

**TriHealth Laboratories
Anatomic Pathology
Laboratory User Manual**

CYTOLOGY SPECIMEN COLLECTION

I. GENERAL INFORMATION

The Main Cytology Laboratory (862-1464) is located on the 7th floor of Good Samaritan Hospital. The laboratory hours are 8 a.m. to 4 p.m., Monday through Friday, except holidays. A satellite Cytology Laboratory (865-1353) is located in the Bethesda North Hospital Laboratory on the Ground Floor. The laboratory hours are 8 a.m. to 4 p.m., Monday through Friday, except holidays. A satellite Cytology Laboratory is located in the Bethesda Butler Laboratory. The laboratory hours vary, Monday-Friday.

The Cytology Laboratory is a full service cytology laboratory offering diagnostic gynecological and non-gynecological cytology including fine needle aspiration cytology. As with all laboratory samples, reliable and accurate results can be obtained only from specimens collected properly. Specimens submitted should be properly labeled with (at minimum) the patient's name and a second identifier such as date of birth. The label should be placed on the container itself; not on the lid. The specimen should be accompanied by an attached Cytology requisition/transmittal.

The requisition/transmittal should be filled out completely and include:

- Patient label with name, hospital and room number
- Second patient identifier
- Requested test
- Specimen source
- Date and time of specimen collection
- Pertinent clinical information
- Requesting physician
- Location ordered from

II. CRITERIA FOR SPECIMEN REJECTION

If a specimen is received unlabeled, mislabeled, or separated from its requisition, it will be rejected. If there is any conflict or concern about the specimen being difficult to replace or irreplaceable, or if the ordering physician demands that the specimen be tested regardless of the circumstances, laboratory personnel will have the medical director or designee contact the ordering physician directly to discuss the issue further.

If after consultation with the laboratory medical director, it is determined that the testing will be performed, then the ordering physician must take responsibility for the validity and integrity of the specimen. This verification will be accomplished by completion of the laboratory generated "Specimen Exception" form. The ordering physician is also responsible for communicating the situation to the patient involved.

III. SPECIFIC COLLECTION PROCEDURES

A. BODY FLUID CYTOLOGY

1. All body cavity fluids should be submitted fresh and unfixed to provide optimal cytologic preservation. Do not heparinize.
2. Volume not less than 5 mL, but 50 mL or more preferred.
3. The specimen must be accompanied by a Cytology requisition/transmittal with the patient's name, hospital number, room number, requesting physician and source of specimen.
4. Include pertinent clinical information such as previous malignancies, radiation therapy, etc.
5. Deliver to the Laboratory as soon as possible. If any delay is anticipated, refrigerate the specimen immediately.

B. BREAST SMEARS AND SECRETIONS

Materials Needed: 6 fully frosted slides or one-end frosted slides
Coplín jar filled with 95% alcohol or Cytology spray fixative

1. Soak nipple with warm saline in cotton or gauze for 10 minutes, then gently press the areolar area with thumb and index finger, first vertically, then in a clockwise direction to include the total area.
2. When a secretion cannot be expressed or when a mass is palpable, a gentle milking of the entire breast is performed.
3. Allow only a drop of secretion to accumulate upon the apex of the nipple. Place glass slide upon the nipple and slide across quickly.
4. Place in 95% alcohol fixative or spray fix immediately. Avoid air drying.
5. Make 4-6 slides as the amount of specimen allows. The later smears usually contain more abnormal cells.
6. Label the slides with the patient's name and hospital number. If smears are prepared from both breasts, label each slide as left or right.
7. Slides should be accompanied to the Laboratory with a Cytology requisition/transmittal with the patient's name, hospital number, room number and requesting physician.
8. Include pertinent clinical information.

C. BRONCHIAL BRUSHINGS

Materials Needed: Frosted end glass microscope slides
Coplín jar containing 95% ethanol or spray fixative

1. Label the glass slides with the patient's name and specimen source.
2. Brush the lesion area. Roll the brush gently over the glass slide to cover the area of a dime and place immediately in Coplín jar of fixative or spray with fixative. Prepare 1-2 slides per brushing. If separate sites are brushed, the slides should be properly marked.
3. The specimen should be sent to the Laboratory accompanied by a Cytology requisition/transmittal completed with the patient's name, hospital number, room number, requesting physician and source of specimen.
4. Include pertinent clinical information such as clinical impression, past diagnosis, radiographic findings and history of radiation or chemotherapy.

D. BRONCHIAL WASHING

Materials Needed: Mucous specimen trap or clean, leakproof container

1. Washings collected during the endoscopic examination should be collected and properly labeled.
2. The specimen should be delivered immediately to the Laboratory. If any delay is anticipated, refrigerate immediately.
3. A Cytology requisition/transmittal should be submitted to include patient's name, hospital number, room number, requesting physician and source. If washings are obtained from separate sites, they should be properly marked.
4. Include pertinent clinical information such as clinical impression, past diagnosis, radiographic findings and history of radiation or chemotherapy.

E. BRONCHIAL ALVEOLAR LAVAGE

Materials Needed: Clean, leakproof container

1. Lavage specimen collected during the endoscopic examination should be collected and properly labeled.
2. Volume not less than 5 mL, but 50 mL or more is preferred.
3. The specimen should be delivered as soon as possible to the Laboratory. If any delay is anticipated, refrigerate immediately.
4. A Cytology requisition/transmittal should be submitted to include patient's name, hospital number, room number, requesting physician.
5. Include pertinent clinical information.

F. CEREBROSPINAL FLUID CYTOLOGY

1. The specimen should be collected in a clean, leakproof container labeled with the patient's name and hospital number.
2. Volume not less than 1-2 mL, more preferred.
3. The specimen should be sent fresh immediately to the Laboratory. If any delay is anticipated, the specimen should be refrigerated.
4. A Cytology requisition/transmittal should accompany the specimen to include patient's name, hospital number, room number, requesting physician.
5. Include pertinent clinical information.

G. FINE NEEDLE ASPIRATION CYTOLOGY

Materials Needed: Glass microscope slides
Coplín jar of 95% ethanol or spray fixative
Clean, leakproof container
Cytolyt

1. A cytotechnologist or tech aide should be present at the time of the aspiration in order to handle the specimen. The Cytology Department should preferably be called in advance for an appointment at 865-1353 for Bethesda North Hospital or 862-4020 for Good Samaritan Hospital.

2. Localize the mass and disinfect the area. If desired, apply local anesthesia on/in area to be aspirated.
3. Label two slides for each sample with the patient's name.
4. Introduce the needle into the mass. Create negative pressure and maintain.
5. Sample area vigorously on several planes, maintaining the negative pressure.
6. Release the plunger on syringe to equalize pressure and withdraw the needle from the mass.
7. Place the bevel of the needle directly on one of the glass slides. If visible material is expressed, place the other glass slide on top of the first, and gently pull the slides apart dispensing the material on the slides evenly.
8. Place in Coplin jar of 95% ethanol or spray fix with cytology fixative immediately.
9. Then a needle rinse should be performed by aspirating Cytolyt into the barrel of the needle and syringe and expressing the saline wash into a clean container or a preservative collection fluid provided by the Cytology Lab.
10. If no material is expressed onto the glass slides then a needle rinse should be performed.
11. A minimum of three samples per site is recommended.
12. If a cytotechnologist is not present, the specimen should be sent to the Laboratory immediately. If a delay is anticipated, the specimen should be refrigerated immediately.
13. A Cytology requisition/transmittal should accompany the specimen to include patient's name, hospital number, room number, ordering physician and specimen source. Include pertinent clinical information such as previous history, clinical impression and history of chemotherapy or radiotherapy.

H. GASTROINTESTINAL TRACT BRUSHINGS

Materials Needed: Frosted-end glass microscope slides
Coplin jar of 95% ethanol or spray fixative

1. Label at least two frosted end slides with patient's name.
2. Brush from the lesion area. Roll brush gently over glass slide to cover the area of a dime and immediately drop in Coplin jar of 95% ethanol or spray fix.
3. The specimen should be sent to the Laboratory accompanied by a Cytology requisition/transmittal to include the patient's name, hospital number, room number, requesting physician and specimen source.
4. Include pertinent clinical information such as clinical impression, past diagnosis and history of chemotherapy or radiotherapy.

I. GYNECOLOGICAL SMEAR

1. Label the ThinPrep vial with the patient's name and second identifier (preferably DOB) prior to sample collection. Insert the speculum (which may be slightly moistened with water if necessary). No other lubricants should be used.
2. Visually inspect the cervix for abnormalities. Identify the transformation zone, if possible, and direct sampling efforts to encompass this area.
3. Choose the contoured end of the plastic spatula which best conforms to the anatomy of the cervix and the location of the transformation zone. Rotate the spatula 360° about the circumference of the cervical os and ectocervix, while maintaining firm contact with the epithelial surface. **Comment:** A clockwise rotation beginning and ending at 9:00 will position the spatula so that the collected material is retained on the upper horizontal surface as the instrument is removed.
4. Rinse the spatula into the ThinPrep vial by swirling it 10 times.
5. Insert the cervical brush into the os with gentle pressure and rotate only 90-180°.
6. Rinse the brush into the ThinPrep vial by pressing against the sides of the vial and a swirling motion. Tighten the cap past the torque lines.
7. A Cytology requisition/transmittal should accompany the vial to include patient's name, date of birth, requesting physician and specimen source.
8. Include pertinent clinical information such as LMP, hormonal status, exogenous hormone therapy, DES exposure, history of cervical intraepithelial neoplasia, cervical malignancy, date of last gynecological smear and history with dates of any previous abnormal histology or cytology, and high risk factors for cervical cancer.

J. HORMONAL EVALUATION

1. Samples for hormonal evaluation should be obtained separately using a spatula to gently scrape the epithelium from the upper third of the lateral vaginal wall.
2. The separate slide should be labeled as to site.
3. The requisition should indicate a request for hormonal evaluation and include pertinent patient information.

K. SPUTUM

Materials Needed: Sputum container

1. Three consecutive first morning deep cough specimens or post IPPB specimen is mandatory.
2. To obtain a good specimen by natural means, the patient is instructed to inhale air to the full capacity of the lung, to breathe as deeply as possible, and to exhale the air with an expulsive cough.
3. Volume of not less than 3 mL should be placed in a plastic sputum container or in a container of preservative collection fluid available from the Cytology Laboratory.
4. The specimen should be sent immediately to the Laboratory. If any delay is anticipated, the specimen should be refrigerated.
5. A Cytology requisition/transmittal should accompany the specimen and should include patient's name, hospital number, room number and requesting physician.

6. Include pertinent clinical information such as clinical impression, radiographic findings, past diagnosis and history of chemotherapy or radiotherapy.

L. URINE CYTOLOGY

Materials Needed: Urine Collection Kit

1. Early morning, clean catch voided or catheterized urine or bladder washings of not less than 50 mL is preferred. A first morning voided specimen is not suitable.
2. After collection, immediately send to the Laboratory, or if delay is anticipated, refrigerate immediately.
3. A Cytology requisition/transmittal should accompany labeled specimen to include the patient's name, hospital number, room number, requesting physician and specimen source (e.g., void urine, cath urine).
4. Include pertinent clinical information such as previous carcinoma, clinical impression and history of chemotherapy or radiotherapy.

M. TZANK SMEAR

Materials Needed: Frosted End Glass Microscope Slides
Coplín Jar of 95% Ethanol or Spray Fixative

1. Label at least two frosted end slides with patient's name.
2. Take a tongue depressor soaked in saline and scrape from the base and edges of the suspected lesion.
3. Smear evenly onto a glass slide and immediately fix with 95% alcohol or cytology spray fixative.
4. The specimen should be sent to the Laboratory accompanied by a Cytology requisition/transmittal to include patient's name, hospital number, room number, requesting physician and specimen source.
5. Include pertinent clinical information.

N. PARATHYROID WASHING

Materials Needed: Green (sodium or lithium heparin) blood collection tubes or 5ml sterile saline and a sterile collection cup

1. After FNA collection of parathyroid tissue, place it in one blood tube or sterile collection cup with sterile saline.
2. Refrigerate until pickup for transportation to the core laboratory. Enter order under CNG in Epic. Indicate it is a parathyroid tissue for identification.
3. Results will be entered as a pathology specimen in the Epic Media Tab.