

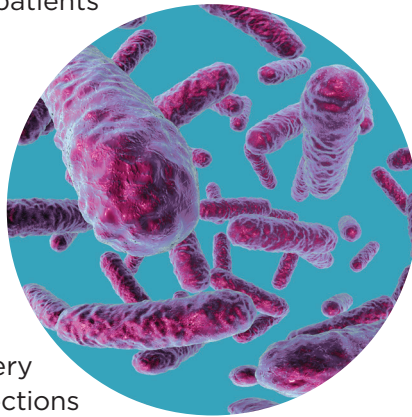
Carbapenemase-producing Enterobacteriaceae (CPE)

What are CPE?

Carbapenemase-producing Enterobacteriaceae (CPE) [also known as carbapenem-resistant Enterobacteriaceae (CRE)] can cause life-threatening infections in hospitalized patients and are a major concern in healthcare.

CPE is the collective name for a family of microorganisms that have high levels of resistance to antibiotics. Three well-known CPE include KPC (*Klebsiella pneumoniae* carbapenemase), NDM (New Delhi Metallo-beta-lactamase) and OXA-48.

CPE are resistant to many antibiotics, with some being resistant to all or almost all antibiotics. As a result, infections are very difficult to treat, and CPE bloodstream infections may kill 1 in 2 patients.



Why are CPE a concern?¹

- ▶ Some are resistant to multiple classes of antibiotics and not just carbapenemases.
- ▶ Mortality rates from some CPE infections are as high as 50%.
- ▶ CPE cause infections in both community and healthcare settings.

Who is at risk of CPE infections?

Risk factors include:

- ▶ Having a compromised immune system.
- ▶ Having invasive devices such as catheters or mechanical ventilators going into the body.
- ▶ Using certain types of antibiotics (such as carbapenems, cephalosporins, fluoroquinolones and vancomycin).²
- ▶ Receiving healthcare in countries where CPE is present.

How are CPE spread?

- ▶ Person to person transmission.
- ▶ Contaminated surfaces and equipment, which could contaminate healthcare personnel, and then be transmitted to patients.
- ▶ Hospital sink drains can be CPE reservoirs. Studies have shown that contaminated sinks were the source of CPE outbreaks.^{4,5}









Infection control measures

PIDAC provides useful guidance and resources for controlling and preventing the spread of CPE in healthcare facilities.⁶

- 1. Routine Practices:** Consistent use of Routine Practices with all patients/residents.
- 2. Screening:** Surveillance is an important measure to prevent and control the spread of CPE.
- 3. Contact Precautions:** Initiate contact precautions for patients/residents with CPE.
- 4. Inform:** Notify the Infection Prevention & Control Professional or delegate to discuss the infection control management of client/patient/resident activities.
- 5. Colonization:** It is not known how long bowel colonization with CPE persists, but it is likely of long duration.
- 6. Decolonization:** There are no data to support CPE decolonization and it is not recommended.

Clorox products with Health Canada approved claims against CPE

A number of Clorox disinfectants have Health Canada approved claims against some common CPE:

Product	DIN No.	Klebsiella pneumoniae (KPC)	Klebsiella pneumoniae (NDM-1)	Escherichia coli (carbapenem-resistant)	Escherichia coli (NDM-1)	Enterobacter cloacae (NDM-1)
Clorox Healthcare® Bleach Germicidal Wipes 	02465671	30 sec	30 sec		30 sec	
Clorox Healthcare® Bleach Germicidal Cleaner 	02469278	1 min	1 min		1 min	1 min
Clorox Healthcare® Fuzion® Disinfectant Cleaner 	02459744		1 min			1 min
Clorox Healthcare® Hydrogen Peroxide Cleaner Disinfectant 	02403528		30 sec		30 sec	
Clorox Healthcare® Hydrogen Peroxide Cleaner Disinfectant Wipes 	02406225		30 sec		30 sec	
Clorox Healthcare® VersaSure® Wipes 	02473151	2 min		2 min		
Clorox Healthcare® Spore Defense™ Cleaner Disinfectant 	02494663					1 min
CloroxPro™ Clorox Total 360® Disinfecting Cleaner 	02460769	2 min	2 min			

- Centers for Disease Control and Prevention. Carbapenem-resistant Enterobacteriaceae (CRE) Infection: Clinician FAQs. <https://www.cdc.gov/hai/organisms/cre/cre-clinicianfaq.html>.
- Bhargava A et al. Risk Factors for Colonization due to Carbapenem-Resistant Enterobacteriaceae among Patients Exposed to Long-Term Acute Care and Acute Care Facilities. *Infection Control and Hospital Epidemiology*, 2014; 35(4): 398-405.
- Kizny A et al. The Hospital Water Environment as a Reservoir for Carbapenem-Resistant Organisms Causing Hospital-Acquired Infections—A Systematic Review of the Literature. *Clinical Infectious Diseases*. 2018; 64:1435-1444.
- De Geyter A et al. The sink as a potential source of transmission of carbapenemase-producing Enterobacteriaceae in the intensive care unit. *Antimicrobial Resistance and Infection Control*, 2017; 6:24-29.
- Regev-Yochay G et al. Sink traps as the source of transmission of OXA-48-producing *Serratia marcescens* in an intensive care unit. *Infection Control & Hospital Epidemiology* 2018; 39:1307-1315.
- PIDAC, Carbapenemase-producing Enterobacteriaceae (CPE) Sample fact sheet for health care staff. <https://www.publichealthontario.ca/-/media/documents/r/2013/rpap-cpe-sample.pdf?la=en>. Accessed on August 21, 2020



For more information, contact your Clorox sales representative or call 1-866-789-4973.
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