

CYTOLOGY SPECIMENS

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General Information

The Main Cytology Laboratory 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. The Main Cytology Laboratory phone number is 862-1464. The Bethesda North Satellite Cytology Lab is located in the Bethesda North Laboratory. The laboratory hours are 8 a.m. to 4 p.m. Monday through Friday, except holidays. The North Cytology Laboratory phone number is 865-1353.

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

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.

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; previous malignancies, radiation therapy, etc.
5. Deliver to the Laboratory as soon as possible. If any delay is anticipated, refrigerate the specimen immediately.

Breast Smears and Secretions

Materials Needed:

- 6 fully frosted slides or one-end frosted slides
 - Coplin 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.

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, 50 mL is preferred.
3. The specimen should be delivered as soon as possible to Central Receiving. 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.

Bronchial Brushings

Materials Needed: Frosted end glass microscope slides

Coplin 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 Coplin 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. Include pertinent clinical information, clinical impression, past diagnosis, radiographic findings and history of radiation or chemotherapy.

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, clinical impression, past diagnosis, radiographic findings and history of radiation or chemotherapy.

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.

Fine Needle Aspiration Cytology

Materials Needed:

- Glass microscope slides ,Coplin jar of 95% ethanol or spray fixative
- Clean, leakproof container
- Saline

1. Localize the mass and disinfect the area.
2. 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 saline 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.
14. Include pertinent clinical information; previous history, clinical impression, history of chemotherapy or radiotherapy.

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 Central Receiving 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; clinical impression, past diagnosis, chemotherapy or radiotherapy.

Pap Smears (ThinPrep®)

The following information outlines information essential to the preparation of high quality pap smears. Since laboratory screening and interpretation can be no better than the quality of the specimen provided, the TriHealth laboratories will work closely with you to achieve consistently good specimens.

General Gynecological Cytology Guidelines

- For best results in premenopausal patients, specimens should be obtained during midcycle or in the second half of the menstrual cycle. Menstrual bleeding, douching, and sexual intercourse within 24-48 hours of obtaining the smear are not contraindications. However, it should be realized that smears obtained in these situations are often suboptimal. Menstrual smears are often covered by blood and inflammatory debris and contain few epithelial cells. Sexual intercourse may interfere with interpretation because of the presence of foams, jellies, sperm, or contamination epithelium from the sexual partner. Both intercourse and douching cause exfoliation of epithelial cells and may result in scanty smears.

- Collection: PAP SMEAR, ThinPrep®

Specimen: ThinPrep® (PreserCyt) solution vial, plastic spatula and endocervical brush or Wallach papette broom

Additional Information:

1. Rotate collection device in PreserCyt vial 10 times while pushing against the vial wall.
2. Swirl brush to further release material.
3. Discard collection device.
4. Label vial with patient's name, date of birth, date of collection, and ordering physician's name.
5. Complete Cytology requisition.

Note: *Chlamydia trachomatis*, *Neisseria gonorrhoeae* (GC) detection and HPV High Risk Typing can be performed from these specimens. See *CHLAMYDIA TRACHOMATIS AND/OR NEISSERIA GONORRHOEAE* (G.C.), AMPLIFIED MOLECULAR TEST.

- All specimens should be obtained prior to bimanual examination. An unlubricated speculum should be used. Lubricant imparts a cloudy appearance to smears and may render them unreadable.
- ThinPrep® vials should be labeled with 1) the patient's first and last names and 2) the patient's date of birth. This should be done immediately before the specimen is taken, not too far in advance, to assure proper identification. The laboratory will not accept unlabeled vials.

- If a cervical mucus plug is present, it should be gently removed with a saline-moistened swab prior to obtaining the sample. The cervical mucus plug consists only of mucus and neutrophils with very few epithelial cells.
- Complete a Cytology requisition with the following information.
 - Date of collection
 - Patient's first and last names
 - ***Patient's date of birth, age, sex, and social security number***
 - ICD-9 diagnosis code(s)
 - Requesting physician's name (first and last names)
 - Source of specimen
 - Relevant clinical information including last menstrual period (LMP), pregnancy and contraceptive history, medication and other therapy, previous abnormal pap smears (dates and results), clinical findings and symptoms
 - **Complete** Medicare, Medicaid, or other insurance information if direct billing is desired.

Obtaining the Specimens - Screening Pap Smear

1. The recommended screening procedure for cervical abnormalities is samples from both the ectocervix and the endocervix. The endocervical sample is critically important since in a significant number of cases the dysplastic lesion lies high in the endocervical canal and will be missed by the ectocervical sample. A variety of devices are currently available for obtaining the endocervical sample. Of the more recently introduced devices, the cytobrush and broom have been shown to be very effective in obtaining a good endocervical component.
2. The specimen should be collected using the ThinPrep[®] plastic spatula and endocervical brush or the Wallach papette cervical broom.
3. Rinse each collection device in the PreserCyt solution by rotating the device 10 times while pushing against the vial wall. Swirl the brush to further release material. Discard the collection device.