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| Department: | Laboratory and Blood Bank (Microbiology) | | |
| Document: | Internal Policy and Procedures | | |
| Title: | MRSA Screening Test | | |
| Applies To: | All Laboratory Staff | | |
| Preparation Date: | January 02, 2025 | Index No: | LB-IPP-089 |
| Approval Date: | January 16, 2025 | Version : | 2 |
| Effective Date: | February 16, 2025 | Replacement No.: | LB-IPP-089 (1) |
| Review Date: | February 16, 2028 | No. of Pages: | 02 |

1. PURPOSE:

- 1.1 To establish system and set responsibilities for rapid isolation & identification of Methicillin Resistant Staph. Aureus (MRSA).

2. DEFINITIONS:

- 2.1 **MRSA Screening** is a process whose purpose is to detect the presence of MRSA bacterial carriage in patients. It is used primarily to diagnose colonized patients and infected patients after they have been treated, to determine whether any resistant bacteria remain. At a community level, MRSA screening may help to identify the source of a MRSA outbreak. Surveillance cultures are used to alert the clinician and infection control department (IPCD) to the presence of MRSA which may require isolation of the patient.

3. POLICY:

- 3.1 A swab obtained from different body sites (nasal, throat, umbilical, perineal and right & left axilla) are obtained and transported in Amie's transport medium.
- 3.2 If a delay in transport or processing is anticipated, the specimen should be kept at 4 °C.
- 3.3 Any positive case is notified to IPCD.

4. PROCEDURE:

4.1 Processing of Specimens:

- 4.1.1 Direct Examination: Not indicated.
- 4.1.2 Culture: on sheep blood agar medium & incubate at O₂, 35±2 °C for 24-48 hours.

4.2 Interpretation of cultures:

- 4.2.1 Examine the screening plates after 24 hours' incubation. If growth is inadequate, re-incubate for another 24 hours.
- 4.2.2 If growth of staph. aureus is suspected (whitish colonies with beta haemolysis), perform coagulase test.
- 4.2.3 If coagulase test is positive, proceed for testing antibiotic susceptibility to oxacillin (Ox) & cefoxitin (Fox). N.B.: Cefoxitin resistance is a key marker for MRSA.
- 4.2.4 Susceptibility to both Ox & Fox, indicates absence of MRSA.
- 4.2.5 Resistance to any of them indicates the presence of MRSA.

4.3 Reporting Results:

- 4.3.1 Negative report: "MRSA not Isolated"
- 4.3.2 Positive report: "MRSA Isolated",

4.4 Limitations of the procedure:

- 4.4.1 False-negative results can be caused by poor sampling, dry swabs or prior antimicrobial treatment.
- 4.4.2 For screening cultures, antibiotic sensitivity results are not reported, as screening positive results are generally used for isolation and monitoring of patients only and not for therapy.

5. MATERIAL AND EQUIPMENT:

- 5.1 Culture Media: Sheep blood agar/ mannitol salt agar (if available)
- 5.2 Coagulase test kit (MASTA Staph.)
- 5.3 Susceptibility testing: Muller Hinton agar and antibiotic discs (Ox and Fox)

6. RESPONSIBILITIES:

- 6.1 Assigned Technician for Microbiology
- 6.2 Clinical Pathology Specialist/ Consultant

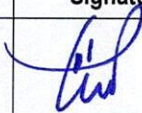
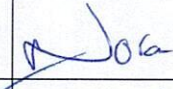
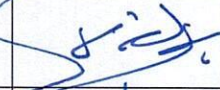


7. APPENDICES:

N/A

8. REFERENCES:

- 8.1 Procedure Manual, Toronto Medical laboratories / Mount Sinai Hospital department of microbiology.
- 8.2 Bailey & Scott's Diagnostic Microbiology. Feingold & Baron; 12th. Ed. 2007, C.V. Mosby Co. p. 301.
- 8.3 Clinical Microbiology Procedures Handbook, American Society of Microbiology, Washington DC, 2005.

9. APPROVALS:

| | Name | Title | Signature | Date |
|--------------|-------------------------------|---------------------------------------|---|------------------|
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