



## FINE-NEEDLE ASPIRATIONS (FNA)

### INDICATIONS:

Pathologic characterization of benign and malignant lesions.

Fine-Needle Aspiration (FNA) is a very useful technique for the evaluation of palpable as well as nonpalpable, but radiologically visible lesions. Only a physician who has been properly trained in this technique should perform this procedure. Proper specimen collection and preparation are essential to obtain good quality material for an accurate diagnosis.

### SPECIMEN REQUIRED:

Adequate cellular material for cytologic evaluation obtained from an appropriately performed fine-needle aspiration. This will depend on the specimen site and character of the lesion being aspirated. In general, this requires that there be enough material for the pathologist to at least determine that the aspirating needle sampled the lesion in question.

### SUPPLIES:

1. 5mL, 10mL or 20mL syringe (10mL syringe preferred)
2. Syringe pistol (optional)
3. Aspiration needle of appropriate length (22 to 25 gauge needle preferred to decrease the amount of peripheral blood contamination)
4. Container with 95% alcohol fixative and slide containers (for air-dried smears)
5. Single-end frosted glass slides (for preparation of direct smears)
6. RPMI (for fresh cell preservation, flow cytometry, cytogenetics or other special studies).  
RPMI solution is provided by your lab
7. Cytolyt ( for cell block preparation provided by your lab)
8. Sterile saline (for microbiology if desired)
9. Appropriate sonographic studies or radiographic imaging instrumentation and specialized aspirating equipment (for deep aspirates)
10. Specimen Requisition
11. Specimen Bag with a biohazard label

### COLLECTION:

Direct FNA Smears:

Direct smear morphology often provides the most significant diagnostic material from a fine-needle aspiration. Proper smearing and fixation techniques are critically important for an accurate diagnosis.



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### PREPARATION:

1. For preparation of smears, use single-end frosted slides.
2. Using a xylene resistant, slide labeling pen obtained from your lab or lead pencil print the PATIENT'S LAST NAME and SPECIMEN SITE (right or left if applicable) on the frosted end of each slide. Label slides prior to collection of aspirate.
3. Immediately after the aspiration procedure has been completed and the needle has been withdrawn, detach it from the syringe, fill the syringe with air and re-attach the needle.
4. Place the bevel of the needle flush against the glass slide and express a small amount of aspirated material onto the center of the slide. Do not express too much material. If this occurs, withdraw the syringe plunger slightly and re-aspirate a portion of the material.
5. Once the specimen is on the slide, it must be smeared immediately to prevent artifacts. The simplest way to accomplish this is to oppose a second glass slide (facing down) onto the first (facing up), allowing the aspirated material to provide surface tension between the two slides.
6. Gently and quickly pull the two slides apart in a horizontal motion to distribute the material in a thin film over both slides.
7. Place one of the two opposing slides DIRECTLY into fixative (95% alcohol). Any delay will result in air-drying artifact, which may severely compromise the diagnostic quality of the material.
8. Allow the other opposing slide to air dry thoroughly before placing in the dry container and sending to the laboratory.
9. Repeat this process with smears alternately placed in fixative or air-dried for each pass (maximum 4-6 slides per pass).
10. Bloody Fluid: If excess bloody fluid is obtained, rinse the material in Cytolyt (for cell block) or RPMI (for flow cytometry or cytopins). Tissue Fragments: Any large tissue fragments obtained should be placed in 10% neutral buffered formalin for Histologic processing. If the tissue fragment is adherent to the slide after smearing, use the aspiration needle to pick up the fragment and transfer to the formalin container.
11. Lymphoma Work-Up: See procedure in Surgical Pathology Specimen section.
12. Cyst Fluid: Cyst fluid may be submitted either in a capped syringe with the needle removed or in RPMI. DO NOT submit cyst fluid in formalin.

Please note the following important FNA information:

- Keep the formalin container away from the direct smear glass slides. Any formalin contamination on air-dried specimens will adversely affect cell morphology and may preclude a definitive diagnosis.



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- Ultrasound-guided FNAs – Ultrasound gel that comes in contact with the direct smears or is inadvertently smeared on the slide with the specimen creates a dark purple artifact on the slides. After staining, this artifact can completely obscure cellular detail and preclude a definitive diagnosis. Please use caution with ultrasound gel during aspiration procedures. Wipe extra gel from the skin surface prior to performing the needle aspiration and keep excess gel from contacting the glass slides.
- If you have any questions about specimen collection techniques or special studies, please feel free to contact your lab.

Complete test requisition including last and first name of patient, patient's date of birth and social security number, body site and source of specimen collected. Label specimen container (using the labels provided on the requisition) with patient's first name and last name, and body site/source. The container must have at least two (2) unique identifiers. Examples of unique identifiers: patient name, DOB, unique bar code, etc. Include pertinent clinical information, i.e., previous malignancy, radiation therapy, drugs, etc. Place container in a specimen bag with a biohazard label. Place the requisition in the side pocket of the specimen bag.