

FINE NEEDLE ASPIRATE COLLECTION GUIDELINES FOR CYTOLOGIC EXAMINATION



Patients may be referred to the Michigan Medicine for fine needle aspiration biopsies of palpable masses to be performed by Cytopathology faculty. Please call 734.936.6799 to schedule an appointment. These are performed on an on-call basis between 9 am and 5 pm on Mondays through Fridays. A portion of the aspirated material will be examined microscopically on-site. This allows for triaging of cellular material for appropriate ancillary studies by the cytopathologists based on the cytomorphologic findings assessed during the on-site evaluation (e.g., flow cytometry, microbiological culture, immunocytochemistry, and molecular diagnostic studies), as needed. Upon the conclusion of the procedure, a preliminary diagnosis will be promptly communicated to the referring clinical care provider.

The Cytopathology Laboratory at the Michigan Medicine Laboratories (MLabs) makes use of the Hologic ThinPrep® Processor for slide preparation of fine needle aspirates. CytoLyt® Solution vials are used by the clinician to collect the sample. CytoLyt® Solution vials (stock #CY140) may be obtained by contacting the MLabs Client Services at 734.936.2598 or 800.862.7284. The ThinPrep® processor system disperses the cells into a homogenous suspension. Following processing, a uniform, thin layer of cells is dispersed across the slide using a membrane filter.

The instructions below pertain to fine-needle aspiration biopsies performed by the clinical care provider at the client site.

Equipment

1. Syringe: Disposable 10-20 mL plastic syringe.
2. Syringe holder (optional): It is entirely possible to aspirate lesions without a syringe holder; however, some prefer to use one since it allows one hand to immobilize the target lesion and the other hand to control the movement of the syringe while applying suction. This may be helpful for the aspiration of cystic lesions. For solid lesions, however, applying suction is typically not necessary as the cutting action of the needle during a needle pass is sufficient to advance the cellular material into the needle hub via capillary action.
3. Needle: Disposable 23 or 25-gauge needle, preferably with clear plastic hubs. This simple feature will enable you to see the first drop of material (bloody or otherwise) entering the hub of the needle.
4. CytoLyt® Solution: 30 mL CytoLyt® Solution in a 120 mL clear specimen cup for all types of FNA specimens.

Aspiration Procedure for Superficial Masses

1. Cleanse the skin over the lesion with an alcohol swab. If local anesthesia is needed, use ethyl chloride spray or 1% lidocaine.
2. Fix the mass between your fingers to immobilize the mass during the needle passes.
3. Carefully poise the 23 or 25-gauge needle at right angles to the surface of the skin, just touching the point of insertion. Quickly introduce the needle through the skin and advance it into the mass. When the needle has entered the mass, apply strong suction.
4. Apply negative pressure to the syringe and move the needle back and forth within the mass and in different directions to effect the cutting action of the needle point and retain cells in the needle hollow.

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5. It is not necessary to see visible aspirated material in the hub, but the moment blood or any material appears in the hub, stop aspirating but do not remove the needle from the mass until pressure on the plunger is released; this will allow cells to be contained in the needle and not the syringe. If you do not release the suction, the aspirated material will enter the barrel of the syringe and may result in loss of cellular material as it is difficult to recover material from the syringe.
6. Place the entire sample directly in CytoLyt® solution by aspirating CytoLyt® solution through the needle into the syringe and then expelling back into the CytoLyt® container several times (see below). Samples should be labeled with the patient's first and last name, medical record number or other unique identifier, and the anatomic site from which the sample was collected. Samples from different anatomic sites should be placed into separate containers.
7. Occasionally the aspirated lesion is cystic. In this case, aspirate as much fluid as possible and place the fluid into the CytoLyt® vial. Resample any residual mass following the procedure described above.

Submission of Specimens to the MLabs Cytopathology Laboratory

Submit the CytoLyt® sample along with a completed [MLabs Surgical / Cytopathology Requisition](#) form, including pertinent patient history. The container should be clearly labeled with the patient's first and last names as well as a second identifier such as the patient's birthdate or medical record number, and the anatomic site from which the sample was collected. Refrigerate specimens that cannot be delivered immediately and deliver as soon as possible. Do not allow specimens to freeze.

Specimens can be sent via express mail or courier service to:

Michigan Medicine – University of Michigan
Department of Pathology – MLabs
UH 2F361 Specimen Processing
1500 E. Medical Center Drive
Ann Arbor, MI 48109-5054

Questions

Call **800.862.7284** or mlabs.umich.edu