 1:10 dilution of sodium hypochlorite (except those surfaces listed in Appendix C to which sodium hypochlorite [Clorox] should not be applied)
  3. When possible, the cloth and bucket method will be used to disinfect surfaces with a 1:10 dilution of sodium hypochlorite so that surfaces are very wet. After the sodium hypochlorite has dried for 5 minutes, sodium hypochlorite will be applied again leaving surfaces very wet. Surfaces that cannot be soaked with sodium hypochlorite will be cleaned with a detergent without disinfectant followed by two applications of a 1:10 dilution of sodium hypochlorite using Clorox wipes.
  4. Surfaces to which sodium hypochlorite cannot be applied must be thoroughly cleaned with a detergent.
  5. Gloves (**see pictures in Appendix A for the proper technique for removing gloves from hands**) and gown will be removed prior to exiting the room and discarded in the appropriate receptacle. After leaving the room, personnel will wash their hands with soap and water. Alcohol cannot

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be used for hand hygiene, because it will not kill CD spores. (7-9)

- F. Ventilators in the intensive care units will be cleaned and disinfected by Respiratory Therapists.
1. A gown and gloves will be donned by Respiratory Therapists prior to entering the room.
  2. Ventilators will be cleaned with detergent without a disinfectant (*Cavicide* or other quaternary ammonium products must not be used, because it will react with sodium hypochlorite) followed by application of a **1:10 dilution of sodium hypochlorite to all surfaces (except for those listed in Appendix C) on a daily basis.**
  3. Where possible, the cloth and bucket method will be used to disinfect surfaces so that they are very wet. After allowing the surfaces to dry for 5 minutes, the sodium hypochlorite will be applied again to get the surfaces very wet.
  4. **Sodium hypochlorite will not be applied to computer screens.** Gloves (see pictures in Appendix A for the proper technique for removing gloves from hands) and gown will be removed and discarded in the appropriate receptacle prior to leaving the room.
  5. Hands will be washed with soap and water immediately after leaving the room. Alcohol cannot be used for hand hygiene, because it will not kill CD spores.

Section VI:  
Environment

- A. Cleaning and decontamination of patient rooms will be done daily and after discharge of the patient. (7, 8)
- B. Environmental Services personnel who clean and disinfect the rooms (inpatient and Emergency Department) will don a gown and gloves before entering the room. The gloves and gown will be removed (**see pictures in Appenfor the proper technique for removing gloves from hands**) prior to leaving the room, and the gown and gloves will be discarded in the appropriate receptacle. After leaving the room, they will wash their hands with an antiseptic soap and water. Alcohol cannot be used for hand hygiene, because it will not kill *Clostridium difficile* spores.
- C. Patient rooms will be cleaned with a hospital grade detergent, without a disinfectant (*Cavicide* must not be used, because it will react with sodium hypochlorite) by Environmental Services personnel using a **check list (Appendix D)** for environmental sites to be cleaned.
- D. Using the same **checklist (Appendix D)**, environmental surfaces will be disinfected with a **1:10 dilution of sodium hypochlorite** applied to all surfaces (except those listed in Appendix C to which sodium hypochlorite [Clorox] should not be applied) using the cloth and bucket method. Sodium hypochlorite will be applied so that surfaces are very wet. After the surfaces have dried for **5 minutes**, sodium hypochlorite will be applied to the surfaces a second time leaving the surfaces very wet.

Section VII:  
Precautions  
for  
Procedure  
Areas  
(procedures  
performed  
on inpatient

- A. Radiology**
  1. Notice: The nursing unit from which a patient on ECPs will be transported to Radiology will notify the location in Radiology with the name and UH# of the patient to be transported and that the patient is on ECPs.
  2. Equipment pre-procedure:
    - a. These areas will have detergents (not *Cavicide*) and a **1:10 dilution of sodium hypochlorite.**
    - b. Any surface with which the patient will have contact should be

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unit or in  
department)

- covered with clean linen (sheet, pillowcase, etc.) prior to the patient's arrival.
3. Personal protection equipment (PPE) will be located in all areas where radiologic procedures are performed.
    - a. Personnel in Radiology will don a gown and gloves prior to arrival of the patient.
    - b. When personnel have had contact with the patient prior to touching the control panel, they should carefully remove their gloves and put on a clean pair of gloves before touching the controls.
    - c. When the patient's examination or procedure is completed, the transporter will place a clean sheet on the wheelchair or stretcher, perform hand hygiene, don gown and gloves and assist with placing the patient in the wheelchair or on the stretcher. The transporter will then remove gloves (**see pictures in Appendix A for the proper technique for removing gloves from hands**) and gown and discard them in the trash and wash hands with soap and water. A clean sheet will be placed over the patient just prior to departure.
    - d. The personnel in Radiology who worked with the patient should remove their gloves (**see pictures in Appendix A for the proper technique for removing gloves from hands**) and gown and discard them in the trash.
    - e. Personnel should then wash their hands with soap and water. Alcohol handrub cannot be used, because alcohol will not kill *C. difficile* spores
  4. Equipment post-procedure:
    - a. Personnel will wear a gown and gloves to clean equipment (note: change gowns between the procedure and cleaning equipment).
    - b. All surfaces in contact with the patient and personnel who performed the procedure should be thoroughly cleaned with a detergent compatible with the Radiology equipment (do not use *Cavicide* which will react with sodium hypochlorite). After cleaning surfaces with a detergent, apply a 1:10 dilution of sodium hypochlorite to the clean surfaces so that they are very wet and let them dry for 5 minutes. Then apply the 1:10 dilution of sodium hypochlorite to all surfaces a second time so that they are very wet. For electronic equipment, wipe surfaces with sodium hypochlorite wipes. Do not use sodium hypochlorite on aluminum surfaces. Do not wipe monitor screens with sodium hypochlorite.
    - c. After completing cleaning and disinfection, gloves (**see pictures in Appendix A for the proper technique for removing gloves from hands**) and gown should be removed and discarded in the trash. Hands should be washed with soap and water. Alcohol will not kill *C. difficile* spores.

## B. Cardiology

### 1. EKG

- a. Personnel from the Heart Station who enter a patient's room on Extended Contact Precautions (ECPs) will first perform hand hygiene with an alcohol hand rub or wash hands with soap and water and then don a gown and gloves.
- b. The electrocardiograph will then be pushed into the patient's room.

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After placing the electrodes on the patient and attaching the leads, carefully remove gloves (**see pictures in Appendix A for the proper technique for removing gloves from hands**) and don another pair of clean gloves.

- c. Care should be taken to minimize contact of the equipment with the patient and their environment.
- d. After the tests are completed, the leads for electrocardiography should be detached and be placed on the machine in such a manner as to minimize contamination of the surfaces of the machine. The electrodes should be removed and discarded in the room.
- e. In preparing to exit the room the machine should be pushed to the door and gloves and gown removed and discarded in the room.
- f. Immediately after exiting the room with the EKG machine, hands should be washed with soap and water.
- g. Next don a new gown and gloves, and clean the EKG leads and any surface of the machine that may have become contaminated, by contact with patient or the patient's bed with a 1:10 dilution of Clorox. Do not wipe the monitor screen with Clorox. **Do not use Clorox and Cavicide together. These two chemicals will react.**
- h. Then remove gloves (**see pictures in Appendix A for the proper technique for removing gloves from hands**) and gown and discard them in the trash and wash hands with soap and water. Alcohol will not kill *C. difficile* spores.

## 2. Ultrasound

### a. *Ultrasound procedures in patient rooms*

- 1) Prior to entering the patient's room, wash hands or apply an alcohol rub to hands.
- 2) Don a gown and gloves and push the machine into the patient's room.
- 3) Attach the leads to the patient's chest and then carefully remove gloves (**see pictures in Appendix A for the proper technique for removing gloves from hands**) and don a new pair of clean gloves.
- 4) The ultrasound probe must be covered with a sheath prior to beginning the examination.
- 5) Minimize contact of the ultrasound probe cable and your hands with the patient.
- 6) After completing the exam, carefully remove the ultrasound probe sheath with your other hand and discard. Place the ultrasound probe back in its holder on the machine.
- 7) Remove the leads from the patient's chest and hang them on the machine.
- 8) Remove gloves and gown and discard them in the room.
- 9) Push machine out of the room and wash hands with soap and water.
- 10) Don a gown and gloves and clean the chest leads twice with a 1:10 dilution of Clorox and any area on the machine touched by the leads before they were cleaned. **Do not wipe the computer screen with Clorox.**
- 11) Remove gloves (**see pictures in Appendix A for the proper technique for removing gloves from hands**) and gown and

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- wash hands with soap and water.
- b. *Ultrasound procedures performed in the ultrasound station on the fourth floor of the UHC.*
- 1) Prior to entering the exam room, wash hands with soap and water or apply an alcohol hand rub.
  - 2) Don a gown and gloves and enter the room.
  - 3) Place a clean sheet over the table prior to the patient being placed on the table for the ultrasound exam.
  - 4) Place the ultrasound leads on the patient's chest.
  - 5) Immediately remove gloves (**see pictures in Appendix A for the proper technique for removing gloves from hands**) and discard and don a pair of clean gloves.
  - 6) Prior to starting the procedure, place a clean sheath on the ultrasound probe.
  - 7) During the exam, avoid contact of hands with the patient's chest.
  - 8) When the exam is complete, remove the sheath on the ultrasound probe with the other hand and place the probe back in its holder on the machine.
  - 9) Remove the leads from the patient's chest and hang them on the machine.
  - 10) After the patient leaves the room, remove the sheet from the exam table and discard in soiled linen hamper.
  - 11) Clean the chest leads twice with a 1:10 dilution of Clorox and any area on the machine touched by the leads before they were cleaned. **Do not use Clorox on the computer screen.**
  - 12) Remove gloves and gown and wash hands with soap and water.
- c. *TEE procedure*
- 1) All of the steps in b. above will be followed.
  - 2) The physician(s) who insert(s) the probe into the esophagus will wash hands with soap and water or apply an alcohol handrub to their hands and don a gown and gloves before entering the room. After completing insertion of the probe into the esophagus, the physician(s) should remove gloves (**see pictures in Appendix A for the proper technique for removing gloves from hands**) and gown and discard them in the room. Hands should then be washed with soap and water.

### C. Hemodialysis

1. *In the patient's room*
  - a. Prior to entering a patient's room with a dialysis machine and water system, the dialysis technician and/or nurse will wash hands with soap and water or apply an alcohol handrub to their hands.
  - b. The technician and/or nurse will don a gown and gloves and push the machine and water system into the room.
  - c. After dialysis tubing is connected to the patient's vascular access site, the nurse will remove gloves (**see pictures in Appendix A for the proper technique for removing gloves from hands**) and don a new pair of clean gloves prior to touching the dialysis machine.
  - d. Care will be taken to minimize contact of the dialysis machine and water system with the patient and environmental surfaces in the room.
  - e. After completion of dialysis and disconnection of the patients vascular



- access, the disposable tubing and kidney will be discarded in the appropriate container.
- f. The dialysis machine and water system will be pushed to the door of the room.
  - g. The dialysis technician and/or nurse will remove gloves (**see pictures in Appendix A for the proper technique for removing gloves from hands**) and gown and discard them in the room.
  - h. The dialysis machine and water system will be pushed out of the room and the dialysis technician and/or nurse will wash hands thoroughly with soap and water. Alcohol will not kill *C. difficile* spores
  - i. The dialysis technician and/or nurse will again don a gown and gloves for protection of hands and clothing from contact with *C. difficile* spores which may be on the surfaces of the dialysis machine.
  - j. If the surface of the dialysis machine or water system has been soiled with blood or other body fluids, remove the soilage with gauze moistened with tap water. Do not clean the surface of the machine with Cavicide. Sodium hypochlorite (Clorox) will react with Cavicide.
  - k. After the surfaces of the machine are clean, apply a 1:10 dilution of sodium hypochlorite to all surfaces using the cloth and bucket method leaving all surfaces very wet. Let the surfaces of the machine dry for 5 minutes and then apply a 1:10 dilution of sodium hypochlorite to all surfaces of the machine a second time leaving the surfaces very wet. Do not apply sodium hypochlorite to the computer screen.
  - l. The dialysis technician and/or nurse will remove gloves (**see pictures in Appendix A for the proper technique for removing gloves from hands**) and gown, discard them in the trash, and wash hands thoroughly with soap and water. The dialysis machine and water system will be returned to the dialysis unit.
2. On the dialysis unit
- a. Patients on Extended Contact Precautions (ECPs) for CDI will be dialyzed on the second shift.
  - b. The room in which the patient is located will have an Extended Contact Precautions sign placed over the door to the room.
  - c. Healthcare workers will perform hand hygiene and don a gown and gloves prior to entering the room.
  - d. After dialysis tubing is connected to the patient's vascular access site, the nurse will remove gloves (**see pictures in Appendix A for the proper technique for removing gloves from hands**) and don a new pair of clean gloves prior to touching the dialysis machine.
  - e. If the nurse needs to have contact with the patient during dialysis, gloves will be changed prior to contact with the dialysis machine.
  - f. When dialysis has been completed, the disposable tubing and kidney will be discarded in the appropriate container.
  - g. The nurse will change gloves after the tubing and kidney have been discarded.
  - h. Any part of the dialysis machine or water system that may have become contaminated by contact with the patient or environment must be cleaned and disinfected using the cloth and bucket method as described in 1. j and k above.
  - i. After the patient has left the room, the room will be closed, and Environmental Services will be called to have the room cleaned and

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disinfected for *C difficile*.

#### D. Physical Therapy / Occupational Therapy

1. Some equipment will be dedicated for use with patients who have CDI. The equipment will be cleaned and disinfected to the extent possible between patients.
  - a. Sock aids
  - b. Long-handled reachers
  - c. Walkers
  - d. Belts
2. Prior to entering a patient's room, therapists will wash hands with soap and water or apply an alcohol hand rub to their hands.
3. The therapist will don a gown and gloves and enter the room with the necessary equipment.
4. After completing the patient's treatment, the therapist will discard any devices/materials, sold for single use, in the patient's room.
5. After placing all equipment to be removed from the room next to the door, the therapist will remove gloves (**see pictures in Appendix A for the proper technique for removing gloves from hands**) and gown and discard them in the room.
6. The therapist will exit the room with the equipment/devices taking care to avoid contact of equipment/devices with any surfaces of their clothing or skin other than their hands.
7. The therapist will then wash hands with soap and water.
8. The therapist will don a gown and gloves outside of the room. Surfaces of equipment/devices that are soiled should be cleaned with a detergent. Then apply a 1:10 dilution of sodium hypochlorite (Clorox) to all surfaces using the cloth and bucket method leaving all surfaces very wet. When surfaces are dry, disinfect the surfaces again using the cloth and bucket method. Caution: Do not apply Cavicide prior to sodium hypochlorite. These chemicals will react.
9. Remove gloves and gown, discard them in the trash and wash hands thoroughly with soap and water, including all surfaces of hands and fingers. After thorough rinsing, dry hands with paper towels. Use paper towels to turn off the faucet. Alcohol will not kill *C. difficile* spores.

#### E. Respiratory Care Services

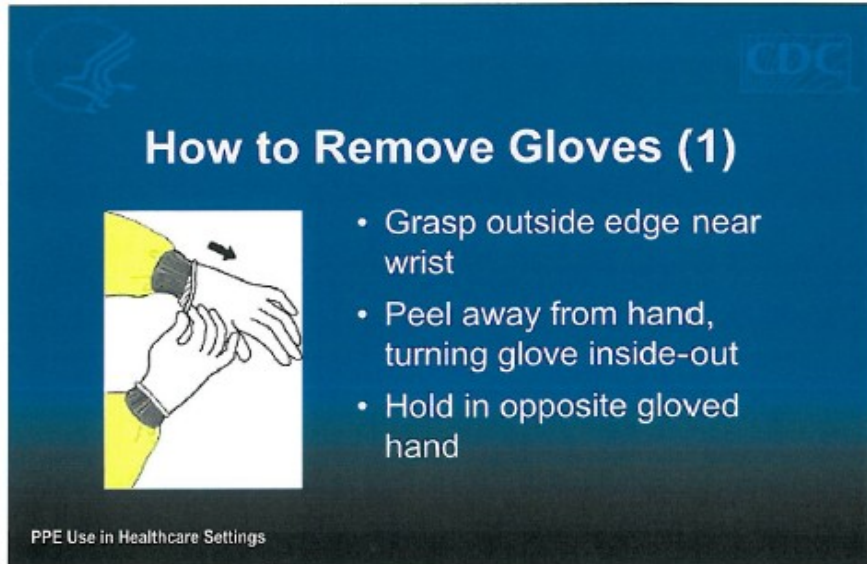
1. Prior to entering the rooms of patients on Extended Contact Precautions, Respiratory Therapists (RTs) will perform hand hygiene with soap and water or an alcohol hand rub and then don a gown and gloves.
2. The mechanical ventilator will be pushed into the patient's room by the RT. When the ventilator is moved into the room, care should be taken to avoid contact with any other surfaces in the room.
3. While the ventilator remains in the room, it must be cleaned and disinfected daily with a 1:10 dilution of sodium hypochlorite (bleach). Bleach should not be applied to the computer screen or to the control panel. The 1:10 dilution of bleach can be obtained from materials management using product number 33228.
4. After working at the bedside with the patient, gloves should be carefully removed to avoid contamination of hands with spores (**see pictures in Appendix A for the proper technique for removing gloves from hands**).

Then wash hands with soap and water.

5. Then don a new pair of gloves prior to touching the control panel of the ventilator.
6. When the ventilator is no longer needed, the RT should push the ventilator to the door of the room.
  - a. Remove gloves and gown and discard them in the room.
  - b. Next the RT should push the ventilator outside the room and then wash hands with soap and water.
  - c. Then the RT will don a gown and gloves and clean and disinfect the ventilator with a 1:10 dilution of bleach while avoiding contact with the control panel and computer screen.
  - d. The RT will then carefully remove gloves and gown and discard them in the trash and then wash hands with soap and water.
  - e. The ventilator may then be returned to the Department of Respiratory Care Services or stored in an area/room designated for clean equipment.

**APPENDIX A**

**PROPER TECHNIQUE FOR REMOVING GLOVES**

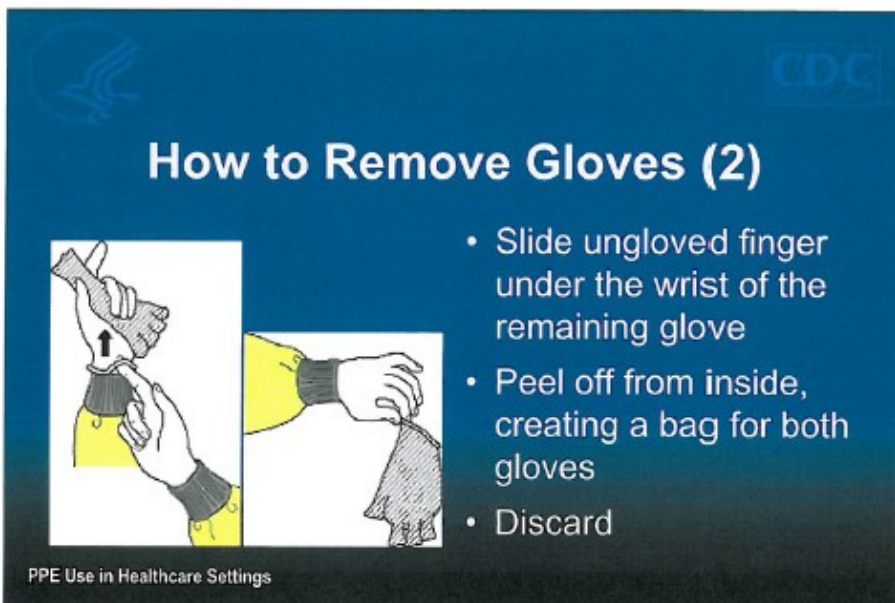


**How to Remove Gloves (1)**

- Grasp outside edge near wrist
- Peel away from hand, turning glove inside-out
- Hold in opposite gloved hand

PPE Use in Healthcare Settings

Using one gloved hand, grasp the outside of the opposite glove near the wrist. Pull and peel the glove away from the hand. The glove should now be turned inside-out, with the contaminated side now on the inside. Hold the removed glove in the opposite gloved hand.



**How to Remove Gloves (2)**

- Slide ungloved finger under the wrist of the remaining glove
- Peel off from inside, creating a bag for both gloves
- Discard

PPE Use in Healthcare Settings

Slide one or two fingers of the ungloved hand under the wrist of the remaining glove. Peel glove off from the inside, creating a bag for both gloves. Discard in waste container.

**APPENDIX B**

**CLINICAL EQUIPMENT SERVICES**  
**Checklist for Daily and Terminal Cleaning of Patient Rooms**

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<b>Surfaces to be cleaned and disinfected</b>	<b>Check off as Completed</b>
1. Telemonitors	<input type="checkbox"/>
2. IV Poles	<input type="checkbox"/>
3. Intravenous (IV) infusion pumps	<input type="checkbox"/>
4. Monitors and cables	<input type="checkbox"/>
5. Television and remote	<input type="checkbox"/>
6. Traction and trapeze bars	<input type="checkbox"/>
7. PCA pumps	<input type="checkbox"/>
8. Enteral feeding pumps (tube feeding or kangaroo pump)	<input type="checkbox"/>
9. Portable suction units	<input type="checkbox"/>
10. Suction control units	<input type="checkbox"/>
11. SCD units	<input type="checkbox"/>
12. Heating pads	<input type="checkbox"/>
13. Fans	<input type="checkbox"/>
14. Call button	<input type="checkbox"/>
15. Bedside commodes	<input type="checkbox"/>

**Restock all isolation carts as needed. Report to the charge nurse after cleaning and disinfection of all items to check the equipment control settings.**

**APPENDIX C**

**Surfaces Not Approved for Use of 1:10 Dilution of Clorox**

1. Aluminum
2. Brass
3. Copper
4. Corian
5. Finished Wood
6. Sealed Marble
7. Galvanized Steel
8. Sealed Granite

**APPENDIX D**

**ENVIRONMENTAL SERVICES**

**Checklist for Daily and Terminal Cleaning of Patient Rooms**

<b>Surfaces to be cleaned and disinfected</b>	<b>Check off as Completed</b>
1. Window sills	<input type="checkbox"/>
2. Wall moldings	<input type="checkbox"/>
3. External surfaces of drawers and closets	<input type="checkbox"/>
4. Shelves	<input type="checkbox"/>
5. Doors, door knobs, handles and rails	<input type="checkbox"/>
6. Sharps container	<input type="checkbox"/>
7. Chairs	<input type="checkbox"/>
8. Soiled areas of walls and windows	<input type="checkbox"/>
9. Overbed light	<input type="checkbox"/>
10. Bedside table	<input type="checkbox"/>
11. Telephone	<input type="checkbox"/>
12. Overbed table	<input type="checkbox"/>
13. Headboard of bed	<input type="checkbox"/>
14. Footboard of bed	<input type="checkbox"/>
15. Bedrails	<input type="checkbox"/>
16. Bed frame	<input type="checkbox"/>
17. Laundry hamper	<input type="checkbox"/>
18. Waste receptacles	<input type="checkbox"/>
19. Bathroom	<input type="checkbox"/>
a. Pull up bars	<input type="checkbox"/>
b. Shower	<input type="checkbox"/>
c. Sink	<input type="checkbox"/>
d. Sink faucets	<input type="checkbox"/>
e. Soap and toilet paper dispensers	<input type="checkbox"/>
f. Exterior of toilet and seat	<input type="checkbox"/>
g. Interior of toilet	<input type="checkbox"/>
20. Floors	<input type="checkbox"/>
21. Mattress (for terminal clean only)	<input type="checkbox"/>

## APPENDIX E



### Visiting Patients in Extended Contact Precautions

#### Why has Extended Contact Precautions been ordered?

Extended Contact Precautions (“extended contact isolation”) prevents the spread of certain germs from one patient to another by direct contact. Hospitalized patients often have higher risk of infection than visitors.



**Please speak to nurse before visiting for instructions in proper use of gowns and gloves.**

#### Instructions for **Extended Contact Precautions**:

1. **Note: If the person you are visiting is on extended contact precautions, please consider not visiting anyone else.** If you need to visit more than one person, it is very important that you visit the person on extended contact precautions last.
2. Before visiting, clean your hands with either soap and water or alcohol hand rub (Purell).
3. You **must** wear a gown and gloves to visit.
4. Remove your gown and gloves before you leave the room. Hospital staff will show you how to do this correctly.
5. When you leave the patient’s room, wash your hands with soap and water. **Do not** use alcohol hand rub **after** visiting as it is not effective in preventing the spread of certain germs.

Hospital staff will follow these same procedures for Extended Contact Precautions (handwashing, gloves, gowns). They will also use a bleach solution to clean the environment and equipment.

If you have questions about visiting, please ask the Physician or Registered Nurse.





<b>Section:</b> UTMB On-line Documentation	<b>Policy 01.43</b>
<b>Subject:</b> Infection Control & Healthcare Epidemiology Policies and Procedures	<b>2.1.20 Reviewed</b>
<b>Topic:</b> 01.43 - Prevention and Control of <i>Clostridium difficile</i> Infections	<b>Author</b>

## References

1. McDonald LC, Coignard B, Dubberke E, Song X, Horan T, Kutty PK; and Ad Hoc *Clostridium difficile* Surveillance Working Group. Recommendations for surveillance of *Clostridium difficile* – associated disease. *Infect Control Hosp Epidemiol*. 2007;28:140-145.
2. Abbett SK, Yokoe DS, Lipsitz SR, Bader AM, Berry WR, Tamplin EM, Gawande AA. Proposed checklist of hospital interventions to decrease the incidence of healthcare-associated *Clostridium difficile* infection. *Infect Control Hosp Epidemiol* 2009;30:1062-1069.
3. Sunkesula VCK, Kundrapu S, Deshpande A, Sethi AK, Donskey CJ. Potential for transmission of spores by patients awaiting laboratory testing to confirm suspected *Clostridium difficile* infection. *Infect Control Hosp Epidemiol* 2013;34:306-308.
4. Vajravelu RK, Guerrero DM, Jury LA, Donskey CJ. Evaluation of stethoscopes as vectors of *Clostridium difficile* and methicillin-resistant *Staphylococcus aureus*. *Infect Control Hosp Epidemiol* 2012;33:96-98.
5. Dubberke ER, Gerding DN, Classen D, Arias KM, Podgorny K, Anderson DJ, et al. Strategies to prevent *Clostridium difficile* infections in acute care hospitals. *Infect Control Hosp Epidemiol* 2008;29 (suppl 1):581-592.
6. You E, Song H, Cho J, Lee J. Reduction in the incidence of hospital-acquired *Clostridium difficile* infection through infection control interventions other than the restriction of antimicrobial use. *Internat J Infect Dis* 2014; 22:e9-e10.
7. Kundrapu S, Sunkesula V, Jury LA, Sitzlar BM, Donskey CJ. Daily disinfection of high-touch surfaces in isolation rooms to reduce contamination of healthcare workers' hands. *Infect Control Hosp Epidemiol* 2012;33:1039-1042.
8. Hacek DM, Ogle AM, Fisher A, Robicsek A, Peterson LR. Significant impact of terminal room cleaning with bleach on reducing nosocomial *Clostridium difficile*. *Am J Infect Control* 2010;38:350-353.
9. Loo VG. Environmental interventions to control *Clostridium difficile*. *Infect Dis Clin N Am* 2015;29:83-91.
10. Dumford DM III, Nerandzic MM, Eckstein BC, Donskey CJ. What is on that keyboard? Detecting hidden environmental reservoirs of *Clostridium difficile* during an outbreak associated with North American pulsed-field gel electrophoresis type 1 strains. *Am J Infect Control* 2009;37:15-19.
11. Shrestha SK, Sunkesula VCK, Kundrapu S, Tomas ME, Nevandzic MM, Donskey CJ. Acquisition of *Clostridium difficile* on hands of healthcare personnel caring for patients with resolved *C. difficile* infection. *Infect Control Hosp Epidemiol* 2016;37:475-477.
12. [https://www.cdc.gov/hai/organisms/cdiff/cdiff\\_faqs\\_hcp.html](https://www.cdc.gov/hai/organisms/cdiff/cdiff_faqs_hcp.html)