

# Carbapenemase-producing Organisms (CPOs)

## What are Carbapenemase-producing Organisms (CPOs)?

Carbapenemase-producing Organisms (CPOs) are strains of bacteria, such as *Klebsiella*, *Escherichia coli* (E. coli), *Acinetobacter*, and *Pseudomonas* that can reside in the gut (digestive system). These bacteria have developed resistance to a group of antibiotics known as carbapenems.

You may also hear the terms Carbapenem-Resistant *Enterobacterales* (CRE) or Carbapenemase-Producing *Enterobacterales* (CPE).

## Why are CPOs a concern?

CPOs are found in health care facilities worldwide. Individuals who have been hospitalized, undergone treatments like dialysis or surgery in a health care facility outside of Canada, or have travelled outside of Canada may be at increased risk of acquiring these bacteria. It is important to prevent the spread of CPOs, especially in hospitals and health care settings where patients are at risk of developing infections.

While CPOs usually pose little risk and rarely cause infections in healthy people, they can cause serious infections if they spread from the gut to other parts of the body, such as the blood, lungs, or bladder.

CPO infections are difficult to treat because of their resistance to carbapenem antibiotics. This resistance to carbapenem antibiotics is particularly concerning because carbapenems are often used to treat serious infections when other antibiotics are not effective.

## How are CPOs spread?

People can carry CPOs without showing any symptoms of illness (this is called colonization) but they still can transmit these bacteria to others. CPOs typically spread person-to-person through contact with infected or colonized individuals or via contaminated surfaces. This is particularly likely if hands are not washed properly after using the bathroom or before preparing and eating food. This transmission can happen in both the community and in health care settings.

People with CPO should follow these instructions to prevent the spread of CPO at home:

- Wash hands frequently, especially after using the bathroom, touching sores or wounds, and before preparing and eating food
- **Do not** share personal care items such as towels, toothbrushes, or bar soap
- Wash clothing as usual
- Clean bathrooms regularly; no special cleaning agents are required
- Cover open, draining wounds with a clean bandage

People who live with a person with CPO should also wash their hands frequently. Refer to the "How can I prevent a CPO infection?" section below.

## How common are CPO?

CPO infections are very rare. Only a small number of cases have been identified in British Columbia (B.C.). However, CPOs are an emerging threat and are increasing worldwide.

## Should family members get tested for CPO?

No. Family members of someone with CPO generally do not need to be tested, even if they have travelled or had health care outside of Canada. CPOs rarely cause problems or infections outside of hospital settings.

## What are my chances of getting infected with CPO?

If you are healthy, your chances of becoming sick with CPO are low. However, you may be at higher risk if you have had long-term, frequent, or intensive use of antibiotics.

## How are CPO infections treated?

If you develop an infection caused by CPO, your doctor may give you specific antibiotics that will work for these bacteria, depending on the type of infection. It's important to carefully follow the treatment instructions given to you and make sure you complete the entire course of antibiotics, even if your symptoms improve.

If you carry CPO in your gut and are healthy, you do not need treatment, and you should continue with your normal activities.

You do not need to inform your workplace, school, or daycare that you carry CPO.

## How can I prevent a CPO infection?

There is no vaccine available to protect you from CPO. The most important thing you can do is wash your hands thoroughly before eating, drinking, smoking, applying personal care products, touching your face, nose, or eyes, and after using the toilet. Wash your hands well using soap and warm water. Dry your hands with a paper towel. If soap and water are not available, use an alcohol-based hand sanitizer

or hand rub (ABHR), provided your hands are not visibly dirty. For more information on hand washing, visit [HealthLinkBC File #85 Hand washing: Help stop the spread of germs](#).

Some bacteria can survive on surfaces like faucets and sinks for days or even months. Regular cleaning of these surfaces with a household cleaner can help reduce the spread of bacteria.

Avoid unnecessary exposures to health care in endemic countries. Tell your health care provider if you had a medical procedure done recently while travelling to an endemic country prior to a procedure (e.g. dialysis) or seeking treatment (e.g. Emergency room visit, elective surgery) in a facility in Canada.

## What steps are taken to prevent the spread of CPO in hospitals?

If you are visiting a hospital, follow hospital guidelines to prevent the spread of CPOs. Wash your hands or use hand sanitizer when entering and leaving the hospital and a patient's room. Patients admitted to an acute care hospital in B.C. may be screened for antibiotic-resistant bacteria depending on their risk.

When you are admitted to a hospital, visit an outpatient clinic, or have frequent health care encounters such as dialysis, inform your health care provider if you carry CPO. Infection control measures will be put in place to help prevent the spread of CPO to other patients.