

Carbapenem-Resistant and Carbapenemase-Producing Organisms

Infection Prevention in Acute Care and Long-Term Acute Care Facilities

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

1. Hand Hygiene

- Promote, monitor, and provide feedback on hand hygiene.
- Ensure supplies necessary for adherence to hand hygiene are accessible in patient care areas.
- Ensure access to hand hygiene stations.

2. Contact Precautions

- Place all patients colonized or infected with a CRO or CPO on Contact Precautions.
- Consider preemptive Contact Precautions on patients admitted after recent hospitalization (within 6 – 12 months) outside the U.S. or in patients transferred from facilities known to have outbreaks or clusters of patients colonized or infected with CROs or CPOs.
- Monitor and provide feedback on adherence to proper Contact Precaution practices.
- Ensure adequate supplies are available to implement Contact Precautions.
- CDC does not recommend discontinuing Contact Precautions in most situations.

3. Healthcare Personnel (HCP) and Visitor Education

- HCP and visitors should be educated about preventing transmission of CROs and CPOs.
- At minimum, education and training should include the proper use of transmission-based precautions, including donning and doffing personal protective equipment (PPE) and hand hygiene.
- Post clear isolation signage on the patient's door to describe the type of precautions in place.

4. Minimize Use of Invasive Devices

- Devices (e.g., urinary catheters, central lines) should be discontinued promptly when no longer needed.

5. Timely Notification

- Laboratories should ensure they have timely notification protocols in place to alert appropriate healthcare personnel of positive CRO or CPO results.
- Report any suspected or confirmed CPO colonization or infection to the [local health department](#).

6. Communication of CRO/CPO Status at Discharge and Transfer

- If a patient with CRO or CPO infection or colonization is transferred to another facility, ensure that their diagnosis is shared with the accepting facility.

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 [hospital antimicrobial stewardship](#) programs.

8. Environmental Cleaning

- Perform daily cleaning and disinfection that includes high-touch surfaces such as bed rails, patient trays and other areas in close proximity to the patient.
- Clean and disinfect areas around sinks regularly and do not store medical supplies/equipment near sinks.

9. Patient and Staff Cohorting

- Place patients colonized or infected with a CRO or CPO in single-patient rooms when possible.
- If single-patient rooms are limited, reserve for patients with highest risk of transmission.
- Cohort colonized or infected patients and the staff who care for them even if patients are in single rooms.

10. Screening Contacts of Patients with CPO

- Screen residents with epidemiologic links to patients with newly-identified CPO colonization or infection.
- Contact your [local health department](#) for information about colonization screening for carbapenemase-producing organisms.

11. Active Surveillance Testing

- Screen high-risk residents at admission.
- Contact your [local health department](#) for information about colonization screening for CPOs.

Resources

- [Duration of Contact Precautions for Acute Care Settings](#)
- [CDC Carbapenem-Resistant Enterobacteriales Infection Control](#)
- [CDC Management of MDROs in Healthcare Settings](#)
- [CDC Public Health Response to Contain Novel or Targeted MDROs](#)

Last Updated: May 2024

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Table 1. Summary of Infection Prevention Recommendations

Healthcare Personnel Recommendations	
Standard Precautions	Yes
Contact Precautions	Yes; gown and gloves upon room entry
Perform hand hygiene often, and always after leaving patient's room	Yes
Private room	Yes
Restricted to room	Yes, except for medically necessary care
Door signage	Yes
Designated or disposable equipment	Yes*
Visitor Recommendations	
Perform hand hygiene often, and always after leaving patient's room	Yes
Contact Precautions	Yes; gown and gloves upon room entry

*If not feasible to dedicate equipment, clean and disinfect per manufacturer's instructions before use on another patient.

Factors That Increase CRO/CPO Transmission Risk

Patient-related factors:

Patients vulnerable to colonization and infection include those with severe disease, especially those with compromised host defenses from underlying medical conditions or immunosuppressive medication; recent surgery; or indwelling medical devices (e.g., urinary catheters or endotracheal tubes).

Healthcare-related factors:

Increased risk of CRO/CPO transmission occurs:

1. During high-contact care activities (e.g., bathing, device care, wound care, changing linens)
2. When healthcare personnel have poor adherence to published recommendations for hand hygiene and PPE use
3. When patients are admitted to a unit or in a facility where ongoing transmission is documented or suspected