PROGRAM Standard Operating Procedure – Laboratory Services	
Title: MIC60060 – Microbiology Staining Quality Control	Policy Number:
Program Name: Laboratory Services	
Applicable Domain: Lab, DI and Pharmacy Services	
Additional Domain(s): NA	
Effective Date:	Next Review Date:
Issuing Authority: Director, Laboratory and Diagnostic Imaging Services	Date Approved:
Accreditation Canada Applicable Standard: NA	

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GUIDING PRINCIPLE:
Quality control on staining methods needs to be performed at least daily to ensure correct stain reagents are being used and that proper staining technique is being followed by the technologist performing the staining.

PURPOSE/RATIONALE:
This standard operating procedure describes how to perform the quality control on microbiology stains; Gram stain, Acridine Orange stain and Kinyoun stain.

SCOPE/APPLICABILITY:
This procedure applies to Medical Laboratory Technologists (MLTs) performing microbiology staining.

REAGENTS and/or MEDIA:
- Methanol
- Gram Crystal Violet
- Gram Iodine (Stabilized)
- Gram Decolorizer
- Gram Safranin
- Acridine orange stain
- Kinyoun Carbol-Fuchsin
- Carbol Fuchsin Decolorizer
- Carbol Fuchsin Counterstain (Methylene Blue)

SUPPLIES:
- QC slide
- AFB QC slide
- Immersion oil
- Glass microscope slide

EQUIPMENT:

- Hot plate
- Microscope
- Fluorescent microscope

SPECIAL SAFETY PRECAUTIONS:

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

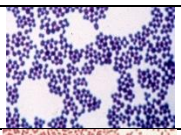
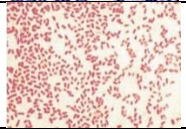
- Ensure that appropriate hand hygiene practices be used
- Lab gown must be worn when performing activities with potential pathogens
- Gloves must be worn when direct skin contact with infected materials is unavoidable
- Eye protection must be used when there is a known or potential risk of exposure 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.

PROCEDURE INSTRUCTIONS:

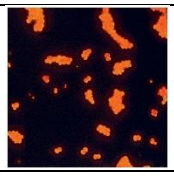
Step	Action
Performing Gram Stain quality control	
1	Gram Stain quality control is performed daily with the first run of patient slides. During the morning start-up, a QC slide will be placed on the staining rack for this purpose.
2	A QC order is auto generated in TQC daily.
3	Stain the QC slide with the patient slide(s). Refer to MIC20115-Gram Stain.
4	Read the QC slide before the patient's slide(s) to ensure quality of the staining.
5	Enter the results into TQC. Refer to MIC61030-Entering Microbiology Quality Control Results into TQC.

INTERPRETATION OF RESULTS:

Positive	Gram-positive cocci	
Negative	Gram-negative bacilli	

Step	Action
Performing Acridine Orange Stain quality control	
1	Acridine Orange quality control is performed as tested with patient slide.
2	A QC order is auto generated in TQC when the stain is ordered for a specimen.
3	Stain a QC slide with the patient slide. Refer to MIC20100-Acridine Orange Stain.
4	Read the QC slide before the patient's slide to ensure quality of the staining.
5	Enter the results into TQC. Refer to MIC61030-Entering Microbiology Quality Control Results into TQC.

INTERPRETATION OF RESULTS:

Positive	Fluorescent cocci	
Negative	No fluorescent bacteria	

Step	Action
Performing Kinyoun Stain quality control	
1	Kinyoun Stain quality control is performed as tested with patient slide.
2	A QC order is auto generated in TQC when the stain is ordered for a specimen.
3	Stain an AFB QC slide with the patient slide. Refer to MIC20130-Kinyoun Stain.
4	Read the QC slide before the patient's slide to ensure quality of the staining.
5	Enter the results into TQC. Refer to MIC61030-Entering Microbiology Quality Control Results into TQC.

INTERPRETATION OF RESULTS:

Positive	Acid fast bacilli seen	
Negative	No acid fast bacilli seen	

CROSS-REFERENCES:

- MIC20100-Acridine Orange Stain
- MIC20115-Gram Stain
- MIC20130-Kinyoun Stain
- MIC61030-Entering Microbiology Quality Control Results into TQC

REFERENCES:

1. Clinical Microbiology Procedures Handbook, 4th edition, ASM Press, 2016
2. BD. *Gram Stain Kits and Reagents* package insert, 2024
3. BD. *Acridine Orange Stain* package insert, 2023
4. Dalynn Biologicals. *Kinyoun Carbol Fuchsin Stain* package insert, 2014

APPROVAL:

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Date

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Director, Laboratory and Diagnostic Imagining Services

REVISION HISTORY:

REVISION	DATE	Description of Change	REQUESTED BY
1.0	15 Sep 17	Initial Release	L. Steven
2.0	06 Oct 19	Procedure reviewed	L. Steven
3.0	05 Jul 21	Procedure reviewed and added to NTHSSA policy template	L. Steven
4.0	03 Jul 23	Procedure reviewed	L. Steven
5.0	28 Apr 25	Procedure reviewed	L. Steven