



Coagulation Rotation

The coagulation rotation is scheduled for one month during the residency period. On completion of the month, the resident should begin to have the skills to interpret the clinical presentation of a bleeding or clotting disorder, select the appropriate tests, interpret those tests, and create a differential diagnosis. In addition, the resident should have a general understanding of how to evaluate coagulation laboratory quality control and proficiency testing.

General competencies are taught using the following methods:

1. Review of cases
2. Assigned reading
3. Tour of the coagulation laboratory
4. Review of quality control (depending on schedule)
5. Review of staff quality assurance/communication logs (depending on schedule)
6. Review of proficiency testing (depending on schedule)
7. 30 minute talk to coagulation laboratory technologists

Training Objectives

Patient Care

1. Respond to coagulation laboratory consultation on case by case basis, via obtaining pertinent clinical history from the patient's electronic chart, laboratory data, and discussion with the attending. Discuss recommendation of any further testing and the differential diagnosis with the attending.

Medical Knowledge

1. Retain the fundamental information about each kind of bleeding and clotting disorder, and use this information to order the correct tests explaining the finding in terms of the mechanisms of the disease under consideration.
2. Discuss coagulation cases and readings with the attending pathologist. Present a topic of the resident's choice to the coagulation laboratory technicians at the end of the month. Read the assigned reading for a particular disease or process.

Practice-Based Learning and Improvement

1. Review interesting cases.
2. Participate in the monthly review of quality control of routine and specialized testing (time permitting), examples: prothrombin time, aPTT, fibrinogen, as well as factor assay, thromboelastogram (TEG), and PFA-100.
3. Review proficiency testing and performance (time permitting).

Interpersonal and Communication Skills

1. Successfully interact with the attending and laboratory technologist concerning patient's clinical history and laboratory tests.
2. Present an organized and practical presentation to the laboratory technicians at the end of month.

Professionalism

1. Compliance with the UMC compliance program as well as HIPAA.
2. Perform the assigned tasks, observe clinician/patient interactions as well as the appropriate analysis of patient problems as required in an organized and efficient manner.



Systems-Based Practice

1. Develop knowledge of the most efficient means to obtain the requisite information for patient decision-making.
2. Define the benefits of automation in coagulation testing, its limits and when manual procedures are required
3. Assess the value of quality assurance and performance improvement in the performance of coagulation tests.
4. Define the role of the computer in coagulation tests

Mode of Assessment

1. Participation in clinic, meetings with attending and 30 minute presentation to coagulation technologists
2. Written exam with the ASCP in-service exam, and oral interpretations with attending pathologist

Check List

1. Interpret results of:

Factor assays D-dimer, FDP

PT, aPTT

Mixing Studies

Elisa methods

Lupus anticoagulant panel

Chromogenic assays

2. Discuss the laboratory tests to assess the bleeding or clotting disorders, examples as follows:

a. Hypercoagulable State: acquired vs. congenital/hereditary

b. Hemophilia: A, B

c. Von willebrand disease

d. Disseminated intravascular coagulation

e. Thrombotic thrombocytopenic purpura

f. Heparin induced thrombocytopenia

g. Coumadin therapy

h. Heparin therapy

3. Present coagulation topic of choice to laboratory technicians, 30 min. talk.

Reading Assignments

1. Robbins Basic Pathology, Ninth ed., Hemostasis and Thrombosis, pgs. 79-90, and Bleeding Disorders, pgs 449-456.
2. Laboratory Medicine – The Diagnosis of Disease in the Clinical Laboratory, Chapter 11: Bleeding and Thrombotic Disorders, accessed through the UMMC intranet library, e-books
3. Papers as assigned by the attending pathologist