Enhanced Barrier Precautions for Nursing Homes

November 16, 2022
Objectives

1. Define Enhanced Barrier Precautions
2. Describe when to implement Enhanced Barrier Precautions
3. Discuss the differences between Enhanced Barrier and Contact Precautions
4. Describe communication process when transferring a resident on Enhanced Barrier Precautions
Enhanced Barrier Precautions: **WHAT are they?**

- **Falls between Standard and Contact Precautions**
  - Helps prevent transmission of multidrug-resistant organisms (MDROs) when Contact Precautions do not apply

- **Requires use of gown and gloves during high-contact care activities for high-risk residents to disrupt MDRO spread**

- **Expands the use of personal protective equipment (PPE) beyond situations in which exposure to blood and body fluids is anticipated**
Contact Precautions: WHEN do they apply?

- All residents infected or colonized with an MDRO in *any of the following situations*:
  - Presence of acute diarrhea, draining wounds or other sites of secretions or excretions that are unable to be covered or contained
  - On units or in facilities where ongoing transmission is documented or suspected
- Other infections/conditions as outlined in [CDC’s Guideline for Isolation Precautions Appendix A](https://www.cdc.gov/infectioncontrol/pdf/guidelines/isolation-guideline-2007.pdf) (e.g., *C. difficile*, scabies)
Enhanced Barrier Precautions: WHO do they apply to?

- All residents with *any of the following*:
  - Infection or colonization with a MDRO *when Contact Precautions do not apply*.
    - Update from prior guidance: this used to apply to only certain MDROs
  - Wounds and/or indwelling medical devices (e.g., central line, urinary catheter, feeding tube, tracheostomy, endotracheal tube) *regardless of MDRO colonization status*
    - Update from prior guidance: this used to only apply when a resident with a wound/device resided on a unit or wing where a resident known to be infected or colonized with a novel or targeted MDRO resides.
Wounds: Which Type of Precautions?

Standard Precautions
- Shorter-lasting wounds, such as skin breaks or skin tears, that can be covered with a Band-Aid or similar dressing

Enhanced Barrier Precautions
- Per CDC: “Any skin opening requiring a dressing”
- Generally chronic wounds
- Examples include: pressure ulcers, unhealed surgical wounds, diabetic foot ulcers, chronic venous stasis ulcers

Contact Precautions
- Wounds that cannot be covered or contained due to size and/or amount of drainage
Comparing Enhanced Barrier Precautions to Contact Precautions

**Enhanced Barrier Precautions**
- MDRO infection or colonization **WITHOUT** acute diarrhea or draining wounds or other sites of secretion/excretion that cannot be covered or contained
- On unit or in facility where ongoing MDRO transmission is **NOT** documented or suspected
- Have a wound that requires a dressing, regardless of MDRO status
- Have an indwelling medical device (e.g., central line, urinary catheter), regardless of MDRO status

**Contact Precautions**
- Have MDRO infection or colonization with acute diarrhea, draining wound(s) that cannot be contained, or other sites of secretion/excretion that cannot be covered or contained
- On unit or in facility where ongoing MDRO transmission is documented or suspected
- Have other condition or infection where Contact Precautions is recommended (e.g., *C. difficile*, norovirus)
<table>
<thead>
<tr>
<th>Enhanced Barrier Precautions</th>
<th>Contact Precautions</th>
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<tr>
<td>Applies Only to Nursing Homes</td>
<td>Applies to All Healthcare Settings</td>
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<tr>
<td>Resident NOT Isolated to Room</td>
<td>Resident Isolated to Room</td>
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<td>During High-Contact Resident Care Activities</td>
<td>Upon Room Entry Every Time</td>
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<td>What type of MDROs are eligible for Enhanced Barrier Precautions?</td>
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<td>Pan-resistant organisms</td>
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<td>Carbapenemase-producing Enterobacterales</td>
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<tr>
<td>Carbapenemase-producing <em>Pseudomonas</em> spp.</td>
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<td>Carbapenemase-producing <em>Acinetobacter baumannii</em></td>
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<td><em>Candida auris</em></td>
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<td>Methicillin-resistant <em>Staphylococcus aureus</em></td>
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<td>Vancomycin-resistant <em>Enterococcus</em></td>
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<td><em>ESBL-producing Enterobacterales</em></td>
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<td>Multidrug-resistant <em>Pseudomonas aeruginosa</em></td>
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<td>Drug-resistant <em>Streptococcus pneumoniae</em></td>
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You are currently working at XYZ Nursing and Rehab Facility and Mr. Alex Jones, a 79-year-old male is being admitted to your facility from a local hospital. Mr. Jones has no history of MDROs, has a right great toe non-healing ulcer that cultured positive for *Pseudomonas aeruginosa* during his hospital stay. He received a 14-day course of antibiotics and the wound shows no signs of infection. Wound care orders are in place for daily dressing changes.

What type of precautions would Mr. Jones require?
What type of precautions would Mr. Jones require?

a) Enhanced Barrier Precautions

Due to the open toe wound with a dressing he would meet the definition of a wound and should be on EBP.
Enhanced Barrier Precautions at a Glance

- No private room required
- Gowns and gloves are worn for high-contact resident care activities
- Hand hygiene upon entering and exiting room
- Residents are not restricted to their room
- Intended to be used for the entire length of resident’s stay in the facility (or until wounds heal / device removed)
EBP Personal Protective Equipment (PPE)

- Wear gloves and gown prior to the high-contact care activity
- Change PPE before caring for another resident
- Use eye/face protection if performing activity with risk of splash or spray (part of Standard Precautions)
What Are High-Contact Resident Care Activities?

- Dressing
- Bathing/showering
- Transferring
- Providing hygiene
- Changing linens
- Changing briefs or assisting with toileting
- Device care or use
- Wound care
EBP in Practice: Scenario 1, Q2

Mr. Jones, the resident on EBP, has been admitted for 10 days and his toe ulcer is improving, but it has affected his gait. Physical therapy has been consulted to determine what type of service may benefit him.

John, the physical therapist, will be going into Mr. Jones’s room to meet with him and his family to fill out an extensive medical history form.

**What type of PPE should John use during his visit?**
What type of PPE should John use during his visit?

a) No PPE would be required since no direct resident contact will occur.
EBP in Practice:
Scenario 1, Q3

After completing the assessment form, John will be evaluating and directly assisting Mr. Jones while he performs a series of exercises for the physical therapy treatment plan.

Does John need to wear PPE for his evaluation?
Does John need to wear PPE for his evaluation?

a) Yes, due to the direct resident contact that will occur during the evaluation process, this would be considered a high-contact resident care activity
What type of PPE would be required for EBP?
EBP in Practice: Scenario 1, Q4 Answer

What type of PPE would be required for EBP?

a) Gloves and gown.
   • Standard precautions may also be needed, based on other risks that exist. Utilize additional PPE, such as a mask for coughing or eye/face protection for likelihood of splash or spray, as needed.
Mr. Jones is requesting to attend bingo in the activity room along with multiple other residents.

Due to the need for EBP, can Mr. Jones attend bingo?
Due to the need for EBP, can Mr. Jones attend bingo?

a) Yes, EBP does not require the resident to be restricted to their room or limited from participation in group activities.
Should healthcare personnel wear PPE when assisting Mr. Jones with his bingo card?
Should healthcare personnel wear PPE when assisting Mr. Jones with his bingo card?

a) No, PPE is only necessary when performing high contact care activities. There is no need for PPE when minimal contact is expected. All HCP should practice hand hygiene as a part of Standard Precautions when contact is occurring between multiple residents.
Before the Enhanced Barrier Precautions Guidance, the recommendation was to place residents colonized or infected with a novel or targeted MDRO in **Contact Precautions**.

All other residents in the unit/ward that were not known to be colonized or infected with a novel or targeted MDRO would be in **Standard Precautions** (unless additional precautions are indicated for another reason).
Example Scenario **After** EBP Guidance

After the EBP Guidance, the recommendation is to place residents colonized or infected with an MDRO in EBP (when Contact Precautions do not apply). In addition, residents with wounds and/or indwelling medical devices regardless of MDRO colonization status should also be placed in EBP.

If a resident infected or colonized with an MDRO has presence of acute diarrhea, draining wounds or other sites of secretions or excretions that cannot be covered or contained, then they must remain in **Contact Precautions**.

All other residents that are not known to be colonized or infected with an MDRO and do not have risk factors for acquiring colonization should be in **Standard Precautions** (unless additional precautions are indicated for another reason).
Enhanced Barrier Precautions Implementation Steps

Post clear signage on the door or wall outside of the resident room indicating the type of Precautions and required PPE (e.g., gown and gloves)

- For Enhanced Barrier Precautions, signage should also clearly indicate the high-contact resident care activities that require the use of gown and gloves

Make PPE, including gowns and gloves, available immediately outside of the resident room

Ensure access to alcohol-based hand rub in every resident room (ideally both inside and outside of the room)

Position a trash can inside the resident room and near the exit for discarding PPE after removal, prior to exit of the room or before providing care for another resident in the same room

Incorporate periodic monitoring and assessment of adherence to determine the need for additional training and education

Provide education to residents and visitors

EBP sign: https://www.cdc.gov/hai/pdfs/containment/enhanced-barrier-precautions-sign-P.pdf
Discontinuing Enhanced Barrier Precautions

- Continue to reassess need for EBP throughout resident’s stay

Examples when to transition EBP to Contact Precautions:

- For MDRO indication, if resident develops diarrhea or unit/facility experiences MDRO outbreak
- If a new infection (e.g., norovirus, *C. difficile*) or condition (e.g., scabies) arises that requires Contact Precautions

Examples when EBP can be discontinued (if no other indications for EBP):

- For wound indication, if wound heals
- For indwelling device indication, if device is removed
Two months after admission to the facility, Mr. Jones’s wound has healed with no open areas noted.

Can Mr. Jones be removed from EBP?
Can Mr. Jones be removed from EBP?

a) Yes, he no longer meets the EBP wound criteria, has no history of MDROs, and no invasive devices.

With removal of EBP, it should also be evaluated whether Mr. Jones has any other conditions that may warrant transmission-based precautions. At this point, he does not.
Mr. Jones will remain at your facility due to his declining mental status. On month 3 of his stay, he begins having frequent loose stools. Norovirus is suspected due to four other residents with similar symptoms.

**What type of precautions should Mr. Jones be placed on?**
EBP in Practice: Scenario 1, Q8 Answer

What type of precautions should Mr. Jones be placed on?

a) Contact isolation per CDC guidelines should be used in the presence of acute diarrhea, draining wounds or secretions that cannot be covered or contained. EBP is not to be used in place of Contact Precautions.
Mr. Jones’s diarrhea resolves, and he is feeling improved, so Contact Precautions are discontinued. Approximately one week later, he develops urinary retention and a Foley catheter is placed.

Does Mr. Jones need to be placed on any type of precautions at this point? If so, for how long?
EBP in Practice: Scenario 1, Q9 Answer

Does Mr. Jones need to be placed on any type of precautions? If so, for how long?

a) Due to the new invasive device (i.e., Foley), Mr. Jones should be placed back on enhanced barrier precautions. EBP should be maintained until his Foley catheter is removed.
If transferring a resident to another facility:

- Share
  - MDRO status and specific information about the MDRO
  - Presence of wounds and/or indwelling medical devices
  - Type of precautions, if any
  - Rooming needs, such as a private room

If receiving a resident from another facility:

- Ask
  - About MDRO status
    - If unfamiliar with MDRO, ask questions
  - About presence of wounds and/or indwelling medical devices
  - If resident is on precautions of any kind
  - Rooming needs, such as a private room
Enhanced Barrier Precautions in Nursing Homes Algorithm

The purpose of this algorithm is to outline when to use and how to implement enhanced barrier precautions (EBP). EBP are indicated for the following residents who are:

- Known to be colonized or infected with a multidrug-resistant organism (MDRO) when Contact Precautions do not otherwise apply
- At increased risk of MDRO acquisition (e.g., resident has a wound or indwelling medical device)

Use the EBP risk assessment questions 1-5 to determine whether EBP may apply to an individual resident. If a resident meets criteria for EBP, refer to pg. 2 for the implementation steps.

1. Does the resident have an infection or colonization with an MDRO and acute diarrhea, draining wound or other site of secretion or excretion that cannot be covered or contained?

2. Does the resident have another suspected or confirmed infection (e.g., C. difficile, norovirus or condition (e.g., rashes) which requires Contact Precautions listed in Appendix I (Type and Duration of Precautions Recommended for Selected Infections and Conditions) of the CDC Guideline for Isolation Precautions?

3. Is the facility or unit(s) experiencing a suspected or confirmed MDRO outbreak?

4. Does the resident have a wound that cannot be covered or contained with a dressing?

5. Does the resident have an indwelling medical device?

EBP are indicated. Utilizing this algorithm, continue to assess the resident throughout their stay for changes that would indicate Contact Precautions should be used in place of EBP. Refer to pg. 2 for EBP implementation guidance.
In Summary: How to Be Successful

- Hand Hygiene
- Environmental Cleaning and Disinfection
- Enhanced Barrier Precautions
- Auditing
- Communication
References and Resources

CDC

- Implementation of Personal Protective Equipment in Nursing Homes to Prevent Spread of Multidrug-Resistant Organisms: https://www.cdc.gov/hai/containment/PPE-Nursing-Homes.html
  - EBP sign: https://www.cdc.gov/hai/pdfs/containment/enhanced-barrier-precautions-sign-P.pdf
  - Frequently Asked Questions About EBP in Nursing Homes: https://www.cdc.gov/hai/containment/faqs.html
References and Resources

VDH

- Enhanced barrier precautions resources:
  - EBP in Nursing Homes Algorithm:
  - EBP FAQs:
Questions?

hai@vdh.virginia.gov
Additional Case Studies

Case Scenario 2
EBP in Practice: Scenario 2, Q1

Ms. Alice Smith is a resident in your memory care unit. She recently had a fall and required admission to acute care. Upon admission to the hospital, a MRSA surveillance nares screening returned positive. She was placed on Contact Precautions during her hospital stay. Ms. Smith is now being readmitted to memory care.

Will Ms. Smith require Contact Precautions for the MRSA colonization?
Will Ms. Smith require Contact Precautions upon readmission?

a. No. Acute care facilities use Contact Precautions to manage patients with active infection or colonization with MRSA and other MDROs. EBP are used specifically in the nursing home environment.
EBP in Practice: Scenario 2, Q2

For Ms. Smith’s MRSA nares colonization, when will you be able to discontinue EBP?
For Ms. Smith’s MRSA nares colonization, when will you be able to discontinue EBP?

a) Because of her history of MDRO colonization, EBP will be used for the duration of Ms. Smith’s stay. EBP addresses the continued risk of transmission from MDRO colonization which can persist for long periods of time and result in spread within a facility.
Ms. Smith refuses to remain in her room during the day and is frequently found walking in the hallways. She also likes to sit with several other residents in the area around the nursing station.

**Due to her history of MDRO and the need for EBP, what other steps should be taken to prevent the spread of MDRO in your facility?**
Due to her history of MDRO and the need for EBP, what other steps should be taken to prevent the spread of MDRO in your facility?

a) Good hand hygiene practices by the staff and frequent cleaning of high touch surfaces should remain a priority in all communal living areas. MDRO colonization status of residents is not always known, and infection prevention interventions should be used for all residents.
Ms. Smith has not been eating or drinking well the past two days. When the nurse checks her temperature, it is elevated. A urine culture is obtained and shows a significant growth of MRSA. She is diagnosed with a UTI and antibiotic treatment is begun.

What precautions should Ms. Smith now be placed on?
EBP in Practice: Scenario 2, Q4

What precautions should Ms. Smith now be placed on?

a) Ms. Smith should remain on EBP. The presence of an active infection does not require a change to Contact Precautions in most cases (unless there is a change in the presence of a wound that cannot be contained, uncontrolled drainage, an indwelling medical device, or infectious diarrhea).
Ms. Smith has been incontinent due to her urinary frequency and is wearing adult diapers.

Would EBP be necessary if a healthcare worker will be helping dress Ms. Smith but not removing the diapers and thus have no exposure to the MDRO source (the urine)?
Would EBP be necessary if a healthcare worker will be helping dress Ms. Smith but not removing the diapers and thus have no exposure to the MDRO source (the urine)?

\[ a) \text{ For EBP, it is not the site of the organism does not determine when PPE is required. It is the activity that determines when PPE should be used. Dressing Ms. Smith would be considered a high-contact resident care activity and require use of a gown and gloves.} \]