HEALTH HOLDING

HAFER ALBATIN HEALTH CLUSTER
MATERNITY AND CHILDREN HOSPITAL

Department:	Laboratory and Blood Bank (Microbiology)		
Document:	Internal Policy and Procedures		
Title:	Urine Culture		
Applies To:	All Laboratory Staff		
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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)	O2, 35+2 °C x 18 - 24 hours
Cystine lactose electrolyte deficient (CLED)	O2, 35+2 °C x 18 - 24 hours
For Suprapubic Urine Aspirate add: Blood Agar (BA)	anaerobic 37°C x 48 hours
Urine for yeast, candida adds: Sabouraud (SD)	O2, 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 O2 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 x 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*5CFU/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 O2 & CO2 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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