

# INTRO TO LAB ROTATION

## Faculty:

- Stacy G. Beal, MD
- Sherri Flax, MD
- Neil Harris, MD
- Judy Johnson, PhD
- Ken Rand, MD
- William Winter, MD

## 1. Rotation description

- a. The Intro to Lab Rotation provides a comprehensive overview to the testing procedures utilized in clinical chemistry, hematology and microbiology. Laboratory management is also reviewed.

## 2. Goals and objectives

### a. **Patient care:**

- Interpret laboratory test results within the clinical context.
- Develop a diagnosis or differential diagnosis, based on laboratory results and clinical information.

### b. **Medical knowledge:**

- Understand fundamental analytical principles and processes used in clinical laboratory testing.
- Understand the practical and theoretical basis for laboratory test selection and interpretation.

### c. **Practice-based learning and improvement:**

- Develop the ability to find, evaluate and assimilate evidence from scientific studies into the practice of laboratory medicine.
- Apply statistical and study design principles in evaluation of evidence.

### d. **Interpersonal and communication skills:**

- Become familiar with the faculty and staff in the clinical labs.
- Begin to understand how to provide effective clinical consultations to other physicians and hospital staff.
- Demonstrate the ability to work with others as part of a health care team.

### e. **Professionalism:**

- Demonstrate respect, compassion and integrity.
- Learn and understanding of ethical and privacy issues affecting the clinical laboratory.
- Demonstrate a commitment to excellence and ongoing professional development.

f. **Systems-based practice:**

- Understand the role of the laboratory in the health care system and the importance of reliable, cost-effective and timely laboratory results in clinical decision-making.
- Understand CLIA, CAP and JCAHO requirements for clinical laboratories.

3. Duties and responsibilities

a. **Bench rotations**

Day of rotation	CB C's	Co ag	Specimen processing and automated chem	Urinalysis and other tests on that bench	Electrophoresis	Bacteriology Shands	Bacteriology VA	Mycology	Parasitology/AFB	Virology
1	A	B	C	D						
2		A	B	C	D					
3			A	B	C	D				
4				A	B	C	D			
5					A	B	C	D		
6						A	B	C	D	
7							A	B	C	D
8	D							A	B	C
9	C	D							A	B
10	B	C	D							A
11	A	B	C	D						
12		A	B	C	D					
13			A	B	C	D				
14				A	B	C	D			
15					A	B	C	D		
16						A	B	C	D	
17							A	B	C	D
18	D							A	B	C
19	C	D							A	B

b. **Wet lab with Dr. Harris**

c. **Conferences (see curriculum below)**

d. **Talk on topic developed in conjunction with faculty; discuss possible ideas at the start of the rotation.**

4. Didactic curriculum (two to three hours per day)

a. **Microbiology**

- Intro
- Gram-positive bacteria
- Gram-negative bacteria (parts one and two)

- Blood cultures
- Antimicrobial susceptibility testing
- Unusual bacteria
- Vector-borne organisms
- Virology (parts one and two)
- Mycology (parts one and two)
- Parasitology
- Mycobacteria

**b. Clinical chemistry**

- Intro
- Sodium, water and potassium
- Immunoassays
- Acid-base problems, including anion gap
- Plasma proteins, including monoclonal immunoglobulin disorders
- Spectrophotometry, including oximetry and electrochemistry
- Electrophoresis, chromatography and mass spectroscopy
- Therapeutic drug monitoring and toxicology
- Pituitary and thyroid disorders
- Liver: Enzymes, bilirubin, urobilinogen
- Calcium and bone metabolism
- Adrenal disorders
- Gonadal function

**c. Hematology**

- Examining the peripheral smear, automated hematology, including RBC indices
- Disorders of hemoglobin

**d. Laboratory management**

- Basic management: Licensure and accreditation
- Implementing a new method (validation)
- Lab statistics and quality control
- Choosing a new method: Sensitivity, specificity, receiver operating characteristic (ROC) curves, predictive value

**e. Informatics (see separate curriculum)**

- Intro to IT
- PIER Essentials 1