

Introduction to the Core Laboratory - Didactic Seminar Series: *Rotation Director: Neil S. Harris, M.D.*

1. Description: This 4 week introductory rotation to the Core Laboratory is given during the first or second year. Three elements constitute the core laboratory: hematology, coagulation and chemistry.

Additional training in these areas takes place during the individual clinical chemistry, hematology/coagulation and general laboratory rotations and through discussions of on-call and laboratory issues during the Monday morning 7:30 AM Clinical Pathology conference. Two hours of seminar/didactic lecture are given daily with half the topics focusing on clinical chemistry and half the topics concerning hematology/coagulation.

During the 4 week rotation, residents are expected to spend part of the day in the core laboratory observing the pre-analytical, analytical and post-analytical phases of the testing processes. Seminars are conducted 5 days per week. Teaching material includes review of pertinent cases, technical problems and many general laboratory issues (QA, inspections, regulation changes, budgets, method evaluations, management issues, cost-effectiveness and test utilization etc). Residents are provided handouts (or electronic files) and pertinent journal articles regarding the topics. As appropriate to the individual case or consultation under review, the ethical, socioeconomic, medicolegal, and cost-containment issues are reviewed and discussed. As well, research design, statistics and critical review of the literature are discussed.

2. Goals

Laboratory : Residents will become familiar with sample procurement, processing, and handling (**pre-analytical** phase of testing); with **analytical** issues (automated general chemistry, urinalysis, electrophoresis, immunoassay, special chemistry, hematology and coagulation); with the **specific tests** performed in each section (basic chemistries, enzymes, proteins, drugs for therapeutic drug monitoring/toxicology, fetal lung maturity tests, amniotic scans, hormones and peptides, hepatitis and HIV, urinalysis, etc); with **regulatory guidelines** including QA/QC, procedure manuals, safety; and management (residents may attend regularly scheduled section meetings) and result reporting through MISYS™ (the **post-analytical** phase of testing). The residents are supervised by the technical staff and the medical directors.

Seminars: During these sessions, core lab topics are covered in terms of analytical, biochemical and clinical aspects. Management issues (e.g., personnel and budget), medical/legal issues (e.g., HIV test confidentiality, toxicology testing and reporting, chain of custody issues), and socioeconomic issues (cost containment and test utilization), and instruction in basic laboratory statistics and laboratory management are emphasized. By use of the literature, MEDLINE, and textbooks, the resident is trained to become a lifelong learner.

3. Duration of the rotation: 4 weeks; subsequent exposure to the core lab occurs during the clinical chemistry, hematology/coagulation and general laboratory rotations.

4. Duties and responsibilities: Residents are required to participate in the seminar series and in the rotations. Graduated responsibilities: Not applicable for this rotation.

5. Teaching staff: Neil S. Harris, M.D. Associate Professor; Glen Hortin, M.D., Professor; William E. Winter, M.D., Professor

6. i. Resident Supervision: Attendance at lecture and during laboratory rotations is noted. The faculty interacts with the residents during seminars. Calls are discussed and reviewed.

ii. **Resident Evaluation: Written monthly evaluation.** Evaluation criteria include attendance, degree of preparedness and participation. **A multiple-choice examination** will be given at the end of this core rotation.