

<b>Purpose:</b>	Management of <i>patients/clients</i> who are colonized and/or infected with <i>Carbapenemase Producing Organisms (CPO)</i> in clinical settings in accordance with PICNet BC Antibiotic Resistant Organism Guidelines.
<b>Scope:</b>	<p>Who:</p> <ul style="list-style-type: none"> <li>• All roles authorized to interact with patient/client health records (including <i>EHR</i> and associated applications). Includes: <ul style="list-style-type: none"> <li>○ <i>Direct clinical care staff</i> (e.g. Nursing, Allied Health, students/residents)</li> <li>○ <i>Providers</i> (e.g. physicians, NPs, Midwives)</li> <li>○ <i>Clinical Support Staff</i> (e.g. NUAs, Admitting Clerks, any individuals supporting clinical operations)</li> <li>○ Other Island Health Partners (i.e. <i>affiliates, academic partners</i>)</li> </ul> </li> </ul> <p>Where:</p> <ul style="list-style-type: none"> <li>• All programs and services across Island Health, including contracted services/relationships.</li> </ul>
<b>Outcomes:</b>	Provide safe and effective care for patients/clients and prevent the transmission of CPO and other Antibiotic-Resistant Organisms (ARO).

## 1.0 Risk Assessment

- 1.1 All patients/clients admitted to acute care inpatient units will be screened for CPO risk, using the Island Health [Antibiotic Resistant Organism \(ARO\) Screening Tool](#) during admission assessment.

*In Island Health, High Risk for CPO is defined as having had the following in the past 12 months:*

- *A stay of at least 24 hours in a hospital outside of Vancouver Island/Gulf Islands;*
- *Hemodialysis outside of Vancouver Island/Gulf Islands; and/or*
- *A surgical or medical procedure outside of Canada.*

- 1.2 If a patient/client has no identified risk factors for CPO and no CPO alert, no further action is needed.
- 1.3 For a patient/client with an existing CPO Alert or with identified risk factors for CPO:
- apply additional precautions immediately (Section 2.0)
  - collect appropriate specimens. (Section 3.0)
- 1.4 Contacts of patients/clients with known CPO within the past 12 months should be screened on admission.
- 1.5 Screen patients/clients who have been in close contact with a patient/client with CPO.

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## 2.0 Additional Precautions

- 2.1 **Contact precautions** are initiated for any patient/client who:
- is identified in admission screening as having a high risk for CPO; or
  - has an existing CPO alert
- 2.2 **Droplet precautions** are initiated if a patient/client:
- is identified in admission screening as having high risk for CPO; or has an existing CPO alert AND one of the following:
    - presents with a new or worsening cough
    - is ventilated
    - has had a sputum specimen confirm CPO

## 3.0 Specimen Collection

- 3.1 Screening: If directed by the ARO Screening tool, collect the following routine specimens:
- Rectal swab with fecal stain (preferred). (Ensure culturette swab stained with feces)
  - Stool or perianal swab if it is not possible to obtain a rectal swab.

In addition, if the patient/client has:

- a new or worsening cough: collect sputum sample for culture and sensitivity.
  - a wound that can be cultured: complete culturette swab of wound.
  - an indwelling urinary catheter: collect urine for culture and sensitivity.
  - urostomy: 1.) complete culturette swab from the stoma site. 2.) clean catch urine specimen from a new, clean ostomy pouch for culture and sensitivity.
  - colostomy/ileostomy: complete swab of stoma site. (Ensure stained with feces)
- 3.2 **Clinical specimen collection:** Collect clinical specimens for diagnosis and treatment decisions as ordered by a provider.

*On the microbiology laboratory requisition, indicate CPO and site from which the clinical specimen was collected.*

## 4.0 Contact Screening

- 4.1 *Contacts* will be swabbed weekly for CPO on Day 1, 7, 14 and 21, following CPO specimen collection guidelines (Section 3.0).
- 4.2 Screening may continue when a patient/client is receiving antibiotics. Additional screening may be required in consultation with Medical Microbiologists.
- 4.3 Contact Precautions are maintained until all screening is completed and results are known.
- 4.4 Consult with Infection Prevention and Control (IPAC) regarding cohorting decisions.

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Positive culture results may be delayed by several weeks in patients/clients who have acquired CPO. Confirmation of CPO colonization may require several repeated swabs over time.

## 5.0 Removal of Additional Precautions

- 5.1 Additional precautions are only removed in consultation with an Infection Prevention and Control Professional. Currently, CPO alerts and additional precautions are only removed if:
- a patient/client has no previous history of CPO, and
  - admission or contact screening and clinical cultures are negative.

## 6.0 Disease Alert

- 6.1 The Disease Alert is activated by Infection Prevention and Control at the time of a positive CPO culture result.

The Disease Alert is a confidential way to notify health care providers that Additional Precautions are required during health care encounters to prevent transmission of AROs.

## 7.0 Environmental Cleaning

- 7.1 Patients/clients with pending CPO screens will have *Precaution Cleaning* initiated, as with all patients/clients on Additional Precautions.
- 7.2 IPAC will send a requisition for “*Precaution Plus*” housekeeping for patients/clients with confirmed CPO.

## 8.0 Bed Placement (in order of priority)

- 8.1 Patients/clients with confirmed CPO require a private room with priority over all other IPAC concerns except those requiring Airborne Isolation (e.g., C. Difficile, MRSA, diarrhea not yet diagnosed).
- 8.2 If a private room is not available, consult with your Infection Control Practitioner (ICP) or Medical Microbiologist regarding placement or cohorting decisions. CPO includes several species of bacteria and unique antibiotic resistance genes.
- 8.3 Management of CPO exposed patients/clients: Discuss with ICP and Medical Microbiology regarding cohorting decisions.

## 9.0 Specific Settings

### O.R./PACU/Ambulatory Care/ Surgical Day Care

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- Refer to IPAC Guideline for Management of AROs in the O.R.

## ICU

- Currently, patients transferred to ICU from other units within Island Health will not require routine CPO screening on admission, weekly, or on transfer or discharge from ICU.
- If a patient/client with confirmed CPO is admitted to ICU:
  - Obtain initial CPO prevalence screening of all patients on the unit.
  - Screen all ICU patients weekly for CPO while the patient with CPO is admitted.
  - Request Precaution Plus environmental cleaning for the unit.
  - All patients discharged from ICU to another unit during this time will be placed on Additional Precautions in a private room. Contact Screening requirements are to be evaluated by IPAC on a case-by-case basis.

## Perinatal/NICU

- If CPO screening is required: Mother and Baby to be placed on Additional precautions until screening results are reported as negative.
- Patient with CPO alert: Additional precautions are required for Mother and Baby for the duration of admission. Send a *Precaution Plus* environmental cleaning request for the patient's space
- NICU and Infant admissions: Use the ARO Admission Screening Questionnaire for Neonatal Admission form.

## Renal Hemodialysis

- Routine screening of Community and Home Hemodialysis patients/clients is not required.
- Patients/clients who have had hemodialysis treatments outside of Island Health within the last 12 months will be:
  - Screened once on their return to Island Health Dialysis unit OR if admitted to an Island Health Acute Care unit.
  - Placed on Additional precautions until screening results are known.
- Visiting hemodialysis patients/clients from outside Island Health will be asked to provide results from a CPO screen, completed not more than one month before their first run in Island Health.

## Residential Settings

- Screening for CPO is not required on admission to Residential Care.
- Residents with confirmed CPO colonization:
  - Do not require a private room.
  - Do not require Additional Precautions.
  - Do not require any special Linens, Housekeeping or Food Services practices. Normal procedures for handling soiled materials are adequate.
  - May eat with others and participate in all social activities unless on Additional Precautions.
- If colonized with a CPO:
  - Encourage good hand hygiene and general hygiene with the resident.
  - Staff must use Routine Practices to prevent contact with body fluids, as with all residents.
- If infected with a CPO:
  - Place the resident on appropriate precautions during personal care.

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- Resident must have a dedicated bathroom or commode.
- Residents from Acute Care admissions who have CPO screening cultures pending require Contact Precautions until confirmed negative. No further screening is required while in Residential Care.

Refer to:

[Memorandum to All Residential Care Facilities, January 19, 2015. Re: Recent Changes to Managing Antibiotic Resistant Organisms in Residential Care Settings.](#)

## 10.0 Definitions

**Acute Care Facility:** A hospital where lengths of stay average < 30 days, and where a variety of services are provided, including surgery and intensive care.

**Additional Precautions:** interventions implemented for certain pathogens or clinical presentations in addition to routine infection control practices, to reduce the risk of transmission of microorganisms from patient to patient, patient to HCP, and HCP to patient.

**Antibiotic Resistant Organisms (ARO):** microorganisms that are resistant to one or more classes of antibiotics. Some of these organisms have the ability to cause serious health issues, while others rarely seem to cause infections.

**ARO Questionnaire:** Questions asked routinely on all Acute Care admissions to inpatient units to assess the risk for colonization or infection with antibiotic resistant organisms.

**Bacteria:** Single-celled prokaryotic organisms that may be free-living in soil or water or parasites of plants or animals.

**Carbapenem Producing Organism (CPO):** Gram negative bacteria with carbapenemase producing genes. Examples: *Klebsiella pneumonia* carbapenemase (KPC), metallo-beta-lactamases in *P. aeruginosa* and *Acinetobacter* spp. NDM-1, OXA-48, VIM, IMP

**Cohort** – Two or more patients colonized or infected with the same organism that are separated physically, in a separate room or ward, from other patients who are not colonized or infected with that organism.

**Colonization:** is the presence, growth and multiplication of an organism in one or more body sites, without signs and symptoms of infection

**Contact:** an individual who has had close contact with a known CPO patient within the last 12 months. *Close contact:* household member or a roommate in hospital (e.g., greater than 24 hours). In high risk units such as transplant units, ICU, etc. close contact may constitute all patients on the entire unit.)

**Disease Alert:** Notification placed on a medical chart that informs staff of a previous positive culture with a significant organism such as MRSA or CPO.

**Infection:** When bacteria or other microorganisms have invaded a body site, are multiplying in tissue and are causing clinical manifestations of disease (i.e. fever, redness, heat, swelling, pain and/or delayed wound healing).

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**Inpatient Unit:** Hospital unit or designated area for the evaluation and treatment of adult or pediatric patients, providing services such as medical, surgical, psychiatric, palliative and rehabilitation care. Patients remain at least overnight or longer while evaluation and treatment are required.

**Medical/Surgical Procedure:** Any health care encounter that requires a medical or surgical intervention.

**Patient/client:** For the purposes of this document, the term “patient” will include those receiving health care, including patients, clients and residents.

**Precautions:** interventions to reduce the risk of transmission of microorganisms from patient to patient, patient to health care provider, and health care provider to patient.

**Residential Care:** Residential care facilities provide 24-hour professional nursing care and supervision in a protective, supportive environment for people who have complex care needs and can no longer be cared for in their own homes.

**Routine practices:** the term used to describe the system of IPAC practices recommended in Canada. The use of routine practices is fundamental to the provision of patient/resident/client care in any healthcare setting.

**Screening:** A process to identify clients/patients/residents at risk for being colonized with antibiotic-resistant organisms and, if risk factors are identified, obtaining appropriate specimens

## 11.0 Related Island Health Standards

IPAC O.R. Management of AROs

## 12.0 References

Memorandum to All Residential Care Facilities, January 19, 2015. Re: Recent Changes to Managing Antibiotic Resistant Organisms in Residential Care Settings. Island Health. Retrieved from: [https://intranet.viha.ca/departments/infection\\_prevention/Documents/ARO%20Admission/Jan192015RecentChangesToManagingARO.pdf](https://intranet.viha.ca/departments/infection_prevention/Documents/ARO%20Admission/Jan192015RecentChangesToManagingARO.pdf)

PICNet Provincial Infection Control Network of British Columbia. (March 2013). Antibiotic resistant organisms: prevention and control guidelines for healthcare facilities. Provincial Infection Control Network, Vancouver, BC. Retrieved from: <https://www.picnet.ca/> on January 29, 2015.

Provincial Infection Control Network of British Columbia (PICNet BC). Toolkit for the management of carbapenemase producing organisms (CPO), September 2014, v. 1.1 February 2015. Retrieved from: <https://www.picnet.ca/wp-content/uploads/PICNet-CPO-Toolkit-2015.pdf>

Provincial Infectious Diseases Advisory Committee (PIDAC). (November 2012). Routine practices and additional precautions in all health care settings, 3<sup>rd</sup> ed. Queen’s Printer for Ontario, Toronto, Ontario.

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Public Health Agency of Canada. (2012). Routine practices and additional precautions for preventing the transmission of infection in healthcare settings. Centre for Communicable Diseases and Infection Control, Public Health Agency of Canada. Ottawa, Ontario.

Retrieved from: <http://publications.gc.ca/site/eng/440707/publication.html> on January 29, 2015.

### 13.0 Resources

BC Centre for Disease Control, PHSA Laboratories. February 7, 2014. Carbapenemase-Producing Organisms (CPO) Fact Sheet. Retrieved from: [http://www.bccdc.ca/NR/rdonlyres/CB885921-A243-41B9-B699-C0A7B754AB24/0/CPOBacteriainBC\\_factsheet\\_feb7\\_2014.pdf](http://www.bccdc.ca/NR/rdonlyres/CB885921-A243-41B9-B699-C0A7B754AB24/0/CPOBacteriainBC_factsheet_feb7_2014.pdf)

Island Health Infection Prevention and Control [Reference Guide](#)

Island Health Infection Prevention and Control [CPO Toolkit](#)

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