

**MRVAMC: CYTOPATHOLOGY ROTATION: Director: Li Lu, M.D., Ph.D., Clinical Assistant Professor**

**1. Description of the rotation:** The MRVAMC Cytopathology Laboratory processes and examines approximately 6,000 cases per year. The majority of these cases are medical cytologies, with particularly strong representation in respiratory and urologic cytopathology. Cytopathology specimens are prepared by experienced cytotechnologists, for primary review by the resident and secondary review by the resident and faculty member on service. The resident is encouraged to commit him/herself to a diagnosis, and to discuss his/her interpretation of the case with the attending pathologist. For each case, a final report is prepared by the resident and attending pathologist, using the Bethesda system 2001. At the time of review, the cytologic findings and interpretation are correlated with concurrent surgical pathology material, the patient's previous pathology reports, and the clinical history, and SNOMED codes are assigned to all cytology cases for easy retrieval and correlation. For the majority of fine needle aspirates (FNAs), the resident and attending pathologist evaluate sample adequacy at the time of the procedure, and frequently provide a provisional interpretation (Competency #1, #2, #3, #4, see note). During the rotation, the resident will also be introduced to quality assurance procedures, federal regulations, CAP requirements, and cytopreparatory procedures, including production of direct smears, cytopspins, touch imprints, and Papanicolaou staining. Quality assurance materials since 1991 are available to the residents for study, and an extensive teaching file of interesting and unusual cases is maintained for review. As appropriate to the individual case or consultation under review, the ethical, socioeconomic, medicolegal, and cost-containment issues are reviewed and discussed (Competency #5, #6, see note). As well, research design, statistics and critical review of the literature are discussed. By use of the literature, Medline, and textbooks, the resident is trained to become a lifelong learner.

**2. Goals of the rotation:** Increased proficiency in the recognition and interpretation of a wide variety of cytopathologic abnormalities, with application the Bethesda system. Understanding of the indications for use of specialized techniques (immunohistochemical staining, electron microscopy, and image cytometry) to study cytopathologic specimens. Familiarity and hands on experience with cytopreparatory procedures including preparation of FNAs. Familiarity with routine cytologic stains. Familiarity with quality assurance procedures, federal regulations, and CAP requirements related to the practice of cytopathology. Ultimately the resident will strive to become a consultant to the clinician (Competency #1,#2,#3,#4,#5, see note).

**3. Duration of the rotation:** Part of VAAP: Eight 4 week blocks.

**4. Duties and responsibilities of residents at each year of training:** 1) Review and interpretation of current cytology cases prior to meeting with the attending pathologist, and preparation of a draft of the final report (Competency #1,#2, see note); 2) Correlation of current cytology cases with concurrent and previous pathology materials and the clinical history(Competency #1,#2,#3, see note); 3) Attendance at FNAs and preparation of slides (with permission of the subject's attending physician, residents are encouraged to perform the FNA) (Competency #1,#4,#5, see note); 4) Review of quality assurance procedures, federal regulations and CAP requirements pertinent to cytology(Competency #6, see note). The resident keeps a log of FNAs performed/observed. This information is kept in the resident's file for completing the application for Pathology Boards. There are no fellows on this rotation.

**5. Teaching staff:** Byron P. Croker, M.D., Ph.D., Miguel Tellado, M.D, William L. Clapp, M.D., Li Lu, MD., Ph D., Cheryl LaMay, M.D.; Belinda Selli, M.D., Martin Feuer, CT (ASCP), Jon Johnston, M.S., CT (ASCP).

**6. Supervision and evaluation of residents:** Supervision is provided by VAMC pathologists assigned to the cytology service. When learning cytopreparation, supervision is provided by experienced cytotechnologists. Evaluation of the resident is based upon the resident's competencies in patient care, medical knowledge, practice-based learning and improvement,

interpersonal and communication skills, professionalism and systems-based practice as recommended by ACGME guidelines.

**Note:** The 6 ACGME competencies: #1. patient care; #2. medical knowledge; #3. practice-based learning and improvement; #4. interpersonal and communication skills; #5. professionalism; #6. systems-based practice.

**Cytopathology Rotation Core Curriculum  
Submitted by Li Lu, M.D.**

**By the end of the first 4-week rotation, diagnostic competency should be achieved in:**

Respiratory tract specimens

Within normal limits (including criteria for sample adequacy)

Reactive/reparative:      Nonspecific reactive changes  
   Changes associated with infections

Positive:                      Squamous cell carcinoma

Adenocarcinoma

Small cell carcinoma

Poorly differentiated non-small cell carcinoma

Urinary tract specimens

Within normal limits

Reactive/reparative:      Nonspecific reactive changes  
   Changes associated with infections

Positive:                      Low and high grade urothelial neoplasms

Cervicovaginal cytologies

Within normal limits (including criteria for specimen adequacy)

Benign cellular changes:

Atrophy

Candida

Trichomonas

Shift in vaginal flora (Gardnerella)

Epithelial cell abnormalities: HPV-associated changes

Low and high grade squamous intraepithelial lesions

Body fluids

Within normal limits

Benign cellular changes:              Reactive mesothelial cells  
   Inflammatory changes associated with infections

Fine needle aspirate samples

Criteria for specimen adequacy

**By the end of the second 4-week rotation, diagnostic competency should be achieved in:**

Respiratory tract samples

Reactive/reparative: Changes associated with obstructive airway diseases, long-standing pneumonia, asbestos exposure, and radiation/chemotherapy.

Atypical and suspicious categorizations - when to apply

Urinary tract samples

Reactive/repairative: Post-treatment changes  
Suspicious B when to apply

Cervicovaginal cytologies

Benign cellular changes: Other changes not included in first rotation  
Epithelial cell abnormalities: Other changes not included in first rotation list

Body fluids

Mesothelioma vs metastatic carcinoma  
Atypical and suspicious categorizations B when to apply  
Rheumatoid arthritis

Fine needle aspirate samples

Thyroid: Papillary carcinoma  
Follicular proliferations  
Colloid cyst  
Salivary gland: Pleomorphic adenoma  
Warthin's tumor  
Adenoid cystic carcinoma  
Mucoepidermoid carcinoma  
Lymph node: Reactive lymphoid proliferations  
Lymphoma  
Metastatic carcinoma