

Long-Term Care & Community Care Fact Sheet regarding Carbapenemase-Producing Organisms (CPO)

What are CPO?

Carbapenemase-producing organisms (CPO) are multi-drug resistant bacteria including *Escherichia coli*, and species of *Klebsiella*, *Acinetobacter* and *Pseudomonas*. These bacteria have acquired additional genes that make them resistant to most antibiotics, including the carbapenems. Two examples of these genes are the New-Delhi metallo-beta-lactamase (NDM) and *Klebsiella pneumoniae* carbapenemase (KPC). Infections caused by CPO may be very difficult to treat because of the extensive antibiotic resistance.

These organisms are typically found in the human digestive system where they do not cause symptoms (the person is a carrier, or colonized), but they can cause a difficult-to-treat infection if they spread to other parts of the body such as a wound, the respiratory tract or the blood. People who get an infection with CPO are usually already very ill for other reasons. As with other microorganisms, the environment can become contaminated with them, providing a potential source of spread.

CPO are reportable to Public Health under the BC Public Health Act. Public Health will communicate a new positive outpatient CPO test result to the person's physician and include a survey for the physician to complete asking about travel outside of Canada as well as requesting other information regarding healthcare services.

Where did CPO originate?

CPO have been emerging world-wide for almost two decades. Healthcare facilities in BC are starting to see more travel-related CPO cases; individuals have travelled to countries where CPO are endemic, as well as some locally acquired cases. CPO cases in the community and in residential care do not pose a significant risk to staff, healthcare workers and their families. Compliance with hand hygiene and following routine infection prevention and control best practices is the optimal way for staff to prevent spread and to protect themselves, their residents/clients, and visitors.

How can you prevent CPO from spreading?

- Clean your hands when going from resident/client to the next resident/client
- Clean and disinfect all shared medical equipment between residents/clients
- Clean your hands before entering and when leaving a resident/client room or area
- Clean your hands before preparing or eating food

What are the recommendations for managing residents/clients with CPO in residential and community care settings?

Although contact precautions are recommended in acute care settings, Fraser Health does not recommend contact precautions for residents/clients known or suspected to be colonized with CPO in the residential and community settings.

Residential and community care services should not be denied on the basis of colonization or infection with CPO. Routine screening at the time of moving into or returning to a residential care facility is not indicated.

Community settings include home care and non-acute care outpatient clinics. Residential care facilities are considered a resident's home. In these settings, the following infection control best practices for managing residents/clients with CPO are recommended:

Infection Prevention and Control Practices	<ul style="list-style-type: none"> • Follow routine practices with risk assessment for personal protective equipment including: <ul style="list-style-type: none"> ○ Urinary or fecal incontinence ○ Behavioral problems (e.g. wandering with risk of contaminating the environment) ○ Ostomy ○ Handling invasive devices such as Foley catheters, etc. ○ Splash-generating activity • Dedicate reusable resident/client care equipment where possible • Shared non-critical equipment must be cleaned and disinfected between resident/client uses • If the resident uses a urinal or bedpan, use a washer/disinfector or macerator unit to dispose of contents • If a washer/disinfector or macerator unit is not available, use closed systems such as disposable bags (e.g. HYGIE® bags).
Accommodation	<ul style="list-style-type: none"> • Where possible, accommodate resident in a single occupancy room with dedicated toileting • If a single occupancy room is not available, select roommates: <ul style="list-style-type: none"> ○ Who do not have a urinary catheter or require frequent catheterization AND ○ Such that either the resident with CPO or the roommate(s) are not ambulating and/or sharing the washroom • Room sharing is also possible if all roommates have the same type of carbapenemase gene (for example, a Klebsiella spp. carrier with KPC may share their room with a resident who is an E. coli carrier with KPC); consult the IPC specialist before placing residents.
Residents' personal care	<ul style="list-style-type: none"> • Ensure proper personal hygiene (bath/shower or sponge bath) in compliance with the facility's established procedures • Ensure that the sheets, the bedding and the resident's clothes are changed regularly, in compliance with the facility's established procedures • Reserve all personal hygiene products and any barrier creams used for bedsores for the resident's exclusive use • Ensure the resident's hands are cleaned using alcohol-based hand rub (ABHR) or soap and water, especially after they use the toilet, before meals and before leaving their room.
Hand Hygiene	<ul style="list-style-type: none"> • Clean your hands according to the 4 Moments of Hand Hygiene • Educate and support residents/clients to clean their hands before meals and after toileting • Hand hygiene sinks shall be dedicated for hand washing only • Body fluids and bath water should be disposed of in appropriate locations (soiled utility sinks, macerators, etc.), not into hand hygiene sinks.
Environmental Cleaning and Furnishings	<ul style="list-style-type: none"> • Follow routine environmental cleaning and disinfecting protocols using hospital grade cleaning and disinfectant products • Follow routine processes for bath tub/shower disinfection • Follow routine processes for bed and bedframe cleaning

	<ul style="list-style-type: none"> Assess the integrity of patient care equipment and furnishings, and remove damaged items from service (medical devices, wash basins, chair lifts, slings, etc.) Mattresses and pillows should be intact and have impervious covers Toilet brushes must be disposable or dedicated to the room; do not use in other rooms.
Movement outside their room	<ul style="list-style-type: none"> CPO positive residents may move freely outside their room and go to the dining room, and participate in social and community activities Assist CPO positive residents with hand hygiene using an alcohol-based hand rub (ABHR) or soap and water before they leave their room, before meals or before they participate in any social or community activities CPO positive residents should only use their own dedicated toileting facilities. Public bathrooms may be dedicated for urgent resident use if required. Immediately after use the staff member should secure the bathroom until an isolation discharge clean is performed.
Visitors	<ul style="list-style-type: none"> Perform hand hygiene with an alcohol-based hand rub (ABHR) or soap and water before and after visiting A visitor who provides care must perform hand hygiene and wear a long-sleeved gown and gloves when they are in close physical contact (body-to-body) with the resident.
Consultation, appointments or transfer to another setting	<ul style="list-style-type: none"> Inform the receiving facility when a resident known to be a CPO carrier is being transferred to another institution, facility or care unit in compliance with the facility's established procedures.

NOTES:

- These recommendations do not apply to community dialysis centers and outpatient clinics in acute care
- Separate CPO guidelines for dialysis centers and acute care outpatient clinics are available at: http://fhpulse/clinical_resources/clinical_policy_office/Lists/CDST%20Library/DispForm.aspx?ID=2501
- Dialysis services provided within a residential setting shall follow residential guidelines

Please contact your Infection Prevention and Control Community Specialist with any questions or concerns at: fhaCommunityIPCCconsultants@fraserhealth.ca