

TECHNICAL PROCEDURE NO.: SC057

SUBJECT: Specimen Collection for Cultures

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All specimen material should be considered potentially hazardous and thereby handled according to practices of Universal Precautions.

SPECIMEN:

Urine Specimens

Midstream Urine

1. Instruct patient to wash hands well with soap and water.
2. **Tell the patient not to touch the inside of the cup, cap, or straw on the inside of the cap. Take the cap off of the cup and place it on the counter with the straw facing upward.**
3. Have the patients cleanse themselves with the enclosed towelette and collect urine specimen.
4. **Female**
 - a) Sit comfortably on the toilet seat with your knees as far apart as possible.
 - b) Spread labia with one hand and wipe inner fold from front to _____ back.
Discard towelette and repeat with second and third.
 - c) Keeping labia separated, begin to pass the urine into the toilet.
 - d) Without stopping flow, collect urine into cup.
 - e) Finish voiding into toilet and discard.
 - f) Replace cap tightly on cup, making sure not to touch inside of rim of cup.

Male

- g) Wipe head of penis in a single motion with first towelette.
 - h) Repeat with second towelette. If not circumcised, hold foreskin back before cleansing.
 - i) Urinate a small amount into toilet.
 - j) Without stopping flow, collect urine into cup.
 - k) Finish voiding into toilet and discard.
 - l) Replace cap tightly on cup, making sure not to touch inside of rim of cup.
5. Label cup with:
- a) Patient's name
 - b) Identification number
 - c) Date and time of collection
 - d) Indicate specimen is "clean catch" urine
6. **To place urine into appropriate transport tubes.**
- a) **Peel back the label on top of urine collection cup to expose the integral sampling device.**
 - b) Place the small gray vacuum tube in the holder portion with the stopper down and push the tube down to pierce the stopper. Hold in position until the urine stops flowing into the tube. Remove the tube from the device and shake vigorously to mix contents.
 - c) Repeat with large vacuum tube for routine urinalysis.
7. Label tube(s) with:
- a) Patient's name
 - b) Identification number
 - c) Date and time of collection
 - d) Indicate specimen is "clean catch" urine
8. Discard lid into sharps container. Flush remaining contents of cup into toilet and discard cup into container for contaminated articles.
9. Place urine tube(s) into a biohazard transport bag and transport to laboratory.

Urine from Foley Catheter

1. Wash hands and put on gloves.
2. Never collect specimen from the collection bag!
3. Pinch tubing below aspiration port; allow urine to collect in the aspiration port area.
4. Clean aspiration port with alcohol pad.
5. Insert needle into port and withdraw 5ml for culture and 10ml for urinalysis.
6. Transfer the urine sample to the small gray (boric acid) vacuum tube for the culture and to the large vacuum tube for the urinalysis.
7. Label both tubes with
 - a) Patient's name
 - b) Identification number
 - c) Date and time of collection
 - d) Indicate specimen is "Foley catheter" urine

Stool Specimens

Stool

1. Collect the stool specimen in a clean bedpan or other clean, dry large mouthed container. (Outpatients may use a margarine container or large plastic bag.) Do not pass the stool specimen into the toilet.
 - a) Do not allow urine to be passed into the collection container.
 - b) Do not allow water to enter the specimen.
2. Transfer the specimen, especially areas that are bloody, watery, or mucous-like, into the specific transport device(s) for the tests ordered.
 - a) The stool transport devices contain a spoon in the lid to pick up the stool specimen and place into the container. Pick up small pieces of the stool at a time.
 - b) Place spoonfuls into the transport device, mixing the stool with the preservative as you go.
 - c) Fill the container to the red line.
 - d) Do not overfill the container because inadequate preservation of the specimen will result.
 - e) Tightly recap the container.
 - f) Thoroughly shake the vials containing liquid preservative to complete the mixing process.
3. Label the containers with:
 - a) Patient Name
 - b) Patient ID number,
 - c) Date and time of collection
4. Transport the devices to the laboratory as soon as possible. The orange and the white-capped vials must arrive in the lab within 24 hours of collection. The grey and pink-capped vials are stable for several days at room temperature.

Appropriate Containers for Stool Tests

Tests	Container & Description	Storage
Ova & Parasite (OP) (both vials required)	Para Pak ZN-PVA & Grey cap Para Pak 10% Buffered Pink cap Neutral Formalin	Room Temperature
Giardia & Cryptosporidium Antigens (GIACRYAG)	Para Pak 10% Buffered Pink cap Neutral Formalin	Room Temperature
Stool Culture (STC)	Para Pak C&S Orange cap	Room Temperature
E. coli 0157, Shiga Toxin (STEC)	Para Pak C&S Orange cap	Room Temperature
Clostridium difficile toxin (CDT)	Para Pak Clean Vial White cap (or sterile container)	Refrigerator
Fecal WBC (WBCSM)	Para Pak Clean Vial -or- White cap Para Pak ZN-PVA Grey cap (or sterile container)	Refrigerator
Rotovirus (ROTOVIR)	Para Pak Clean Vial White cap (or sterile container)	Refrigerator

Respiratory Specimens

Sputum

1. Remove dentures or other obstructions from mouth.
2. Have the patient rinse mouth or gargle with water prior to specimen collection.
3. Instruct the patient to cough deeply.
4. Remove the cap of the sterile cup being careful not to touch the inside of the container or lid.
5. Ask the patient to expectorate the material produced into the container.
6. Recap tightly, label, and transport to the laboratory.

Throat

1. Peel open the package containing the swabs and transport, being careful not to contaminate the swabs. Snap off and discard the cap on the tube transport.
2. Have patient tilt head back, breathe deeply, open mouth wide and say "Ah." This serves to lift the uvula and aids in reducing the gag reflex.
3. Use tongue depressor to gently depress the tongue and look for areas of inflammation (redness) and exudates (pus).
4. Pull the red capped - 2 swabs (or blue capped with gel - 2 swabs) out of the package.
5. Guide the swabs over the tongue into the posterior pharynx (back of throat).
Every effort should be made to avoid touching the swabs to the tongue, teeth, and roof of the mouth or the inside of the cheeks.
6. Carefully but **firmly rub** the swabs over:
Several areas of pus or inflammation
Over the tonsils (or tonsillar crypts if tonsils have been removed)
Posterior pharynx
7. Remove swabs carefully from the mouth, again avoid touching the swabs to the tongue, teeth, roof of the mouth or the inside of the cheeks.
8. Insert swabs completely into the tube transport.
9. Label tube transport with patient's first and last name, date and time of collection, specimen type (throat) and your initials.

Nasal Wash

1. Draw approximately 2 ml of the sterile phosphate buffered saline into bulb syringe. (Use smaller volume for neonate)
2. Insert the bulb syringe into the nostril and expel the saline.
3. Immediately expand the bulb to collect the wash.
RSV Antigen detection only:
Expel collected nasal wash specimen into the sterile vial.
Viral culture only
Expel collected nasal wash specimen into the vial transport medium vial.

Nasopharyngeal Swab

1. Remove excess secretions or exudates from the anterior nares.
2. Use flexible fine-shafted swab to collect specimen.
3. The wire swab can be bent to pass through the nasal passage and down to the nasopharynx. Work carefully but quickly to minimize discomfort, avoid touching swab to proximal portion of nasal passage or throat.
4. Rotate swab gently a few times.
5. Remove the swab being careful not to touch the interior surface of the nares or throat.
6. Place wire swab into transport tube.

Nasal Aspirate Procedure

1. Use mucous collection device to collect specimen.
2. Insert appropriate-size catheter nasally into posterior nasopharynx.
3. Apply suction, using intermittent suction as catheter is withdrawn.
4. Wash aspirate through tubing with 5-8 mL of sterile phosphate buffered saline.
5. Transfer material from tray to sterile container.

Wounds and Aspirates

Tissue or aspirated fluids are superior to swab specimens. Swabs are inferior specimens and are discouraged.

Tissue or biopsy material - Submit as much tissue as possible.

1. Clean the surface of the site to be sampled with soap and water, rubbing alcohol, or surgical scrub solution.
2. Collect the tissue according to surgical protocols.
3. Place the sample obtained into sterile container with enough sterile saline to keep it moist, or into a Port-A-Cul™ anaerobic jar.

Closed wound or abscess

1. Clean the surface of the site to be sampled with soap and water, rubbing alcohol, or surgical scrub solution.
2. Aspirate abscess wall material with needle and syringe.
3. Aseptically transfer all material into Port-A-Cul™ anaerobic vial or to sterile plain red top blood drawing tube. Do not send syringe.

Open wound

1. Clean the surface of the site to be sampled with soap and water, rubbing alcohol, or surgical scrub solution.
2. Aspirate material with needle and syringe, if possible, or pass swab deep into the base of the lesion.

Surface lesion

1. Clean the surface of the site to be sampled with soap and water, rubbing alcohol, or surgical scrub solution.
2. Open lesion and sample the advancing edge by aspiration or using swabs, firmly rub over the leading edge expressing any purulent exudate onto swabs. Surface lesion samples are unsuitable for anaerobic culture.

Drainage

1. Send drainage material in a sterile tube or specimen cup.
2. Be sure to secure the lid tightly.

Genital and Urine Specimens for Chlamydia and Neisseria gonorrhoeae Probes

Endocervical Specimens (Use Becton Dickinson (BD) ProbeTec™ ET female endocervical collection kit – pink package)

1. Remove excess mucous from the cervical os and surrounding mucosa using the cleaning swab (white, large, rayon tipped) provided in the specimen collection kit.
2. **DISCARD THE SWAB.**
3. Insert the second swab from the collection kit (small, polyurethane) into the endocervical canal.
4. Rotate the swab for 15 to 30 seconds in the endocervical canal to ensure adequate sampling.
5. Withdraw the swab carefully; avoid any contact with the vaginal mucosa.
6. Remove the cap from the swab specimen transport tube. Immediately place the specimen collection swab into the transport tube.
7. Carefully break the swab shaft at the score line; use care to avoid splashing of the contents. Do not cut the swab shaft.
8. Re-cap the swab specimen transport tube tightly.
9. Label with patient's name.

Male Urethral Specimens (Use Becton Dickinson (BD) ProbeTec™ Male Urethral collection kit – blue package))

1. Patient should not have urinated for at least 1 hour prior to sample collection.
2. Insert the swab (wire shaft) from the urethral collection kit 2 to 4 cm into the urethra.
3. Gently rotate the swab clockwise, while using sufficient pressure to ensure the swab comes into contact with all urethral surfaces. Allow the swab to remain inserted for 3 to 5 seconds.
4. Withdraw the swab carefully.
5. Remove the cap from the swab specimen transport tube. Immediately place the specimen collection swab into the transport tube.
6. Carefully break the swab shaft at the score line; use care to avoid splashing of the contents. Do not cut the swab shaft.
10. Re-cap the swab specimen transport tube tightly.
11. Label with patient's name.

Urine Specimens (Use Becton Dickinson (BD) Urine Preservative transport Tube)

1. Collect the specimen in a sterile, preservative-free specimen cup.
 - a. The patient should collect the first 15-60 mL of voided urine (the first part of the stream – NOT MIDSTREAM) into a urine collection cup.
 - b. Urine should be transferred from the collection cup to UPT (Urine Preservative Transport) within 8 hours of collection provided the urine has been stored at 2-30°C. Urine can be held for up to 24 hours prior to transfer to the UPT provided that the urine has been stored at 2-8°C.
2. Wear clean gloves when handling the UPT and urine specimen. If gloves come in contact with the specimen, immediately change glove to prevent contamination of other specimens.
3. After the patient has collected the urine sample, label the urine collection cup.
4. Open the Urine Preservative Transport Kit and remove UPT and the transfer pipette. Label the UPT with the patient's identification and date/time collected.
5. Hold the UPT upright and firmly tap the bottom of the tube on a flat surface to dislodge any large drop from inside the cap. Repeat if necessary.
6. Uncap the UPT and use the transfer pipette to transfer urine into the tube. The correct volume of urine has been added when the fluid level is between the black lines on the fill window on the UPT label. This volume corresponds to approximately 2.5 – 3.45 mL of urine. DO NOT overfill or under fill the tube.
7. Discard the transfer pipette. Note: The transfer pipette is intended for use with a single specimen.
8. Tighten the cap securely on the UPT.
9. Invert the UPT 3-4 times to ensure that the specimen and reagent are well mixed.
10. If collecting / processing more than one patient specimen, **change gloves** after each patient specimen.

Genital Specimens for Bacterial or Fungal Cultures

- For Neisseria gonorrhoeae culture (GCC) a charcoal swab is preferred.
- For genital cultures in which GC is not suspected, or if a Gram stain is requested, use a blue-capped gel swab.

Endocervical Specimens

1. Remove excess mucous from the cervical os and surrounding mucosa using a swab.
2. **DISCARD THE SWAB.**
3. Insert the culture swab into the endocervical canal.
4. Rotate the swab for 10 to 30 seconds in the endocervical canal to ensure adequate sampling.
5. Withdraw the swab carefully; avoid any contact with the vaginal mucosa.
6. Immediately place the swab into the culture transport tube.

Vaginal Specimens (Not suitable specimen type for Chlamydia)

1. Wipe away any excessive amount of secretion or discharge and discard.
2. Sample the secretions from the mucosal membrane of the vaginal vault with a sterile swab.
3. Place the swab(s) into the transport tube.

Male Urethral Specimens

1. Patient should not have urinated for at least 1 hour prior to sample collection.
2. Insert the swab 2 to 4 cm into the urethra using a rotating motion to facilitate insertion.
3. Once inserted, rotate the swab gently while using sufficient pressure to ensure the swab comes into contact with all urethral surfaces. Allow the swab to remain inserted for 2 to 3 seconds.
4. Withdraw the swab.
5. Immediately place the swab into the transport tube.

Ocular Specimens

Conjunctiva

1. Clean away any crusty exudate material prior to collecting specimen.
2. Peel open the package containing the swabs and transport, being careful not to contaminate the swabs. Snap off and discard the cap on the tube transport.
3. Gently pull the lower eyelid down to expose the conjunctiva.
4. Use swab to rub over the surface of the conjunctiva, touching inflamed areas and collecting exudates. Repeat with 2nd swab provided in the package
5. Insert swabs completely into the tube transport.
6. Label tube transport with patient's first and last name, date and time of collection, specimen type (i.e., conjunctiva) and your initials.

Note: If physician inoculates the medium directly, place the inoculum in "SS" shapes to indicate "conjunctiva".

Corneal Scrapings

1. Collected by the physician according to standard practices.
2. Place the scrapings directly onto the culture medium obtained from the laboratory.
3. Make "C" shapes to indicate "cornea" when inoculating the surface of the medium.

Eyelid

1. Collected by the physician according to standard practices.
2. Place the scrapings directly onto the culture medium obtained from the laboratory.
3. When inoculating the surface of the medium directly, make "RL" shapes to indicate "right eyelid" or "LL" shapes to indicate "left eyelid"

REFERENCES:

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2. Miller, J. Michael, Specimen Management in Clinical Microbiology, ASM Press, Washington, 1999.
3. Vacutainer Brand Urine Collection Kit for Midstream Specimens, July 1995.

4. BD ProbeTec™ ET *Chlamydia trachomatis* and *Neisseria gonorrhoeae* Amplified DNA Assays Package Insert. Document # 3300754. Revision 2005/07.