



HEALTH HOLDING

HAFER ALBATIN HEALTH  
CLUSTER  
MATERNITY AND  
CHILDREN HOSPITAL

<b>Department:</b>	Laboratory and Blood Bank (Microbiology)		
<b>Document:</b>	Internal Policy and Procedures		
<b>Title:</b>	Urine Culture		
<b>Applies To:</b>	All Laboratory Staff		
<b>Preparation Date:</b>	January 06, 2025	<b>Index No:</b>	LB-IPP-135
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## 1. PURPOSE:

1.1 To establish system and set responsibilities for processing Urine Culture.

## 2. DEFINITONS:

2.1 N/A

## 3. POLICY:

3.1 Urine specimen should be collected into a clean, sterile container and transported to the Microbiology Laboratory as soon as possible.

3.2 Processing of specimens within 2 hours of collection.

## 4. PROCEDURE:

### 4.1 Direct Examination:

4.1.1 Gram stain: Not routinely performed. If specifically requested, perform Gram stain directly on unspun specimen.

### 4.2 Culture:

4.2.1 Media to be inoculated:

Media:	Incubation:
Blood Agar (BA)	O <sub>2</sub> , 35+2 °C x 18 - 24 hours
Cystine lactose electrolyte deficient (CLED)	O <sub>2</sub> , 35+2 °C x 18 - 24 hours
<u>For Suprapubic Urine Aspirate add:</u> Blood Agar (BA)	anaerobic 37°C x 48 hours
<u>Urine for yeast, candida adds:</u> Sabouraud (SD)	O <sub>2</sub> , 30 °C x 48 hours

4.2.1.1 The urine specimen is mixed well and a sterile calibrated **1ul** loop is dipped vertically into the sample.

4.2.1.2 The loop is streaked down the centre of the plate and then cross-streaked at a 90° angle to the inoculum **OR** streak urine in the form of primary, secondary & tertiary lines

4.2.1.3 Incubate the plates in O<sub>2</sub> at 35+2 °C for 18-24 hours

4.2.1.4 Check the system for urine analysis result (Urine nitrites/ leukocytes, urine bacteria & pus cells). This helps better correlation of results.

### 4.2.2 Interpretation of cultures:

#### 4.2.2.1 Cultures with no growth:

4.2.2.1.1 Discard negative routine cultures after 48 hrs incubation and report as "No growth".

4.2.2.1.2 If there are pus cell without growth in culture this means a case of **sterile pyuria** that may be due to:

- 4.2.2.1.2.1 Patient on antibiotic therapy.
- 4.2.2.1.2.2 Anaerobic infection.
- 4.2.2.1.2.3 Infection by organism that don't grow on routine culture media such as, Chlamydia, mycoplasma, M. tuberculosis.
- 4.2.2.1.2.4 Other causes (like parasitic infections or malignancy).
- 4.2.2.2 Cultures with growth:
  - 4.2.2.2.1 Count the colonies and multiply by the appropriate dilution factor (for 1ul loop; 1 colony =  $1 \times 10^3$  CFU/mL).
- 4.2.3 Interpretation of the result:
  - 4.2.3.1 Case with a pure or almost pure isolate:
    - 4.2.3.1.1  $> 10^5$ CFU/ml ----- ID & sensitivity.
    - 4.2.3.1.2  $< 10^5$  CFU/ml ----- Insignificant growth.
    - 4.2.3.1.3  $< 10^5$  CFU/ml with pyuria or recurrent UTI or other risk factors (e.g., diabetes mellitus, sickle cell anaemia, and kidney stones, structural or functional abnormalities of the urinary tract & indwelling urinary catheters) report the colony count, ID & sensitivity.
  - 4.2.4 Cases with 2 isolates:
    - 4.2.4.1 Both  $> 10^5$  CFU/ml ----- ID& sensitivity.
    - 4.2.4.2 One  $> 10^5$  CFU/ml ----- ID & sensitivity & One  $< 10^5$  CFU/ml ----- Ignore.
    - 4.2.4.3 Both  $< 10^5$  CFU/ml ----- Contaminated sample. if accompanied with pyuria, recommend for another sample under sterile precautions.
  - 4.2.5 Cases with 3 isolates or more:
    - 4.2.5.1 Reported as **contaminated** sample, if accompanied with pyuria, recommend for another sample under sterile precautions.

## 5. MATERIAL AND EQUIPMENT:

- 5.1 Routine culture media
- 5.2 Gram stain reagents
- 5.3 O<sub>2</sub> & CO<sub>2</sub> incubators
- 5.4 Microscan panels/ Vitek 2 system ID & AST cards

## 6. RESPONSIBILITIES:

- 6.1 The assigned technician/ technologist for microbiology lab.
- 6.2 The C. Pathology Specialist/ Consultant.





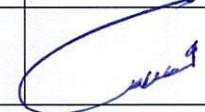
## 7. APPENDICES:

- 7.1 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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