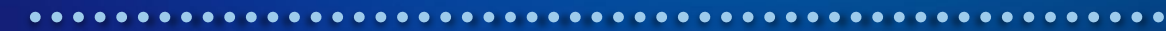


# Isolation Precautions



Updated April 2024



This presentation is produced and presented by Carilion Clinic through the Virginia Long-Term Care Infrastructure Pilot Project (VLIPP)

Carilion VLIPP (2022-2024) is funded by the Virginia Department of Health to support long-term care facilities in Southwest Virginia with their infection prevention and control programs.

# Disclaimer

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- For educational purposes only
- No endorsement of products, software, or tools

# Target Audience

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- Clinical staff
- Non-clinical staff
- Infection preventionist
- Administration
- Environmental services

# Objectives

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- To identify appropriate PPE and their uses for individual isolation precautions
- To outline the steps of donning and doffing PPE
- To compare and contrast various isolation precautions
- Describe strategies for adherence to isolation guidelines

# Types of PPE

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Gloves



Goggles



Faceshields



Gown



Mask



Respirator

# Donning & Doffing PPE

**SEQUENCE FOR PUTTING ON PERSONAL PROTECTIVE EQUIPMENT (PPE)**

The type of PPE used will vary based on the level of precautions required, such as standard and contact, droplet or airborne infection isolation precautions. The procedure for putting on and removing PPE should be tailored to the specific type of PPE.

- 1. GOWN**
  - Fully cover torso from neck to knees, arms to end of wrists, and wrap around the back
  - Fasten in back of neck and waist
- 2. MASK OR RESPIRATOR**
  - Secure ties or elastic bands at middle of head and neck
  - Fit flexible band to nose bridge
  - Fit snug to face and below chin
  - Fit-check respirator
- 3. GOGGLES OR FACE SHIELD**
  - Place over face and eyes and adjust to fit
- 4. GLOVES**
  - Extend to cover wrist of isolation gown

**USE SAFE WORK PRACTICES TO PROTECT YOURSELF AND LIMIT THE SPREAD OF CONTAMINATION**

- Keep hands away from face
- Limit surfaces touched
- Change gloves when torn or heavily contaminated
- Perform hand hygiene



- CDC Recommendations

- Hand hygiene

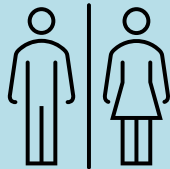
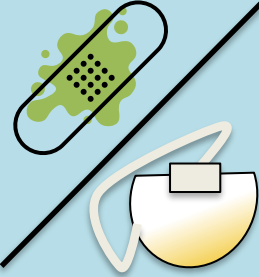

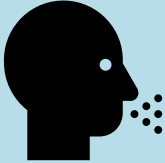
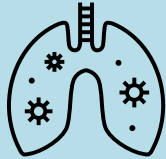
- Before donning PPE
    - After doffing PPE

- Perform seal check with N95 or respirator before entering room to ensure there are no leaks

- OSHA requires healthcare employees using respirators to be fit tested annually

# Precautions to Consider

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Standard	Enhanced	Contact/ Enteric	Droplet	Airborne
				



# Standard Precautions

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- OSHA 1910.132(a)
  - “...personal protective equipment for eyes, face, head, and extremities, protective clothing, respiratory devices, and protective shields and barriers, shall be provided, used, and maintained in a sanitary and reliable condition wherever it is necessary by reason of hazards...”
  - Employees have the right to select PPE appropriate for the job
  - Employees must adhere to set standards for residents on isolation

# Standard Precautions

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- What is it?
  - The minimum standard for infection prevention used for *every* resident
  - Should be used for all residents, regardless of infection or colonization status



# Standard Precautions

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Performing hand hygiene before and after every resident contact

Using personal protective equipment when at risk of body fluid exposure

Using and disposing of sharps safely

Performing routine environmental cleaning

Cleaning and reprocessing shared patient equipment

Following respiratory hygiene and cough etiquette

Using aseptic techniques

Handling and disposing of waste and used linen safely

# Standard Precautions

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## Before exiting

- 1) Remove gloves
  - Glove-in-glove technique
- 2) Remove eye protection
  - Hand hygiene prior to removal
  - Avoid touching face
- 3) Remove gown
  - Touch only the inside, roll it up
- 4) Hand hygiene after doffing PPE

## After exiting

- Remove N95/respirator
- Hand hygiene

# Scenario

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- A resident with no active infections is receiving an immunization
- Standard precautions are necessary to minimize risks to the resident
- Perform hand hygiene, use aseptic techniques, clean equipment, and dispose of sharps appropriately

# Transmission Based Precautions and their Purposes

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## Enhanced Barrier Precautions

- Targeted gown and glove use to reduce transmission of MDROs

## Contact Precautions

- Guidelines which are intended to prevent the spread of infectious agents which are spread through direct or indirect contact

## Droplet Precautions

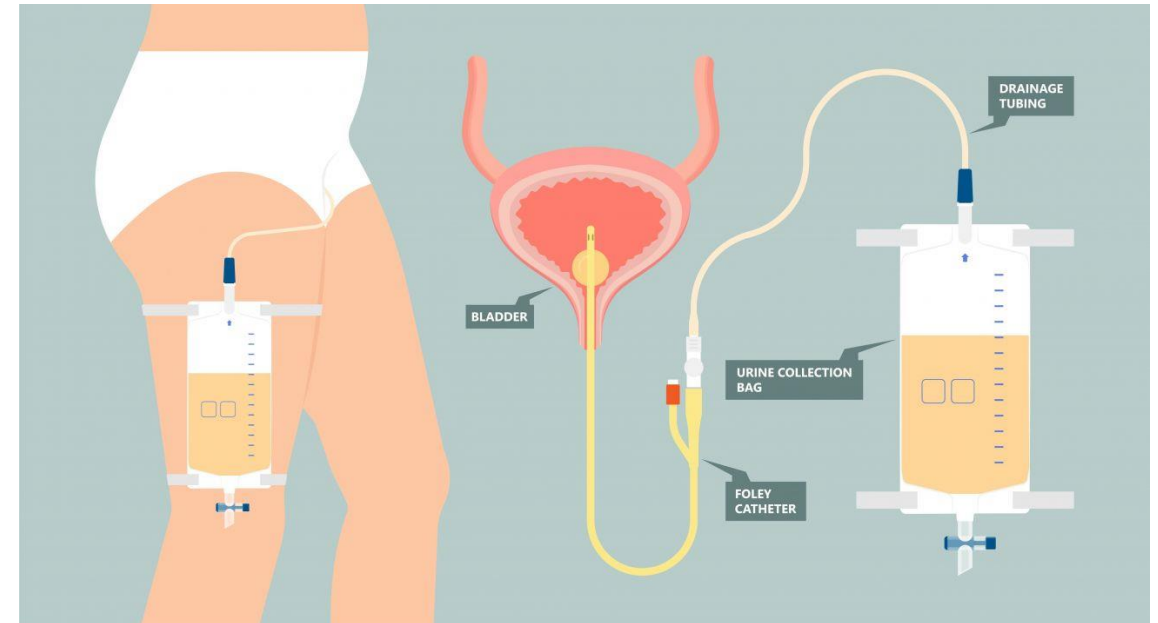
- Guidelines which are intended to prevent the spread of infectious agents which are spread through respiratory droplets

## Airborne Precautions

- Guidelines which are intended to prevent the spread of infectious agents which are spread through respiratory droplet nuclei

# Enhanced Barrier Precautions

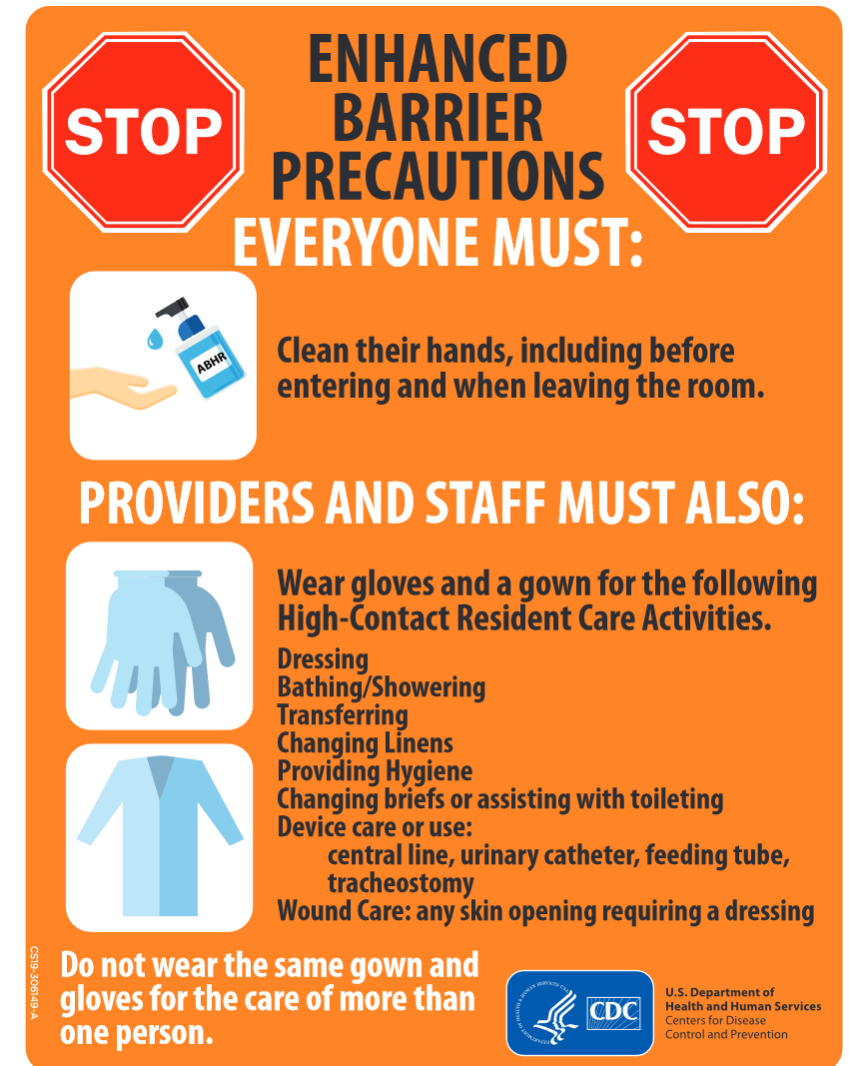
- Supplement to existing isolation guidelines
- Specific to nursing facilities
  - Reduces ability to spread microorganisms
  - Allows residents to participate in group activities
- Meant for residents with...
  - Infection or colonization with an MDRO when contact precautions do not apply
  - Wounds
  - Indwelling medical devices
- Requires a minimum of
  - Gloves
  - Gown



[https://www.roswellpark.org/sites/default/files/styles/max\\_1300x1300/public/2021-01/adobestock\\_389692281\\_1.jpeg?itok=wjwqxOcn](https://www.roswellpark.org/sites/default/files/styles/max_1300x1300/public/2021-01/adobestock_389692281_1.jpeg?itok=wjwqxOcn)

# Enhanced Barrier Precautions


- Before Exiting
  - Remove gloves
    - Glove-in-glove technique
  - Remove gown
    - Touch only the inside, roll it up
- Hand hygiene





The infographic is a vertical orange rectangle with white text and icons. At the top, two red octagonal 'STOP' signs flank the title 'ENHANCED BARRIER PRECAUTIONS'. Below the title, the text 'EVERYONE MUST:' is followed by an icon of a hand being washed with a bottle of hand sanitizer labeled 'ABHR', and the instruction 'Clean their hands, including before entering and when leaving the room.' Below this, the text 'PROVIDERS AND STAFF MUST ALSO:' is followed by two icons: one of blue gloves and one of a blue gown. To the right of these icons is a list of activities: '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'. At the bottom, the text 'Do not wear the same gown and gloves for the care of more than one person.' is displayed. The CDC logo and 'U.S. Department of Health and Human Services Centers for Disease Control and Prevention' are in the bottom right corner. A vertical code 'CS13-3007-81CS' is on the left edge.

**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.**

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

CS13-3007-81CS

Source: CDC (2022) Healthcare-Associated Infections (HAIs). Retrieved from: <https://www.cdc.gov/hai/pdfs/containment/enhanced-barrier-precautions-sign-P.pdf>



# Scenario

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- Mrs. Smith was admitted to your facility with a urinary catheter in place. She has no history of an MDRO, but Mr. Jones in her unit is colonized and has a draining wound.
  - Should Mrs. Smith be placed on EBP?
    - Yes! This will prevent transmission to her from the other resident.
  - Should Mr. Jones be on EBP?
    - No! Since he has an MDRO and a draining wound, he should be on contact precautions.

# Contact Precautions



- Contact precautions are also used for residents with enteric illnesses such as diarrhea, gastroenteritis, *C. difficile*, and norovirus
- ABHR is not effective in killing many enteric organisms or spores
  - Wash hands with **soap and water** before exiting room
- Required PPE includes gloves and gown
- Necessary to prevent transmission through direct contact or indirect contact
- Single-person room with dedicated equipment is ideal
- Cohort residents with same organism to reduce transmission risks

Source: CDC. Contact Precautions Sign. Retrieved from: <https://www.cdc.gov/infectioncontrol/pdf/contact-precautions-sign-p.pdf>

# Contact Precautions

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## Common Communicable Disease Organisms Spread by Contact

- MDROs (i.e. MRSA, CRE, ESBL)
- Norovirus
- Rotavirus
- Salmonella spp.
- Clostridioides difficile
- Conjunctivitis (Pink-eye)
- Pediculosis (Head lice)
- Scabies
- Herpes simplex
- Respiratory syncytial virus (RSV)



<https://alliedusa.net/wp-content/uploads/2022/05/How-To-Put-On-Sterile-Gloves-With-a-Gown-6-Steps.jpg>

# Contact Precautions

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## Before Entering

- Use an alcohol-based hand rub (ABHR)
- Don gloves and a gown

## Before Exiting

- Doff gloves and dispose of in appropriate receptacle
- Doff gown and dispose of in designated receptacle
- **Wash hands with soap and water**

# Scenario

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- You have a resident who is presenting with diarrhea and nausea. They reported recently eating shellfish and leafy greens that may have been contaminated with norovirus. What precautions should they be on? What PPE should you be using?
- They should be placed on contact precautions with a focus on enterics. Required PPE includes a gown and gloves. Use **soap and water**.

# Droplet Precautions



Source: CDC. Droplet Precautions Sign. Retrieved from: <https://www.cdc.gov/infectioncontrol/pdf/droplet-precautions-sign-P.pdf>

- To prevent the spread of pathogens via respiratory secretions
- During Aerosol Generating Procedures (AGP) a fit tested respirator, such as an N95 or equivalent, is recommended
- Minimum Required PPE
  - Mask
    - N95 recommended for aerosol generating procedures
  - Eye protection
  - Gloves may be required in some facilities



# Droplet Precautions

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- Examples of when to use Droplet Precautions
  - B. pertussis
  - Influenza
  - Adenovirus
  - Rhinovirus
  - N. meningitides
  - Group A Strep



<https://upload.wikimedia.org/wikipedia/commons/7/77/Sneeze.JPG>

# PPE Process for Droplet Precautions

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<https://encrypted-tbn0.gstatic.com/images?q=tbn:ANd9GcRLtlcL-u-5lsH5bLMXFols8gs5KtaXO1DQag&usqp=CAU6>

- Before Entering
  - Use an ABHR
  - Don a mask that covers the mouth and nose
  - Don eye protection
- Before Exiting
  - Use ABHR
  - Remove eye protection - avoid touching face
  - Place in designated receptacle
  - Remove and dispose of mask
  - Use ABHR



# Scenario

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- A resident is reporting with flu-like symptoms. You have recently had several cases of influenza in a different wing of your facility. After testing, they are positive with Flu B. What precautions should they be on? What PPE should you be using?
- They should be placed on droplet precautions for the duration of their illness. You should be wearing a mask, goggles or face shield, and gloves (depending on the contact you will be having).

# Airborne Precautions



Source: CDC. Airborne Precautions Sign. Retrieved from: <https://www.cdc.gov/infectioncontrol/pdf/airborne-precautions-sign-P.pdf>

- Required to prevent the spread of pathogens that remain suspended in the air for long times and distances
- Resident should be placed in an airborne infection isolation room (AIIR)
  - If an AIIR is not available in your facility, efforts should be made to transfer them to a facility that has one
  - Specific ventilation features, negative pressure, etc.
- If a resident is being moved from their room, they are required to be masked
- Minimum Required PPE is an N95/Respirator

# Airborne Precautions

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Required for:

- Disseminated Herpes Zoster (Shingles)
- Measles
- SARS
- Smallpox
- M. tuberculosis
- Varicella Zoster (Chickenpox)



<https://www.shutterstock.com/image-vector/concept-coronavirus-quarantine-mask-protection-600nw-1696230646.jpg>

# Airborne Precautions

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- Before Entering
  - Use ABHR
  - Don an appropriate N95/respirator
  - Mask the resident if environmental settings/controls are not available
- After Exiting
  - Doff the respirator and dispose of it according to manufacturer guidelines
  - Use ABHR
- Place mask on resident if being moved/transported out of room



[https://hips.hearstapps.com/hmg-prod/images/gh-best-n95-masks-for-omicron-1642719371.png?crop=1xw:1xh:center,top&resize=1200:\\*](https://hips.hearstapps.com/hmg-prod/images/gh-best-n95-masks-for-omicron-1642719371.png?crop=1xw:1xh:center,top&resize=1200:*)

# Scenario

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- A resident tests positive for tuberculosis in your facility. What precautions should they be on? What PPE should you be using? Are there any other steps you should be following?
- The resident should be placed on airborne precautions for the duration of their illness. Anyone coming into contact with them should be wearing a minimum of a fit-tested respirator. You should also be placing the resident in an AIIR and masking the resident if there is some need to move them from their isolation.

# Best Practices for Compliance

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- Isolation precaution signage should always be posted in a visible area on the doorway to the resident's room
- PPE & hand hygiene resources should always be readily available to staff
- Provide education regularly to staff to keep them up to date on isolation precaution information
- Frequently audit staff to ensure compliance to guidelines

# Conclusion

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- There are a variety of isolation precautions that can be put into place depending on the infection
- Always consult with a peer if you are unsure what precautions or PPE are required for an infected resident
- Always pay attention to signage posted on doorways that are indicating isolation guidelines
- For more information, consult the CDC's Appendix A  
<https://www.cdc.gov/infectioncontrol/guidelines/isolation/appendix/index.html>

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