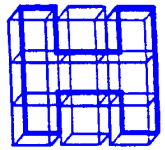
IF YOU HAVE ANY QUESTIONS ABOUT INFECTION CONTROL, PLEASE ASK YOUR NURSE TO CONTACT THE INFECTION PREVENTION & CONTROL OFFICE.

Lake of the Woods
District Hospital

Source: PIDAC:Annex A – Screening, Testing and Surveillance for Antibiotic-resistant Organisms (AROs) January 2013

PATIENT AND FAMILY INFORMATION



CARBAPENEMASE-PRODUCING ENTEROBACTERIACEAE

CPE

WHAT ARE CPE?

Carbapenemase-producing Enterobacteriaceae are resistant to carbapenem antimicrobials (e.g. imipenem, meropenem, ertapenem) through the production of carbapenemase enzymes. Because CPE are resistant to many classes of antimicrobials, treatment of infections with CPE is difficult and involves the use of antibiotics that have significant adverse events.

GOOD HAND WASHING IS THE BEST WAY TO PREVENT THE SPREAD OF THIS AND OTHER BACTERIA.

WHAT ARE CPE? (cont)

Carbapenemases are enzymes that inactivate carbapenem, cephalosporin and penicillin antibiotics. The genetic information to produce carbapenemases is often located on a mobile genetic element (i.e. a genetic element that can move between bacterial strains and species, e.g. plasmid, transposon), which frequently also carries resistance to other classes of antimicrobials, such as fluoroquinolones and aminoglycosides.

There are several different carbapenemases, each having a three-letter acronym, e.g. KPC = *Klebsiella pneumoniae carbapenemase*; NDM = *New Delhi metallo-β-lactamase*.

These enzymes evolve rarely, but bacteria carrying them spread easily. Particular classes of carbapenemases are most common in the geographic area where they evolved, but can spread around the world, usually when patients have received health care in another country.

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HOW ARE CPE SPREAD?

Transmission is via direct and indirect contact. The primary site of colonization is the lower gastrointestinal tract.

RISK FACTORS FOR CPE?

Risk factors for infection and colonization with CPE will be similar to those of other resistant Gram-negative bacteria, such as ESBL-producing E. *coli* and *Klebsiella pneumoniae.*

Currently, the major risk factor appears to be receipt of care in health care settings that have CPE, e.g., hospitals along the U.S. eastern seaboard, particularly New York City (KPC), Greece (KPC), Israel (KPC) and the Indian subcontinent (NDM-1). However, CPE outbreaks are being increasingly described in hospitals around the world, including Canada. People coming from the Indian subcontinent, with or without exposure to health care, are also at risk.

PREVENTION & CONTROL OF CPE

Consistent use of Routine Practices with all patients/ residents.

CONTACT PRECAUTIONS

- Gloves for all activities in the patient's room or bed space in acute care, or for direct care of clients/residents in long-term care and ambulatory/clinic settings.
- Long-sleeved gown for activities where skin or clothing will come in contact with the patient or their environment in acute care, or for direct care of clients/residents in long-term care and ambulatory/clinic settings.
- Dedicated equipment or adequate cleaning and disinfecting of shared equipment, with particular attention to management of urinary catheters and associated equipment.
- Patients remain on Contact Precautions for the duration of hospitalization. They should be presumed to be colonized and managed on Contact Precautions if they are readmitted.