

***CENTEGRA CLINICAL LABORATORIES
McHenry/Woodstock, Illinois***

URINE SAMPLES

Urine is normally a sterile body fluid. However, unless it is collected properly, it may become contaminated with flora from the urethra, vagina, prostate, or perineum. To insure the most accurate results from urine cultures, proper instructions and techniques must be employed during collection. For infants, a voided specimen provides misleading information; a catheterized specimen should be collected.

SPECIMEN CRITERIA:

1. The first voided morning specimen should be collected whenever possible.
2. Specimen should be obtained before administration of antibiotics.
3. Under no circumstances should urine be taken from a urinal or bedpan.
4. Do not force fluids in order to have the patient void urine. Excessive fluid intake will dilute the urine and may decrease the colony count to $<10^5$ CFU/ml.

SUPPLIES:

1. Sterile container or Midstream Urine Collection Kit
2. Cleaning towelettes
3. Transport tube with preservatives, if possibility of delay in transportation to the laboratory

PROCEDURES:

CLEAN-CATCH MIDSTREAM URINE

The method of collection of a clean-voided midstream urine will vary greatly depending on age, sex, and the ability of the patient to cooperate. The technique for collecting a clean-voided urine specimen is relatively simple and can be readily taught to most patients. A few words to decrease anxiety will go a long way in enlisting the patient's cooperation.

Well-trained individuals are required to cleanse the patient and collect the specimen from a bed-ridden patient. Follow the instructions described below.

The cleansing procedures must remove contaminating organisms from possible contaminating sources so that bacteria found in the urine can be assumed to have come from the bladder and urethra only.

In addition to a private cubicle with a toilet or a commode, there must be a trained assistant who explains the procedure to the patient, makes certain that the patient is given the proper supplies, and ensures the prompt transport to the laboratory of the collected specimen.

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Female

1. The person obtaining the urine specimen should wash hands with soap and water, rinse, and dry. If the patient is collecting the specimen, she should be given detailed instructions.
2. Spread the labia with one hand, continue holding them apart while cleaning and collecting the urine specimen using the other hand.
3. Cleanse the urethral opening and vaginal vestibule area with soapy water and rinse well, or wipe the inner labial folds front to back in a single motion with the first towelette, and then wipe down through the center of the labial folds with second towelette. Wash and rinse well before collecting the urine specimen.
4. Void a small amount of urine into the toilet, then without stopping the stream place cup under stream and continue to urinate into cup and collect specimen. The cup should be held in such a way that contact with the legs, vulva, or clothing is avoided. The fingers should be kept away from the rim and inner surface of the container.
5. Finish voiding into toilet or bedpan.
6. NOTE: Collection of midstream urine specimens should be avoided during menses.

Male

1. The person obtaining the urine specimen should wash hands with soap and water, rinse, and dry. If the patient is collecting the specimen, he should be given detailed instructions.
2. Wipe head of penis in a single motion with first towelette. Repeat with second towelette. If not circumcised, hold foreskin back before cleansing.
3. Void a small amount of urine into the toilet, then place cup under stream and continue to urinate into cup and collect specimen.
4. Finish voiding into toilet or bedpan.

INDWELLING FOLEY CATHETER URINE

In patients with chronic indwelling urethral catheters attached to a closed drainage system, urine is collected for culture by:

1. Disinfect the specimen port of the catheter with alcohol.
2. Insert 21-gauge needle attached to a syringe into the specimen port and aspirate 5-10 cc of urine. The connection between the catheter and the drainage tube should not be broken for specimen collection, nor should material for culture be taken from the drainage bag.
3. The urine can then be transferred to a sterile container with a tight fitting lid or to a transport tube with preservatives.

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SUPRAPUBIC ASPIRATION URINE

On occasion, suprapubic aspiration of the urinary bladder may be required to obtain a valid specimen for culture. It is indicated for patients with clinical evidence of urinary tract infection but, in whom, bacterial counts in clean-voided specimens are low and therefore indeterminate, in neonates and young infants, in patients whom catheterization may be contraindicated, and in those with suspected anaerobic bacteriuria.

1. The patient should have a full bladder at the time the procedure is performed.
2. After the skin is properly disinfected, a 19- or 20-gauge needle attached to a syringe is passed through in the midline at the point approximately one-third the distance from the symphysis pubis to the umbilicus.
3. Urine is aspirated into the syringe. The urine may be transferred to a sterile container or a transport tube with preservatives.

MISCELLANEOUS URINE COLLECTIONS

During the course of cystoscopy, ureteral catheterization, or retrograde pyelography, urine may be collected for culture. In the case of an obstructed ureter, bladder urine may be sterile whereas the urine proximal to the obstruction may be infected. The urologist may collect several specimens and request that each be handled separately.

These specimens should all be collected aseptically, placed in sterile containers, and transported promptly to the laboratory.

URINE FOR FUNGUS CULTURE

A catheterized or a clean-catch specimen is required for mycological studies. All urine specimens should be collected in a sterile container and transported promptly to the laboratory.

URINE FOR AFB (ACID-FAST BACILLI) STUDIES

A catheterized or a clean-catch specimen is required for AFB studies. A volume of 50 ml or more is optimal (10 ml is required). All urine specimens should be collected in a sterile container and transported promptly to the laboratory. The transport tube with preservatives CANNOT be used for AFB studies.

URINE FOR OVA AND PARASITE EXAM

For diagnosis of *Schistosoma haematobium* infections:

Urine specimens should be collected around noon. Examinations for a minimum of 3 to 4 days are recommended before a patient is presumed to be free of infection on the basis of urine examination.

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TRANSPORT:

Transport urine specimens to the laboratory as soon as possible after collection. Specimens should be cultured within 2 hours after collection, or if necessary, refrigerate and culture within 24 hours.

A repeat urine specimen will be requested when there is no evidence of refrigeration and the specimen is >2 hours old, or when the collection time and method of collection have not been provided, and cannot be determined.

Refrigeration is not necessary if urine specimens are collected in transport tubes with preservatives. Place at least 3 ml of urine into a transport tube containing a preservative to avoid inhibiting or diluting effect on the microorganisms.

REJECTION CRITERIA:

1. Request a repeat urine specimen when there is no evidence of refrigeration and the specimen is >2 hours old.
2. Reject 24 hour urine collections for culture.

For infants, a voided specimen provides misleading information; a catheterized specimen should be collected.