

AUTOPSY PATHOLOGY (SHANDS HOSPITAL AT THE UNIVERSITY OF FLORIDA and MRVAMC): Rotation Director: Martha Burt, M.D., Autopsy Unit Director (revised 2/14/2011)

1. Description of the rotation: The Autopsy Service of the Department of Pathology provides consultation services to all the Departments of the College of Medicine, to the MRVAMC and to outside hospitals or families upon request. Its mission is to improve diagnosis and care by providing timely examinations of the highest quality that meet the expectations of clinical colleagues. The resident's responsibilities begin with direct initial and continued contacts with the patient's physician about the details and results of the autopsy (ACGME competency #1: Pt. Care). Under faculty supervision, residents learn the technical elements of autopsy performance, tissue preparations, gross and microscopic analysis, case analysis, and report writing, assuming increasing responsibility as their skill levels improve. There are no Fellows on this service. However, more experienced residents will help supervise junior residents during their initial rotations and both are given credit for the examination as the senior assists in the training of the junior resident. When a resident has developed the skills needed for independent performance, cases are assigned for their performance without oversight by a senior resident. All residents are introduced to the key legal and social aspects of the autopsy, from the rights of families to requirements of the legal system and elements and rules of the medical examiner statutes (ACGME competency #6: Systems-Based Practice). The sanctity of the autopsy contract and one's responsibilities under that contract are emphasized. Confidentiality, managing the inquiries of family and others are stressed. Family contacts through the patient's clinician and through participation in family autopsy conferences are encouraged (ACGME competencies #4: Communication; #5: Professionalism). Additional test selection, and technical and scientific management are taught on a case basis (ACGME competency #2: Medical Knowledge). For example, electron microscopy, molecular and cytogenetic studies are used whenever indicated, with recognition of the added costs involved. Neuropathology is a component of the autopsy, and weekly gross conferences are given by the neuropathology group. The residents are encouraged to sign out the brain slides with the assigned neuropathologist. Dermatological problems are evaluated by the dermatopathologist on service, and other consultants are involved as appropriate.

2. Goals of the rotation: An Autopsy manual is published annually which explains procedures and objectives in detail. The resident is expected to:

- i. Develop the technical skills necessary to perform the autopsy including all aspects of gross and fine dissection, organ removal and examination, blood and body fluid harvesting, and tissue sampling for molecular and chemical analysis, microbiologic cultures and cytogenetics.
- ii. Develop examination skills to identify and describe disease processes in all types of gross specimens, and select tissues for histologic study.
- iii. Develop microscopic examination skills to evaluate normal tissues and disease processes.
- iv. Synthesize gross and microscopic findings into a cogent report that identifies cause and effect, possible causes of death, and correlates medical conditions with the patient's clinical course. This usually involves a review of the medical literature (ACGME

competency #3: Practice-Based Learning). Departmental, regional, and national statistics are available when needed and comparable cases can be retrieved from the Departmental data bases.

3. Duration of the rotation: 3 blocks PGY1 year; 1 block each: PGY-2, PGY-3 and PGY-4 year until board requirement is fulfilled.

4. Duties and responsibilities of residents: **i.** Performance of all elements of prosection of an autopsy are initially under the supervision of a senior resident and with increased experience, independently (*graduated responsibility*). An autopsy assistant provides assistance with prosection. **ii.** Resident's prepare a provisional gross anatomic diagnosis *report* to be reviewed and signed by the attending faculty assigned to the autopsy. **iii.** Residents perform an independent review of microscopic slides and compose a draft of the final diagnosis *report* including a list of diagnoses, clinical summary, prosector's discussion, gross and microscopic description sections, neuropathology report, list of cassettes and SNOMED codes. **iv.** Microscopic slides are reviewed with attending faculty and revision of draft of the final anatomic diagnosis *report* is prepared. **v.** Gross photography of interesting and/or unusual cases will be performed. Note: There are *no fellows* on this rotation. Note: *Shared autopsies*: only 6.6% of autopsy cases are shared. Each resident is expected to physically participate in the autopsy and prepare all reports coordinating efforts between the two residents involved.

5. Teaching staff: Shands/UF Martha Burt, M.D., William Hamilton, M.D., Nancy Hardt, M.D., Anthony Yachnis, M.D. (NP), Maria Rivera (NP). MRVAMC Byron P. Croker, MD PhD, Miguel V. Tellado, MD, William L. Clapp, MD, Li Lu, MD, PhD, Belinda Selli, MD, Cheryl LaMay, MD., and Luis Alvarez, MD.

6. i. Resident Supervision: as described above.

ii. Resident Evaluation: Written monthly evaluation. Revised 6-28-2004

AUTOPSY SERVICE: Core Curriculum

INTRODUCTION

The Autopsy training program involves all four years of pathology residency and stresses integration of all aspects of the departmental educational program. While primary emphasis will involve the first 18 months, the resident will have a wide variety of experiences throughout the four years. In their first year, the resident has three rotations of four weeks each. In the second, third, and fourth years, they have additional autopsy responsibilities, but only one or two additional full rotations. Opportunities are given to supervise junior residents. Residents on the autopsy service cover autopsies at Shands/UF under the supervision of Dr. Martha Burt and other teaching faculty, and at MRVAMC under the supervision of the VA faculty.

The following performance objectives and reading topics are basic knowledge expected of every resident by the end of their second year of training. The resident is expected to be technically competent, capably discuss the topics in the reading assignment list, and to evaluate the pathological elements in the clinical problems and explain their clinicopathological significance.

The technical skills should be developed as rapidly as possible so as to expand diagnostic skills and efficiency. This is an evolving curriculum. The materials consist of technical and diagnostic objectives, and a listing of topics essential to understanding the pathological elements of the common problems encountered on autopsy services in both general practice and academic settings. The materials can readily be covered in a two

year program. The key to success is the curiosity cultivated daily by the exploration for answers in pathology.

PART I

TECHNICAL OBJECTIVES

(First Rotation)

1) Be familiar with administrative aspects of autopsy permit.

- a. Priority of next of kin to give permission.
- b. Know responsibilities of hospital personnel who manage mortality details (e.g. Hospital Procedures).
- c. Distinguish which cases fall under the jurisdiction of the Medical Examiner.

2. Know infection control and fire control policies, and chemical data (sign acknowledgment sheets)

3. Eviscerate with supervision.
4. Perform standard dissection of organ block with supervision.
5. Present case at gross conference.
6. Cut sections and submit blocks for histology.
7. Prepare Preliminary Gross Anatomic Diagnosis (PGAD) within the 2 working day

TAT

- a. Dictate concise medical history.
- b. Dictate Gross autopsy findings.
8. Prepare Final Autopsy Diagnosis (FAD) with Clinical Summary and Prosector's Note within 30 / 60 working day TAT that is well organized, logical in content, and concisely written in acceptable English.

DIAGNOSTIC OBJECTIVES

(First Rotation)

1. Identify normal tissues histologically.
2. Identify basic general pathological elements histologically.
3. Discuss basic general pathophysiology of heart failure and major problems in autopsies.

EXPECTED READING

Robbins (Sixth Edition)

Chapt 1 - Cellular pathology

Chapt 2 - Adaptations intracellular accumulations, cellular aging.

Chapt 3 - Acute and chronic inflammation

Chapt 4 - Tissue repair: cellular growth, fibrosis and wound healing.

TECHNICAL OBJECTIVES

(Second Rotation)

1. Removal of brain.
- 2 Specialized dissection (e.g. coronary arteries, superior mesenteric artery).
3. Use of classical histochemical stains.
- 4 Recognition of more subtle gross lesions.
5. Microscopic identification of major groups of neoplasms.
6. Refinement of skills of dissection.
- 7 Gross photography of specimens.
- 8 Correct submission of autopsy material for microbial culture (bacterial, viral, fungal).
9. Competence in performance of specialized dissection techniques designed to answer specific questions.

DIAGNOSTIC OBJECTIVES (Second Rotation)

1. Diagnose the more important and commonly encountered gross pathologic lesions.
2. Identify microscopically normal tissues, neoplastic, degenerative, and reactive processes.
3. Identify infectious processes at autopsy and microscopically.
4. Distinguish 1st, 2nd, 3rd trimester samples of lung, liver, kidney, placenta
5. Present autopsy case intelligently at gross or microscopic conference. This includes preparation of visual aids.

EXPECTED READING Robbins (Sixth Edition)

Chapt - 9 - Infectious Diseases

Chapt - 11 - Diseases of Infancy and Childhood.

TECHNICAL OBJECTIVES (Third Rotation)

1. Properly remove an infant's brain.
2. Identify major placental pathology (abnormal shape, size).
3. Prepare materials for chromosome analysis and electron microscopy, immunofluorescence microscopy.
4. Present complete case at a clinical service conference.
5. Analyze the quality assurance aspects of your cases.
6. Attend departmental quality assurance meeting.

DIAGNOSTIC OBJECTIVES (Third Rotation)

1. Distinguish the common respiratory pathological problems of the newborn.
2. Identify common causes and pathology associated with abruptio placenta
3. Describe the fetal and placental changes and pathophysiology of toxemia of pregnancy.
4. Describe key perinatal infectious problems (fetal/placental, e.g. chorioamnionitis, group B sepsis).
5. Discuss key features of TORCH infections.

Recommended Reading:

Pediatric Pathology Section by WH Donnelly MD.

TECHNICAL OBJECTIVES (Fourth Rotation)

1. Properly prepare a congenital malformed heart.
2. Discuss the main elements of Florida's laws dealing with disposition of dead bodies (transport within state and across state lines, cremation and burial).
3. Using prepared specimens, distinguish:
 - a. Ostium primum vs. ostium secundum atrial septal defects (ASD).

- b. Membranous vs. muscular septal defect (VSD).
- c. Transposition of great arteries vs. Tetralogy of Fallot.
- d. Coarctation vs. interrupted aortic arch.
- 4. Prepare materials for metabolic study (e.g. Pompe's disease; beta oxidation defects).

DIAGNOSTIC OBJECTIVES

(Fourth Rotation)

Recommended Reading: Robbins (Sixth Edition)

Chapt 13 - Congenital Heart Disease

Chapt 6 - Genetic Disorders.

Chapt 7 - Diseases of Immunity

Chapt 8 - Neoplasia

Autopsy Limits and Other Policies

1. VA autopsies:

Beginning January 2011, VA autopsies will be covered by the resident(s) on autopsy rotation. The resident will be assisted by the VA Pathology Assistant (VA PA). Other grossing/frozen section duties of the VA PA will be covered by other personnel and residents on VA surgical pathology rotations while the PA is assisting in the autopsy. VA attendings and upper level residents will also be available to help teach after the block has been removed. The autopsy resident is responsible for writing up the case and all other aspects, and will prepare the case for signout with the assigned attending.

2. Autopsy Limit

A limit has been set on the number of autopsies per resident per week. This will be based on a numbering system. All adult and pediatric full autopsies, regardless of their neuro status, will count as 1 point. Any live born premature infant who has lived less than 2 days or stillborn placenta EE will count as a ½ point. A resident cannot have more than 6 points per week. Any additional autopsies that count as 1 point or a ½ point will be assigned to the resident on 'autopsy month back-up call'.

'Autopsy Month Back-up Call': Each resident will be assigned one month of the year during which they will serve as a back-up resident. Months will be assigned initially by the chief resident; the resident is free to switch months at a later time (as in any other call switch). Based on numbers from prior years, it is extremely unlikely that the backup resident will actually have to answer this 'call of duty', and the likelihood that he/she would have to perform more than one autopsy is extraordinary rare.

3. Autopsy Switch Days: If an autopsy is scheduled for the Monday of 'switch day', that autopsy will be assigned to the oncoming resident, regardless of the time of day that the autopsy is ready to be performed.