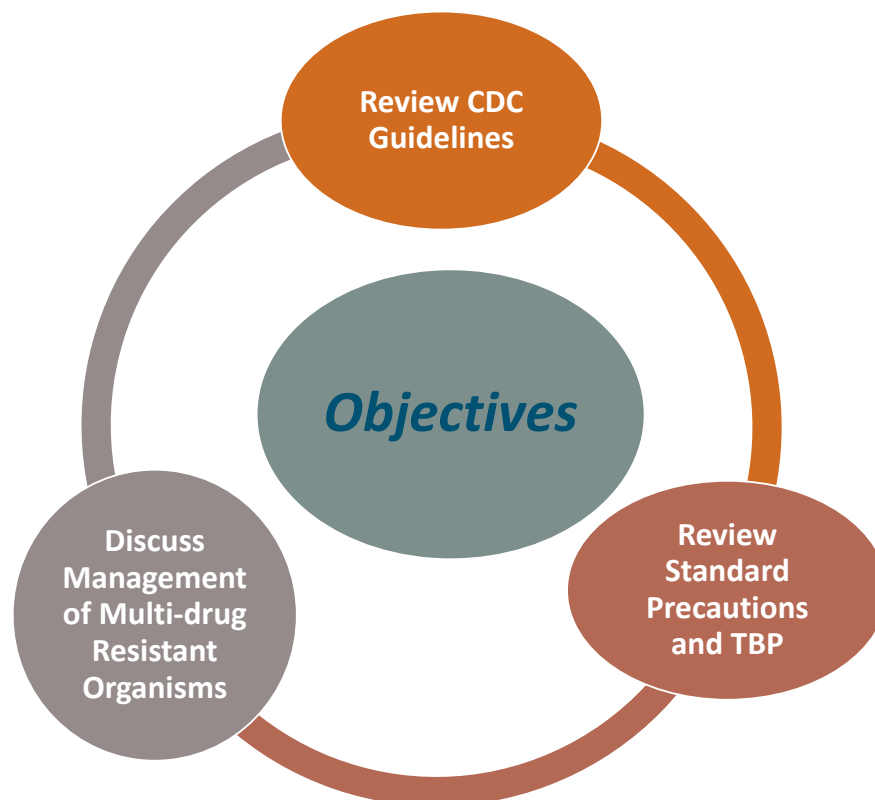


# RECOMMENDED PRACTICES TO INTERRUPT TRANSMISSION OF INFECTIOUS AGENTS IN LONG-TERM CARE FACILITIES

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## GUIDANCE DOCUMENTS

- ▶ 2007 Guideline for Isolation Precautions: Preventing Transmission of Infectious Agents in Healthcare Settings
- ▶ Management of Multi-drug resistant organisms (2006)
- ▶ Implementation of Personal Protective Equipment (PPE) use in nursing homes to prevent spread of multidrug-resistant organisms (6/22)
- ▶ Appendix PP State Operations manual (2/23)

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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*

# STANDARD PRECAUTIONS



**STANDARD PRECAUTIONS**

**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:**  
**Todos deben:**

-  Clean hands before entering and when leaving room.  
*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 CDC Health Interpretation 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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## 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/hcidod/dhgp/pdf/isolation2007.pdf>

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

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

**Appendix PP State Operations manual 2\_23**

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# HAND HYGIENE

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



➤ *When hands are visibly dirty or contaminated with proteinaceous material 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*



## How to hand wash



# 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



# 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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# STANDARD PRECAUTIONS

Component	Recommendation
<b>Personal Protective Equipment (PPE)</b>	
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

## 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

- ▶ Healthcare providers who are in close contact with an LTCF resident with suspected or confirmed SARS-CoV-2 infection must use a NIOSH-approved N95 FFR or equivalent or higher-level respirator (29 CFR 1910.134)
  - ▶ This guidance is designed specifically for nursing homes, assisted living facilities and other LTCF (group homes with nursing care)
- ▶ 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.osha.gov/sites/default/files/respiratory-protection-covid19-long-term-care.pdf>

<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



Personal Protective Equipment (PPE)



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

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Component	Recommendation
<b>Resident placement</b>	Prioritize for <u>single-resident room</u> if resident is at <b><i>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.</i></b>
<b>Respiratory hygiene/cough etiquette</b> (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.

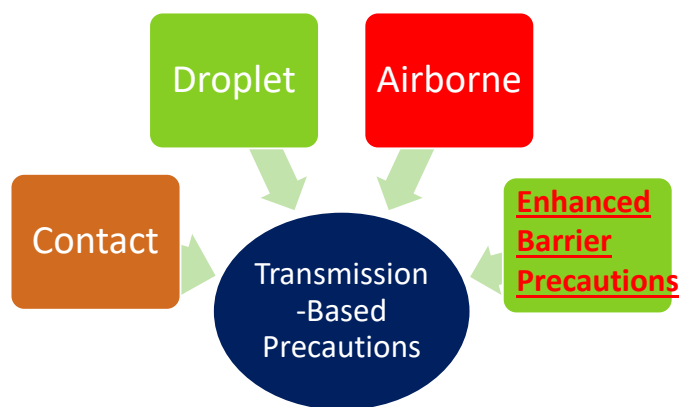
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Component	Recommendation
Safe Injection Practices	<p>Apply to the use of needles, cannulas that replace needles, and, where applicable intravenous delivery systems</p> <ul style="list-style-type: none"> <li>• Use aseptic technique</li> <li>• Needles, cannulae and syringes are sterile, single-use items</li> <li>• Use single-dose vials for parenteral medications whenever possible</li> <li>• Do not administer medications from single-dose vials or ampules to multiple residents</li> <li>• Do not keep multidose vials in the immediate resident treatment area</li> <li>• Do not use bags or bottles of IV solution as a common source of supply for multiple residents</li> </ul>
Special Lumbar Procedures	Wear a surgical mask when placing a catheter or injecting material into the spinal canal or subdural space



## 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.*

## 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*

Appendix PP State Operations manual 2/23



## 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.*

Appendix PP State Operations manual 2/23



## CONTACT PRECAUTIONS

- ▶ Common conditions:
  - ▶ MRSA,
  - ▶ VRE,
  - ▶ CRE,
  - ▶ ESBL-GNR,
  - ▶ *Candida auris*,
  - ▶ Scabies,
  - ▶ Uncontained draining wounds or abscesses
- ▶ Private room if available
- ▶ ***Don gown and gloves when entering the room***
- ▶ Disposable or dedicated equipment
- ▶ Transport residents in a fresh gown

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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:

- 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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### CONTACT PRECAUTIONS

#### PRECAUCIONES DE TRANSMISIÓN 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:**

 **Clean hands before entering and when 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 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

### 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 *Enterobacteriales* (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 Isolating Patients: Preventing Transmission of Infectious Agents in Healthcare Settings

REVISED DATE: 1/20/22

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- ▶ Additional usage of PPE can be used for residents *who do not meet criteria for contact precautions but are infected or colonized with MDROs (or have risk factors for MDRO acquisition).*
- ▶ *Staff can use gloves and gowns in order to prevent contamination of hands and clothing while performing high-contact resident care activities that pose the highest risk for MDRO transmission.*
- ▶ *These high-contact activities include dressing, bathing or providing hygiene, transferring, changing briefs or assisting with toileting, changing linens, or providing any type of device or wound care.*
- ▶ *Use of additional PPE during resident care would not restrict a resident's ambulation, socialization, and use of common areas and participation in group activities.*

**Appendix PP State Operations manual 2/23**



## Implementation of Personal Protective Equipment (PPE) Use in Nursing Homes to Prevent Spread of Multidrug-resistant Organisms (MDROs)

Print version: [Implementation of PPE in Nursing Homes to Prevent Spread of MDROs](#) [PDF - 7 pages]

### Summary of Recent Changes:

- Added additional rationale for the use of Enhanced Barrier Precautions (EBP) in nursing homes, including the high prevalence of multidrug-resistant organism (MDRO) colonization among residents in this setting.
- Expanded residents for whom EBP applies to include any resident with an indwelling medical device or wound (regardless of MDRO colonization or infection status).
- Expanded MDROs for which EBP applies.
- Clarified that, in the majority of situations, EBP are to be continued for the duration of a resident's admission.

### On this Page

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[Description of Precautions](#)

[Summary of PPE Use and Room Restriction](#)

[Implementation](#)

[References](#)

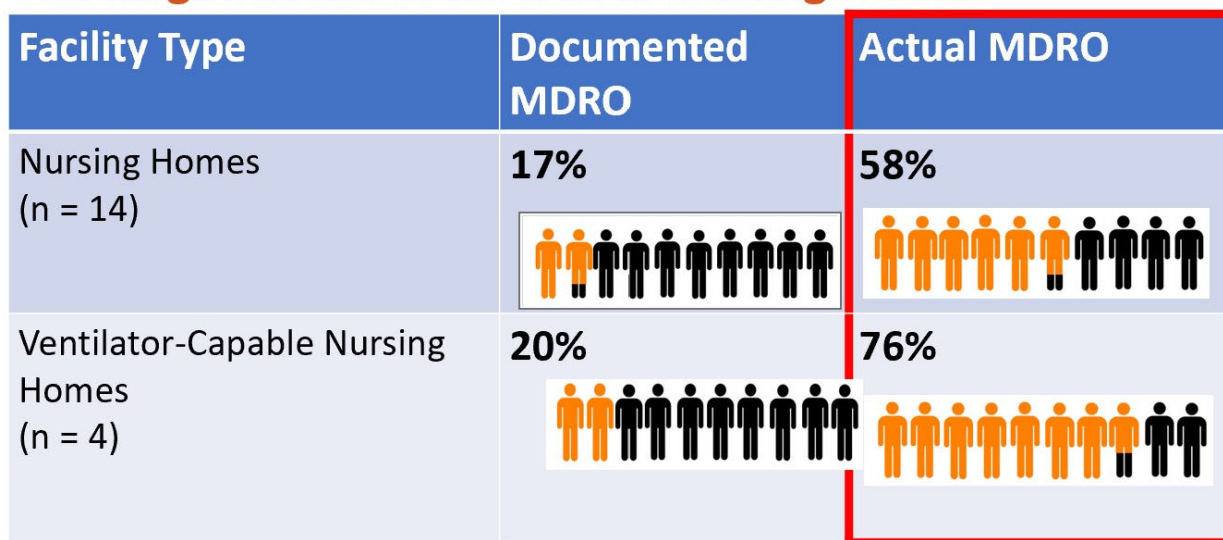
### Resources

<https://www.cdc.gov/hai/containment/PPE-Nursing-Homes.html>





## The Large Burden of MDROs in Nursing Homes



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



Known MDRO



No Known MDRO

Slide acknowledgement CDC presentation



## MDROs TARGETED BY CDC

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



## ADDITIONAL EPIDEMIOLOGICALLY IMPORTANT MDROs

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

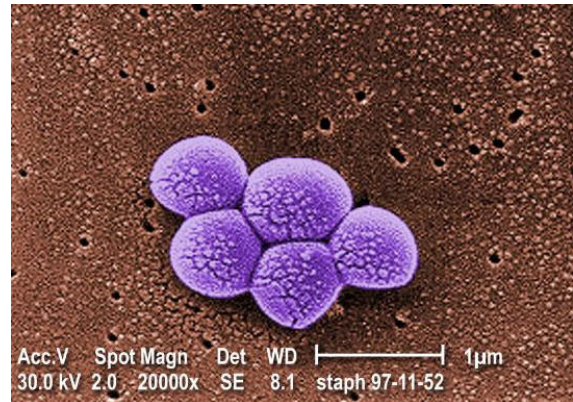


Photo credit: [Public Health Image Library \(PHIL\)](#)

## ENHANCED BARRIER PRECAUTIONS (EBP)

- ▶ Expands the use of PPE beyond situations in which exposure to blood and body fluids is anticipated (i.e. Standard Precautions)
- ▶ Refers to the use of gown and gloves during high-contact resident care activities that provide opportunities for transfer of MDROs to staff hands and clothing



# ENHANCED BARRIER PRECAUTIONS

- ▶ 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
- ▶ Gown and gloves prior to the high contact care activity (cannot reuse gown, must change between residents)
  - ▶ Eye protection based on risk of being splashed or splattered
- ▶ **No room restriction and not restricted or limited from participation in group activities**



**Invasive devices**



**Wounds**

# ENHANCED BARRIER PRECAUTIONS

► 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



Infected or colonized with MDRO:

*Intended to be in place for the*

*Duration of a resident's*

*Stay in the facility;*

Wound or invasive device:

*Until resolution of the wound*

*Or discontinuation of the*

*Indwelling medical device*



## ENHANCED BARRIER PRECAUTIONS (LTCFs)

**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 UNIC Health Interpreter Services

### Enhanced Barrier Precautions

Not intended for acute care or long-term acute care (LTACs)

All residents with any of the following:

- Infection or colonization with a MDRG when Contact Precautions do not apply. At a minimum include resistant organisms targeted by CDC (e.g., Pan-resistant organisms, Carbapenemase producing Enterobacteriaceae, Carbapenemase producing Pseudomonas spp., Carbapenemase-producing Acinetobacter baumannii and Candida auris)
- Wounds (skin opening that requires a dressing) and/or indwelling medical devices (e.g., central line, urinary catheter, feeding tube, tracheostomy/ventilator) regardless of MDRG colonization status

Facilities may consider applying Enhanced Barrier Precautions to residents infected or colonized with other epidemiologically-important MDRGs based on facility policy.  
Residents are not restricted to their rooms or limited from participating in group activities

Perform Hand Hygiene

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

Personal Protective Equipment

Wear gloves and a gown for the following High-Contact Resident Care Activities.  
Do not wear the same gown and gloves for the care of more than one resident.

High-Contact Resident Care Activities include:

- 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

Take off and dispose in this order:

- 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 with soap and water if visibly soiled

Dishes/Utensils:

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

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.

Duration of Precautions

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 risk

## ENTERIC PRECAUTIONS

- ▶ Common conditions:
  - ▶ *Clostridioides difficile*,
  - ▶ Norovirus,
  - ▶ Rotavirus
- ▶ USE ABHR for routine care.
- ▶ During an outbreak, HCP should consider using soap & water routinely
- ▶ Private room if possible
- ▶ Gown and gloves
- ▶ Disposable or dedicated equipment
- ▶ Use EPA agent from the K list of disinfectants: Dilute Bleach , sporicidal disinfectants.


## 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.




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







**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.

Translated by UNC Health Interpreter Services      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 after 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.

## 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.





## DROPLET CONTACT PRECAUTIONS



### PRECAUCIONES DE TRANSMISIÓN 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.

#### Diapers/Urinals:

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



## AIRBORNE PRECAUTIONS

Private room only

Room requires Negative airflow pressure

Doors must remain closed

Everyone must wear an N-95 respirator

Limit the movement and transport of the Resident

Hand hygiene before and after

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

➤ Common conditions:

- Tuberculosis,
- Measles



# TUBERCULOSIS



## 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





**AIRBORNE PRECAUTIONS**  
PRECAUCIONES DE  
TRANSMISION 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.*


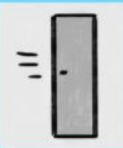
**Follow instructions below before entering room.**  
*Antes de entrar a la habitación, siga las instrucciones a continuación.*



**Clean hands before entering and when leaving room.**  
*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.

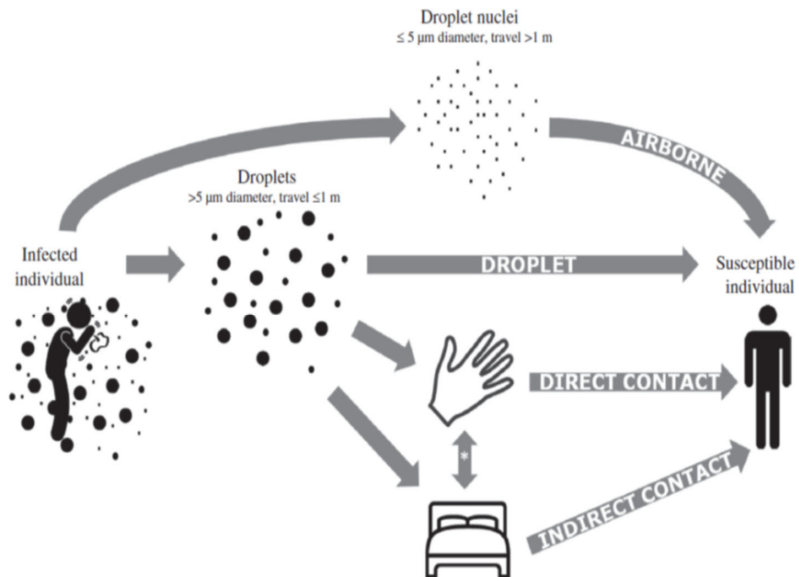
**Duration of Precautions:**  
For guidance for duration of precautions, follow Appendix A- Type and Duration of Precautions Recommended for Selected Infections and Conditions within the CDC's 2007 Guideline for Isolation Precautions: Preventing Transmission of Infectious Agents in Healthcare Settings



# TRANSMISSION-BASED PRECAUTIONS

- Combinations of precautions may be necessary based on the pathogen:

- **Droplet plus Contact**
- **Airborne plus Contact**



\* Transmission routes involving a combination of hand & surface = indirect 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



## AIRBORNE CONTACT PRECAUTIONS

- Common conditions:
  - Chicken Pox
  - Disseminated Shingles
  - Smallpox
  - Monkey pox
  - Extrapulmonary tuberculosis (draining lesions)
- AllR- 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-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*



## AIRBORNE CONTACT PRECAUTIONS



### PRECAUCIONES PARA LA TRANSMISIÓN 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.

*Lavar 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: 1/20/2022

### 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  
Monkey pox  
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
- Gloves

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

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.

#### Diaper/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



# 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 TRANSMISIÓN 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

- 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.

**Diaper/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)
- ▶ 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

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## SPECIAL DROPLET CONTACT PRECAUTIONS

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 institución.*

*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.*

### 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

**Room Placement:**

Place patient in a single-person room. Keep the door closed UNLESS it poses a safety risk (i.e., fall, memory care unit). 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)

*Take off and dispose in this order:*

- 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.

**Diapers/Urinals:**

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 Precautions: Preventing Transmission of Infectious Agents in Healthcare Settings

Translated by CDC, Health Communication Services

REVISED DATE: 2/9/2022

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# WHEN TO DISCONTINUE TBP PRECAUTIONS

- ▶ Resume Standard Precautions once high-risk exposures or active symptoms have discontinued

- ▶ Refer to **Appendix A in the 2007 Isolation Guidelines-updated 2018**

## Type and Duration of Precautions Recommended for Selected Infections and Conditions<sup>1</sup>

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

### Appendix A Updates [September 2018]

**Changes:** Updates and clarifications made to the table in Appendix A: Type and Duration of Precautions Recommended for Selected Infections and Conditions.

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

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.

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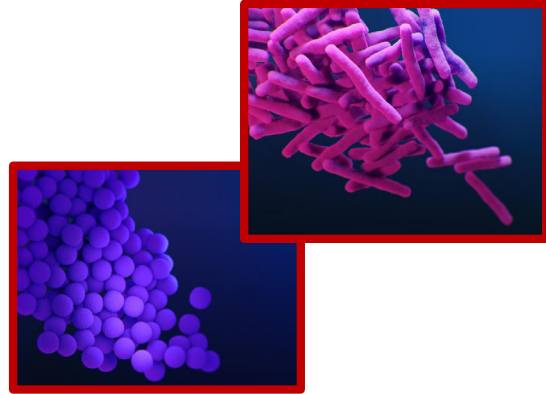


## Multi-drug Resistant Organisms (MDROs)

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# 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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## 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 becoming colonized or infected with healthcare-acquired bacterial pathogens. "  
(Dumyati, et. Al., 2017)

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# MULTIDRUG RESISTANT ORGANISMS

## ► Cause infections

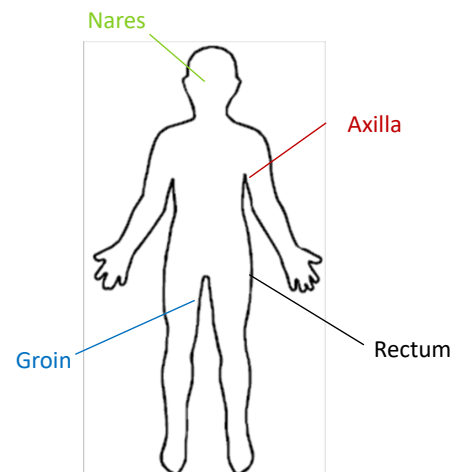
- More difficult to treat
- Require more toxic antibiotics to treat
- Often have poor resident outcomes
- Are easily transmitted in healthcare settings

## ► Colonization

- Colonization means organisms live on or in the body without having an active infection.
- CDC notes up to 50% of nursing home residents are colonized with MDROs.
- MDRO colonization can increase the individual's risk for developing an infection.
- \*\* MDRO-colonized residents serve as a source of transmission to others \*\*\*

## 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



# MDROS SPREAD IN HEALTHCARE SETTINGS

- ▶ Resident to resident transmission via healthcare provider's hands
- ▶ Environmental/equipment contamination

**X** marks the location where VRE was isolated in the room



Image from Abstract: The risk of hand and glove contamination after contact with a VRE + resident environment. Hayden M, ICAAC, 2001, Chicago, IL.

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## CANDIDA AURIS: AN OVERVIEW, CDC

- ▶ *Candida auris* is an emerging fungus that presents a serious global health threat for the following reasons:
  - ▶ *C. auris* is spreading geographically and increasing in incidence.
  - ▶ *C. auris* may colonize patients for months to years (no method of decolonization). Infection (usually candidemia) has a high mortality (~60%).
  - ▶ It is often multidrug-resistant (e.g., echinocandins, triazoles, polyene {amphotericin B}). Some strains are resistant to all three available classes of antifungals.
  - ▶ It is difficult to identify with standard laboratory methods, and it can be misidentified in labs without specific technology. Misidentification may lead to inappropriate management.
  - ▶ It has caused multiple outbreaks in healthcare settings. For this reason, it is important to quickly identify *C. auris* in a hospitalized patient so that healthcare facilities can take special precautions to stop its spread.

**Acknowledgement: Dr. David Weber MD, MPH, FIDSA, FSHEA, FRSM: Emerging Infectious Disease: *Candida Auris*-SPICE webinar (3/15/23)**

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# CANDIDA AURIS: AN OVERVIEW, CDC

- ▶ May 11, 2021: Updated Tracking *C. auris* to include historical and current U.S. interactive maps and downloadable datasets
- ▶ July 19, 2021: Environmental Protection Agency (EPA) has created List P, a list of EPA-registered disinfectants effective against *C. auris*
- ▶ Current needs: (1) rapid diagnostics; (2) new drugs; (3) decolonization methods; (4) registered, easy to use and effective disinfectants; (5) other tools or protocols for treatment and prevention

Acknowledgement: Dr. David Weber MD, MPH, FIDSA, FSHEA, FRSM: Emerging Infectious Disease: *Candida Auris*-SPICE webinar (3/15/23)



## CANDIDA AURIS: EPIDEMIOLOGY

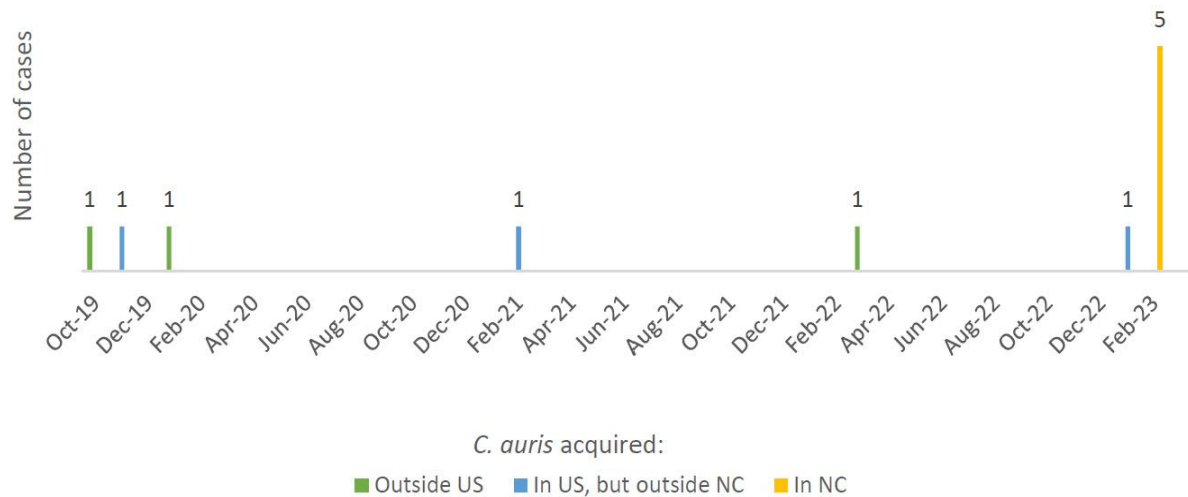
- ▶ First isolated in 2009 from ear discharge of a female patient in Japan; now reported in >45 countries worldwide
- ▶ Healthcare-associated outbreaks common
- ▶ Mortality ~65%-70%
- ▶ Primarily infects the usual spectrum of compromised individuals including those with uncontrolled diabetes mellitus, chronic renal diseases, neutropenia, and those on immunosuppressive therapy, broad-spectrum antimicrobials, and those with indwelling medical devices, or at extremes of age.
- ▶ Causes an array of human diseases ranging from fungemias, surgical/nonsurgical wound infections, urinary tract infections, meningitis, myocarditis, skin abscesses, to bone infections.

Acknowledgement: Dr. David Weber MD, MPH, FIDSA, FSHEA, FRSM: Emerging Infectious Disease: *Candida Auris*-SPICE webinar (3/15/23)





### *Candida auris* cases in North Carolina



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## **CANDIDA AURIS: INFECTION CONTROL**

- ▶ Place any patients with suspected or confirmed *C. auris* on contact precautions in a single-patient room immediately.
- ▶ *C. auris* is known to widely contaminate the environment and can persist in the environment for several weeks. Conduct daily and terminal environmental cleaning using a disinfectant on [EPA's List P](#). (*NCDHHS memo 3/30/23*)
- ▶ Healthcare providers should use **Contact Precautions** to manage patients with *C. auris* in acute care hospitals and long-term acute care hospitals. Manage residents with *C. auris* in nursing homes, including skilled nursing facilities, using either **Contact Precautions or Enhanced Barrier Precautions**, depending on the situation and local or state jurisdiction recommendations. (CDC 1/23)

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# KEY MDRO PREVENTION STRATEGIES

- ▶ Assessing hand hygiene practices
- ▶ Quickly reporting MDRO lab results
- ▶ Implementing Contact Precautions
- ▶ Recognizing previously colonized residents
- ▶ Strategically place residents based on MDRO risk factors
- ▶ Careful device utilization
- ▶ Antibiotic stewardship
- ▶ Inter-facility communication

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## RESIDENT PLACEMENT *COHORTING*

- ▶ When single resident rooms are available assign priority for these rooms to individuals with known or suspected MDRO colonization or infection
- ▶ When not available, cohort residents with the same MDRO in the same room
- ▶ When cohorting (residents with the same MDRO) is not possible, place MDRO residents in rooms with ones who are at low risk for acquisition of MDROs and associated adverse outcomes from infection and are likely to have short length of stay

*CDC: Management of MDROs in Healthcare Settings, 2006*

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# PLACEMENT OF RESIDENTS BASED ON RISK FACTORS

- ▶ Avoid placing 2 high-risk residents together
- ▶ Safer to cohort low-risk and high-risk residents
- ▶ Don't change stable room assignments based on culture results unless it poses new risk
  - ▶ Long-term roommates have already shared organisms in the past (even if you just learned about it)



## 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



**Not included in CDC's Guidelines for Isolation Precautions**

## PRECAUCIONES NEUTROPÉNICAS

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.

**Precautions.**  
*Es posible que se exija utilizar equipo de protección personal adicional según las precauciones estándar.*

Translated by LINC Health Interpreter Services

REVISÉ 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 Litter 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.

## SPICE

**FRONT/BACK POCKET CARD: (PRINTS A 2-PAGE DOCUMENT TO BE TRIMMED/LAMINATED)**

[HTTPS://SPICE.UNC.EDU/RESOURCES/NC-STANDARDIZED-ISOLATION-SIGNAGE/](https://spice.unc.edu/resources/nc-standardized-isolation-signage/)

[illegible]

<b>Remember to always use <u>STANDARD PRECAUTIONS</u> for all patient care.</b>			
Standard precautions 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.			
<b>DROPLET CONTACT PRECAUTIONS</b>	<b>AIRBORNE CONTACT PRECAUTIONS</b>	<b>SPECIAL AIRBORNE CONTACT PRECAUTIONS</b>	<b>SPREADING INFECTIONS PRECAUTIONS</b>
Common conditions for using contact droplet precautions are:  Rhinovirus if associated with conjunctive infections Invasion group A streptococcal infection associated with soft tissue involvement Adenovirus pneumonia	Common conditions for using airborne contact precautions are:  Chickenpox Decemennated shingles Scabies Measles/pox Extrapulmonary tuberculosis (draining lesions)	Common conditions for using special airborne contact precautions are:  COVID-19 SARS	<b>LONG TERM CARE FACILITIES AND HEALTH CARE FACILITIES</b>  Infection or colonization with a novel or targeted MICRO when Contact Precautions don't apply.  Wounds and/or Indwelling medical devices regardless of MICRO colonization status who reside in a long-term care facility where a resident known to be infected or colonized with a novel or targeted MICRO.

# 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
- ▶ CDC Guidance specific to multi-drug resistant organisms
  - ▶ 2006-Management of MDROs
  - ▶ Enhanced Barrier Precautions - 2022

