

Isolation Precautions: Contact (Ambulatory) - CE

ALERT

Wash hands or use an alcohol-based hand sanitizer immediately after removing all personal protective equipment (PPE).

Avoid physical contact with the patient before donning appropriate PPE.¹

Don appropriate PPE based on the patient's signs and symptoms and indications for isolation precautions.

OVERVIEW

Infection prevention and control measures help ensure the protection of individuals in a range of settings who may be vulnerable to acquiring an infection.

Infection-control practices that reduce and eliminate sources of infection transmission help protect patients and health care team members from disease. The health care team member is responsible for educating a patient about infection control. Knowledge of the infectious process, disease transmission, and critical thinking skills associated with the use of aseptic techniques and barrier protection is essential for both health care team members and patients.

Contact isolation can be divided into subgroups: direct contact and indirect contact. Direct contact is when direct transmission occurs because microorganisms are transferred from one infected person to another without a contaminated intermediate object or person (e.g., cuts or abrasions in skin where blood or bodily fluids come in contact with mucous membranes, scabies-infested patient transfer to a health care team member with ungloved hands).³ Indirect contact transmission involves the transfer of an infectious agent through a contaminated intermediate object or person (e.g., patient care devices may transmit pathogens if devices contaminated with blood or bodily fluids are shared between patients; inadequately cleaned instruments used between patients before disinfection, such as endoscopes).³

Contact isolation applies to any person with signs of an illness easily transmitted by direct patient contact or by indirect contact with items in the patient's environment. Illnesses requiring contact precautions may include those present with stool incontinence (e.g., norovirus, rotavirus, or *Clostridium difficile*), draining wounds, uncontrolled secretions, pressure injuries, or a generalized rash.

Standard precautions, or tier one precautions, assume that every patient is potentially infected or colonized with an organism that could be transmitted in the health care setting. The health care team member should apply standard precautions when caring for patients ([Box 1](#)).³ Standard precautions are the primary strategies for preventing infection transmission and apply to contact with blood, bodily fluids, nonintact skin, and mucous membranes, as well as equipment or surfaces contaminated with potentially infectious materials.

Tier 2 precautions include measures designed for the care of a patient who is known to be or suspected of being infected or colonized with microorganisms ([Table 1](#)).³ Organisms may be transmitted by contact, droplet, or air, as well as by contact with contaminated surfaces. The three types of transmission-based precautions—airborne, droplet, and contact—may be

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combined for diseases that have multiple routes of transmission (e.g., chickenpox) ([Table 1](#)).³ Tier 2 precautions should be used with standard precautions. Additionally, more stringent precautions may be applied to specific outbreaks of a virus or bacteria.

Health care team members must participate in and practice rigorous training of current PPE recommendations, which include the systematic donning and doffing of PPE. Once in the procedure room, health care team members must keep PPE in place and continue to wear it correctly. Removing or adjusting PPE while in the procedure room puts health care team members at risk of contamination. Repeated training and practice are required.

EDUCATION

- Explain the purpose of the isolation to the patient.
- Give the patient information on the signs and symptoms of infections.
- Educate the patient about modes of infection transmission.
- Explain to the patient the methods of infection prevention.
- Educate the patient about the exposure of individuals he or she has been in contact with prior to the diagnosis.
- Encourage questions and answer them as they arise.

PROCEDURE

1. Perform hand hygiene.
2. Review the patient's medical history, if available, for possible indications and risk factors for illnesses associated with contact isolation precautions (e.g., presence of stool incontinence [e.g., norovirus, rotavirus, or *Clostridium difficile*], draining wounds, uncontrolled secretions, pressure injuries, or the presence of a generalized rash).
3. Review the precautions for the specific isolation criteria, including the appropriate PPE to don ([Box 1](#)) ([Table 1](#)).
4. Consider the types of care to be performed while in the patient's room (e.g., medication administration, dressing change).
5. Provide proper equipment access and signage as needed.
6. Prevent extra trips in and out of the room; gather all needed equipment and supplies before entering the room.
7. Provide dedicated medical equipment (i.e., stethoscope, blood pressure cuff, and thermometer) in the room.^{C4}
8. Choose a barrier protection that is appropriate for the type of isolation used and the organization's practice ([Box 1](#)) ([Table 1](#)) (e.g., contact precautions: standard precautions plus gloves and gown).
9. Perform hand hygiene.
10. Don an isolation gown.
 - a. Ensure that the gown covers the torso from the neck to the knees and from the arms to the end of the wrists and that it wraps around the back.
 - b. Pull the sleeves of the gown down to the wrists.
 - c. Fasten the gown securely at the back of the neck and the waist.

Rationale: Donning a gown properly prevents the transmission of infection and provides protection if the patient has excessive drainage or discharge.

11. Don a procedure mask around the mouth and nose.

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- a. Secure the ties or elastic bands at the middle of the head and neck or the elastic ear loops around the ears.
- b. Fit the flexible band to the nose bridge.
- c. Ensure that the mask fits snugly on the face and below the chin.

12. Don eye protection (goggles or face shield), if needed, around the face and eyes. Adjust to fit.

Rationale: Donning eye protection properly reduces the risk of exposure to microorganisms that may occur from splashing fluids.

13. Don gloves, bringing the glove cuffs over the edge of the gown sleeves.
14. Enter the patient's room and arrange the supplies and equipment.
15. Introduce yourself to the patient.
16. Verify the correct patient using two identifiers.
17. Explain the procedure to the patient and ensure that he or she agrees to treatment.
18. Ensure that evaluation findings are communicated to the clinical team leader per the organization's practice.
19. Provide designated care to the patient while maintaining precautions.

- a. Keep hands away from own face.
- b. Limit touching surfaces in the room.
- c. Remove gloves when torn or heavily contaminated, perform hand hygiene, and don a clean pair of gloves.

20. Administer medications while maintaining precautions as ordered.

- a. Provide oral medication in a wrapper or cup and then discard the wrapper or cup in the proper trash receptacle.

Rationale: Single-use medication containers minimize the transfer of microorganisms.

- b. Wear gloves when administering injections.

Rationale: Gloves act as a barrier to reduce the risk of exposure to blood.

- c. Discard disposable syringes and uncapped or sheathed needles in the proper sharps receptacle.

Rationale: Properly disposing of sharps reduces the risk of a needlestick injury.

- d. Place the reusable plastic syringe holder, if used, on a towel for eventual removal and disinfection.

21. Collect any ordered specimens.

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- a. In the presence of the patient, label the specimen per the organization's practice.²
- b. Prepare the specimen for transport.
- c. Place the labeled specimen in a biohazard bag and transport it to the laboratory immediately per the organization's practice.

22. Inform the patient when you plan to return to the room. Ask whether the patient requires any personal care items or has any questions.

23. Discard supplies, remove PPE, and perform hand hygiene.

Option 1: Removal of PPE, if using a nondisposable or disposable gown

- a. Remove gloves.

If hands become contaminated during glove removal, immediately wash them or use an alcohol-based hand rub (ABHR).

- i. Using a gloved hand, grasp the palm area of the other gloved hand and peel off the first glove.
- ii. Hold the removed glove in the gloved hand.
- iii. Slide the fingers of the ungloved hand under the remaining glove at the wrist.
- iv. Peel the second glove off over the first glove.

Rationale: Properly removing gloves prevents contact with the contaminated gloves' outer surface.

- b. Discard gloves in the proper container.
- c. Remove eye protection from the back by lifting the headband or earpieces.
- d. Discard eye protection in the proper container or place in an appropriate container for disinfection.

Rationale: The outside of the eye protection is contaminated. Handling as described allows removal without contaminating hands.

- e. Remove the gown.

- i. Unfasten the gown's neck ties and waist ties, taking care that the sleeves do not make contact with the body when reaching for the ties.
- ii. Pull the gown away from the neck and shoulders, touching only the inside of the gown.
- iii. Turn the gown inside-out and fold it into a bundle.

Rationale: The front of the gown and sleeves are contaminated. Removing the gown as described prevents contact with the contaminated front of the gown.

- f. Place the gown in a laundry bag or discard a disposable gown in the proper container.
- g. Remove the mask. Remove the elastic loops from the ears and pull the mask away from the face or grasp the bottom ties or elastics and then the top ties or elastics and pull the mask away from the face.

Do not touch the outer surface of the mask.

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Rationale: The front of the mask is contaminated. Touching only the elastic or mask strings protects ungloved hands from contamination. Untying the bottom mask string first prevents the top part of the mask from falling down over the health care team member's uniform.

h. Discard the mask in the proper container.

Option 2: Removal of PPE, if using a disposable gown

a. Remove gown and gloves.

If hands become contaminated during glove removal, immediately wash them or use an ABHR.

- i. Grasp the gown in the front and pull it away from the body so that the ties break, touching the outside of the gown only with gloved hands.
- ii. While removing the gown, fold or roll it inside-out into a bundle, peeling off the gloves at the same time, touching only the inside of the gloves and gown with bare hands.

Rationale: The front of the gown and sleeves are contaminated. Removing the gown as described prevents contact with the contaminated front of the gown.

- b. Discard the gown and gloves in the proper container.
- c. Remove eye protection from the back by lifting the headband or earpieces.
- d. Discard eye protection in the proper container or place in an appropriate container for disinfection.

Rationale: The outside of the eye protection is contaminated. Handling as described allows removal without contaminating hands.

e. Remove the mask. Remove the elastic loops from the ears and pull the mask away from the face or grasp the bottom ties or elastics and then the top ties or elastics and pull the mask away from the face.

Do not touch the outer surface of the mask.

Rationale: The front of the mask is contaminated. Touching only the elastic or mask strings protects ungloved hands from contamination. Untying the bottom mask string first prevents the top part of the mask from falling down over the health care team member's uniform.

f. Discard the mask in the proper container.

24. Document the procedure in the patient's record.

EXPECTED OUTCOMES

- Patient cooperates with precautions.
- No evidence of suspected breach of isolation precautions exists.
- Health care team members are free from infection.
- Health care team members perform donning and doffing correctly.

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UNEXPECTED OUTCOMES

- Patient does not cooperate with precautions.
- Evidence of suspected breach of isolation precautions exists.
- Health care team member contracts the infection.
- Health care team members do not perform donning and doffing correctly.

DOCUMENTATION

- Education
- Evidence or suspected breach of isolation precautions
- Unexpected outcomes and related interventions
- Evaluation findings communicated to the clinical team leader per the organization's practice

PEDIATRIC CONSIDERATIONS

- Isolation creates a sense of separation from family and the loss of control. A strange environment may add to any confusion the child feels during isolation. A preschool-age child is unable to understand the cause-and-effect relationship for isolation. Older children may be able to understand cause, but they still may be frightened.
- All barrier precautions should be shown to the child. The family should be actively involved in any explanations. Health care team members should let the child see their faces before applying the mask so that he or she does not become frightened.

OLDER ADULT CONSIDERATIONS

- Isolation can be a particular concern for older adults, especially those who have signs and symptoms of confusion or depression. Many older adults become confused when they are confronted with a health care team member using barrier precautions or when left in a room with the door closed. The need for closing the door (negative-pressure airborne isolation infection room [AIIR]), along with the patient's safety and additional safety measures, should be evaluated.

REFERENCES

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Elsevier Skills Levels of Evidence

- **Level I** - Systematic review of all relevant randomized controlled trials
- **Level II** - At least one well-designed randomized controlled trial
- **Level III** - Well-designed controlled trials without randomization
- **Level IV** - Well-designed case-controlled or cohort studies
- **Level V** - Descriptive or qualitative studies
- **Level VI** - Single descriptive or qualitative study
- **Level VII** - Authority opinion or expert committee reports

Supplies

- Dedicated medical equipment (i.e., stethoscope, blood pressure cuff, and thermometer) in the room
- Isolation signage as needed
- PPE: Gloves, isolation gown, procedure mask and goggles or face shield, as needed

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Box 1 Centers for Disease Control and Prevention Isolation Guidelines

Standard precautions (Tier One) for use with all patients

- Standard precautions apply to blood, blood products, all bodily fluids, secretions, excretions (except sweat), nonintact skin, and mucous membranes.
- Perform hand hygiene before, after, and between direct contact with patients (e.g., between contact: cleaning hands after a patient activity, moving to a nonpatient care activity, and cleaning hands again before returning to patient care activity).
- Perform hand hygiene after contact with blood, bodily fluids, secretions, or excretions; after contact with surfaces or articles in a patient's room; and immediately after removing gloves.
- Perform hand hygiene with either a nonantimicrobial soap or an antimicrobial soap and water when hands are visibly soiled or contaminated with blood or bodily fluids.
- Perform hand hygiene using an alcohol-based hand rub when hands are not visibly soiled or contaminated with blood or bodily fluids.
- Perform hand hygiene with nonantimicrobial soap and water if contact with spores (e.g., *Clostridium difficile*) is likely to have occurred.
- Do not wear artificial fingernails or extenders if duties include direct contact with patients at high risk for infection and associated adverse outcomes.
- Wear gloves when touching blood, bodily fluids, secretions, excretions, nonintact skin, mucous membranes, or contaminated items or surfaces is likely. Remove gloves and perform hand hygiene between patient care encounters and when going from a contaminated to a clean body site.
- Wear personal protective equipment when the anticipated patient interaction indicates that contact with blood or bodily fluids may occur.

Box 1 continued on next page

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- Discard all contaminated sharp instruments and needles in a puncture-resistant container. Health care facilities must make needleless devices available. Any needles should be disposed of uncapped, or a mechanical safety device should be activated for recapping.

Table 1: Centers for Disease Control and Prevention Isolation Guidelines Transmission-Based Precautions (Tier Two) for Use with Specific Types of Patients

Category	Infection or condition	Barrier protection
Airborne precautions (droplet nuclei smaller than 5 microns)	Measles, chickenpox (varicella), disseminated varicella zoster, pulmonary or laryngeal tuberculosis	<p>Negative-pressure airflow of at least 6 to 12 exchanges per hour via HEPA filtration</p> <p>Wear a fit-tested NIOSH-approved N95 or higher-level respirator for respiratory protection when entering the room or home of a patient when these diseases are suspected or confirmed: infectious or laryngeal tuberculosis, smallpox.</p> <p>Private room or cohort patients with same isolation precautions or infection.</p> <p>Patients may be transported out of room for procedures or therapy if necessary; patient to don a procedural mask and follow respiratory hygiene and cough etiquette. For patients with skin lesions associated with varicella or smallpox or draining skin lesions caused by <i>M. tuberculosis</i>, cover the affected area to prevent aerosolization or contact with the infectious agent in the skin lesion.</p> <p>Health care team members transporting patients who are on airborne precautions do not need to wear a mask or respirator during transport if the patient is wearing a mask and infectious lesions are covered.</p>

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Transmission-Based Precautions (Tier Two) for Use with Specific Types of Patients

Category	Infection or condition	Barrier protection
Droplet precautions (respiratory droplets larger than 5 micrometers that are generated by a patient who is coughing, sneezing or talking)	Diphtheria (pharyngeal), rubella, streptococcal pharyngitis, pneumonia or scarlet fever in infants and young children, pertussis, mumps, mycoplasma pneumonia, meningococcal pneumonia or sepsis, pneumonic plague	Mask or respirator required depending on condition per the organization's practice Private room or cohort patients with same isolation precautions or infection.
Contact precautions (direct patient or environmental contact)	Colonization or infection with multidrug-resistant organisms such as VRE and MRSA, <i>Clostridium difficile</i> , <i>Shigella</i> , and other enteric pathogens; major wound infections; herpes simplex; scabies; varicella zoster (disseminated); respiratory syncytial virus in infants, young children, or immunocompromised adults	Mask if splashing will occur Private room or cohort patients with same isolation precautions or infection.
Protective environment	Allogeneic hematopoietic stem cell transplants	Positive airflow with 12 or more air exchanges per hour; HEPA filtration for incoming air; mask to be worn by patient when in public environments
Ebola precautions	Patients suspected of or diagnosed with Ebola	Negative-pressure airflow of at least 6 to 12 exchanges per hour via HEPA filtration; mask or respiratory protection device (N95 respirator or PAPR) required; waterproof PPE; no skin exposed when inside patient's room
Category	Infection or condition	Barrier protection

HEPA, high-efficiency particulate air; MRSA, methicillin-resistant Staphylococcus aureus; PAPR, powered air-purifying respirator; PPE, personal protective equipment; VRE, vancomycin-resistant enterococcus

(Modified from Siegel, J.D. and others. [2007, updated 2019]. 2007 Guideline for isolation precautions: Preventing transmission of infectious agents in healthcare settings. Retrieved March 11, 2020, from <https://www.cdc.gov/infectioncontrol/pdf/guidelines/isolation-guidelines-H.pdf>)