1.0 **PURPOSE:**

1.1 To reduce the risk of healthcare associated transmission of antibiotic resistant organisms Methicillin Resistant *Staphylococcus aureus* (MRSA) and Vancomycin Resistant Enterococci (VRE).

1.2 Timely identification of MRSA and VRE 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:** For the purposes of this document, any stay in a healthcare facility greater than 24 hours.

2.2 **Prolonged Neutropenia:** A decrease in the number of neutrophils in the blood, to a level below $1.0 \times 10^9/L$ for greater than 7 to 10 days.

3.0 **OPERATIONAL DIRECTIVES:**

3.1 Ask patient on *each* admission as well as at Pre-Operative Assessment Clinic (PAC) visit, if he/she was hospitalized in the previous 6 months, or spent more than 24 hours in an Emergency Department within an acute care hospital within Winnipeg (including the current site of admission), or outside of Manitoba.

3.2 Collect MRSA and VRE admission screening specimens (refer to 4.0) if the above criteria are met (3.1).

3.2.1 Do not collect admission screening specimens from patients who have been hospitalized within Manitoba but outside the city of Winnipeg.
3.2.2 Repeat screening of patients on Admission if hospitalized since last screened AND the admission screen criteria (3.1) are met. e.g., Patients initially screened in PAC; then hospitalized and discharged prior to current Admission.

3.2.3 Do not collect screening cultures for patients admitted to Mental Health units. If the patient is subsequently transferred to another area of the facility, they should be screened if he/she meets the above criteria (3.1).

3.3 Screen if the patient is transferred from a healthcare facility where an outbreak is known to be occurring, regardless of location of that facility as directed by site ICP(s).

3.4 Contact Precautions are not required for patients meeting admission screening criteria except as identified in 3.5.

3.5 Implement Contact Precautions and notify Infection Prevention and Control only when patients meet ANY of the following criteria:

3.5.1 Previously identified to be MRSA positive and no documentation of negative follow-up cultures AND/OR previously identified to be VRE positive. NOTE: not all patients who have tested positive for MRSA or VRE are recorded in the EPR system. If there is documentation from other sources confirming the patient is colonized or infected, please notify site Infection Prevention and Control.

3.5.2 Spent more than 24 hours in an acute care hospital (including an Emergency Department) outside Canada within the previous 6 months.

3.5.3 Transferred from a hospital or an Emergency Department in an acute care hospital outside Canada within the previous 6 months.

3.5.4 Renal 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.

4.0 PROCEDURE:

4.1 MRSA:

4.1.1 Send specimen(s) from nares and all open wounds (specify site and type) to the Microbiology Laboratory:

- See 4.3 for requisition labeling details

Collection Instructions

All swabs must be collected using aseptic technique, ensuring the swab is not contaminated and that only the intended site is sampled during the collection procedure.

Nasal Swab

- Insert the swab, pre-moistened with saline, approximately 2 cm into the nares.
- Rotate the swab against the nasal mucosa. NOTE: both nares should be consecutively sampled using the same swab, i.e., one specimen.
Wound Swab
- Using a swab pre-moistened with saline, firmly sample the lesion margins.

NOTE: Wound swabs submitted as MRSA screening specimens will only be tested for MRSA by the Microbiology laboratory. If diagnostic testing for other pathogens (including methicillin susceptible S. aureus; MSSA) is required, please submit specimens as the appropriate specimen type (ie. Wound) and not as an MRSA (ARO) screening specimen. Furthermore, there are important differences in the collection methods used for wound swabs intended for MRSA surveillance versus diagnostic wound samples collected for the intention of identifying any bacterial pathogen. For additional information on collecting diagnostic wound samples, refer to Diagnostic Services of MB Inc. Clinical Microbiology Procedure Manual – Sample Collection, available @: http://www.dsmanitoba.ca/professionals/files/Policy_120-10-05.pdf

4.2 VRE:
4.2.1 Send specimen from the rectum/ostomy site to the Microbiology Laboratory.

Collection Instructions
Rectal Swab
- Insert the swab into the rectum (through anal sphincter), gently rotate. NOTE: Swab should be visibly soiled.
- Peri-rectal swabs, instead of rectal swabs may be submitted for neonatal, pediatric, and adolescent patients, patients with Prolonged Neutropenia or patients currently/recently undergoing a hematopoietic stem cell transplant procedure. For patients that do not meet these criteria, a rectal swab is required.

Ostomy Swab
- Insert the swab into the ostomy, gently rotate

NOTE: do not repeat screening of known VRE 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 (+)].
- 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: “Nasal”, or VRE: “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 that 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 wound swabs and nares will be accepted for processing. All other sites will be rejected by the microbiology laboratory. For VRE 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 the specimen as an ARO screen.

4.4 Transport to Clinical Microbiology Laboratory
- If the Microbiology lab is at your local site: transport ≤2 hours; store at room temperature
- If courier/local storage: ≤48 hours (≤24 hours is optimal), store at 4°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, the unit nurse should inform the unit Manager, who will discuss with the patient.
- If patient continues to refuse screening, contact site Infection Control Professional.

5.0 REFERENCES:


5.2 Clinical Microbiology Laboratory Test Requisition, Diagnostic Services of Manitoba, April 2, 2013.


Operational Directive Contacts:
Janice Briggs, Specialist, Infection Prevention and Control Program
Molly Blake, Director, 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:

<table>
<thead>
<tr>
<th>Code</th>
<th>Explanation of Code</th>
<th>Required Actions</th>
</tr>
</thead>
</table>
| ESBL POS | ESBL Positive: Extended Spectrum Beta Lactamase (ESBL) positive | • Implement Contact Precautions  
  • Collect surveillance specimens as directed by Infection Prevention and Control |
| ESBL PREV | ESBL Previous: Previous Extended Spectrum Beta Lactamase (ESBL) positive patient who was treated and eradicated or self-eradicated | • Follow Routine Practices  
  • Contact Precautions are NOT required |
| ESBL SUS | ESBL Suspect: Exposed to Extended Spectrum Beta Lactamase (ESBL); requires cultures to determine status | • Follow Routine Practices  
  • Contact Precautions are NOT required |
| ESBL MOD | ESBL Modified Precautions: Extended Spectrum Beta Lactamase (ESBL) case with modified isolation precautions | • Follow Routine Practices  
  • Discontinue ESBL Modified Precautions, implement Contact Precautions & notify Infection Prevention and Control if patient:  
  o has contained or uncontained bowel or bladder incontinence;  
  is not able to practice appropriate hand hygiene;  
  does not have good personal hygiene practices; OR  
  is not cognitively able to follow directions |
| MDR GNB P | MDR GNB Positive: Multi-Drug Resistant Gram Negative Bacteria positive | • Implement Contact Precautions  
  • Notify Infection Prevention and Control  
  • Collect surveillance specimens as directed by Infection Prevention and Control |
| MRSA POS | MRSA Positive: Methicillin Resistant *Staphylococcus aureus* (MRSA) positive | • Implement Contact Precautions  
  • Collect MRSA surveillance cultures from nares and open wounds |
| MRSA SUS | MRSA Suspect: Exposed to Methicillin Resistant *Staphylococcus aureus* (MRSA); requires cultures to determine status | • Follow Routine Practices, unless otherwise directed by Infection Prevention and Control  
  • Collect MRSA surveillance specimens from nares and wounds |
<table>
<thead>
<tr>
<th>Code</th>
<th>Explanation of Code</th>
<th>Required Actions</th>
</tr>
</thead>
</table>
| MRSA PREV | **MRSA Previous:** Previous Methicillin Resistant *Staphylococcus aureus* (MRSA) positive patient who was treated and eradicated or self-eradicated | • Follow Routine Practices  
• Contact Precautions are NOT required  
• Collect MRSA surveillance specimens from nares and wounds |
| VRE POS  | **VRE Positive:** Vancomycin Resistant Enterococcus (VRE) positive                                         | • Implement Contact Precautions  
• No surveillance specimen required                                                                 |
| VRE SUS  | **VRE Suspect:** Exposed to Vancomycin Resistant Enterococcus (VRE); requires cultures to determine status | • Follow Routine Practices, unless otherwise directed by Infection Prevention and Control  
• Collect VRE surveillance specimens from rectum/ostomy unless otherwise directed by Infection Prevention and Control |
| VRE MODIFY | **VRE Modified Precautions:** Vancomycin-Resistant Enterococcus (VRE) case with modified isolation precautions | • Follow Routine Practices   
• Discontinue VRE Modified Precautions & notify Infection Prevention and Control if patient:  
  o has contained or uncontained bowel or bladder incontinence;  
  is not able to practice appropriate hand hygiene;  
  does not have good personal hygiene practices; OR  
  is not cognitively able to follow directions |
| VISA POS  | **VISA Positive:** Vancomycin Intermediate *Staphylococcus aureus* (VISA) positive                       | • Implement Contact Precautions  
• Notify Infection Prevention and Control  
• Collect surveillance specimens as directed by Infection Prevention and Control |
| VISA SUS  | **VISA Suspect:** Exposed to Vancomycin Intermediate *Staphylococcus aureus* (VISA); requires cultures to determine status | • Implement Contact Precautions  
• Notify Infection Prevention and Control  
• Collect surveillance specimens as directed by Infection Prevention and Control |
| VRSA POS  | **VRSA Positive:** Vancomycin Resistant *Staphylococcus aureus* (VRSA) positive                           | • Implement Contact Precautions  
• Notify Infection Prevention and Control  
• Collect surveillance specimens as directed by Infection Prevention and Control |
| VRSA SUS  | **VRSA Suspect:** Exposed to Vancomycin Resistant *Staphylococcus aureus* (VRSA); requires cultures to determine status | • Implement Contact Precautions  
• Notify Infection Prevention and Control  
• Collect surveillance specimens as directed by Infection Prevention and Control |