PROGRAM Standard Operating Procedure – Laboratory Services	
Title: MIC50100 – Staphylococcus Latex Test	Policy Number:
Program Name: Laboratory Services	
Applicable Domain: Lab, DI and Pharmacy Services	
Additional Domain(s):	
Effective Date:	Next Review Date:
Issuing Authority: Director of Health Services	Date Approved:
Accreditation Canada Applicable Standard: N/A	

GUIDING PRINCIPLE:
The Staphylococcus latex test is used to detect clumping factor and/or protein A produced by most strains of *Staphylococcus aureus*.

PURPOSE/RATIONALE:
This standard operating procedure describes how to perform the Staphylococcus latex test.

SCOPE/APPLICABILITY:
This procedure applies to Medical Laboratory Technologists (MLTs) performing the Staphylococcus latex test.

SAMPLE INFORMATION:

Type	Two, well-isolated colonies that are: • Gram-positive cocci • Catalase positive • 18 to 24 hours old

REAGENTS and/or MEDIA:

Type	PROLEX STAPH LATEX KIT
Stability and Storage Requirements	• Store at 2°C to 8°C • Do not freeze

SUPPLIES:
- Disposable test cards
- Wooden sticks

SPECIAL SAFETY PRECAUTIONS:

Containment Level 2 facilities, equipment, and operational practices for work involving infectious or potential 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:

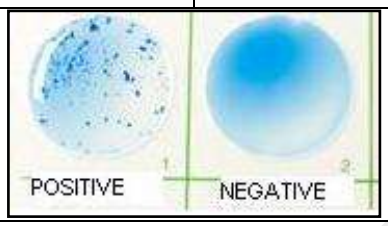
- Quality control is performed daily:
  - Positive: *Staphylococcus aureus* ATCC 25923
  - Negative: *Staphylococcus epidermidis* ATCC 12228
- A TQC order is automatically generated daily to record the QC results

PROCEDURE INSTRUCTIONS:

Step	Action
Performing the Staphylococcus latex test	
1	Remove the test kit from the refrigerator 10 minutes prior to use and allow the latex reagent to reach room temperature.
2	Re-suspend the latex reagent by inverting the dropper bottle several times.
3	Dispense 1 drop of Staph latex reagent into a circle on the test card.
4	Using a wooden applicator stick, transfer two colonies of the test isolate into the circle. Mix this into the test latex reagent and spread to cover the complete area of the circle.
5	Gently rock the card allowing the mixture to flow slowly over the entire test ring area.
6	Observe for agglutination for up to 20 seconds.

INTERPRETATION OF RESULTS:

IF	THEN
Strong agglutination within 20 seconds	**Slide coagulase = Positive**
No visible agglutination within 20 seconds	**Slide coagulase = Negative**



LIMITATIONS:

1. False negative or false positive results can occur if inadequate amounts of culture or reagent are used.
2. Some rare isolates of *Staphylococci*, notably *S.hyicus* and *S.intermedius*, may agglutinate the latex reagent.
3. Some *Streptococci* and possibly other organisms that possess immunoglobulin binding factors and some species such as *Escherichia coli*, may also agglutinate latex reagents non-specifically.
4. A false negative test, especially for MRSA with capsular antigens, can result.
5. If the test is positive and the colony is non-haemolytic and from a normally sterile site, confirm with a tube coagulase test. In a sterile site specimen, it may be *Staphylococcus lugdunensis* or another coagulase-negative *Staphylococcus*.
6. If the test is negative and the colony is hemolytic and resembles *Staphylococcus aureus*, confirm with a tube coagulase test.
7. Do not perform testing from growth on mannitol salt agar.
8. The reagents contain a very small amount of sodium azide. Sodium Azide can react explosively with copper or lead plumbing if allowed to accumulate. Although the amount of sodium azide in the reagents is minimal, large quantities of water should be used if the reagents are flushed down the sink.

REFERENCES:

1. PRO-LAB. (2012-09). *PROLEX STAPH LATEX KIT* package insert

APPROVAL:

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Date

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REVISION HISTORY:

REVISION	DATE	Description of Change	REQUESTED BY
1.0	04 Apr 19	Initial Release	L. Steven
2.0	30 Jun 21	Procedure reviewed and added to NTHSSA policy template	L. Steven