Carbapenem-Resistant Organisms
Infection Prevention in Long-Term Care Facilities

To stop the spread of carbapenem-resistant organisms (CROs) and carbapenemase-producing organisms (CPOs), VDH recommends employing the following infection prevention strategies.

More intensive infection prevention should be implemented for CPOs (see Tables 1 and 2).

**1. Hand Hygiene**
- Promote, monitor, and provide feedback on hand hygiene.
- Ensure access to hand hygiene supplies in resident care areas.

**2. Transmission-Based Precautions**
- Monitor and provide feedback on proper adherence to transmission-based precautions.

*High-Risk Residents (see Table 1)*
Contact Precautions apply for any of the following residents infected or colonized with CRO:
- Have acute diarrhea, draining wounds or other sites of secretions or excretions that are unable to be covered or contained.
- On unit or in facility where ongoing transmission is documented or suspected.
- Have other condition or infection where Contact Precautions is recommended (e.g., *C. difficile*).

Empiric contact precautions might be used for residents transferred from high-risk settings (facilities in areas where CPOs are common or from facilities known to have CPO colonized or infected patients).

*Low-Risk Residents (see Table 2)*
Enhanced Barrier Precautions refer to the use of gloves and gowns during high-contact resident care activities and apply for any of the following:
- Residents infected or colonized with CRO when Contact Precautions do not apply.
- Residents with wounds and/or indwelling medical devices (e.g., central line, urinary catheter, feeding tube, tracheostomy/ventilator) regardless of CRO colonization status located on shared unit/ward with resident infected or colonized with CPO.

**3. Healthcare Personnel (HCP) and Visitor Education**
- HCP and visitors should be educated about preventing transmission of CROs.
- At a minimum, this should include education and training on the proper use of personal protective equipment (PPE), including donning and doffing and hand hygiene.
- Post clear and concise isolation signs on the door.

**4. Timely Notification**
- Laboratories should ensure they have timely notification protocols in place to alert appropriate healthcare personnel of a positive CRO specimen.

**5. Minimize Use of Invasive Devices**
- Devices should be discontinued promptly when no longer needed.

**6. Communication of CRO Status at Discharge and Transfer**
- If a resident with CRO infection or colonization is transferred to another facility, ensure that CRO status is shared with the accepting facility in a timely manner.

**7. Promotion of Antimicrobial Stewardship**
- Ensure that antimicrobials are used for appropriate durations and that the appropriate, narrowest spectrum antimicrobial is used.
- CDC has identified core elements for successful long-term care antimicrobial stewardship programs.

**8. Environmental Cleaning**
- Perform daily cleaning and disinfection that include areas such as bed rails, patient trays and other areas in close proximity to the resident.
- Clean and disinfect areas around sinks regularly and do not store medical equipment near sinks.
- If a resident with CRO infection or colonization is transferred to another facility, ensure that CRO status is shared with the accepting facility in a timely manner.

**9. Resident Cohorting**
- Reserve single rooms for residents with highest transmission risk (see Tables 1 and 2).

**10. Screening Contacts of CRO Residents**
- Screen residents with epidemiologic links to newly-identified CRO colonized or infected residents.
- Contact your local health department for information about colonization screening for CPOs.

**11. Active Surveillance Testing**
- Screen high-risk residents at admission.
- Contact your local health department for information about colonization screening for CPOs.

**Resources**

**Implementation of PPE in Nursing Homes to Prevent Spread of MDROs:** [https://www.cdc.gov/hai/containment/PPE-Nursing-Homes.html](https://www.cdc.gov/hai/containment/PPE-Nursing-Homes.html)

**Facility Guidance for Control of CRE:** [https://www.cdc.gov/hai/organisms/cre/cre-toolkit/index.html](https://www.cdc.gov/hai/organisms/cre/cre-toolkit/index.html)

**Management of MDROs in Healthcare Settings:** [https://www.cdc.gov/infectioncontrol/guidelines/mdro/index.html](https://www.cdc.gov/infectioncontrol/guidelines/mdro/index.html)

**Containment Strategy for MDROs:** [https://www.cdc.gov/hai/containment/guidelines.html](https://www.cdc.gov/hai/containment/guidelines.html)

Last Updated: November 2019
# Carbapenem-Resistant Organisms

## Infection Prevention in Long-Term Care Facilities

Intensity of infection prevention measures is based on mechanism of carbapenem resistance (CPO vs non-CPO), resident’s clinical status, and factors that increase risk of transmission to other patients in the facility. General guidance is listed below.

### Table 1. Recommendations for High-Risk Residents

High-risk residents are defined as any of the following residents infected or colonized with CRO:
1. Have acute diarrhea, draining wounds or other sites of secretions or excretions that are unable to be covered or contained;
2. On units or in facilities where ongoing transmission is documented or suspected;
3. Have other condition or infection where Contact Precautions is recommended (e.g., C. difficile).

<table>
<thead>
<tr>
<th>Infection Prevention Measure</th>
<th>Carbapenemase-Producing Organism</th>
<th>Non-Carbapenemase-Producing Organism</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Infected</td>
<td>Colonized</td>
</tr>
<tr>
<td>Standard Precautions</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Contact Precautions</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Private room</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Restricted to room*</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Door signage</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Designated or disposable equipment</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

**Visitor Recommendations**

- Perform hand hygiene often, and always after leaving resident’s room
- Wear gown/gloves if performing high-contact resident care activities

A high-risk resident may transition to the recommendations for a low-risk resident when they no longer meet the criteria for high-risk.

### Table 2. Recommendations for Low-Risk Residents

Low-risk residents are residents infected or colonized with CRO who do not meet any of the criteria for high-risk OR residents with wounds and/or indwelling medical devices regardless of CRO colonization status located on shared unit/ward with resident infected or colonized with CPO.

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<td>Standard Precautions</td>
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<td>Yes</td>
</tr>
<tr>
<td>Enhanced Barrier Precautions^</td>
<td>Yes</td>
<td>Yes</td>
</tr>
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<td>Contact Precautions</td>
<td>No</td>
<td>No</td>
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**Visitor Recommendations**

- Perform hand hygiene often, and always after leaving resident’s room
- Wear gown/gloves if performing high-contact resident care activities

Enhanced Barrier Precautions^ are intended to be a long-term strategy for gown/glove use during high-contact resident care activities^ to be followed for the duration of a resident’s stay in a facility given the prolonged, potentially life-long risk of remaining colonized with certain antibiotic resistant pathogens.

^Except for medically necessary care

^High-contact resident care activities such as: dressing, bathing/showering, transferring, providing hygiene, changing linens, changing briefs or assisting with toileting, device care or use, wound care, or contact with body fluids.

^Enhanced barrier precautions are transmission-based precautions that fall between Standard and Contact Precautions, and requires gown and glove use for low-risk residents during specific high-contact resident care activities that have been found to increase risk for MDRO transmission.

^If not feasible to dedicate non-critical patient care equipment, apply thorough cleaning and disinfecting of these items between uses.

*Last Updated: November 2019*