FINE NEEDLE ASPIRATION

Purpose

Fine Needle Aspiration (FNA) is a quick reliable method of diagnosing lumps that can be palpated. It does not require an incision and causes little or no discomfort. It is however considered an invasive procedure and as such falls under hospital guidelines for invasive procedures.

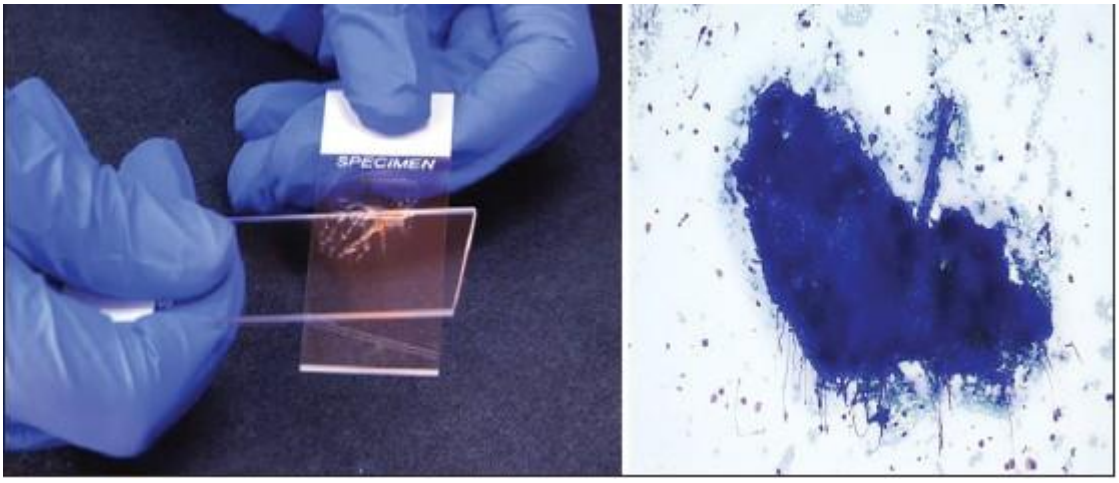
Reagents and Equipment

- **Safety** Needles 27, 25, or 22 gauge 1/1/2 inch
- Syringes 10-12 cc 20 cc
- Cameco syringe holder
- Slides with cardboard tray
- #2 pencil for labeling
- Alcohol fixative in Coplin jar
- Diff-Quik staining solutions #1, #2, #3, and #4 (tap water)
- Alcohol, Reagent 100%, Anhydrous
- Gloves
- 4 x 4's
- Band-Aids
- Formalin fixative (10%)
- Dryer
- 1% Xylocaine without epinephrine
- FNA work sheets
- Microscope
- Coverslips
- Forceps for dipping slides
- Scissors
- Telfa pads
- Safety Equipment:
  - Long sleeve waterproof gown
  - Gloves
  - Safety glasses, shield, mask

Specimen Collection and Handling

- The patient's chart is reviewed for history.
- The patient is then interviewed, if possible, to obtain additional history if necessary.
- The procedure is explained to the patient to include risks and benefits. The area to be biopsied is discussed with the patient and if the exact site is not clear from interviewing the patient, the ordering physician will be contacted to verify the site. In the event the site cannot be verified FNA will be canceled pending verification.
- Informed Consent is given by the patient and the patient is given the opportunity to ask questions.

- **Pre-procedure verification procedure**
    - The Caregiver will ask the patient or legally designated representative to state the patient's name and date of birth and will verify that the information provided matches that on the armband and clinical documents.
    - The Caregiver will confirm that the Medical record number on the armband is the same on all other clinical documentation.
- **Surgical Pause "Time Out" Procedure**
    - The primary caregiver will be responsible for initiation of the "Surgical Pause".
    - All caregivers present will be involved in the surgical pause and shall use active, not passive communication among the team (i.e. all team members agree or question discrepancies).
    - The Surgical/Procedural Pause will be done after the patient is positioned, prepped and draped and IMMEDIATELY prior to incision or the beginning of the procedure.
    - The physician performing the procedure will be in the room when the surgical pause is done.
    - The procedure is not to be started until any differences/discrepancies in staff responses, questions or concerns are reconciled.
    - The surgical pause script allows for active communication by the caregiver with the surgical team as follows:
        - "The patient is" (say first and last name aloud).
        - "The procedure" is (say procedure to be performed aloud).
        - "The operative site and side is" (say the operative site aloud).
        - "The patient is correctly positioned" (say the position aloud)
        - All needed implants are available.
        - All special equipment is available and any special requirements have been met."
- The **fine needle procedure collection** is performed as follows:
    - A chaperone must be present if disrobing is needed or if the patient is of the opposite gender to the physician.
    - The area of concern is palpated and the lump is localized and measured.
    - The exact location is recorded along with the measurements.
    - The skin is cleansed with alcohol.
    - The smallest possible needle is inserted and positioned into the area of concern.
    - Suction is applied.
    - The needle is then moved in a fanning motion.
    - Aspiration is continued for a few seconds or until blood is seen in the needle hub.
    - Suction is released.
    - The needle is then withdrawn from the lesion.
    - Pressure is applied to the area with a gauze pad to minimize bruising/bleeding.
    - The material is expressed onto the slide with the bevel of the needle in contact with the labeled glass slide.
    - A small 1-2 mm drop is applied to the upper 1/3 of the slide.
    - With a spreader slide held as illustrated, the smear is prepared.



- If the pathologist performs FNA procedures or if laboratory personnel participate in the FNA procedure, at least two patient identifiers are placed on the prepared slides and any specimen container at the time of the procedure.
- Microbiology
  - If an infectious etiology is suspected, the first pass is entirely submitted in approximately 5 cc of normal saline in a sterile Vacutainer tube or sterile container for microbiologic studies.
  - Note: Maintain strict aseptic technique to minimize contamination.
- Suspected lymphoma
  - If it is suspected that the patient may have a lymphoid malignancy, material should be collected in RPMI media for flow cytometric analysis. Care should also be taken to prevent crush artifact as the cells are extremely fragile.
- If it is thought that immunoperoxidase staining will be necessary to further clarify the diagnosis, an entire FNA pass may be committed to Cytorich fixative for cell block preparation.
- *EasyIII*™ Staining
  - Store the *EasyIII*™ stains at controlled room temperature (15-30°C).
  - Keep bottles tightly closed when not in use.
  - Do not use after the expiration date specified on the box/bottle label.
  - Mold growth or excessive precipitation in reagents is indications of contamination and/or degradation.
  - Transfer each Solution into Coplin jars or staining dishes and keep covered when not in use.
  - Prepare slides as instructed in the above procedure.
  - Dip each slide to be processed for five, one second dips into the fixative Solution.
  - Allow excess reagent to drain or blot slide.
  - Repeat this procedure substituting Solution I and solution II respectively.
  - Rinse slides with deionized water and allow drying.
  - NOTE: Staining intensity may be varied by increasing or decreasing the number of dips in *EasyIII* Solution I or Solution II. For a more eosinophilic result (red intensity), increase the number of dips into Solution I; for a more basophilic result (blue intensity), increase the number of dips into Solution II. Ideally, five

one second dips into each Solution will produce the desired results. Any variation of the procedure other than described above may adversely affect the results.

Results and Interpretation

- **Rapid on-site evaluation, or ROSE, is a service that pathologists** commonly perform to check the cellular content and adequacy of fine-needle aspiration smears and core biopsy touch imprints. The collection procedure is normally performed by radiologists and occasionally clinicians under imaging (CT or ultrasound) guidance.
  - ROSE can inform the physicians who perform the procedure of the need to obtain additional samples and, in this cost-conscious age, make it possible to avoid having to repeat the procedure.
  - ROSE allows for preliminary diagnosis so that additional material can be requested for ancillary studies such as flow cytometry, microbiology cultures, or molecular studies.
  - Touch preparation or smear slide is evaluated after each pass for adequacy of the specimen.
  - Based on the findings, the tissue will be submitted in formalin or for ancillary studies.
- Preliminary diagnosis should be communicated to the referring physician as soon as possible.
- For FNA procedures where a preliminary, intra-operative assessment of adequacy is made, this assessment is documented in the cytopathology report.
- Determination of specimen Adequacy and Workload Limits
  - A slide assessment that provides only a determination of specimen adequacy, that is, verification of an adequate cellular representation of the suspicious site (hereinafter referred to as a "specimen adequacy assessment"), and not information for the diagnosis, prevention, or treatment of any disease or impairment of, or the assessment of the health of, human beings, is not considered to be a slide examination for purposes of determining workload limits in accordance with 42 CFR 493.1274(d).
  - When establishing workload limits for qualified individuals during specimen adequacy assessment or during diagnostic slide examination, workload limits should be determined as follows in accordance with 42 CFR 493.1274(d):
    - Specimen adequacy assessments such as those described above are not counted toward the individual's daily slide workload limit.
    - However, the time spent by the individual performing such specimen adequacy assessments must be used to prorate the maximum number of slides the individual can examine in a 24 hour period.
    - To determine how the remaining time is used to prorate the maximum number of slides that can be examined during an individual's workday, please refer to the formula below:

      For the purposes of establishing workload limits for individuals examining slides in less than an 8-hour workday (includes full-time employees with duties other than slide examination and part-time employees), a period of

8 hours is used to prorate the number of slides that may be examined. The formula

$$\frac{\textit{Number of}\ \text{hours examining slides} \times 100}{8}$$

  - If a pathologist or a cytologist performs the primary examination/evaluation of a slide, each slide is counted toward their daily slide workload limit.
  - If a pathologist performs a secondary examination of a cytology slide after a previous cytologist or pathologist has performed the primary examination/evaluation, the slide is NOT counted toward the secondary pathologist daily slide workload limit. As per 42 CFR 49.1274(d)(2)(iv), previously examined cytology slides are not required to be counted in the 100 slide workload limit.
  - To document compliance with this requirement the pathologist will mark the amount of time taken to perform a procedure and the Cytology Supervisor will calculate the remaining time available for slide interpretation. See forms in the appendix of this procedure.
- Final diagnosis
  - Every effort should be made to sign out cases the same day if possible.
  - Cases requiring cell blocks/special stains or other special studies may take longer.

Procedure Notes

- Watauga Pathology Associates will not provide outpatient FNA's but will provide FNA service to radiology, inpatients, Cancer Treatment Center and outpatient ETSU Cancer Center patients because in all of these situations, a medical record has been created for the patient.
- Outpatient requests for performing a fine needle aspirate may be referred to Outpatient Cytopathology.
- All parts of navigational bronchoscopy procedures should be ordered as FNA's.
- Thyroid specimens should be ordered as "C" accessions in CoPath if the pathologist did not perform an intraoperative interpretation.

References

- JCAHO's Sentinel Event Alerts 1998 and 2001
- JCAHO's National Patient Safety Goals 2003 and 2004
- JCAHO's Universal Protocol for Preventing Wrong Site, Wrong Procedure and Wrong Person Surgery 2003
- AORN Standards, Recommended Practices and Guidelines, 2003
- CMS, *Clarification Regarding Fine Needle Aspiration (FNA) Specimen Adequacy Assessment, Rapid On-site Evaluation ((ROSE) and Workload Limits,* March 16, 2018