

# Carbapenem-Resistant Organisms (CRO), Including Carbapenem-Resistant Enterobacterales (CRE)

## Infection Prevention and Control Guidance-January 2023

CRO are multidrug-resistant organisms, including but not limited to Enterobacterales, *Acinetobacter baumannii* and *Pseudomonas aeruginosa*, that can cause serious infections requiring interventions in healthcare settings to prevent spread. CRO that produce carbapenemases, enzymes that break down carbapenems and related antimicrobials making them ineffective, are called carbapenemase-producing organisms (CPO). CPO are therefore a subset of all CRO.

### Background

- CROs are highly transmissible in healthcare settings.
  - Transmission often occurs via the hands of healthcare personnel or through contaminated medical equipment.
- The incubation period is not well defined, particularly due to the ability of CRO to colonize an individual for an extended period.
  - Colonization means that the organism can be found in or on the body, but it is not causing any symptoms or disease.
  - Colonizing CRO strains can go on to cause infections or spread to other patients.

### Infection Control Measures

- Educate all healthcare personnel (HCP) about CRO.
- Reinforce and follow hand hygiene practices.
- Use Transmission-Based Precautions:
  - Contact precautions including gown and gloves.
  - Enhanced Barrier Precautions for nursing home residents.
- Monitor for adherence to infection control practices and provide feedback.
- Ensure adequate supplies are available.
- Ensure appropriate signage is on the patient's door to alert HCP and visitors of recommended precautions.

### Bed Placement

- Place CRO colonized or infected patient in a private room.
  - Dedicate non-critical patient-care equipment to the isolated patient.
- If single rooms are limited:
  - Prioritize for those at high risk of pathogen transmission (secretions, excretions, draining wounds, and diarrhea).
  - Cohort CRO colonized or infected patients together.

### Transfers (Intra and Interfacility)

- When moving patients and residents intradepartmental or transferring to another facility, notify the receiving unit or facility of the patient's CRO infection or colonization status.
- An example of an infection control transfer form may be found here: [www.cdc.gov/healthcare-associated-infections/media/pdfs/Interfacility-IC-Transfer-Form-508.pdf](http://www.cdc.gov/healthcare-associated-infections/media/pdfs/Interfacility-IC-Transfer-Form-508.pdf).
- If ambulance transport is required, notify emergency services personnel of patients CRO infection or colonization status.

### Environmental Cleaning

CRO persists in the healthcare environment for weeks, and certain routinely used disinfectants in healthcare settings are not effective against the organism.

- Use a [U.S. Environmental Protection Agency-registered hospital grade disinfectant](#) effective against the CRO organism.
- Apply products for the correct contact time.
- Perform thorough routine (at least daily) and terminal cleaning and disinfection of patients' rooms and other areas where patients receive care.
- Train healthcare personnel on cleaning mobile and reusable equipment.

### Screening

- Consider screening high risk patients at admission.
- Screen patients with epidemiologic links to newly identified CRO colonized or infected patients.
  - Colonization screening information can be found here: [www.cdc.gov/antimicrobial-resistance-laboratory-networks/php/about/testing-services.html](http://www.cdc.gov/antimicrobial-resistance-laboratory-networks/php/about/testing-services.html).

For additional information, please visit: [www.cdc.gov/healthcare-associated-infections/index.html](http://www.cdc.gov/healthcare-associated-infections/index.html).