 <p>Winnipeg Regional Health Authority Office régional de la santé de Winnipeg Caring for Health À l'écoute de notre santé</p>	<b>WRHA Infection Prevention and Control Program</b>	
<b>Operational Directives</b>	<b>Admission Screening for Antibiotic Resistant Organisms (AROs)</b>	
	<b>Approval Signature:</b> N/A	<b>Supersedes:</b>  July 2014
	<b>Date of Approval:</b> February 2016	
	<b>Review Date:</b> February 2019	
<b>Page 1 of 6</b>		

**1.0 PURPOSE:**

- 1.1 To reduce the risk of healthcare associated transmission of antibiotic resistant organisms Methicillin Resistant *Staphylococcus aureus* (MRSA) and Carbapenemase-Producing *Enterobacteriaceae* (CPE).
- 1.2 Timely identification of MRSA and CPE positive patients on admission while minimizing resource utilization.

NOTE: Contact follow-up is outside of the scope of this document. Contact site Infection Control Professional (ICP) for guidance. i.e., collecting samples from patients flagged as 'positive' or 'suspect' to deflag is **not** Admission Screening and is not addressed in this Operational Directive.

**2.0 DEFINITIONS:**

- 2.1 Admission: Any stay in hospital greater than 24 hours, this includes any stay in the Emergency department greater than 24 continuous hours.

**3.0 OPERATIONAL DIRECTIVES:**

**3.1 MRSA Screening criteria**

Confirm on *each* admission as well as at Pre-Operative Assessment Clinic (PAC) visit, if the patient meets any of the MRSA screening criteria listed below.

- 3.1.1 Admitted to or directly transferred from a health care facility, including personal care homes within the previous 6 months Include facilities within or outside Canada, including the current facility
- 3.1.2 Inter-facility Transfer/Referral Form indicates admission screening is required
- 3.1.3 Once known as MRSA POS and positive status is currently unknown
- 3.1.4 Identified as MRSA SUS in the flagging system
- 3.1.5 Identified as MRSA contact
- 3.1.6 Starting dialysis or new to the dialysis unit
- 3.1.7 Living in a correction setting or a communal living setting (e.g., group home)



- 3.2 Repeat screening of patient on Admission if hospitalized since last screened AND admission screen criteria (3.1) are met. e.g., Patients initially screened in PAC; then hospitalized and discharged prior to current Admission.
- 3.3 Do not collect screening cultures for patients admitted to Mental Health units.  
If the patient is subsequently transferred to another area of the facility, he/she should be screened if the above criteria are met (3.1).  
**Note:** Contact Precautions are not required for patients meeting MRSA admission screening criteria *except* as identified in 3.6
- 3.4 **CPE screening criteria**  
Confirm on *each* admission as well as at Pre-Operative Assessment Clinic (PAC) visit, if the patient meets CPE screening criteria listed below.
- 3.4.1 Admitted to or directly transferred from any facility known to have endemic rates (as discussed with IP&C) in the previous 6 months  
Consider facilities within or outside Canada, including the current facility
- 3.4.2 Identified as CPE Positive and whose positive status is currently unknown. Consult IP&C from previous facility if status is unclear to determine if screening is required
- 3.4.3 Identified as CPE Suspect in the flagging system
- 3.4.4 Identified as a CPE contact
- 3.5 **DO NOT routinely screen for:**
- 3.5.1 Vancomycin Resistant Enterococci (VRE)
- 3.5.2 Extended Spectrum Beta Lactamase Producing Microorganisms (ESBLs)
- 3.5.3 Other Antimicrobial Resistant Gram Negative Bacilli (AMR GNB)
- 3.6 **Contact Precautions**  
Implement Contact Precautions and notify Infection Prevention and Control when patients meet ANY of the following criteria:
- 3.6.1 Previously identified to be MRSA positive AND no documentation of three consecutive sets of negative screening MRSA cultures (nares, and open wounds/lesions/incisions/invasive device insertion sites [e.g., central lines]) at least one week apart, while off potentially effective antimicrobials during the 48 hours prior to each specimen collection.
- 3.6.2 Admitted to or directly transferred from an acute care hospital (including an Emergency Department) *outside Canada* within the previous 6 months
- Pending results of screening tests
- 3.6.3 Patients who have received hemodialysis treatment *outside Manitoba* where negative screening cultures obtained within 7 days prior to arrival at a WRHA facility are not available
- 3.6.4 Refusal of MRSA or CPE screening despite explanation of the procedure and rationale for the screening having been repeated to the patient/family
- Patients who refuse CPE screening **MUST** be isolated and



placed on Contact Precautions for duration of their admission;  
notify IP&C

3.6.5 Currently being screened for CPE with culture results pending

3.6.6 Previously identified as CPE positive

**NOTE:** not all patients who have tested positive for MRSA or CPE are recorded in the EPR system. If there is documentation from other sources confirming the patient is colonized or infected, please notify site Infection Control Professional.

## 4.0

### **PROCEDURE:**

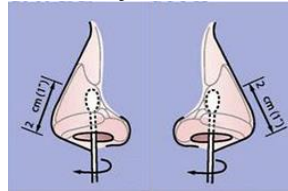
#### 4.1 **MRSA:**

Send screening specimen(s) to the Microbiology Laboratory. Specimen collection sites include:

- Anterior nares (both nares with one swab)
- Open wounds/lesions/incisions/invasive device insertion sites (e.g., central lines). Do not collect specimens from closed wounds/ lesions/ incisions/ invasive device insertion sites
- Refer to Guidelines for Specimen Collection (Antibiotic Resistant Organisms Specific Disease Protocol Appendix B)

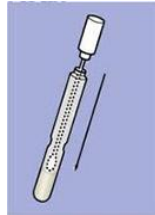
##### 4.1.1 **Anterior Nares for MRSA**

*Carefully insert the swab approximately 2cm into the nares*



*Rotate the swab against the nasal mucosa.*

**Note:** sample both nares using the same swab



*Label the container with the site of sample collected and at least two unique patient identifiers*

*Ensure the specimen is accompanied by the appropriate requisition which has been completed with all pertinent patient information  
Keep specimens at room temperature and send to the lab as soon as possible according to facility procedure*

##### 4.1.2 **Wound Swab**

*If wound is dry, moisten with sterile physiologic saline and collect the sample. Collect surveillance cultures before cleansing. Place swab in transport container*

*Label container with site of sample collected and at least two patient identifiers*

*Ensure the specimen is accompanied by the appropriate requisition which has been completed with all pertinent patient information*



*Keep specimens at room temperature and send to the lab as soon as possible according to facility procedure*

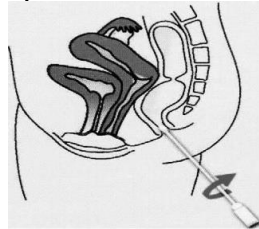
For additional information on collecting wound samples, refer to Diagnostic Services Manitoba Inc. - Clinical Microbiology Procedure Manual – Sample Collection

#### 4.2 CPE:

Send specimen from the rectum/ostomy site to the Microbiology Laboratory

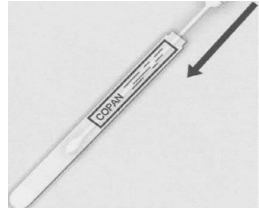
##### 4.2.1 Rectum/Ostomy for CPE

*Insert the swab approximately 2.5cm (for adults) beyond the anal sphincter/stoma and gently rotate*



**Note:** *swab should be visibly soiled*

4.2.2 Peri-rectal swabs, instead of rectal swabs may be submitted for neonatal, pediatric, and adolescent patients, patients with neutrophils below  $1.0 \times 10^9/L$  for greater than 7 to 10 days or patients currently/recently undergoing a hematopoietic stem cell transplant procedure. A rectal swab is required for patients who do not meet these criteria.



*Place swab in the transport container. Label container with sample collection site and at least two unique patient identifiers*

*Ensure the specimen is accompanied by the appropriate requisition which has been completed with all pertinent patient information  
Keep specimens at room temperature and send to the lab as soon as possible according to facility procedure*

**NOTE: do not repeat screening of known CPE Positive patients**

4.3 Record on the Clinical Microbiology Laboratory Test Requisition(s):

- Diagnostic/ Relevant Clinical Information [e.g., antibiotics used within last 48 hours; history MRSA (+) or CPE (+)]
- Include patient identifiers required by the Microbiology Laboratory (Name: First and Last; PHIN)
- Submit one requisition for each specimen (including if multiple specimens from different sites are collected concurrently)
- In the 'Antibiotic Resistant Organisms' section, identify organism and site



of collection for the specimen in appropriate location (i.e., MRSA: “Nares”, or CPE: “Rectal” or both)

*NOTE: If “Other” site is selected, indicate the site of collection. For any specimen submitted as an ARO screening test, please note only the targeted ARO will be worked up by the microbiology laboratory, and no other organisms (if present) will be detected. For MRSA surveillance, only above indicated sites will be accepted for processing. All other sites will be rejected by the microbiology laboratory. For CPE surveillance, only rectal swabs, ostomy swabs and peri-rectal swabs (under specific scenarios detailed above) will be accepted. All other sites will be rejected by the laboratory.*

- If a full diagnostic microbiology workup is required (i.e., examination for all potential pathogens) select the appropriate specimen type, as listed on the requisition (e.g., wounds) instead of identifying specimen as an ARO screen

#### 4.4 Transport to Clinical Microbiology Laboratory

- Transport  $\leq 2$  hours if the Microbiology lab is at your local site; store at room temperature
- Transport  $\leq 48$  hours ( $\leq 24$  hours is optimal) if courier used/local storage; store at  $4^{\circ}\text{C}$
- Ensure samples being sent to a referral laboratory are packaged in accordance with [Transport of Dangerous Goods recommendations](#) for diagnostic samples

#### 4.5 Patients Refusing Screening

- If the patient refuses screening, explain the procedure and rationale for the screening and any testing to the patient/family again
- If patient/family still refuses MRSA screening, where achievable, place patient on Contact Precautions for duration of admission and notify IP&C
- If patient/family still refuses **CPE screening, place the patient on Contact Precautions for the duration of the admission and notify, site ICP**

## 5.0 REFERENCES:

- 5.1 Clinical Microbiology Laboratory Test Requisition, Diagnostic Services of Manitoba, April 2, 2013.
- 5.2 Clinical Microbiology Procedure Manual – Sample Collection. Diagnostic Services Manitoba Inc. (2014, July 24). Available at: [http://dsmanitoba.ca/wp-content/uploads/2014/05/1478\\_120-10-05-V05-Clinical-Microbiology-Sample-Collection-Manual-ALL.pdf](http://dsmanitoba.ca/wp-content/uploads/2014/05/1478_120-10-05-V05-Clinical-Microbiology-Sample-Collection-Manual-ALL.pdf).
- 5.3 Manitoba Guidelines for the Prevention and Control of Antimicrobial Resistant Organisms. (2016).

### **Operational Directive Contacts:**

*Janice Briggs, Specialist, Infection Prevention and Control Program*



## Appendix A

Antibiotic Resistant Organism Electronic Patient Record Codes and Required Actions:  
*Infection Control health issue codes are used in the Electronic Patient Record (EPR) to indicate the Antibiotic Resistant Organism status of a patient.*

The following may appear as a single code or in a combination of abbreviated codes in the EPR:

Code	Explanation of Code	Required Actions
<b>AMR GNB P</b>	<b>AMR GNB Positive:</b> Antimicrobial Resistant Gram Negative Bacilli positive	<ul style="list-style-type: none"> <li>• <u>Implement Contact Precautions</u></li> <li>• Notify Infection Prevention and Control</li> <li>• Collect surveillance specimens as directed by Infection Prevention and Control</li> </ul>
<b>CPE POS</b>	<b>CPE Positive:</b> Carbapenemase-Producing <i>Enterobacteriaceae</i> (CPE) positive	<ul style="list-style-type: none"> <li>• <u>Implement Contact Precautions</u></li> <li>• No surveillance specimen required</li> </ul>
<b>CPE SUS</b>	<b>CPE Suspect:</b> Exposed to Carbapenemase-Producing <i>Enterobacteriaceae</i> (CPE); requires cultures to determine status	<ul style="list-style-type: none"> <li>• <u>Implement Contact Precautions</u></li> <li>• Notify Infection Prevention and Control</li> <li>• Collect surveillance specimens as directed by Infection Prevention and Control</li> </ul>
<b>MRSA POS</b>	<b>MRSA Positive:</b> Methicillin Resistant <i>Staphylococcus aureus</i> (MRSA) positive	<ul style="list-style-type: none"> <li>• <u>Implement Contact Precautions</u></li> <li>• Collect MRSA surveillance cultures from nares and open wounds</li> </ul>
<b>MRSA SUS</b>	<b>MRSA Suspect:</b> Exposed to Methicillin Resistant <i>Staphylococcus aureus</i> (MRSA); requires cultures to determine status	<ul style="list-style-type: none"> <li>• <u>Follow Routine Practices</u>, unless otherwise directed by Infection Prevention and Control</li> <li>• Collect MRSA surveillance specimens from nares and wounds</li> </ul>
<b>MRSA PREV</b>	<b>MRSA Previous:</b> Previous Methicillin Resistant <i>Staphylococcus aureus</i> (MRSA) positive patient who was treated and eradicated or self-eradicated	<ul style="list-style-type: none"> <li>• <u>Follow Routine Practices</u></li> <li>• Contact Precautions are NOT required</li> <li>• Collect MRSA surveillance specimens from nares and wounds</li> </ul>