SIERRA PATHOLOGY LABORATORY, INC

PREANALYTIC
DEPARTMENT: Cytology

NON-GYN CYTOLOGY SPECIMEN SUBMISSION AND HANDLING

PRINCIPLE:

To assure positive identification and optimum integrity of the patient specimens submitted to the laboratory.

POLICY:

Laboratory establishes procedures for patient preparation, collection methods, labeling, specimen preservation and conditions of specimen transport. For more in-depth collection methods and processing procedures please see the individual procedures for each specimen type.

All submitted non-gyn cytology specimens are evaluated for compliance with this policy.

SPECIMEN SUBMISSION

1. **All specimen containers must be labeled with two patient identifiers.** Label the specimen with the patient's name in pen directly on the specimen container, and at least one other identifier (e.g., DOB, SSN, MR number, etc)
    a. Slides may be labeled with only one identifier (patient name) in pencil on the frosted end of the slide.
    b. If the specimen is received unlabeled or misidentified, it will not be processed and the physician will be notified. It will be the physician's responsibility to correct errors in specimen identification.
2. Fluid specimens submitted for cytologic analysis should be in a leak-proof container inside a biohazard bag with the pathology requisition form placed in the first pocket of the biohazard bag. Be sure the lid is securely fastened so that no fluid leaks out during transportation. This could lead to loss of diagnostic material.
3. Slides should be submitted in a labeled cardboard folder. Be sure fixative and/or specimen has dried before closing the folder. Wet cardboard may adhere to the slide making smears suboptimal.
4. All cytology specimens must be accompanied by a Pathology requisition filled out in its entirety. The clinical history information requested is necessary for proper evaluation of the specimen, and must minimally include:
    - Patient's name
    - Requesting clinician's name-(***Specimens are only accepted from physicians or other persons authorized under law***.)
    - Source of specimen
    - Test to be performed- (please indicate if any special stains or specific tests are requested.)
    - Number of specimens submitted
    - Patient's date of birth
    - Date of specimen collection

- Pertinent clinical history- such as prior abnormal history, clinical presentation, course of treatment, etc.
- Patient demographics (e.g., address, insurance information, etc)- *Not necessary for immediate processing of specimens, but necessary for proper billing. If information not sent with specimen, office will be contacted for submission of patient demographics.*

SUMMARY OF SPECIMEN COLLECTION TECHNIQUES

Breast Nipple Secretions.

Collect a small amount of nipple secretion directly onto a labeled glass slide. Oppose a second labeled glass slide onto the first, allowing the collected material to provide surface tension between the two slides, and then gently and quickly pull the two slides apart in a horizontal motion to distribute the material in a thin film over both slides. The smears may be air dried or fixed with either spray fixative or alcohol.

Fine Needle Aspiration.

Place bevel of needle against the center of a labeled glass slide and express a small drop of aspirated material. Oppose a second labeled glass slide onto the first, allowing weight of slide to spread the drop, and then quickly pull slides apart. Slides can be allowed to air dry or be fixed with either spray fixative or alcohol. Repeat for multiple slides.

Aspirated material in a syringe may be submitted unfixed. Needle must be removed from the syringe.

If a core needle biopsy is performed at the same time, core samples should be submitted in formalin.

Skin Scrapings/Tzanck Smears.

Using a wooden tongue depressor or saline moistened cotton swab, gently scrape the area of abnormality. If the abnormality is a vesicle, remove the covering and scrape both at the base of the vesicle and around the rim. Quickly and evenly smear the collected material on one labeled glass slide. Repeat the process with a second labeled slide for better diagnostic yield. Repeat the process for additional areas if necessary. Slides can be allowed to air dry or be fixed with either spray fixative or alcohol.

Sputum Cytology.

When clinically feasible, sputum specimens should be obtained in the morning. The optimum time for specimen collection is within 15 to 30 minutes after waking and before eating breakfast. Brushing of teeth or rinsing of the mouth thoroughly with water will reduce contamination by saliva. Instruct the patient to inhale and exhale deeply, forcing air from the lungs using the diaphragm. Repeat until the patient coughs and is able to produce a sputum specimen. Collect the specimen in the labeled container, attempting to obtain at least one teaspoon of sputum. Specimen should be a deep cough specimen and not saliva. Refrigerate specimen until specimen can be submitted to lab for processing. If multiple tests are ordered for the same specimen, be sure all other testing is completed before submitting for cytologic testing.

Body Cavity Fluids

Use a vacuum container or other appropriate collection container. Add sodium heparin to prevent clotting: 1cc (10,000 units/cc) per 1,000ml of fluid evacuated. Do not add fixatives.

If multiple tests are ordered for the same specimen, be sure all other testing is completed before submitting for cytologic testing.

Refrigerate specimen until specimen can be submitted to lab for processing.

Bronchial Aspirations, Brushings and Washings

Obtain aspirations by suctioning secretions during a bronchoscopic procedure. Specimen should be submitted unfixed. If multiple tests are ordered for the same specimen, be sure all other testing is completed before submitting for cytologic testing. Refrigerate specimen until specimen can be submitted to lab for processing.

Washings may be obtained by instilling 10mL of physiological saline in 2-3ml increments into the lungs and then reaspirating material while asking the patient to cough. Specimen should be submitted unfixed. If multiple tests are ordered for the same specimen, be sure all other testing is completed before submitting for cytologic testing. Refrigerate specimen until specimen can be submitted to lab for processing.

Obtain bronchial brushings by brushing a suspected bronchial lesion under bronchoscopic visualization. Immediately spread material thinly on four labeled glass slides. The smears should be fixed with either spray fixative or alcohol.

Cerebral Spinal Fluids

Obtain specimen by spinal tap or shunt depending on the source and location of specimen you are obtaining.

In the case of CSF fluid obtained by spinal tap: If more than one vial of fluid is obtained for multiple tests, do not submit the first vial for cytologic testing. If only one vial is obtained and multiple tests are ordered, be sure all other tests are performed before sending for cytology. In the case of multiple vials, be sure to indicate which vial is to be used for cytology.

Gastrointestinal (GI) Tract Brushings and Washings

Cells are collected under direct vision with an endoscope, which is passed through the mouth down, into the esophagus, stomach, or duodenum; a sigmoidoscope or colonoscope is used to obtain colonic/rectal specimens.

Brushing for cytology is performed **prior** to biopsies. Remove brush and firmly rotate (do not smear) on 2 labeled dry slides. Immediately place in 95% alcohol or spray fix. Brush may be submitted to laboratory for further analysis in saline solution.

When preparing washings for cytology, discard organ contents and digestive juices (unless needed for bacteriology or other studies) prior to obtaining material for cytology. Introduce 50-100 cc saline via the endoscope by using “Waterpik”. Aspirate the saline and cytologic specimen into a cylindrical container during the procedure. Do not add fixative to washings. Refrigerate specimen until specimen can be submitted to lab for processing.

Urine Cytology

For purposes of obtaining the greatest yield of diagnostic material, a morning voided urine specimen is recommended. A midstream specimen, is best for reducing contamination by external sources. Do not add fixatives.

If the patient must be catheterized to obtain the specimen, this should be noted on the specimen requisition, as catheterization can lead to artifacts, which may be misinterpreted without the knowledge that the patient was catheterized. Do not add fixatives.

ADEQUACY

Three elements constitute the adequacy of the specimen for cytologic evaluation:

1. Patient and specimen identification.
2. Pertinent clinical information.
3. Sufficient amount of material.

The Pathologist reviews all specimens and judges them as satisfactory or unsatisfactory for interpretation. For unsatisfactory cases no diagnosis is given but a recommendation may be given for unsatisfactory cases at the discretion of the pathologist. The ordering physician is always notified of a specimen that does not meet the acceptance criteria. A report is issued to the clinician.

Specimen adequacy is evaluated in all cases. A cytologic specimen is judged as “Unsatisfactory for interpretation” if any of the following apply:

1. Insufficient amount of material.
2. Poor specimen quality:
    a. Inappropriate fixative or improper use of fixative.
    b. Improper handling of specimens (crushed or mechanically distorted cells).
    c. Obscuring blood, inflammation, bacteria or foreign material.
    d. Thickly smeared cellular material obscuring cell detail.
    e. Excessive air drying artifact.