

Blood Banking/Transfusion Medicine Fellowship

Rotations

The resident's time in the transfusion services laboratory is designed for active participation, rather than passive observation. The resident evaluates patients and makes decisions regarding appropriate diagnostic testing, transfusion therapy or therapeutic apheresis. The laboratory requires resident participation, which is facilitated by always having at least two residents on the blood bank rotation at any given time. Faculty members are always available for questions and the transfusion medicine fellow helps the residents with their responsibilities. The clinical material for the blood bank rotation is very diverse and includes adult and pediatric hematopoietic transplant services, pediatric liver and heart transplantation, ECMO, an obstetrics service that delivers 17,000 babies per year at one hospital, a level 1 trauma center, a regional burn service, and one of the largest independent blood donor collection centers in the country.

Residents receive 16 one-hour lectures on a comprehensive range of blood bank topics during their first year of training. They must spend two months of their first year on the transfusion service for basic instruction in: donor eligibility, component preparation, autologous and directed donations, donor and therapeutic apheresis procedures, compatibility testing, appropriate use of blood components, adverse consequences of blood transfusion, including transfusion-transmitted infections, hematopoietic stem cell transplantation (cell harvesting and manipulation as well as transfusion support), pharmacologic alternatives to transfusion, blood substitutes, blood derivatives, accreditation and licensing, compliance and cGMP regulations, bar codes, lookback procedures and hemolytic disease of the newborn. The residents receive objectives and suggested reading for each topic, as well as a post-lecture quiz (not graded). Exercises on donor eligibility, paternity testing, Rh nomenclature, and red cell antibody identification panels are done. The residents also receive an end-of-the-rotation quiz that is graded on basic knowledge retention. The residents are given a checklist of laboratory activities that they are required to observe at the bench. They perform hands-on work. A second 2 mo. advanced rotation in the blood bank has recently been inaugurated in conjunction with the coagulation rotation. During this period, the resident is given additional responsibility for handling the more difficult problems that arise especially in hemostasis, as well as assisting the junior residents.

Residents spend one week of their two-month rotation at the blood donor center and one day in an HLA typing lab (internal medicine), and the rest of the time at the hospital transfusion service. They rotate taking daytime calls regarding patient problems in the transfusion service and donor eligibility calls/donor reaction problems for the blood donor center. The residents generate written consultations for new red cell antibodies, transfusion reactions, and other special testing situations. The residents also evaluate new patients for whom therapeutic apheresis procedures or therapeutic red cell withdrawal are requested. The residents also participate in a biweekly Transfusion Medicine Journal Club, where each resident briefly presents a recent peer-reviewed journal article.

Special issues:

1. Transfusion medicine computer use. Residents are instructed in the unique safety features of the computer in the blood bank, with emphasis on the cGMP environment and a discussion of the electronic cross match. The residents have a chance to see software at the blood donor center that was developed in house and is now FDA approved and marketed to other centers.
2. Residents are required to attend at least one meeting of a hospital transfusion utilization review committee. They are routinely involved in follow-up of patient status for component recalls and lookbacks, and may be involved in utilization review as well.

3. At the donor center, the resident participates in donor eligibility questions, donor re-entry review, donor counseling activities, donor callback investigations, instigation of donor lookback, investigation of transfusion-transmitted disease reports, review of donor reactions, bone marrow registry activities, donor platelet and stem cell apheresis, observation of component preparation, and participation in at least one blood drive.