PROGRAM Standard Operating Procedure – Laboratory Services	
Title: MIC31300 – Throat Culture	Policy Number: 15-208-V1
Program Name: Laboratory Services	
Applicable Domain: Lab, DI and Pharmacy Services	
Additional Domain(s): NA	
Effective Date: 09/05/2025	Next Review Date: 09/05/2027
Issuing Authority: Director, Laboratory and Diagnostic Imaging Services	Date Approved: 09/05/2025
Accreditation Canada Applicable Standard: NA	

GUIDING PRINCIPLE:
Throat swabs, as well as pharyngeal and peritonsillar abscess swabs are submitted for the diagnosis of *Streptococcus pyogenes* pharyngitis or Group A Strep.

PURPOSE/RATIONALE:
This standard operating procedure describes the screening for Group A *Streptococcus* (GAS) in throat specimens.

SCOPE/APPLICABILITY:
This standard operating procedure applies to Medical Laboratory Technologists (MLTs) processing specimens for throat culture.

SAMPLE INFORMATION:

Type	Swab • Amie's with or without charcoal
Source	• Throat swab
Stability	If the sample is received in the laboratory and processed greater than 48 hours from collection: • Add specimen quality comment: "Delayed transport may adversely affect pathogen recovery"
Storage Requirements	Room temperature
Criteria for rejection	1. Unlabeled/mislabeled swabs 2. Specimen container label does not match patient identification on requisition 3. Duplicate specimens obtained with same collection method within 24 hours

REAGENTS and/or MEDIA:

- Colorex Strep A agar (GAS)
- Blood agar (BA)
- Identification reagents: Strep latex test

SUPPLIES:

- Disposable inoculation needles
- Wooden sticks
- Glass test tubes
- Sterile pipettes

EQUIPMENT:

- Biosafety cabinet
- 35° CO_2 incubator
- VITEK 2 and supplies

SPECIAL SAFETY PRECAUTIONS:

Containment Level 2 facilities, equipment, and operational practices for work involving infectious or potentially infectious materials or cultures:

- Ensure that appropriate hand hygiene practices be used
- Lab gown must be worn when performing activities with potential pathogens
- Gloves must be worn when direct skin contact with infected materials is unavoidable
- Eye protection must be used when there is a known or potential risk of exposure of splashes
- All procedures that may produce aerosols, or involve high concentrations or large volumes should be conducted in a biological safety cabinet (BSC)
- The use of needles, syringes and other sharp objects should be strictly limited

All patient specimens are assumed to be potentially infectious. Routine Practices must be followed. Since viable micro-organisms are used, all cultures must be handled with appropriate precautions. All equipment in contact with cultures should be decontaminated by appropriate methods.

QUALITY CONTROL:

- Refer to MIC60040-Culture Media Quality Control procedure
- Refer to Test Manual for reagent quality control procedures

PROCEDURE INSTRUCTIONS:

Step	Action
Processing swabs for throat culture	
1	In the biosafety cabinet: • Inoculate Colorex Strep A agar with the swab • Ensure all surfaces of the swab make contact with the agar • Streak for isolated growth using a disposable inoculation needle
2	Label the GBS plate with: R (Date + 2 date).
3	Incubate the media: • Place GAS plate in the CO_2 incubator on the "THROAT" section

INTERPRETATION OF RESULTS:

<table>
<tr><th>Step</th><th colspan="2">Action</th></tr>
<tr><td>1</td><td colspan="2">• Observe GAS plate at 38 to 48 hours
• Examine for orange-red colonies</td></tr>
<tr><td>2</td><td colspan="2">If no orange-red colonies seen at 38 to 48 hours:
• Record observations in the LIS
• Workup complete
• GAS not isolated</td></tr>
<tr><td>3</td><td colspan="2">If orange-red colonies are seen at 38 to 48 hours:
• Record observations in the LIS
• Perform Strep latex test for Group A</td></tr>
<tr><td rowspan="5">4</td><td>IF</td><td>THEN</td></tr>
<tr><td>Strep A latex test NEGATIVE</td><td>• Record observations in LIS
• Workup complete
• GAS not isolated</td></tr>
<tr><td>Strep A latex test POSITIVE</td><td>• Record observations in LIS
• GAS isolated</td></tr>
<tr><td>IF</td><td>THEN</td></tr>
<tr><td>GAS isolated and clinical history does not indicate susceptibility testing is required as per the ASTM</td><td>• Choose key 3 on STRA keypad to add the organism Streptococcus pyogenes</td></tr>
<tr><td></td><td>GAS isolated and clinical history does indicate susceptibility testing is required as per the ASTM</td><td>• Choose key 4 on STRA keypad to add the organism Streptococcus pyogenes
• Subculture colony to BA plate
• Perform ST03 from BA-S</td></tr>
</table>

NOTE: Each Streptococcus grouping latex test should be tested with at least one extra grouping latex suspension as a negative control

REPORTING INSTRUCTIONS:

IF	REPORT
No orange-red colonies	• Report: **"No Streptococcus pyogenes (Group A) isolated"**
Orange-red colonies, Strep A latex test NEGATIVE	• Report: **"No Streptococcus pyogenes (Group A) isolated"**
Orange-red colonies, Strep A latex test POSITIVE Susceptibility testing not required as per the ASTM	• List quantitation as **"Isolated"** • The following isolate comments will be added: **&2109** and **&A373**
Orange-red colonies, Strep A latex test POSITIVE Susceptibility testing is required as per the ASTM	• Verify Panel results and report as per ASTM • Verify the organism ID Streptococcus pyogenes (Group A) • List quantitation as **"Isolated"**

LIMITATIONS:

1. A negative throat culture does not eliminate the possibility of a throat infection. Inadequate specimen collection, improper specimen handling, low organism levels in the specimen or overgrowth with normal oral microorganisms may yield a false negative result.
2. The final identification must be confirmed by biochemical tests or mass spectrophotometry. They can be done directly from the suspicious colonies observed on the medium.

CROSS-REFERENCES:

NA

REFERENCES:

1. Leber, A. (2016). *Clinical microbiology procedures handbook.* (4thed.) Washington, D.C.: ASM Press
2. Jorgensen J.H., Pfaller M.A., Carroll K.C., Funke G., Landry M.L., Richter S.S., Warnock D.W. (2015). *Manual of Clinical Microbiology, 11th edition*. Washington, D.C: ASM Press
3. CHROMagar. (09-Jun-22). *Colorex Strep A* package insert.

APPROVAL:

May 09, 2025
Date
Wanda Tobin
Acting Director, Laboratory and Diagnostics Imaging Services

REVISION HISTORY:

REVISION	DATE	Description of Change	REQUESTED BY
1.0	22 Nov 17	Initial Release	L. Steven
2.0	30 Nov 19	Procedure reviewed	L. Steven
3.0	31 Dec 21	Procedure reviewed and added to NTHSSA policy template	L. Steven
4.0	05 Jun 23	Procedure reviewed and updated to add new VITEK AST-ST03 card	L. Steven
5.0	25 Mar 25	Procedure reviewed	L. Steven
6.0	20 Apr 26	Updated to include new chromogenic agar Colorex Strep A	L. Steven