

# CHILDLAB

## Guide to Laboratory Services

### URINE CULTURE

#### **I. GENERAL CONSIDERATIONS:**

Urinary tract infection (UTI) may involve various sites including the bladder, kidney, and communicating structures. Urine is normally a sterile body fluid. However, unless it is collected properly, it will become contaminated with colonizing flora from the urethra, vagina, or perineum. Suprapubic aspirate or straight catheter collections are always preferred methods of collection in infants because they are less likely to become contaminated with colonizing flora. Bagged urine collections give useful information only if cultures are negative; positive cultures should be interpreted cautiously since growth may be due to skin contamination.

To insure the most accurate results from urine cultures, proper techniques should be employed during collection. The first voided morning specimen should be collected whenever possible; such urine has "incubated" in the bladder and the number of organisms/mL has generally increased so as to allow detection of UTI.

#### **II. SPECIMEN COLLECTION:**

##### **A. Clean- Catch Midstream Urine**

The method of collection of clean-voided midstream urine will vary depending upon age, sex, and the ability of the patient to cooperate. A private cubicle with sink and toilet and the following items should be supplied:

- (1) A midstream "clean catch" collection kit which includes 3 cleansing towelettes and a wide-mouthed, sterile, screw-capped container for the urine specimen.
- (2) Warm sterile water.
- (3) A wide-mouthed, sterile, screw-capped receptacle for the urine specimen.

**The following guidelines are for the ambulatory/older child, adolescent/adult.**

Parental or nursing assistance should be given whenever practical.

##### **a.) Instructions for females:**

- (1) Remove undergarments.
- (2) Wash hands with soap and water, rinse and dry.
- (3) Sit comfortably on the seat and swing one knee to the side as far as possible.
- (4) With one hand "spread yourself" and continue to hold yourself spread during cleansing and collection of the urine sample.
- (5) **WASH.** It is only necessary to wash the area from which you pass urine. Using the first cleansing towelette begin to wash gently, wiping one side of the labia minora from front to the back. Using the second cleansing towelette, repeat the procedure on the opposite side from front to

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back. Using the third cleansing towelette, cleanse the meatus (center area) by wiping front to back. Discard all towelettes after use.

(6) **VOID.** Void a small amount of urine into the toilet, and then collect a portion of the remaining urine in the specimen container. The cup should be held in such a way that contact with the legs, external genitalia, or clothing is avoided. Keep fingers away from the rim and inner surface of the container. When voiding is completed, close sterile, screw-capped container.

### **b.) Instructions for Males:**

(1) Wash hands with soap and water, rinse and dry.

(2) **WASH.** Expose penis, retract the foreskin (if not circumcised), and wash with one cleansing towelette. Repeat the procedure with the two remaining cleansing towelettes.

(3) **VOID.** Pass the first portion of urine into the toilet and then pass a portion of the remaining urine into the specimen container. Close the sterile, screw-capped container.

Under no circumstances should urine be taken from a urinal or bed pan. It should be collected directly into the sterile container and refrigerated as rapidly as possible until submitted to the Lab.

Younger toilet-trained children should have the procedure performed by a trained nurse. Infants require similar preparation but urine may be collected with a pediatric urine collector bag. The bag should be checked every 15 minutes to determine whether sufficient urine is present for culture (1 mL is sufficient for culture).

### **B. Indwelling Catheter –ALWAYS WASH HANDS AND WEAR GLOVES WHEN PERFORMING THIS PROCEDURE.**

- (1) When an indwelling catheter is in place, the catheter collection port should be cleaned with alcohol followed by povidone-iodine and punctured directly with a needle and syringe. The urine should be aspirated and placed in a sterile container. **Do not collect urine from the drainage bag.**
- (2) The urine should be placed in a screw-capped sterile tube and transported to the Laboratory immediately or refrigerated.

### **C. Straight Catheter ALWAYS WASH HANDS AND WEAR GLOVES WHEN PERFORMING THIS PROCEDURE.**

- (1) After the patient has taken adequate fluid to promote diuresis and filling of the bladder, a physician or other trained person should clean the patient's urethral opening and, in females, the vaginal vestibule, using cleansing towelettes. This is followed by careful rinsing with sterile water.

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- (2) Using sterile technique, the practitioner passes a short catheter approximately 2 to 3 in. (5 to 7 cm) into the bladder.
- (3) The initial urine flow is discarded, and a sample of the mid or later flow of urine is collected in a sterile screw capped container and transported to the Microbiology laboratory or refrigerated as soon as possible.