



LABORATORY MANAGEMENT AND INFORMATICS

The resident training in Laboratory Management is accomplished through formal didactic lectures, given to all residents during CP conference, teleconferences, and by direct participation in operations management meetings. The one-month Laboratory Management rotation is for PGY3 and PGY4 residents providing them an opportunity to learn and to be involved in the day to day operations of the various campus laboratories. The residents are assigned to each Section Director and attend the Hospital Committees for those specialties, and the Director of Laboratories to various laboratory management meetings. The resident is expected to attend, interact, and apply their theoretical knowledge in these meetings. The residents are also expected to master the quality management process; they will attend regular scheduled meetings of the Department of Pathology Quality Assurance monthly meetings for the Anatomic and Clinical Pathology divisions. They will also participate with the Section meetings as indicated.

The resident will participate in the resolution of operations and management issues, and give a formal presentation on some aspect of laboratory management. The residents are also called upon to function as consultants to clinical faculty having questions concerning appropriate test selection and utilization. The residents routinely are acquired to approve all HIT tests. The residents are given reading assignments selected from the reading list provided; these topics are then discussed weekly with the faculty.

In addition to the laboratory management lecture series, the residents also receive computer training and a short series of lectures on basic informatics. All residents receive a computer at their office desk with wireless connectivity to the campus intranet and the web upon entering the residency program and are trained in the use of the Anatomic and Clinical Pathology programs, as well as the Portal for patient information. The residents are required to use Power Point for all presentations. Assistance and training is provided, and additional lectures and training sessions are available to all residents through the University Learning Resource Center.

The residents also learn laboratory operations management by serving on an actual College of American Pathologists inspection team at least once during their residency training and by participating in the interim CAP inspections of the laboratories on campus. The residents are encouraged to perform the on line CAP-Web Team Member education and testing program.

FACULTY:

- Brad Brimhall, M.D.
- Janet Liebl, MT (ASCP)

TIME: 1 month over the 3rd and 4th years

PREREQUISITES:

Approved for a 3rd and 4th year rotation



OBJECTIVES OF THE TRAINING ROTATION

I. Patient Care: Procedural Skills

A. Objectives:

1. Understand the day-to-day operations of the various campus laboratories
2. Understand and master the quality management process in the individual laboratories
3. Understand the day-to-day management issues and challenges of the various campus laboratories
4. Understand resolution of operations and management issues

B. Plan:

1. Teaching Method: Daily observation of the various laboratory management conferences and medical director's conferences during the section rotation or when a departmental meeting.

C. Supervision / Assessment:

1. **Methods of Assessment**
 - a. Weekly meetings with Director of Clinical Pathology
 - b. End-of-Rotation Evaluation
2. **Assessor(s)**
 - a. Faculty, Laboratory staff
 - b. Medical Directors

II. Medical Knowledge

A. Objectives:

1. Understand principles of practice management theory

B. Plan:

1. **Reading Requirements:** Selected articles in multiple journals and selected chapters from management textbooks
2. **Required attendance:**
 3. Clinical Pathology (CP) Conference, Anatomic Pathology Conferences Anatomic Path and Clinical Pathology and Combined Performance Improvement Conferences.
 - Weekly meetings with CP Director
 - Informatics
 3. Clinical Medical Laboratories Director Meeting During Section Rotations:
 - a. Individual Meeting With Anatomic Pathology Medical Laboratory Director
 - b. Individual Meeting with Transfusion Medicine Medical Director
 - c. Individual Meeting with Microbiology Medical Director
 - d. Individual Meeting with Hematology Medical Laboratory Director
 - e. Individual Meeting with Coagulation-PeriNatal Medical Laboratory Director
 - f. Individual Meeting with Clinical Chemistry Medical Director
 4. Lab Management Meetings During Section Rotation
 - a. Immunology Management
 - b. Lab Central Management
 - c. Clinical Chemistry Lab Management
 - d. Hematology Management



- e. Coagulation-PeriNatal Management
 - f. Blood Bank Management
 - g. Microbiology Management
 - 5. Quality Assessment Management Meetings:
 - a. Monthly Anatomic PI meeting
 - b. Monthly Clinical Laboratory PI meetings
 - c. Combined Monthly AP CP PI meeting
- D. Supervision / Assessment:**
- 4. **Supervision:**
 - a. Faculty
 - 5. **Assessment:**
 - a. Weekly meetings with Director of Clinical Pathology
 - b. End-of-Rotation Evaluation

III. Practice-Based Learning and Improvement

- A. **Objectives**
 - 1. Understand the practical aspects of laboratory management in different situations
 - 2. Successful completion of College of American Pathology (CAP) Inspection
- B. **Plan**
 - 1. Interact with laboratory managers and directors in private, State and County based systems
 - 2. Participate in external CAP Inspection
 - 3. Participate in internal CAP Inspection
 - 4. Complete CAP Web-based training for inspectors
- C. **Supervision / Assessment**
 - 1. **Supervision**
 - a. Faculty
 - 2. **Assessor(s)**
 - a. Weekly meetings with Director of Clinical Pathology
 - b. End-of-Rotation Evaluation

IV. Interpersonal and Communication Skills

- A. **Objectives**
 - 1. Effective interaction with internal and external laboratory management staff
 - 2. Effective verbal communication with internal and external laboratory management
- B. **Plan**
 - 1. **Method**
 - a. Daily interaction with senior management and physicians at weekly conferences
 - b. Required attendance at weekly meetings
 - 2. **Required Presentations**
 - a. Required attendance at meetings



- b. Required attendance and presentation at Clinical Pathology Rounds case study and presentations
- C. **Supervision / Assessment:**
 - 1. Feedback from internal and external laboratory faculty and staff

V. Professionalism

- A. **Objectives:**
 - 1. Ethical and morally acceptable behavior
 - 2. Leading by example
 - 3. Following the “Golden Rule”
 - 4. Dressing for success (neatness counts!)
- B. **Plan:**
 - 1. **Method of Learning:** By example provided by the faculty
- C. **Supervision / Assessment:**
 - 1. **Methods of Assessment:** Observation and counseling, when needed, on opportunities for improvement
 - 2. **Assessor(s):** Faculty

CONFERENCES

- D. **Clinical Pathology (CP) Director Meetings**
 - 1. Weekly meetings with CP Director
 - 2. Lab Mgmt
 - 3. Informatics
- E. **Clinical Laboratories Director Meetings**
 - 1. Medical Directors Collective Meeting
 - a. Individual Meeting with Clinical Chemistry Assistant Medical Director
 - b. Individual Meeting with Transfusion Medicine Medical Director
 - c. Individual Meeting with Microbiology Medical Director
 - d. Individual Meeting with Clinical Chemistry Medical Director
- F. **Department of Pathology-UMC Lab Management Meetings:**
 - 1. Immunology Management
 - 2. Lab Central Management
 - 3. Hematology Management
 - 4. Coagulation/PeriNatal Lab Management
 - 5. Clinical Chemistry Lab Management
 - 6. Blood Bank Management
 - 7. Microbiology Management

BASIC READING

- 2. Preparation for CAP audio conferences



3. Travers, EM, Clinical Laboratory Management, 1998
4. McPherson and Pincus, Henry's: Clinical Diagnosis by Laboratory Methods, 21st ed, 2007, Chapter One.
5. Smith BR, Wells A, Alexander CB, et al. Curriculum content and evaluation of resident competency in clinical pathology (laboratory medicine) : a proposal. Clin Chem. 2006;52(6):917-949
6. Talbert ML, Ashwood ER, Brownlee NA, et al. Resident Preparation for Practice: A White Paper From the College of American Pathologists and Association of Pathology Chairs. Arch Pathol Lab Med 33:1139-1147, 2009



Laboratory Information Systems and Medical Informatics

Objectives:

At the end of this rotation, the pathology resident will:

- Understand the factors relating to selection, implementation, and management of laboratory information systems (LIS)
- Be familiar with the regulatory requirements for LIS validation
- Recognize issues and requirements related to information security
- Understand the flow of information to and from the LIS and laboratory instruments, reference laboratories, hospital information systems, chargemaster, etc
- Understand the capabilities of the LIS for data analysis, data mining, report generation, statistics, quality control, financial analysis, test workload, etc.
- Cite examples of interfaces used by the laboratory
- Be knowledgeable of common standard communication protocols
- Cite advantages of using bar code labels
- Recognize the differences of various bar codes
- Cite applications of wireless communication used in the laboratory
- Cite uses for artificial intelligence within the laboratory
- Be familiar with the issues related to imaging including: acquisition, display, analysis, storage, and archiving