

## LEARNING OBJECTIVES AND EXPECTATIONS

### Blood Bank/Transfusion Medicine

The Transfusion Medicine rotation provides further opportunities to acquire knowledge in the following:

- 1) Tests of hemostasis and thrombosis for both congenital and acquired disorders and regulation of antithrombotic therapy
- 2) Transfusion medicine, including the evaluation of antibodies, blood compatibility and the use of blood component therapy and apheresis procedures

#### Technical skills:

The fellow is expected to observe or perform the following diagnostic measures and therapies:

1. Partial thromboplastin time, prothrombin time, platelet aggregation and bleeding time
2. Apheresis
3. Therapeutic phlebotomy

#### Plans for meeting goals and objectives:

1. Daily morning (8:15-9:00) rounds to discuss transfusion therapy, antibody and transfusion reaction work-ups, therapeutic apheresis patients.
2. Introduction to blood components-
  - a. Preparation and storage
  - b. Indications for special needs like irradiation and leukoreduction
  - c. Adverse effects of transfusion
3. Bench work – half a day hands on ABO/Rh blood typing and antibody screening. Technical aspects of antibody identification and direct Coomb's test.
4. Transfusion management of patients with:
  - a. Warm autoimmune hemolytic anemia
  - b. Cold autoimmune hemolytic anemia
  - c. Refractoriness to platelet transfusion
  - d. Massive transfusion
  - e. Coagulopathy of liver disease, DIC and others
  - f. Sickle cell disease
  - g. Platelet dysfunction
  - h. Congenital bleeding disorders
  - i. ABO incompatible hematopoietic stem cell transplantation
5. Therapeutic Apheresis: Introduction to apheresis techniques, various indications, important technical and clinical aspects of apheresis that include management of anticoagulation, side effects etc. Specific procedures/diseases covered:
  - a. TTP
  - b. Red cell exchange for Sickle cell crises – acute chest syndrome, stroke etc
  - c. Cell depletion – WBC, platelets
  - d. Plasmapheresis for hematological disorders

- e. Photopheresis for immune modulation to treat CGVHD post stem cell transplant
6. Sign outs and teaching – each afternoon sign out of antibody work up in blood bank, transfusion reactions, and interpretation of special coagulation tests. Case-oriented teaching for 1 to 1 and half hour.