

CYTOLOGY COLLECTION PROCEDURE

PRINCIPLE

Specimens for cytologic examination must be submitted in an appropriate container labeled with patient name, specimen type and the source of the specimen. The specimen should be delivered to the laboratory in a timely manner.

PROCEDURE

1. The following information is required:

- Patient full name
- Date of birth
- Ordering physician
- Date specimen taken
- Appropriate clinical information
- Nature of specimen, type, source, etc
- Any special instructions

2. Preservation of specimens sent for processing:

For NON-GYN specimens such as Urine, Bronchial secretions, or Fluid, the following steps are taken:

- Refrigerate the specimen in collecting area of refrigerator.
- Make sure specimen has been properly labeled.
- Requisition goes in basket on top of specimen refrigerator.

For Thin Prep specimens:

- Place the bag containing the vial and requisition in the box in the cytology area.
- Only Paps go into the box. Any FNA specimens such as breast aspirations go into the basket on the refrigerator or on the cytology bench.

THIN PREP PAP TEST GYN COLLECTION PROCEDURE

❖ Endocervical Brush/Spatula protocol

1. Obtain an adequate sampling from the ectocervix using a *plastic* spatula.
2. Rinse the spatula into the PreservCyt solution vial by swirling the spatula vigorously in the vial 10 times. Discard the spatula.
3. Obtain an adequate sampling from the endocervix using an endocervical brush device. Insert the brush into the cervix until only the bottom most fibers are exposed. Slowly rotate ¼ to ½ turn in one direction. DO NOT OVER ROTATE.
4. Rinse the brush in the PreservCyt solution by rotating the device in the solution 10 times while pushing against the vial wall. Swirl the brush vigorously to further release the material. Discard the brush.
5. Tighten the cap so that the torque line on the cap passes the torque line on the vial.
6. Record the patient's name and ID number (if applicable) and date of birth on the vial. Be sure to include all the patient's information and history on the cytology request form.
7. Place the vial and requisition in a specimen bag for transport to the lab.

❖ Broom-like Device protocol

1. Obtain an adequate sampling from the cervix using a broom-like collection device. Insert the central bristles of the broom into the endocervical canal deep enough to allow the shorter bristles to fully contact the ectocervix. Push gently and rotate the broom in a clockwise direction five times.
2. Rinse the broom into the PreservCyt vial by pushing the broom into the bottom of the vial 10 times, forcing the bristles apart. As a final step, twirl the broom vigorously to further release the material. Discard the collection device.
3. Tighten the cap so that the torque line on the cap passes the torque line on the vial.
4. Record the patient's name and ID number (if applicable) and date of birth on the vial. Be sure to include the patient's information and history on the cytology request form.

LIMITATIONS

The end of the collecting device must not be cut off and left in the PreservCyt vial. The preservative will harden any endocervical mucus on the device and the cellular material will be released into the solution.

GLASS SLIDE GYN COLLECTION PROCEDURE

❖ Endocervical Brush/Spatula protocol

1. Obtain an adequate sampling from the ectocervix using a *plastic spatula*.
2. Prepare the slide by smearing the material from the spatula on ½ of a glass slide previously labeled with the name of the patient.
3. Obtain an adequate sampling from the endocervix using an endocervical brush device. Insert the brush into the cervix until only the bottom most fibers are exposed. Slowly rotate ¼ to ½ turn in one direction. **DO NOT OVER ROTATE.**
4. Prepare the slide by rolling and twisting the cytobrush on the slide which also has the material from the spatula. **SPRAY WITH FIXATIVE IMMEDIATELY.**
5. Be sure to include all the patient's information and history on the cytology request form.
6. Place slide in a cardboard slide mailer, tape shut and place in a plastic specimen bag for delivery to the lab.

❖ Broom-like Device protocol

1. Obtain an adequate sampling from the cervix using a broom-like collection device. Insert the central bristles of the broom into the endocervical canal deep enough to allow the shorter bristles to fully contact the ectocervix. Push gently and rotate the broom in a clockwise direction five times.
2. Prepare the slide by smearing the material from the broom on a glass slide previously labeled with the name of the patient.
3. Be sure to include all the patient's information and history on the cytology request form.
4. Place slide in a cardboard slide mailer, tape shut and place in a plastic specimen bag for transport to the lab.

LIMITATIONS

Air drying may render the specimen unsatisfactory for microscopic evaluation due to cellular degeneration.

NON-GYN CYTOLOGY COLLECTION PROCEDURES

The following information is required on all requisitions:

Full name of patient
Date of birth
Ordering physician
Name of other physicians who are to get a copy of the report
Date of specimen collection
Appropriate clinical information
Nature of specimen (type, source)
Any special instructions.

All Liquid specimens are sent in separate, clearly labeled leak proof containers. These containers may be placed in sealable plastic bags as protection against leakage and contamination. The requisition form should not be placed within the bag in case of leakage.

URINARY SPECIMENS:

Voided urine:

The first morning specimen is discarded. The patient is hydrated and the subsequent midstream catch is collected in a urine sample cup with a tight fitting lid. The container is labeled with the patient name and DOB, date collected and source of specimen. The specimen is submitted fresh to the laboratory as soon as possible. If there will be a delay, the sample is refrigerated. Any amount may be submitted but at least 20 ml is preferred.

Catheterized specimens:

The catheter should be passed with only just enough lubricant to effect placement. If too much lubricant is used it may obscure cellular features. The sample is collected in a urine sample cup with a tight fitting lid and labeled with the patient name and DOB, date collected and source of specimen. The specimen is submitted fresh ASAP to the laboratory and refrigerated if there is to be any delay. Any amount may be submitted but at least 20 ml is preferred.

Bladder washings and cystoscopy urines:

These specimens are collected by an urologist at cystoscopy. A balanced salt solution is introduced into the bladder via a cystoscopy device or catheter. The fluid is withdrawn and collected into a urine sample cup with a tight fitting lid. The sample is labeled with patient name and DOB, date collected and source of specimen. The specimen is submitted fresh to the laboratory ASAP and refrigerated if there is to be any delay. Any amount may be submitted but at least 20 ml is preferred.

BODY FLUIDS:

(peritoneal, pleural, pericardial, cyst and synovial, pelvic washings)

Each fluid specimen must be submitted in a separate, clearly labeled leak proof container. Most fluids contain significant amounts of protein which is precipitated by alcohol, so no fixative must be added. Heparin may be used as an anticoagulant. Specimens are submitted fresh to the laboratory ASAP or refrigerated if there is any delay. Any amount may be submitted but at least 20 ml is preferred.

CEREBROSPINAL FLUID:

A minimum of 1 ml of CSF should be collected; 2-3ml is preferred. Sample should be delivered fresh to the laboratory ASAP and refrigerated if there is to be any delay.

GASTROINTESTINAL SPECIMENS:

(esophageal brushings, rectal brushings/rectal pap)

Brushings: The brush containing the material is placed in a tube of CytoLyt and rinsed vigorously. The brush is cut at least 1 inch from the top of the bristles and left in the tube. The tube is tightly capped and labeled as required above.

Rectal pap: Submit in a properly labeled Thin Prep Pap collection vial using pap test procedure.

RESPIRATORY SPECIMENS:

(bronchial washings, Bronchioalveolar lavage, sputum, bronchial brushings)

Sputum:

Early morning sputum specimens yield the greatest number of diagnostic cells.

The patient must be able to produce a deep cough that is confirmed by finding the presence of pulmonary macrophages on microscopy or the specimen will be unsatisfactory. The patient should be instructed to clear the throat of postnasal secretions and to rinse the mouth to remove food residue. The patient then coughs deeply and the expectorated material is collected in a clean wide mouth container (such as a urine sample cup) and tightly capped. An adequate cytologic examination consists of three consecutive daily specimens. The container must be labeled with patient name and DOB. The specimen is submitted fresh to the laboratory ASAP and refrigerated if there is any delay. Since sputum specimens are laden with microorganisms, refrigeration beyond 24 hours is not recommended as microorganisms may multiply, activating degradation of the cells.

Bronchial washings and BAL:

Washings and BAL are collected at the time of fiberoptic bronchoscopy.

Washings are taken by introducing balanced salt solution into the airway and recovering the solution via suction. The resultant specimen is collected in Leukens traps labeled with patient name, source of specimen and time of collection. The specimen is submitted fresh to the laboratory ASAP.

Brushings:

The brush containing the sampled material is placed in a tube of CytoLyt and rinsed vigorously. The brush is cut at least 1 inch from the top of the bristles and left in the tube. The tube is tightly capped and labeled with patient name, DOB and source of sample.

FINE NEEDLE ASPIRATIONS:

Material aspirated from any body site using fine needle technique.

Material collected is submitted in CytoLyt and on glass slides.

CytoLyt vial is labeled with patient name, DOB and source of sample. Slides are labeled with patient name and DOB.

Procedure:

1. Label alcohol vial and CytoLyt vial with patient name, date of birth and site of sample.
2. Label frosted end of glass slides with name of patient.
3. Open cover of CytoLyt vial and cover of alcohol vial.

4. Obtain sample. If possible, multiple passes are preferred to yield optimal sample for interpretation.
5. Place a drop of specimen onto a glass slide. Invert the second slide over the first slide, making sure that the sides with the frosted ends come together with the sample in between them. Allow the sample to spread and gently pull the slides apart. Quickly place one slide into the alcohol vial to prevent air drying and tighten cover. Place second slide in the cardboard slide holder and allow to air dry.
6. Rinse the needle in the tall vial of CytoLyt by placing the needle tip into the solution and pulling back on the plunger. Pull the CytoLyt into the syringe and expel back into the vial. Repeat to completely rinse any remaining sample from the needle. Tighten the cover.
7. Securely close the cardboard holder with an elastic or tape. Place the CytoLyt vial and slides in a biohazard bag.
8. Completely fill out cytology requisition with all pertinent patient information including clinical diagnosis, name of physician, source and type of specimen. Place requisition in outside pocket of bag.
9. Send to laboratory ASAP. Refrigeration is unnecessary.

Assistance in specimen collection is available from the Cytology Department. Call the laboratory at 371-4113 to schedule.

BREAST SECRETION:

(nipple discharge)

Breast cancer may be the reason for an unexpected nipple discharge, especially if bloody.

Procedure:

1. Label two frosted end slides with the patient name and DOB.
2. Gently express the nipple and subareolar area only using the thumb and forefinger.
3. Allow a "pea size" drop of fluid to collect upon the nipple tip. Immobilize the breast and using the nipple, smear the material across the slide.
4. Immediately fix the slide using spray fixative or immerse into 95% alcohol.
5. If there is more material, repeat.

NOTE: If no secretion appears at the nipple after gentle compression, do not manipulate further.

Submit sample to the laboratory with accompanying requisition. Be sure to indicate L or R breast.

TZANCK SMEARS

(lesion specimens)

These specimens are obtained from open wounds, lesions, open vesicles or sores.

Direct scrape procedure is preferred. Cotton swab or gauze pads should not be used as the diagnostic cells will become trapped in the fiber matrix.

Procedure:

1. The suspect lesion is premoistened with saline. If possible, a fresh vesicle should be chosen that has not ruptured or crusted.
2. With a disposable needle, a fresh vesicle is carefully opened or the crust from a ruptured lesion is removed.

3. Using the edge of a metal spatula, scalpel blade or glass slide, the margin of the lesion is scraped. The edges of the lesion will have the best yield of cells with morphologically recognizable inclusions.
4. The material is carefully spread on a glass slide labeled with patient name and DOB and immediately fixed using spray fixative or immersion in 95% alcohol.
5. Sample is sent to lab with accompanying requisition.

ANAL RECTAL CYTOLOGY FOR MICROSCOPIC EXAMINATION

Cytobrush or tap water moistened Dacron swab may be used.

1. Insert the collection device into the anal canal until resistance is not met, approximately 1.5 inches (4-5 cm) beyond the external sphincter.
2. Rotate 10-12 times, applying pressure to the walls of the canal while removing the device.
3. Immediately insert the device into the PreservCyt vial. Agitate the sampling device to release the collected material. Discard the device.
4. Label the specimen vial with the patient's name and date of birth, and tighten the cap.
5. Complete a cytology requisition.
6. Place vial and requisition in plastic specimen bag and send to the lab.

STORAGE AND TRANSPORT

Room temperature