North Carolina SPICE
Statewide Program for Infection Control & Epidemiology

RECOMMENDED PRACTICES TO INTERRUPT TRANSMISSION OF INFECTIOUS AGENTS IN LONG-TERM CARE FACILITIES

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https://spice.unc.edu/

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Review CDC Guidelines
Objectives
Review Standard Precautions, TBP, and EBPs
Discuss Management of Multidrug-Resistant Organisms
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KEY CONCEPTS

- Risk of transmission of infectious agents occurs in all settings
- Infections are transmitted from resident-to-resident via HCPs hands or medical equipment/devices
- Unidentified residents who are colonized or infected may represent risk to other residents
- Isolation precautions are only part of a comprehensive IP program



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FUNDAMENTAL ELEMENTS

- Administrative support
- Adequate Infection Prevention staffing
- Good communication with clinical microbiology lab and environmental services
- A comprehensive educational program for HCPs, residents, and visitors
- Infrastructure support for surveillance, outbreak tracking, and data management

CONTROLLING TRANSMISSION OF INFECTION



If there is a **means of transmission**, infection will spread to others.

Standard Precautions

Transmission-Based Precautions

Enhanced Barrier Precautions - NHs

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STANDARD PRECAUTIONS



STOP

STANDARD PRECAUTIONS

ALTO

PRECAUCIONES ESTÁNDAR

Standard Precautions must always be used in any healthcare setting for all patient/resident care.

Las precauciones estándar siempre deben usarse en cualquier entorno de atención médica para los cuidados de todos los pacientes/residentes.

Everyone must:

Clean hands before entering and when leaving room.

Todos deben:

Lavarse las manos antes de entrar y al salir de la habitación.

Cover your mouth and nose with elbow or tissue when coughing or sneezing.

Cubrirse la boca y la nariz con el codo o con un pañuelo de papel al toser o estornudar.

Wear appropriate mask, gown, and/or gloves, if contact with blood or body fluids is expected.

Usar mascarilla, bata y guantes adecuados si hay posibilidad de tener contacto con sangre y líquidos corporales.

All Healthcare Personnel must:

Properly handle, clean, and disinfect medical equipment and devices. Handle laundry and textiles carefully.

Todo el personal de atención médica debe:

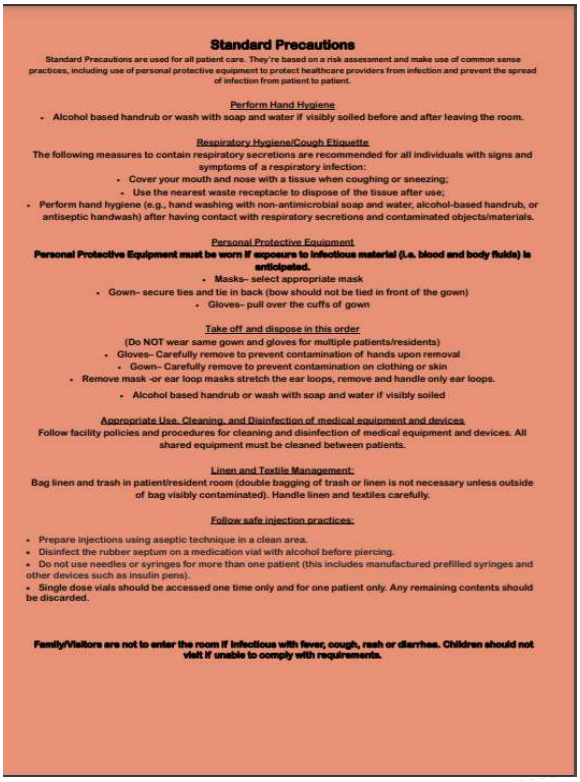
Utilizar, limpiar y desinfectar de manera adecuada el equipo y dispositivos médicos. Manejar con cuidado la ropa y los textiles sucios.

Follow safe injection practices.

Siga las prácticas seguras de inyección.

REVISED DATE: 12/1/2021

Translated by UNC Health Interpreter Services



Standard Precautions

Standard Precautions are used for all patient care. They're based on a risk assessment and make use of common sense practices, including use of personal protective equipment to protect healthcare providers from infection and prevent the spread of infection from patient to patient.

Perform Hand Hygiene

- Alcohol based handrub or wash with soap and water if visibly soiled before and after leaving the room.

Respiratory Hygiene/Cough Etiquette

The following measures to contain respiratory secretions are recommended for all individuals with signs and symptoms of a respiratory infection:

- Cover your mouth and nose with a tissue when coughing or sneezing;
- Use the nearest waste receptacle to dispose of the tissue after use;
- Perform hand hygiene (e.g., hand washing with non-antimicrobial soap and water, alcohol-based handrub, or antiseptic handwash) after having contact with respiratory secretions and contaminated objects/materials.

Personal Protective Equipment

Personal Protective Equipment must be worn if exposure to infectious material (i.e. blood and body fluids) is anticipated.

- Masks– select appropriate mask
- Gown– secure ties and tie in back (bow should not be tied in front of the gown)
- Gloves– pull over the cuffs of gown

Take off and dispose in this order

(Do NOT wear same gown and gloves for multiple patients/residents)

- Gloves– Carefully remove to prevent contamination of hands upon removal
- Gown– Carefully remove to prevent contamination on clothing or skin
- Remove mask -or ear loop masks stretch the ear loops, remove and handle only ear loops.
- Alcohol based handrub or wash with soap and water if visibly soiled

Appropriate Use, Cleaning, and Disinfection of medical equipment and devices

Follow facility policies and procedures for cleaning and disinfection of medical equipment and devices. All shared equipment must be cleaned between patients.

Linen and Textile Management:

Bag linen and trash in patient/resident room (double bagging of trash or linen is not necessary unless outside of bag visibly contaminated). Handle linen and textiles carefully.

Follow safe injection practices:

- Prepare injections using aseptic technique in a clean area.
- Disinfect the rubber septum on a medication vial with alcohol before piercing.
- Do not use needles or syringes for more than one patient (this includes manufactured prefilled syringes and other devices such as insulin pens).
- Single dose vials should be accessed one time only and for one patient only. Any remaining contents should be discarded.

Family/Visitors are not to enter the room if infectious with fever, cough, rash or diarrhea. Children should not visit if unable to comply with requirements.

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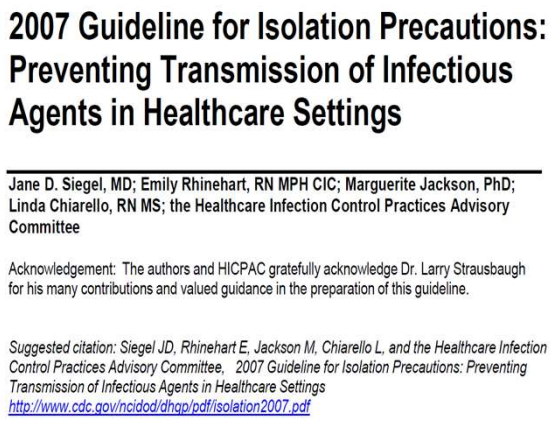
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- ***Implementation of Standard Precautions constitutes the primary strategy for the prevention of healthcare-associated transmission of infectious agents among residents and healthcare personnel***

(iii) Standard and transmission-based precautions to be followed to prevent spread of infections;

Define and explain standard precautions and their application during resident care activities

CMS State Operations manual 7/25



2007 Guideline for Isolation Precautions: Preventing Transmission of Infectious Agents in Healthcare Settings

Jane D. Siegel, MD; Emily Rhinehart, RN MPH CIC; Marguerite Jackson, PhD; Linda Chiarello, RN MS; the Healthcare Infection Control Practices Advisory Committee

Acknowledgement: The authors and HICPAC gratefully acknowledge Dr. Larry Strausbaugh for his many contributions and valued guidance in the preparation of this guideline.

Suggested citation: Siegel JD, Rhinehart E, Jackson M, Chiarello L, and the Healthcare Infection Control Practices Advisory Committee, 2007 Guideline for Isolation Precautions: Preventing Transmission of Infectious Agents in Healthcare Settings
http://www.cdc.gov/ncidod/dhqp/pdf/isolation2007.pdf

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HAND HYGIENE

Require staff to follow hand hygiene practices consistent with accepted standards of practice. ***(CMS State Operations manual 7/25)***

- After touching blood, body fluids, secretions, excretions, contaminated items; immediately after removing gloves; between resident contacts.



- When hands are visibly dirty or contaminated or are visibly soiled with blood or other body fluids, wash hands with either a nonantimicrobial soap and water or an antimicrobial soap and water





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How to hand wash



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ALCOHOL BASED HAND RUB



- Put alcohol-based hand sanitizer with 60-95% alcohol in every resident room (ideally both inside and outside of the room) and other resident care and common areas (e.g., outside dining hall, in therapy gym).
- Unless hands are visibly soiled, an alcohol-based hand sanitizer is preferred over soap and water in most clinical situations.

How to hand rub



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HAND HYGIENE PROGRAM

ADDITIONAL ELEMENTS

CDC GUIDELINE FOR HAND HYGIENE IN HEALTHCARE SETTING

- Involve staff in evaluation and selection of hand hygiene products
- Provide employees with hand lotions/creams compatible with soap and/or ABHRs
- Do not wear artificial nails when providing direct clinical care
- Provide hand hygiene education to staff
- *Monitor staff adherence to recommended HH practices*





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APPROACHES THAT SHOULD NOT BE CONSIDERED A ROUTINE PART OF HH

- Do not supply individual pocket-sized ABHS dispensers in lieu of accessible wall-mounted dispensers
- Do not refill or "top-off" soap dispensers, moisturizer dispensers or ABHS dispensers
- Do not use antimicrobial soaps formulated with triclosan
- Do not routinely double-glove
- Do not remove access to ABHS when responding to organisms such as *C. difficile* or norovirus
- Do not disinfect gloves during care

https://doi.org/10.1017/ice.2022.304

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INDICATIONS FOR HAND HYGIENE

WHO Moments	CDC Indication
1	Immediately before touching a patient
2	Before performing an aseptic task (eg, placing an indwelling device or handling invasive medical devices)
3	After contact with blood, body fluids, or contaminated surfaces
4	After touching a patient
5	After touching the patient environment
	Before moving from work on a soiled body site to a clean body site on the same patient
	Immediately after glove removal
In addition, wash hands when visibly soiled, before eating, and after using the restroom.[a]	

SHEA/IDSA/APIC Practice Recommendation: Strategies to prevent healthcare-associated infections through hand hygiene: 2022 update

STANDARD PRECAUTIONS

Component	Recommendation
Personal Protective Equipment (PPE)	
Gloves 	For touching blood, body fluids, secretions, excretions, contaminated items; for touching mucous membranes and non-intact skin
Gown 	During procedures and resident-care activities when contact of clothing/exposed skin with blood/body fluids, secretions, and excretions is anticipated
Mask, eye protection 	During procedures and resident-care activities likely to generate splashes or sprays of blood, body fluids, secretions, especially suctioning, endotracheal intubation

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USE OF PERSONAL PROTECTIVE EQUIPMENT (PPE)



- Perform and maintain an inventory of PPE – monitor daily PPE use
- Make necessary PPE available where resident care is provided
- Position trash can near the exit inside the room for disposal
- Implement strategies to optimize current PPE supply – even before shortages occur

USE OF PERSONAL PROTECTIVE EQUIPMENT (PPE)

- Three overriding principals related to personal protective equipment (PPE)
  - Wear PPE when the nature of the anticipated resident interaction indicates that contact with blood or body fluids may occur
  - Prevent contamination of clothing and skin during the process of removing PPE
  - Before leaving the resident's room, remove and discard PPE –respirators removed after leaving



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RESPIRATORS

- HCP who enter the room of a patient with suspected or confirmed SARS-CoV-2 infection should adhere to standard precautions and use a NIOSH Approved particulate respirator with N95 filters or higher, gown, gloves, and eye protection (i.e., goggles or a face shield that covers the front and sides of the face).
- Whenever respirators are required, employers must implement a written, worksite-specific respiratory protection program (RPP), including medical evaluation, fit testing, training, and other elements, as specified in OSHA's Respiratory Protection standard (29 CFR 1910.134).

https://www.cdc.gov/covid/hcp/infection-control/index.html

https://www.osha.gov/sites/default/files/respiratory-protection-covid19-compliance.pdf

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SAFE WORK PRACTICES (PPE USE)

- ✓ Keep hands away from face
- ✓ Work from clean to dirty
- ✓ Limit surfaces touched
- ✓ Change when torn or heavily contaminated
- ✓ Perform hand hygiene



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Component	Recommendation
Soiled equipment	Handle in a manner that prevents transfer of microorganisms to others and to the environment; wear gloves if visibly contaminated; perform hand hygiene
Environmental Control	Develop procedures for routine care, cleaning, and disinfection of environmental surfaces, especially frequently touched surfaces in resident-care areas
Laundry	Handle in a manner that prevents transfer of microorganisms to others and to the environment
Needles and sharps	Do not recap, bend, break, or hand-manipulate used needles; if recapping is required, use a one-handed scoop technique only; use safety features when available; place used sharps in puncture-resistant container
Resident Resuscitation	Use mouthpiece, resuscitation bag, other ventilation devices to prevent contact with mouth and oral secretions

Component	Recommendation
Resident placement	Prioritize for single-resident room if resident is at ***increased risk of transmission, is likely to contaminate the environment, does not maintain appropriate hygiene, or is at increased risk of acquiring infection or developing adverse outcome following infection.***
Respiratory hygiene/cough etiquette (source containment of infectious respiratory secretions in symptomatic residents, beginning at initial point of encounter)	Instruct symptomatic persons to cover mouth/nose when sneezing/coughing; use tissues and dispose in no-touch receptacle; observe hand hygiene after soiling of hands with respiratory secretions; wear surgical mask if tolerated or maintain spatial separation, >3 feet if possible.

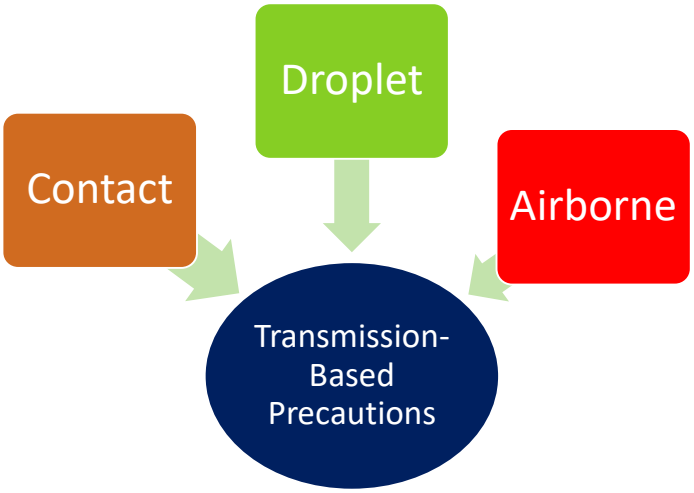
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Component	Recommendation
Safe Injection Practices	Apply to the use of needles, cannulas that replace needles, and, where applicable intravenous delivery systems • Use aseptic technique • Needles, cannulae and syringes are sterile, single-use items • Use single-dose vials for parenteral medications whenever possible • Do not administer medications from single-dose vials or ampules to multiple residents • Do not keep multidose vials in the immediate resident treatment area • Do not use bags or bottles of IV solution as a common source of supply for multiple residents
Special Lumbar Procedures	Wear a surgical mask when placing a catheter or injecting material into the spinal canal or subdural space

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TRANSMISSION BASED PRECAUTIONS

Transmission-Based Precautions are for residents who are known or suspected to be infected or colonized with infectious agents, including certain epidemiologically important pathogens, and are used when the route(s) of transmission are not completely interrupted using Standard Precautions alone.



Define transmission-based precautions (i.e., contact precautions, droplet precautions, airborne precautions) and explain how and when they should be utilized, as consistent with accepted national standards.

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TRANSMISSION BASED PRECAUTIONS

- *The facility should initiate transmission-based precautions for a constellation of new symptoms consistent with a communicable disease. Empirically initiated transmission-based precautions may be adjusted or discontinued when additional clinical information becomes available (e.g., confirmatory laboratory results).*
- *Residents on transmission-based precautions should remain in their rooms except for medically necessary care.*
- *Least restrictive possible*

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TRANSMISSION BASED PRECAUTIONS

- Place signage *that includes instructions for use of specific PPE* in a conspicuous *location* outside the resident's room *(e.g., on* the door or on the wall next to the doorway*), wing, or facility-wide. Additionally, either* the CDC category of transmission-based precautions (e.g., contact, droplet, or airborne) or instructions to see the nurse before entering *should be included in signage*.
- *Make PPE readily available near the entrance to the resident's room.*

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CONTACT PRECAUTIONS

- *Contact precautions should also be used in situations when a resident is experiencing wound drainage, fecal incontinence or diarrhea, or other discharges from the body that cannot be contained and suggest an increased potential for extensive environmental contamination and risk of transmission of a pathogen,* ***even before a specific organism has been identified.***

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CONTACT PRECAUTIONS

- Contact precautions are used for residents infected or colonized with MDROs in the following situations:
  - Presence of acute diarrhea, draining wounds or other sites of secretions or excretions that are unable to be covered or contained;
  - Co-infection with another organism for which Contact Precautions is recommended (e.g., norovirus);
  - For a limited time period, as determined in consultation with public health authorities, on units or in facilities during the investigation of a suspected or confirmed MDRO outbreak; and
  - When otherwise directed by public health authorities.
- PPE should be used for residents who do not meet criteria above for contact precautions but are infected or colonized with MDROs (or have risk factors for MDRO acquisition). Use Enhanced Barrier Precautions.

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CONTACT PRECAUTIONS

- Private room if available
- Don gown and gloves when entering the room
- Disposable or dedicated equipment

- Common conditions:
  - MRSA,
  - VRE,
  - CRE,
  - ESBL-GNR,
  - *Candida auris*,
  - Scabies,
  - Uncontained draining wounds or abscesses

CONTACT PRECAUTIONS

- Contact Precautions:
  - All residents with an MDRO when there is acute diarrhea, draining wounds or other sites of secretions/excretions that cannot be contained or covered
  - On units or in facilities where ongoing transmission is documented or suspected
  - C. *difficile* infection
  - Norovirus
  - Shingles when resident is immunocompromised, and vesicles cannot be covered
  - Other conditions as noted in Appendix A- Type and Duration of Precautions Recommended For Selected Infections and Conditions
- Gown and gloves upon **ANY room entry**
- Room restriction except for medically necessary care

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STOP

CONTACT PRECAUTIONS
PRECAUCIONES DE TRANSMISIÓN POR CONTACTO

ALTO

Family/Visitors should not visit if having signs or symptoms of an infection or a communicable disease. Visitation also based on facility's policy.
Los familiares y visitantes no deben visitar si tienen señales o síntomas de infección o de una enfermedad contagiosa. Las visitas también dependen de la política de la instalación.

Follow instructions below before entering room.
Antes de entrar a la habitación, siga las instrucciones a continuación.



Everyone must:

Clean hands before entering and when leaving room.

Todos deben:

Lavarse las manos antes de entrar y antes de salir de la habitación.

All Healthcare Personnel must:

Todo el personal de atención médica debe:



Wear gloves when entering room and remove before leaving room.

Usar guantes al entrar a la habitación y quitárselos antes de salir de la habitación.



Wear a gown when entering room and remove before leaving.

Usar una bata al entrar a la habitación y quitársela antes de salir.



Use patient-dedicated or single-use disposable equipment. If shared equipment is used clean and disinfect between patients.

Usar equipo desechable de un solo uso o designado al paciente. Si se utiliza equipo compartido, limpiar y desinfectar entre pacientes.

Additional PPE may be required per Standard Precautions.
Es posible que se exija utilizar equipo de protección personal adicional según las precauciones estándar.

Translated by UNC Health Interpreter Services

REVISED DATE: 1/20/22

Contact Precautions

Remove sign after room is terminally cleaned upon discharge or discontinuation of precautions.

Common conditions (per CDC guidelines)
Methicillin-resistant *Staphylococcus aureus* (MRSA)
Vancomycin-resistant *Enterococcus* (VRE)
Carbapenem-resistant *Enterbacterales* (CRE)
Extended spectrum beta lactamase producers Gram Negative Rods (ESBL-GNR)
Candida auris (C. auris)
Other multidrug resistant organisms
Scabies
Uncontained draining wounds or abscesses
RSV

Room Placement:
Use private room when available. When private rooms are unavailable, place together in the same room persons who are colonized or infected with the same pathogen.

Personal Protective Equipment
Put on in this order
- Alcohol based handrub or wash with soap and water if visibly soiled
- Gown– secure ties and tie in back (bow should not be tied in front of the gown)
- Gloves– pull over the cuffs of gown

Take off and dispose in this order
(Do NOT wear same gown and gloves for multiple patients/residents)
- Gloves– Carefully remove to prevent contamination of hands upon removal
- Gown– Carefully remove to prevent contamination on clothing or skin
- Alcohol based hand rub or wash hands with soap and water if visibly soiled

Dishes/Utensils:
No special precautions. Should be managed in accordance with routine procedures.

Room Cleaning:
Follow facility policy for Contact Precautions

Trash and Linen Management:
Bag linen and trash in patient/resident room (double bagging of trash or linen is not necessary unless outside of bag visibly contaminated).

Transport:
Essential transport only. Place patient/resident in a clean gown. Clean and disinfect transport equipment. Alert receiving department regarding patient/resident isolation precaution status.

Duration of Precautions:
For all multidrug resistant organisms, follow guidance and recommendations from CDC (Management of Multidrug-Resistant Organisms in Healthcare Settings) and SHEA (Duration of Contact Precautions for Acute-Care Settings).

For other guidance for duration of precautions, follow Appendix A- Type and Duration of Precautions Recommended for Selected Infections and Conditions within the CDC's 2007 Guideline for Isolation Precautions:
Preventing Transmission of Infectious Agents in Healthcare Settings

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ENTERIC PRECAUTIONS

- Common conditions:
  - *Clostridioides difficile*,
  - Norovirus,
  - Rotovirus
- Alcohol based handrub or wash with soap and water if visibly soiled.
- During an outbreak, consider using soap & water instead of alcohol-based hand sanitizers after removing gloves.
- Private room if possible
- Gown and gloves
- Disposable or dedicated equipment
- Use EPA agent from the K list of disinfectants: Dilute Bleach , sporicidal disinfectants.

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ENTERIC PRECAUTIONS
PRECAUCIONES DE TRANSMISIÓN POR ENTÉRICA

STOP ALTO

Family/Visitors should not visit if having signs or symptoms of an infection or a communicable disease. Visitation also based on facility's policy.
Los familiares y visitantes no deben visitar si tienen señales o síntomas de infección o de una enfermedad contagiosa. Las visitas también dependen de la política de la instalación.

Follow instructions below before entering room.
Antes de entrar a la habitación, siga las instrucciones a continuación.



Everyone must:

Clean hands before entering and when leaving room.

Todos deben:

Lavarse las manos antes de entrar Y antes de salir de la habitación.

All Healthcare Personnel must:

Todo el personal de atención médica debe:



Wear gloves when entering room and remove before leaving room.

Usar guantes al entrar a la habitación y quitárselos antes de salir de la habitación.



Wear a gown when entering room and remove before leaving.

Usar una bata al entrar a la habitación y quitársela antes de salir.



Use patient-dedicated or single-use disposable equipment. If shared equipment is used, clean with an EPA K list disinfectant.

Usar equipo desechable de un solo uso o designado al paciente. Si se usa equipo compartido, limpiarlo con un desinfectante de la lista K de la EPA.

Additional PPE may be required per Standard Precautions.
Es posible que se exija utilizar equipo de protección personal adicional según las precauciones estándar.

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REVISED DATE: 1/20/2022

Enteric Precautions

Remove sign after room is terminally cleaned upon discharge or discontinuation of precautions.

Common conditions:

Clostridioides difficile

Norovirus

Room Placement:

Use private room when available. When private rooms are unavailable, place together in the same room persons who are colonized or infected with the same pathogen.

Personal Protective Equipment

Put on in this order

- Alcohol based handrub or wash with soap and water if visibly soiled

During an outbreak, consider using soap & water instead of alcohol-based hand sanitizers after removing gloves.

- Gown– secure ties and tie in back (bow should not be tied in front of the gown)
- Gloves– pull over the cuffs of gown

Take off and dispose in this order

(Do NOT wear same gown and gloves for multiple patients/residents)

- Gloves– Carefully remove to prevent contamination of hands upon removal
- Gown– Carefully remove to prevent contamination on clothing or skin
- Alcohol based handrub or wash hands with soap and water if visibly soiled. If your institution experiences an outbreak, consider using soap and water instead of alcohol-based hand sanitizers for hand hygiene afte removing gloves while caring for patients with CDI.

Dishes/Utensils:

No special precautions. Should be managed in accordance with routine procedures.

Room Cleaning:

Follow facility policy. Use a disinfectant included on the EPA LIST K. Examples of these include: Bleach wipes, bleach and other sporicidal disinfectants.

Trash and Linen Management:

Bag linen and trash in patient/resident room (double bagging of trash or linen is not necessary unless outside of bag visibly contaminated).

Transport:

Essential transport only. Place patient/resident in a clean gown. Clean and disinfect transport equipment. Alert receiving department regarding patient/resident isolation precaution status.

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DROPLET PRECAUTIONS



Applies when respiratory droplets contain pathogens which may be spread to another susceptible individual

- Common conditions:
  - Pertussis,
  - Influenza,
  - Rhinovirus,
  - Neisseria meningitides,
  - Mumps,
  - Rubella,
  - Parvovirus B19

- Surgical or procedure mask upon entering the room
- Private room when available
- Transport resident in a medical grade mask.

https://www.cdc.gov/flu/hcp/testing-methods/nursing-homes.html

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STOP

DROPLET PRECAUTIONS

PRECAUCIONES DE TRANSMISION POR GOTAS

ALTO

Family/Visitors should not visit if having signs or symptoms of an infection or a communicable disease. Visitation also based on facility's policy.
Los familiares y visitantes no deben visitar si tienen señales o síntomas de infección o de una enfermedad contagiosa. Las visitas también dependen de la política de la instalación.

Follow instructions below before entering room.
Antes de entrar a la habitación, siga las instrucciones a continuación.



Everyone must:

☑ Clean hands before entering and when leaving room.

Todos deben:

Lavarse las manos antes de entrar y al salir de la habitación.



☑ Wear surgical/procedure mask when entering the room and remove after exiting the room.

Usar una mascarilla quirúrgica o para procedimientos al entrar a la habitación y quitársela después de salir de la habitación.

Additional PPE may be required per Standard Precautions.
Es posible que se exija equipo de protección personal adicional según las precauciones estándar.

Translated by UNC Health Interpreter Services

REVISED DATE: 1/20/2022

Droplet Precautions

Remove sign after room is terminally cleaned upon discharge or discontinuation of precautions.

Common conditions (per CDC guidelines)

B. pertussis (Whooping cough)
Influenza virus
Rhinovirus
Known or suspected *Neisseria meningitides* (meningoccoccal) and *H. influenza* meningitis
Mumps
Rubella
Parvovirus B19

Room Placement:
Use private room when available. When private rooms are unavailable, place together in the same room persons who are colonized or infected with the same pathogen.
Spatial separation of ≥3 feet and drawing the curtain between patient beds is especially important for patients in multi-bed rooms with infections transmitted by the droplet route.

Personal Protective Equipment

Put on in this order

- Alcohol based handrub or wash with soap and water if visibly soiled

Mask– Cover nose, mouth, and chin. If wearing a mask with ties, all ties must be secured.

Take off and dispose in this order

- Mask– Do NOT grasp front of the mask when removing. Grasp bottom ties then the ties at top and pull away from face. For ear loop masks stretch the ear loops, remove, and handle only ear loops.
- Alcohol based handrub or wash hands with soap and water if visibly soiled.

Dishes/Utensils:
No special precautions. Should be managed in accordance with routine procedures.

Room Cleaning:
Follow facility policy for Droplet Precautions

Trash and Linen Management:
Bag linen and trash in patient/resident room (double bagging of trash or linen is not necessary unless outside of bag visibly contaminated).

Transport:
Essential transport only. Place patient/resident in a medical grade mask. Clean and disinfect transport equipment. Alert receiving department regarding patient/resident isolation precaution status.

Duration of Precautions:
For guidance for duration of precautions, follow Appendix A- Type and Duration of Precautions Recommended for Selected Infections and Conditions within the CDC's 2007 Guideline for Isolation Precautions: Preventing Transmission of Infectious Agents in Healthcare Settings

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DROPLET AND AIRBORNE TRANSMISSION



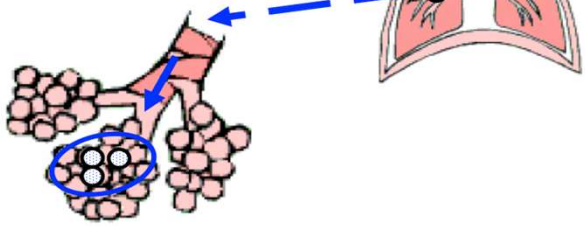
Smallest droplets (<25 mm) evaporate leaving "**droplet nuclei**" of bacilli that can reach **alveoli** (e.g., **TB**).

Medium Droplets

Medium-sized droplets: trapped & cleared in upper airway.

Largest droplets fall to ground in seconds; may persist in dust, but not an important cause of infection.

Largest Droplets



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AIRBORNE PRECAUTIONS

Occurs when pathogens are so small, they can easily be dispersed in the air over long distances by air currents.

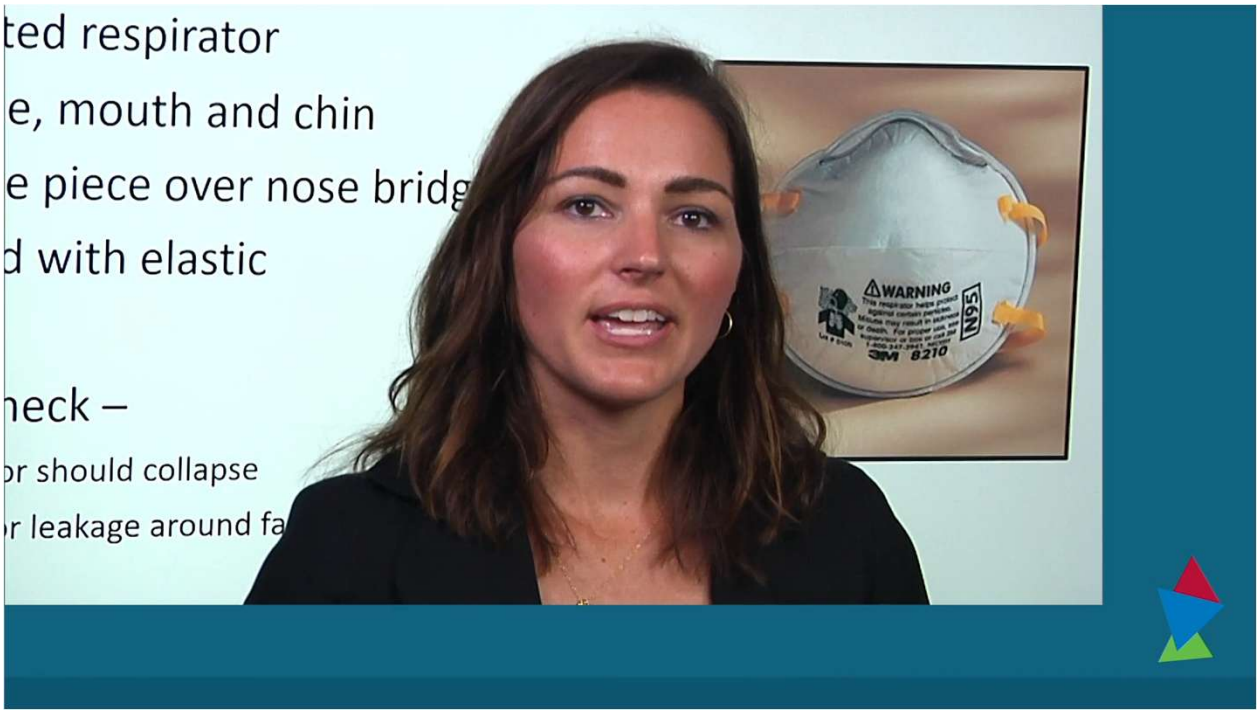
- Common conditions:
  - Tuberculosis,
  - Measles

- **Private room only**
- **<u>Room requires Negative airflow pressure</u>**
- **Doors must remain closed**
- **Everyone must wear an N-95 respirator**
- **Limit the movement and transport of the Resident**
- **Hand hygiene before and after**

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DON AND DOFFING N95 RESPIRATOR



AIRBORNE PRECAUTIONS
PRECAUCIONES DE TRANSMISION AÉREA

STOP ALTO

Family/Visitors should not visit if having signs or symptoms of an infection or a communicable disease. Visitation also based on facility's policy.
Los familiares y visitantes no deben visitar si tienen señales o síntomas de infección o de una enfermedad contagiosa. Las visitas también dependen de la política de la instalación.

Follow instructions below before entering room.
Antes de entrar a la habitación, siga las instrucciones a continuación.

Everyone must:



Clean hands before entering and when leaving room.
Todos deben:

Lavarse las manos antes de entrar y antes de salir de la habitación.

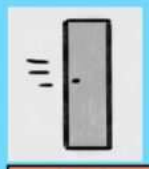


Wear a respirator (N95) or higher level respirator prior to entering the room. Remove after exiting the room.

Visitors-See nurse for instruction on mask or respirator selection and use.

Usar un respirador (N95) o un respirador de nivel superior antes de entrar a la habitación. Quitárselo después de salir de la habitación.

Visitantes- consulte con la enfermera para obtener instrucciones sobre la selección y el uso de



Keep door closed.
(Maintain negative pressure)

Mantenga la puerta cerrada.
(Mantener presión negativa)

Additional PPE may be required per Standard Precautions.
Es posible que se exija utilizar equipo de protección personal adicional según las precauciones estándar.

Translated by UNC Health Interpreter Services

REVISED DATE: 1/20/2022

Airborne Precautions

Remove sign after room is terminally cleaned upon discharge or discontinuation of precautions.

Common conditions (per CDC guidelines)
Mycobacteria tuberculosis (TB)
Measles

Room Placement:
Preferred placement for patients who require Airborne Precautions is in an airborne infection isolation room (AIIR). An AIIR is a single-patient room that is equipped with special air handling and ventilation capacity that meet the Facility Guidelines Institute (FGI) standards for AIIR. In settings where Airborne Precautions cannot be implemented due to limited engineering resources (e.g., physician offices), masking the patient, placing the patient in a private room (e.g., office examination room) with the door closed, and providing N95 or higher level respirators or masks if respirators are not available for healthcare personnel will reduce the likelihood of airborne transmission until the patient is either transferred to a facility with an AIIR or returned to the home environment, as deemed medically appropriate.

Personal Protective Equipment
Put on in this order
- Alcohol based handrub or wash with soap and water if visibly soiled
- Fit tested NIOSH approved respirator (N95) or higher level respirator

Healthcare worker must be fit tested for respirator and visitors should see nurse for proper use.

Take off and dispose in this order
- N95 respirator- Do NOT grasp front of the respirator. Grasp bottom elastics then the ones at the top.
- Alcohol based handrub or wash hands with soap and water if visibly soiled.

Dishes/Utensils:
No special precautions. Should be managed in accordance with routine procedures.

Room Cleaning:
Follow facility policy for Airborne Precautions. When in doubt keep sign on door and room closed for one hour to allow room air to circulate and filter.

Trash and Linen Management:
Bag linen and trash in patient room (double bagging of trash or linen is not necessary unless outside of bag visibly contaminated).

Transport:
Essential transport only. Place patient in a medical grade mask. Clean and disinfect transport equipment. Alert receiving department regarding patient/resident isolation precaution status.

Duration of Precautions:
For guidance for duration of precautions, follow Appendix A- Type and Duration of Precautions Recommended for Selected Infections and Conditions within the CDC's 2007 Guideline for Isolation Precautions: Preventing Transmission of Infectious Agents in Healthcare Settings

SPICE

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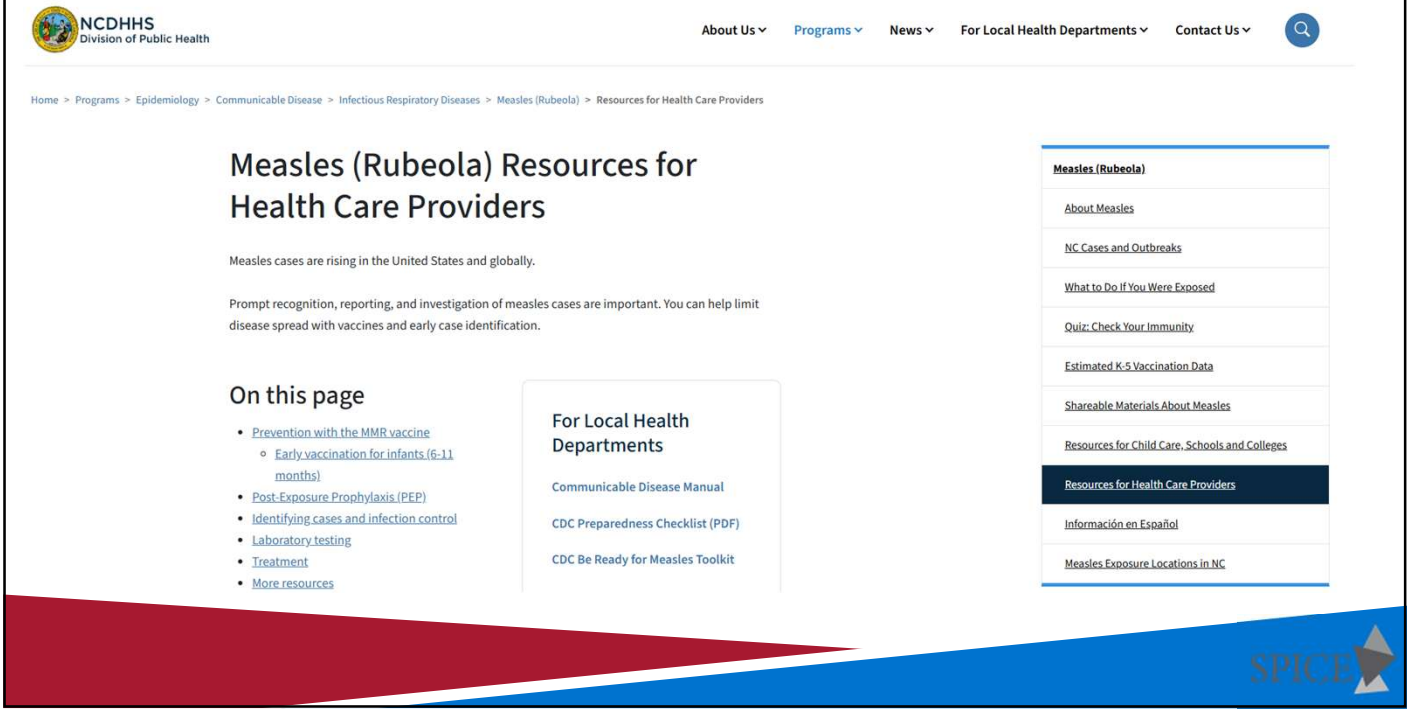
NC DEPARTMENT OF HEALTH AND HUMAN SERVICES

JOSH STEIN • Governor
DEVDUTTA SANGVAI • Secretary
KAREN BURKES • Acting Deputy Secretary for Health
KELLY KIMPLE • Acting Director, Division of Public Health

MEASLES

To: North Carolina Clinicians
From: Zack Moore, MD, MPH, State Epidemiologist
Carrie Blanchard, PharmD, MPH, Director, Immunization Branch
Subject: Increase in Measles Cases in the United States (3 pages)

- Keep up to date with measles: Measles (Rubeola) Resources for Health Care Providers | Division of Public Health



SPICE

TUBERCULOSIS OR MEASLES

Facility does not have a dedicated negative pressure room:

- Transfer resident to a facility capable of managing and evaluating resident
- Place a mask on the resident (if tolerated), place in room with door closed pending transport
- Be sure policy is included in your plan

Facility does have negative pressure room:

- Follow Airborne Precautions

*Rooms that had been occupied by a suspect or confirmed measles patient should not be used for two hours after the patient leaves.

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1. Airborne Contaminant Removal

Table B.1. Air changes/hour (ACH) and time required for airborne-contaminant removal by efficiency *

ACH § ¶	Time (mins.) required for removal 99% efficiency	Time (mins.) required for removal 99.9% efficiency
2	138	207
4	69	104
6+	46	69
8	35	52
10+	28	41
12+	23	35
15+	18	28
20	14	21
50	6	8

* This table is revised from Table S3-1 in reference 4 and has been adapted from the formula for the rate of purging airborne contaminants presented in reference 1435.

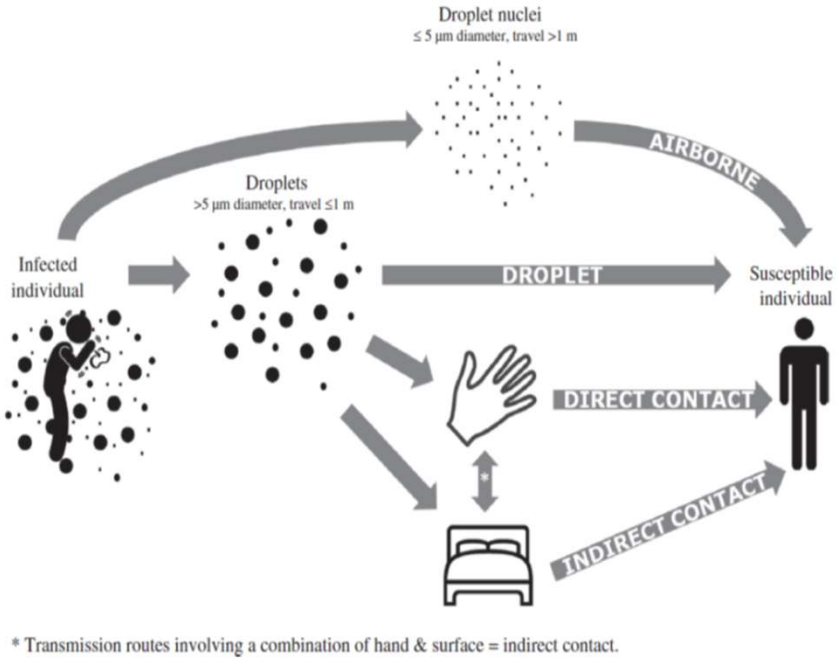
https://www.cdc.gov/infection-control/hcp/environmental-control/appendix-b-air.html

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TRANSMISSION-BASED PRECAUTIONS

- Combinations of precautions may be necessary based on the pathogen:
  - **Droplet plus Contact**
  - **Airborne plus Contact**



1Proceianoy RS, et al. J Pediatr (Rio J) 2002;11 April; 2 Almendros A, et al. Vet Rec 2020;4; 3Chin AWH, et al
David Weber: Associate Chief Medical Officer, UNC Hospitals; Medical Director, Hospital Epidemiology: COVID-19 (SARS Co-V-2) Update

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AIRBORNE CONTACT PRECAUTIONS

- Common conditions:
  - Chicken Pox
  - Disseminated Shingles
  - Smallpox
  - Extrapulmonary tuberculosis (draining lesions)
- AIIR- single-resident room with special air handling and ventilation capacity that meet the Facility Guidelines Institute (FGI) standards.
- N95 or higher respirator
- Essential transport only, with resident wearing a medical grade mask
- Upon discharge allow at least one hour for air to circulate

CHICKENPOX AND SHINGLES

Disease/Condition	Type and Duration of Isolation
Chickenpox (varicella)	Airborne and Contact until lesions are dry and crusted
Shingles (Herpes zoster. Varicella zoster)	
Localize in resident with intact immune system with lesions that can be contained/covered	Standard Precautions
Disseminated disease in any resident	Airborne and Contact precautions for duration of illness
Localized disease in immunocompromised resident until disseminated infection ruled out	Airborne and Contact precautions for duration of illness

Non-immune healthcare personnel should not care for residents with Chickenpox or Shingles

STOP

AIRBORNE CONTACT PRECAUTIONS

ALTO

PRECAUCIONES PARA LA TRANSMISION POR CONTACTO Y POR VÍA AÉREA

Family/Visitors should not visit if having signs or symptoms of an infection or a communicable disease. Visitation also based on facility's policy.
Los familiares y visitantes no deben visitar si tienen señales o síntomas de infección o de una enfermedad contagiosa. Las visitas también dependen de la política de la instalación.

Follow instructions below before entering room.
Antes de entrar a la habitación, siga las instrucciones a continuación.

All Healthcare Personnel must:

Todo el personal de atención médica debe:



Clean hands before entering and when leaving room.
Lavarse las manos antes de entrar y al salir de la habitación.



Wear a gown when entering room and remove before leaving.
Usar una bata al entrar a la habitación y quitársela antes de salir.



Wear N95 or higher level respirator before entering the room and remove after exiting.
Usar un respirador N95 o un respirador de nivel superior antes de entrar a la habitación y quitárselo después de salir.



Wear gloves when entering room and remove before leaving.
Usar guantes al entrar a la habitación y quitárselos antes de salir.



Keep door closed.
(Maintain negative pressure)
Mantener la puerta cerrada. (Mantener presión negativa).

Additional PPE may be required per Standard Precautions.
Es posible que se exija utilizar equipo de protección personal adicional según las precauciones estándar.

Translated by UNC Health Interpreter Services

REVISED DATE: 10/7/2024

Airborne Contact Precautions

Remove sign after room is terminally cleaned upon discharge or discontinuation of precautions.

Common conditions (per CDC guidelines)

Chicken Pox
Disseminated Shingles
Smallpox
Extrapulmonary tuberculosis (draining lesions)

Room Placement:

Preferred placement for patients who require Airborne Precautions is in an airborne infection isolation room (AIIR). An AIIR is a single-patient room that is equipped with special air handling and ventilation capacity that meet the Facility Guidelines Institute (FGI) standards for AIIR. In settings where Airborne Precautions cannot be implemented due to limited engineering resources (e.g., physician offices), masking the patient, placing the patient in a private room (e.g., office examination room) with the door closed, and providing N95 or higher level respirators or masks if respirators are not available for healthcare personnel will reduce the likelihood of airborne transmission until the patient is either transferred to a facility with an AIIR or returned to the home environment, as deemed medically appropriate.

Personal Protective Equipment:

Put on in this order

- Alcohol based handrub or wash with soap and water if visibly soiled
- Gown
- Fit tested NIOSH approved respirator (N95) or higher level respirator

Healthcare worker must be fit tested for respirator and visitors should see nurse for proper use.

- Gloves

Take off and dispose in this order

- Gloves
- Gown- Unfasten gown ties, taking care that sleeves don't contact your body when reaching for ties . Pull gown away from neck and shoulders, touching inside of gown only.
- N95 respirator- Do NOT grasp front of respirator. Grasp bottom elastics then the ones at the top.
- Alcohol based handrub or wash hands with soap and water if visibly soiled.

Dishes/Utensils:

No special precautions. Should be managed in accordance with routine procedures.

Room Cleaning:

Follow facility policy for Airborne Contact Precautions

Trash and Linen Management:

Bag linen and trash in patient room (double bagging of trash or linen is not necessary unless outside of bag visibly contaminated).

Transport:

Essential transport only. Place patient in a medical grade mask. Clean and disinfect transport equipment. Alert receiving department regarding patient isolation precaution status.

Duration of Precautions:

For guidance for duration of precautions, follow Appendix A- Type and Duration of Precautions Recommended for Selected Infections and Conditions within the CDC's 2007 Guideline for Isolation Precautions: Preventing Transmission of Infectious Agents in Healthcare Settings

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DROPLET CONTACT PRECAUTIONS

- Common conditions:
  - Rhinovirus if associated with copious secretions,
  - Invasive group A streptococcal infection associated with soft tissue involvement
  - Certain coronaviruses
  - RSV (infants and young children)
- Private room when available or keep >3 spatial separation
- Surgical or procedure mask when entering room
- Gown and gloves on room entry and remove when leaving room
- Essential transport with resident/resident in a medical grade mask and clean gown

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STOP

DROPLET CONTACT PRECAUTIONS

ALTO

PRECAUCIONES DE TRANSMISION POR GOTAS Y POR CONTACTO

Family/Visitors should not visit if having signs or symptoms of an infection or a communicable disease. Visitation also based on facility's policy.
Los familiares y visitantes no deben visitar si tienen señales o síntomas de infección o de una enfermedad contagiosa. Las visitas también dependen de la política de la instalación.

Follow instructions below before entering room.
Antes de entrar a la habitación, siga las instrucciones a continuación.

Everyone must:
Todos deben:



Clean hands before entering and when leaving room.
Lavarse las manos antes de entrar y antes de salir de la habitación.



Wear a gown when entering room and remove before leaving.
Usar una bata al entrar a la habitación y quitársela antes de salir.



Wear surgical/procedure mask when entering the room. Remove immediately before leaving room.
Usar una mascarilla quirúrgica o para procedimientos al entrar a la habitación. Quitársela justo antes de salir de la habitación.



Wear gloves when entering room. Perform hand hygiene after removing gloves.
Usar guantes al entrar a la habitación. Llevar a cabo la higiene de manos después de quitarse los guantes.

Additional PPE may be required per Standard Precautions.
Es posible que se exija utilizar equipo de protección personal adicional según las precauciones estándar.

Translated by UNC Health Interpreter Services

REVISED DATE: 1/20/2022

Droplet Contact Precautions

Remove sign after room is terminally cleaned upon discharge or discontinuation of precautions.

Common conditions (per CDC guidelines)

Rhinovirus if associated with copious secretions
Invasive group A streptococcal infection associated with soft tissue involvement
Adenovirus pneumonia

Room Placement

Use private room when available. When private rooms are unavailable, place together in the same room persons who are colonized or infected with the same pathogen.
Spatial separation of ≥3 feet and drawing the curtain between patient/resident beds is especially important for patients/residents in multi-bed rooms with infections transmitted by the droplet route.

Personal Protective Equipment

Put on in this order

- Alcohol based handrub or wash with soap and water if visibly soiled
- Gown
- Surgical/procedure mask– Cover nose, mouth, and chin. If wearing a mask with ties, all ties must be secured.
- Gloves

Take off and dispose in this order

- Gloves– perform hand hygiene after removing gloves
- Gown- Unfasten gown ties, taking care that sleeves don't contact your body when reaching for ties. Pull gown away from neck and shoulders, touching inside of gown only.
- Surgical/procedure mask– Do NOT grasp front of the mask when removing. Grasp bottom ties then the ties at top and pull away from face. For ear loop masks stretch the ear loops, remove, and handle only ear loops.
- Alcohol based handrub or wash hands with soap and water if visibly soiled.

Dishes/Utensils:

No special precautions. Should be managed in accordance with routine procedures.

Room and Equipment Cleaning:

Follow facility policy for Droplet Contact Precautions for room cleaning. Use patient-dedicated or single-use disposable equipment. If shared equipment is used, clean and disinfect between patients.

Trash and Linen Management:

Bag linen and trash in patient/resident room (double bagging of trash or linen is not necessary unless outside of bag visibly contaminated).

Transport:

Essential transport only. Place patient/resident in a medical grade mask. Clean and disinfect transport equipment. Alert receiving department regarding patient/resident isolation precaution status.

Duration of Precautions:

For guidance for duration of precautions, follow Appendix A- Type and Duration of Precautions Recommended for Selected Infections and Conditions within the CDC's 2007 Guideline for Isolation Precautions: Preventing Transmission of Infectious Agents in Healthcare Settings

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SPECIAL DROPLET CONTACT PRECAUTIONS

- Common conditions:
  - SARS,
  - SAR-CoV-2 (COVID-19)
  - Mpox
- Private room with door closed unless fall risk.
- AIIR- single-resident room with special air handling and ventilation capacity that meet the Facility Guidelines Institute (FGI) standards when performing AGPS
- Fit tested N95 or higher respirator
- Protective eyewear
- Gown and gloves
- Essential transport only with resident-resident wearing a medical grade mask


STOP
SPECIAL DROPLET CONTACT PRECAUTIONS
ALTO
PRECAUCIONES ESPECIALES PARA LA TRANSMISIÓN POR CONTACTO Y POR GOTAS
Family/Visitors should not visit if having signs or symptoms of an infection or a communicable disease. Visitation also based on facility's policy.
Los familiares y visitantes no deben visitar si tienen señales o síntomas de infección o de una enfermedad contagiosa. Las visitas también dependen de la política de la instalación.
Follow instructions below before entering room.
Antes de entrar a la habitación, siga las instrucciones a continuación.
All Healthcare Personnel must:
Todo el personal de atención médica debe:
Clean hands before entering and when leaving room.
Lavarse las manos antes de entrar y antes de salir de la habitación.
Wear a gown when entering room and remove before leaving.
Usar una bata al entrar y quitársela antes de salir.
Wear N95 or higher level respirator before entering the room and remove after exiting.
Usar un respirador N95 o un respirador de nivel superior antes de entrar a la habitación y quitárselo después de salir.
Protective eyewear (face shield or goggles)
Protección para los ojos (careta o gafas protectoras)
Wear gloves when entering room and remove before leaving.
Usar guantes al entrar a la habitación y quitárselos antes de salir.
Place in private room. Keep door closed (if safe to do so).
Colocar en habitación privada. Mantenga la puerta cerrada (si es seguro hacerlo).
Additional PPE may be required per Standard Precautions.
Es posible que se exija utilizar equipo de protección personal adicional según las precauciones estándar.
Translated by UNC Health Interpreter Services
REVISED DATE: 10/7/2024


Special Droplet Contact Precautions
Remove sign after room is terminally cleaned upon discharge or discontinuation of precautions.
Common conditions (per CDC guidelines)
SARs, COVID-19
Mpox
Room Placement:
Place patient in a single-person room. Keep the door closed UNLESS it poses a safety risk (i.e., fall, memory care units). Dedicated bathroom should be in the room. When private rooms are unavailable, place together in the same room persons who are colonized or infected with the same pathogen.
Aerosol Generating Procedures (AGPs) should be performed in an Airborne Infection Isolation Room (AIIR) if available.
Personal Protective Equipment:
Put on in this order
Alcohol based handrub or wash with soap and water if visibly soiled
Gown
Fit tested NIOSH approved respirator (N95) or higher level respirator
Healthcare worker must be fit tested for respirator and visitors should see nurse for proper use.
Put on eye protection (face shield or goggles)
Gloves
Take off and dispose in this order
Gloves
Eye Protection- Remove goggles or face shield from the back by lifting head band or ear pieces
Gown- Unfasten gown ties, taking care that sleeves don't contact your body when reaching for ties . Pull gown away from neck and shoulders, touching inside of gown only.
N95 respirator- Do NOT grasp front of the respirator. Grasp bottom elastics then the ones at the top.
Alcohol based handrub or wash hands with soap and water if visibly soiled.
Dishes/Utensils:
No special precautions. Should be managed in accordance with routine procedures.
Room Cleaning:
Follow facility policy for Special Droplet Contact Precautions
Trash and Linen Management:
Bag linen and trash in patient/resident room (double bagging of trash or linen is not necessary unless outside of bag visibly contaminated).
Transport:
Essential transport only. Place patient/resident in a medical grade mask. Clean and disinfect transport equipment. Alert receiving department regarding patient/resident isolation precaution status.
Duration of Precautions:
For guidance for duration of precautions, follow Appendix A- Type and Duration of Precautions Recommended for Selected Infections and Conditions within the CDC's 2007 Guideline for Isolation

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COVID-19 PRECAUTIONS UPDATES

NC DEPARTMENT OF HEALTH AND HUMAN SERVICES

In Sept. 2026, NC Department of Health and Human Services sent a memo on updated PPE recommendations for COVID-19.

Please note this guidance does not apply to nursing homes regulated under the NC Division of Health Service Regulation (DHSR) Nursing Home Licensure and Certification Section. These facilities are still required to develop and implement policies and procedures that are in line with currently posted CDC guidance.

CDC

The Centers for Disease Control and Prevention (CDC) is archiving the following guidance documents:

- Interim Guidance for Managing Healthcare Personnel with SARS-CoV-2 Infection or Exposure to SARS-CoV-2
- Strategies to Mitigate Healthcare Personnel Staffing Shortages
- Infection Control Guidance: SARS-CoV-2

Specific to COVID-19, the CDC is updating the location where healthcare providers access recommendations for infection prevention and control for COVID-19. Interim recommendations addressing the type and duration of Transmission-Based Precautions for SARS-CoV-2 infection—including recommended personal protective equipment (PPE)—are now included in Appendix A of CDC's 2007 Isolation Guideline, under "Respiratory infectious disease, acute (if not covered elsewhere)."

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COVID-19 PRECAUTIONS UPDATES

Viral Respiratory Infections

Infection Control in Healthcare Personnel

PART II: EPIDEMIOLOGY AND CONTROL OF SELECTED INFECTIONS | PAGE 17 OF 21 | ALL PAGES ↓

For Health Care Providers

SEPT. 11, 2026

https://www.cdc.gov/infection-control/hcp/healthcare-personnel-epidemiology-control/viral-respiratory-infections.html

Appendix A: Type and Duration of Precautions Recommended for Selected Infections and Conditions

Respiratory infectious disease, acute (if not covered elsewhere) Adults	Standard (for SARS-CoV-2, see comments)		*Interim recommendations for SARS-CoV-2, which are being reviewed for potential updates:* 1. Place patients in a single-person room. a. Aerosol-generating procedure should take place in an AIIR, if possible. 2. HCP should wear a gown, gloves, eye protection, N95 respirator or higher.

SPICE

WHEN TO DISCONTINUE TBP PRECAUTIONS

- Continue Standard Precautions once high-risk exposures or active symptoms have discontinued
  - Refer to ***Appendix A: Type and Duration of Precautions Recommended for Selected Infections and Conditions***



Appendix A: Type and Duration of Precautions Recommended for Selected Infections and Conditions

Guideline for Isolation Precautions: Appendix A

ISOLATION PRECAUTIONS GUIDELINE | PAGE 13 OF 19 | ALL PAGES ↓

For Health Care Providers

SEPT. 11, 2026

WHAT TO KNOW

Appendix A: Type and Duration of Precautions Recommended for Selected Infections and Conditions from the Guideline for Isolation Precautions: Preventing Transmission of Infectious Agents in Healthcare Settings (2007).

A

Infection/Condition	Type of Precaution	Duration of Precaution	Precautions/Comments
Abscess Draining, major	Contact + Standard	Duration of illness	Until drainage stops or can be contained by dressing.

SPICE

VIRAL RESPIRATORY PATHOGENS TOOLKIT FOR NURSING HOMES

PREPARE	*RESPOND*	*CONTROL*
• Vaccinate • Allocate resources • Monitor and Mask • Educate • Ventilate • Test and treat	• TBP based on pathogen • Remain in room • Physical distancing and face mask if outside room • PPE based on TBP • Non-punitive sick leave policies for HCP • Test if symptomatic • Treat • Investigate	• Notify the local/state PHD • Initial attempts • Additional measures

https://www.cdc.gov/long-term-care-facilities/hcp/respiratory-virus-toolkit/

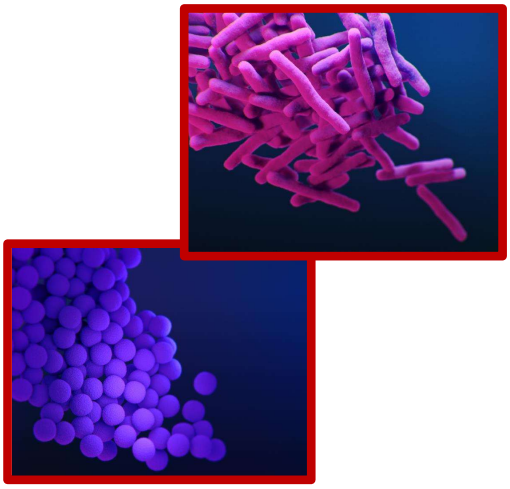
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Alarming Uptick of Deadly Superbugs in Hospitals
Antibiotic-Resistant Superbugs Responsible for 60 Percent of all
Sickness bug forces over 50 hospital wards to be closed
SICKNESS BUG TOLL TO HIT 200,000 A WEEK
UPDATE: New Drug-Resistant Superbugs Found in 3 States
Multi-drug Resistant Organisms (MDROs)
SPICE

MULTIDRUG RESISTANT ORGANISMS

- MDRO- Organisms that develop resistance to one or more classes of antibiotics. This may result in typical antibiotic regimens not working or becoming less effective.



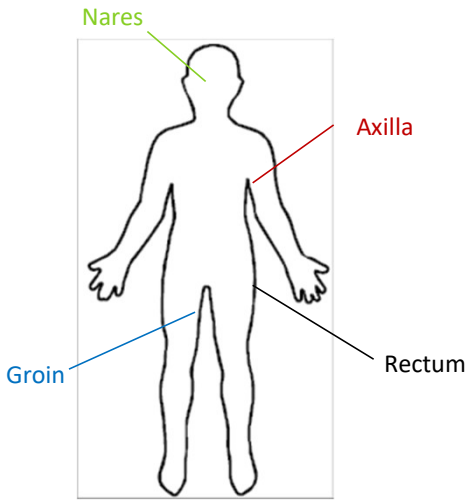
- Cause infections and/or colonization
- Infections caused by MDROs are:
  - More difficult to treat
  - Require more toxic antibiotics to treat
  - Often have poor resident outcomes
  - Are easily transmitted in healthcare settings

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COLONIZATION VS INFECTION

- MDRO colonization can persist for long periods of time (e.g., months) and result in silent transmission.
- Common colonization sites for MDROs include:
  - Nares
  - Axilla
  - Groin
  - Rectum



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RISK FACTORS FOR DEVELOPING A MDRO

- Duration of hospitalization
- High rates of transfer in and between hospitals
- Local institution risk factors
- **Long term care facilities**
- Intensive care units
- High rate of device utilization
- Colonization
- Prior antibiotic use

"Age, comorbid illnesses, invasive medical devices, frequent antibiotic exposure, and dependence on healthcare workers, in the setting of communal living, all serve to increase the risk of nursing home residents becoming colonized or infected with healthcare-acquired bacterial pathogens. "
(Dumyati, et. Al., 2017)

The Large Burden of MDROs in Nursing Homes

Facility Type	Documented MDRO	Actual MDRO
Nursing Homes (n = 14)	17%	58%
Ventilator-Capable Nursing Homes (n = 4)	20%	76%



McKinnell JA et al, Clin Infect Dis. 2019; 69(9):1566-1573

Slide acknowledgement CDC presentation

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- Residents in nursing homes are at increased risk of becoming colonized and developing infections with multidrug-resistant organisms (MDROs)
- *S. aureus* and MDRO colonization prevalence among residents in skilled nursing homes is estimated at greater than 50%, with new acquisitions occurring frequently
- Implicated in outbreaks
- Invasive devices and wounds increase risk for colonization and/or acquisition
- Transmission via healthcare personnel hands, or clothing

https://www.cdc.gov/long-term-care-facilities/media/pdfs/PPE-Nursing-Homes-508.pdf

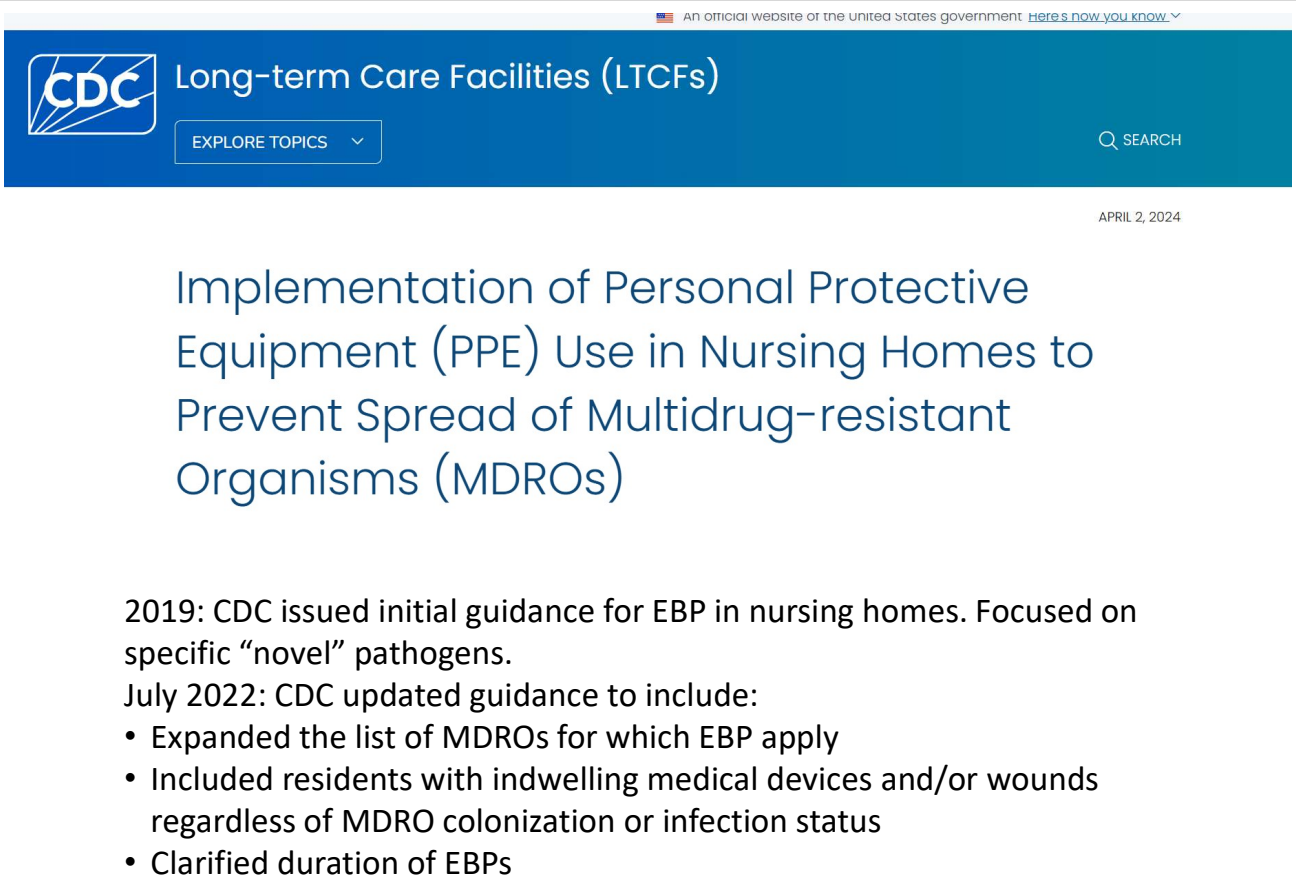
60

BACKGROUND

- Available evidence suggests routine use of EBP for residents with wounds or indwelling medical devices would reduce the transmission of *S. aureus* and MDROs (a randomized clinical trial[1]).
- Quasi-experimental study[2] routine use of EBP during high-risk care of residents with wounds or indwelling devices reduced acquisition and transmission of both methicillin-susceptible and methicillin-resistant *S. aureus*

[1]Mody L, Krein SL, Saint S, et al. A Targeted Infection Prevention Intervention in Nursing Home Residents with Indwelling Devices: A Randomized Clinical Trial. JAMA Internal Medicine 2015;175:714-23

[2]Lydecker AD, Osei PA, Pineles L, et al. Targeted Gown and Glove Use to Prevent Staphylococcus aureus Acquisition in Community-Based Nursing Homes: A Pilot Study. Infection Control & Hospital Epidemiology 2020:1-7.



2019: CDC issued initial guidance for EBP in nursing homes. Focused on specific "novel" pathogens.

July 2022: CDC updated guidance to include:

- Expanded the list of MDROs for which EBP apply
- Included residents with indwelling medical devices and/or wounds regardless of MDRO colonization or infection status
- Clarified duration of EBPs

https://www.cdc.gov/long-term-care-facilities/hcp/prevent-mdro/ppe.html

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DEPARTMENT OF HEALTH & HUMAN SERVICES
Centers for Medicare & Medicaid Services
7500 Security Boulevard, Mail Stop C2-21-16
Baltimore, Maryland 21244-1850

CMS
CENTERS FOR MEDICARE & MEDICAID SERVICES

Center for Clinical Standards and Quality/Quality, Safety & Oversight Group

Ref: QSO-24-08-NH

DATE: March 20, 2024

TO: State Survey Agency Directors

FROM: Director, Quality, Safety & Oversight Group (QSOG)

SUBJECT: Enhanced Barrier Precautions in Nursing Homes

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MDROs TARGETED BY CDC

- Pan-resistant organisms:
  - Resistant to all current antibacterial agents (for example: *Acinetobacter, Klebsiella pneumonia, pseudomonas aeruginosa)*
- Carbapenemase-producing Enterobacterales
- Carbapenemase-producing *Pseudomonas* spp.
- Carbapenemase-producing *Acinetobacter baumannii* and
- *Candida auris*



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ADDITIONAL EPIDEMIOLOGICALLY IMPORTANT MDROs

- Methicillin-resistant *Staphylococcus aureus* (MRSA),
- ESBL-producing Enterobacterales,
- Vancomycin-resistant *Enterococci* (VRE),
- Multidrug-resistant *Pseudomonas aeruginosa*,
- Drug-resistant *Streptococcus pneumoniae*

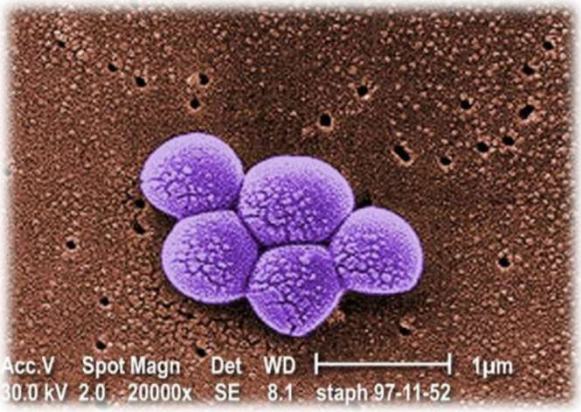


Photo credit: Public Health Image Library (PHIL)

Facility has discretion for MDROs not targeted by CDC

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ENHANCED BARRIER PRECAUTIONS
CDC AND CMS

- Applies to ***ALL*** residents with ***ANY of the following:***
  - Infection **OR** colonization with a **MDRO** when *Contact Precautions do not apply*
  - Wounds and/or indwelling medical devices (e.g., central lines, urinary catheter, feeding tube, tracheostomy/ventilator) **REGARDLESS** of MDRO colonization status and ***regardless of wherever they reside in the facility***
- Gown and gloves prior to the high contact care activity (cannot reuse gown, must change between residents)
  - Additional PPE (i.e., eye protection) based standard precautions.

No room restriction and not restricted or limited from participation in group activities

IMPLEMENTATION STRATEGIES

- ***CMS and CDC:*** Facility has clear expectations for staff related to hand hygiene, gown/glove use, initial and ongoing training and access to appropriate supplies
  - ***PPE and ABHR available***
  - ***Communication with staff***
  - Facilities with rooms containing multiple residents should provide staff with training and resources to ensure that they change their gown and gloves and perform hand hygiene in between care of residents in the same room.
  - ***Periodic monitoring and assessment of adherence to practice***
  - Educate residents and visitors

Other recommended practices-environmental cleaning and cleaning and disinfection resident care equipment

ENHANCED BARRIER PRECAUTIONS
CDC AND CMS

- Examples of high-contact resident care activities requiring gown and glove use:
  - Dressing
  - Bathing/showering
  - Transferring
  - Providing hygiene (brushing teeth, combing hair, and shaving) primarily bundled with am or pm care
  - Changing linens
  - Changing briefs or assisting with toileting
  - Device care or use; central line, urinary catheter, feeding tube, tracheostomy/ventilator
  - Wound care: any skin opening requiring a dressing



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Invasive devices

Wounds

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INDWELLING MEDICAL DEVICES
CDC AND CMS



- CDC
  - Examples of indwelling medical devices include central line, urinary catheter, feeding tube, and tracheostomy/ventilator;
- CMS
  - Indwelling medical device examples include central lines, urinary catheters, feeding tubes, and tracheostomies. A peripheral intravenous line (not a peripherally inserted central catheter) is not considered an indwelling medical device for the purpose of EBP.

WOUNDS
CDC AND CMS

- CDC
  - Any skin opening requiring a dressing
- CMS and CDC
  - Wounds generally include chronic wounds, not shorter-lasting wounds, such as skin breaks or skin tears covered with an adhesive bandage (e.g., Band-Aid®) or similar dressing. Examples of chronic wounds include, but are not limited to, pressure ulcers, diabetic foot ulcers, unhealed surgical wounds, and venous stasis ulcers.



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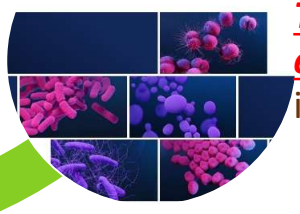
CDC



PPE place ***immediately*** outside the room



Clear signage placed ***outside*** on the door or wall next to room



Targeted and epidemiologically important MDROs

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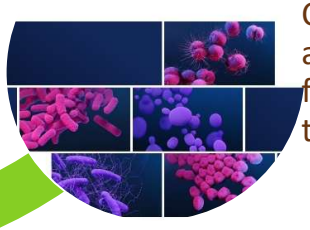
CMS



PPE and ABHR ***readily accessible to staff***. Discretion can be used to place near or outside the room



Facilities can ***use discretion on how to communicate to staff*** to maintain a home-like environment



CMS ***targeted MDROs*** and ***discretion*** to use for MDROs not targeted.

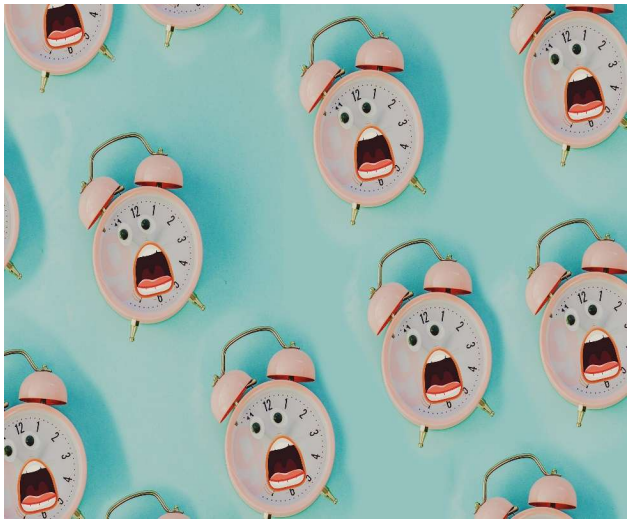
SHARED ROOMS



- When residents are placed in shared rooms, facilities must implement strategies to help minimize transmission of pathogens between roommates including:
  - maintaining spatial separation of at least 3 feet between beds to reduce opportunities for inadvertent sharing of items between the residents,
  - use of privacy curtains to limit direct contact,
  - cleaning and disinfecting any shared reusable equipment,
  - cleaning and disinfecting environmental surfaces on a more frequent schedule, and
  - changing personal protective equipment (if worn) and performing hand hygiene when switching care from one roommate to another.

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DURATION OF EBPS
CDC AND CMS



- Because Enhanced Barrier Precautions do not impose the same activity and room placement restrictions as Contact Precautions, they are intended to be in place:
  - **For the duration of a resident's stay in the facility or**
  - **Until resolution of the wound or discontinuation of the indwelling medical device that placed them at higher risk**



STOP

ENHANCED BARRIER PRECAUTIONS (LTCFs)

ALTO

PRECAUCIONES CON BARRERAS REFORZADAS (CENTROS DE LARGA ESTANCIA)

Family/Visitors should not visit if having signs or symptoms of an infection or a communicable disease. Visitation also based on facility's policy.
Los familiares y visitantes no deben visitar si tienen señales o síntomas de infección o de una enfermedad contagiosa. Las visitas también dependen de la política de la instalación.

Follow instructions below before entering room.
Antes de entrar a la habitación, siga las instrucciones a continuación.

Everyone must:

Todos deben:

Clean hands before entering and after leaving room.

Lavarse las manos antes de entrar y antes de salir de la habitación.

All Healthcare Personnel must:

Todo el personal de atención médica debe:

Wear gloves and gown for the following High-Contact Resident Care Activities:

- Dressing Bathing/Showering
- Transferring
- Changing Linens
- Providing Hygiene
- Changing briefs or assisting with toileting
- Device care or use: central line, urinary catheter, feeding tube, tracheostomy
- Wound Care: any skin opening requiring a dressing

Usar guantes y bata para las siguientes actividades de alto contacto durante el cuidado de residentes:

- *Vestir, bañar, duchar, trasladar, cambiar la ropa de cama.*
- *Proporcionar higiene, cambiar la ropa interior o ayudar a usar el baño.*
- *Cuidado o uso de dispositivos: vía central, sonda urinaria, sonda de alimentación, traqueostomía.*

Additional PPE may be required per Standard Precautions.
Es posible que se exija utilizar equipo de protección personal adicional según las precauciones estándar.

Translated by UNC Health Interpreter Services

REVISED DATE: 7/26/2022



STOP

ENHANCED BARRIER PRECAUTIONS

STOP

EVERYONE MUST:

Clean their hands, including before entering and when leaving the room.

PROVIDERS AND STAFF MUST ALSO:

Wear gloves and a gown for the following High-Contact Resident Care Activities.

- Dressing
- Bathing/Showering
- Transferring
- Changing Linens
- Providing Hygiene
- Changing briefs or assisting with toileting
- Device care or use:
  - central line, urinary catheter, feeding tube, tracheostomy
- Wound Care: any skin opening requiring a dressing

Do not wear the same gown and gloves for the care of more than one person.

CDC

U.S. Department of Health and Human Services
Centers for Disease Control and Prevention

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CONSIDERATIONS DURING SHORTAGES OF GOWNS OR GLOVES-CDC

- When PPE supply chains are strained during extraordinary circumstances such as the COVID-19 pandemic, facilities may encounter shortages of gowns or gloves.
- ***Neither extended use nor reuse of gowns and gloves is recommended for mitigating shortages in the context of EBP.***
- To optimize PPE supply, facilities can consider substituting disposable gowns with washable cloth isolation gowns that have long sleeves with cuffs.
- Healthcare personnel can reduce PPE consumption by bundling multiple care activities in the same resident interaction.

https://www.cdc.gov/hicpac/pdf/EnhancedBarrierPrecautions-H.pdf

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Table 1: Implementing Contact versus Enhanced Barrier Precautions

This table only applies to MDROs, not all pathogens that may require use of transmission-based precautions.

Resident Status	Contact Precautions	Use EBP
Infected or colonized with any MDRO and has secretions or excretions that are unable to be covered or contained.	Yes	No
Infected or colonized with a CDC-targeted MDRO **without** a wound, indwelling medical device or secretions or excretions that are unable to be covered or contained.	No	Yes
Infected or colonized with a non-CDC targeted MDRO **without** a wound, indwelling medical device, or secretions or excretions that are unable to be covered or contained.	No	At the discretion of the facility
Has a wound or indwelling medical device, **and** secretions or excretions that are unable to be covered or contained and are not known to be infected or colonized with any MDRO.	Yes, unless/until a specific organism is identified.	Yes, if they do not meet the criteria for contact precautions.
Has a wound or indwelling medical device, **without** secretions or excretions that are unable to be covered or contained and are not known to be infected or colonized with any MDRO.	No	Yes

Examples of secretions or excretions include wound drainage, fecal incontinence or diarrhea, or other discharges from the body that cannot be contained and pose an increased potential for extensive environmental contamination and risk of transmission of a pathogen.

Ref: QSO-24-08-NH

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https://www.cdc.gov/long-term-care-facilities/hcp/prevent-mdro/ppe.html

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MULTIDRUG-RESISTANT ORGANISM (MDRO) TOOLKIT FOR LONG-TERM CARE FACILITIES

- Introduction:

" Antimicrobial resistance is a major threat to public health. The Centers for Disease Control and Prevention (CDC) estimates that 2.8 million people in the United States every year get infections that are resistant to antimicrobials(drugs that treat infections caused by bacteria or fungi), and at least 35,000 people die as a result.

Organisms that are resistant to multiple classes of antimicrobial drugs are referred to as multidrug-resistant organisms (MDROs).

Infections with MDROs can be difficult to treat and can be much more dangerous than infections with non-resistant strains of the same organism. Patients with prolonged health care stays, exposure to antimicrobial drugs, and other risk factors such as wounds or indwelling medical devices are at the highest risk for MDRO colonization and infection. "

https://epi.dph.ncdhhs.gov/cd/docs/MDROToolkit.pdf

NEUTROPENIC PRECAUTIONS

- Absolute neutrophil count (ANC) < 1500 or AMC expected to decrease to <500 over next 48 hours
- Private room if available
- Routine room cleaning
- Avoid raw or undercooked fruits, eggs, vegetables, or shellfish or cracked pepper
- No live flowers or plants
- No staff or visitors' entry if ill
- Surgical mask if leaving room

STOP

NEUTROPENIC PRECAUTIONS

ALTO

Not included in CDC's Guidelines for Isolation Precautions

PRECAUCIONES NEUTROPENICAS

Family/Visitors should not visit if having signs or symptoms of an infection or a communicable disease. Visitation also based on facility's policy.
Los familiares y visitantes no deben visitar si tienen señales o síntomas de infección o de una enfermedad contagiosa. Las visitas también dependen de la política de la instalación.

Follow instructions below before entering room.
Antes de entrar a la habitación, siga las instrucciones a continuación.



Everyone must:
Todos deben:

Clean hands before entering and when leaving room.
Lavarse las manos antes de entrar y antes de salir de la habitación.



Avoid raw or under cooked fruits or vegetables; raw or undercooked eggs or shellfish
Evitar las frutas y verduras crudas o poco cocidas; los huevos o mariscos crudos o poco cocidos.



No live flowers or plants.
No se permiten flores ni plantas vivas.



Do not enter if feeling unwell.
No entre si está enfermo.

Additional PPE may be required per Standard Precautions.
Es posible que se exija utilizar equipo de protección personal adicional según las precauciones estándar.

Translated by UNC Health Interpreter Services

REVISED DATE: 1/20/2022

Neutropenic Precautions

Neutropenia — The definition of neutropenia varies from institution to institution, but neutropenia is usually defined as an absolute neutrophil count (ANC) <1500 or 1000 cells/microL and severe neutropenia as an ANC <500 cells/microL or an ANC that is expected to decrease to <500 cells/microL over the next 48 hours [2,3]. Profound neutropenia is defined as an ANC <100 cells/microL. The risk of clinically important infection rises as the neutrophil count falls below 500 cells/microL and is higher in those with a prolonged duration of neutropenia (>7 days).

Room Placement:
Use private room when available.

Personal Protective Equipment
Per Standard Precautions

Dishes/Utensils:
No special precautions. Should be managed in accordance with routine procedures.

Room Cleaning:
Follow facility policy for Neutropenic Precautions

Trash and Linen Management:
Bag linen and trash in patient/resident room (double bagging of trash or linen is not necessary unless outside of bag visibly contaminated).

Transport:
Essential transport only. Place patient/resident in a medical grade mask. Clean and disinfect transport equipment. Alert receiving department regarding patient/resident isolation precaution status.

Other Special Precautions:
- No live flowers or plants.
- Do not enter if feeling unwell.
- Avoid fresh uncooked fruits and vegetables (cooked fruits and vegetables are okay), raw or undercooked eggs or shellfish. Only use desiccated pepper.

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SUMMARY

- Standard precautions are the primary strategy to interrupt transmission of infectious agents in healthcare facilities
  - HH,PPE, Respiratory Hygiene, Cleaning of Equipment and Environment
- Transmission-based precautions may also need to be implemented based on the type of infection and how it is transmitted
  - Contact, Droplet, Airborne and a combination of these
- Enhanced Barrier Precautions recommended by CDC and required by CMS to prevent transmission of MDROs in nursing homes.

RESOURCES

Implementation of Personal Protective Equipment (PPE) Use in Nursing Homes to Prevent Spread of Multidrug-resistant Organisms (MDROs)
https://www.cdc.gov/long-term-care-facilities/hcp/prevent-mdro/ppe.html

Frequently Asked Questions (FAQs) about Enhanced Barrier Precautions in Nursing Homes https://www.cdc.gov/long-term-care-facilities/hcp/prevent-mdro/faqs.html

Considerations for Use of Enhanced Barrier Precautions in Skilled Nursing Facilities
https://www.cdc.gov/hicpac/media/pdfs/EnhancedBarrierPrecautions-508.pdf

ADDITIONAL RESOURCES

Type and Duration of Precautions Recommended for Selected Infections and Conditions

https://www.cdc.gov/infection-control/hcp/isolation-precautions/appendix-a-type-duration.html

CMS QSO-24-08-NH

SUBJECT: Enhanced Barrier Precautions in Nursing Homes

https://www.cms.gov/files/document/qso-24-08-nh.pdf

NC Statewide Program for Infection Control and Prevention (SPICE)

https://spice.unc.edu/

NC DHHS Measles Resources:
https://www.dph.ncdhhs.gov/programs/epidemiology/communicable-disease/measles/providers

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