



BETH ISRAEL
DEACONESS MEDICAL
CENTER



BRIGHAM AND
WOMEN'S HOSPITAL



CHILDREN'S HOSPITAL,
BOSTON



DANA FARBER
CANCER INSTITUTE



MASSACHUSETTS
GENERAL HOSPITAL



HARVARD MEDICAL
SCHOOL

HARVARD MEDICAL SCHOOL FELLOWSHIP PROGRAM IN TRANSFUSION MEDICINE

EDUCATIONAL OBJECTIVES AND APPROACHES

The HMS Fellowship Program in Transfusion Medicine emphasizes the achievement of key competencies by its clinical fellows. Objectives and approaches are summarized below for the six major areas of importance:

I. PATIENT CARE

Objectives –

- **To gain diagnostic competence and the ability to provide appropriate and effective pathology services and clinical consultation.**
- **To learn to collaborate with other professionals, include those in other disciplines, in providing patient-focused care.**
- **To learn the principles of compassionate and cost-effective patient care.**

Approach -

- Fellows gather essential and accurate clinical information about the patients on whom they perform consultations regarding therapeutic apheresis, transfusion reactions, serologic workups, hemostasis, or other transfusion-related issues.
- Fellows make informed decisions regarding the diagnostic workup of blood bank serologic specimens based on patients' clinical history, up-to-date scientific evidence gleaned from journal articles, internet-based searches, textbooks, and clinical judgment.
- Fellows use available information technology (hospital and laboratory information systems, electronic bibliographic searches and journals) to support workup and diagnosis, and to help educate clinicians by providing relevant literature references.
- Fellows demonstrate competence in the performance of tasks considered essential for transfusion medicine practice, including:
 - Providing guidance to the various clinical services on laboratory testing and blood product usage, including coagulation factors.
 - Planning and medical oversight of therapeutic apheresis procedures.
 - Performing transfusion reaction investigations with appropriate follow up to the clinical services.
 - Evaluating and managing blood and peripheral blood stem cell donors.

II. MEDICAL KNOWLEDGE

Objectives –

- **To gather and consolidate knowledge about established and evolving basic biological and clinical sciences and clinicopathologic correlations, and the application of this information to patient care and to pathology.**
- **To gain analytical and problem-solving skills and their application in pathology.**

Approach -

- Fellows demonstrate an investigatory and analytical thinking approach to clinical situations dependent on the blood bank/transfusion service including:
 - Performing thoughtful and accurate serologic and transfusion reaction workups.
 - Suggesting appropriate additional testing (e.g. advanced serologic testing serology, HLA testing, etc.) if applicable.
 - Formulating comprehensive and cohesive differential diagnoses and developing treatment plans for patients in whom therapeutic apheresis is being considered.
 - Designing and carrying out focused research projects, such as clinicopathologic studies, or case reports with literature review.
- Fellows know and apply the basic and clinically supportive sciences which are appropriate to the specialty of transfusion medicine, including:
 - Demonstration of knowledge of hematology, immunology and infectious disease and as they apply to transfusion medicine.
 - Demonstration of familiarity with all aspects of blood component manufacturing, testing, storage and provision.
 - Demonstration of familiarity with blood group serology and blood bank testing methods.
 - Demonstration of detailed knowledge of appropriate transfusion medicine practices as applied to specific clinical areas such as surgery, hematology/oncology, hematopoietic stem cell transplantation, pediatrics, obstetrics, etc.
 - Demonstration of understanding the principles of therapeutic apheresis, and the rationale for using apheresis in a variety of disease states.

III. PRACTICE-BASED LEARNING AND IMPROVEMENT

Objectives –

- **To gain the ability to evaluate and improve a diagnostic and consultative practice based on scientific evidence.**
- **To locate, appraise and use scientific data to improve patient care.**
- **To apply knowledge of rigorous scientific principles, study design and statistical methods to evaluate published clinical studies and do clinicopathologic investigation.**
- **To learn to use information technology to manage information and conduct personal continuing education.**

- **To facilitate the learning of students, residents, colleagues and other health care professionals.**

Approach -

- Fellows show the ability to analyze practice experience and perform practice-based improvement activities using a systematic methodology, including:
 - Active participation in weekly didactic conferences and operational meetings (e.g. BWH/DFCI Biological Therapies Committee).
 - Participation in quality monitoring efforts e.g. assisting with quarterly transfusion appropriateness audits.
- Fellows show ability to locate, appraise, and assimilate evidence from scientific studies related to patients' health care problems, including using literature search and review to find relevant scientific references to aid in performing laboratory and clinical consultations.
- Fellows are able to apply knowledge of study designs and statistical methods to the appraisal of clinical studies and other information on diagnostic and therapeutic effectiveness, including:
 - Active participation in weekly conferences with critical discussion of study designs and statistical methods of presented articles.
 - Design and conduct independent clinical, translational or basic research studies.
- Fellows demonstrate competency in the use of information technology to manage information, access on-line medical information, and support their own education, including:
 - Accessing of patient clinical information and previous laboratory results via the hospital's Laboratory Information System.
 - Performance of computer bibliographic searches.
- Fellows actively participate in the teaching of medical students and other health care professionals, including:
 - Teaching students on elective rotations in Pathology and in Medical school courses as laboratory instructors.
 - Teaching students and fellows from other disciplines during in-hospital clinical conferences.
 - Teaching laboratory and donor center staff.

IV. INTERPERSONAL AND COMMUNICATION SKILLS

Objectives –

- **To acquire and use interpersonal and communication skills that result in effective information exchange and collaboration with other health care professionals and patients (and their families).**

- **To create and maintain an effective, ethically sound and respectful relationship with peers, other health care professionals, and patients (and their families).**
- **To use effective listening skills.**
- **To work effectively with other professional and non-professional staff.**

Approach -

- Fellows demonstrate effective listening skills and elicit and provide information using effective nonverbal, explanatory, questioning and writing skills. This includes:
 - Following instructions from attending physicians during performance of consultations and management of therapeutic apheresis patients and donors.
 - Demonstrating interest in case material during teaching rounds by asking relevant questions, and responding articulately to questions from transfusion medicine attendings.
 - Eliciting relevant clinical information from and providing appropriate diagnostic information and clinical advice to clinicians via telephone conversations.
 - Generating concise, accurate, and complete consultations in the clinical laboratories.
 - Demonstrating effective oral and written communication skills in didactic talks and research projects.
- Fellows should work effectively with others as a member or leader of health care team or other professional group, including participation with other members of the Dept. of Pathology and Laboratory Medicine and other departments on various hospital committees.

V. PROFESSIONALISM

Objectives –

- **To maintain a commitment to excellence in carrying out professional responsibilities, adherence to ethical principles, and sensitivity to diversity in the workplace.**
- **To maintain respect, compassion and integrity; responsiveness to patients that supercedes self-interest; accountability to patients, colleagues, and the profession and discipline of pathology; and a commitment to on-going professional development.**
- **To develop and maintain a commitment to confidentiality of patient information, informed consent and ethical business practices.**
- **To learn the highest principles relating to conflict of interest and commitment.**
- **To develop the maximum sensitivity to colleague and patient ethnicity, age, gender and disabilities.**

Approach -

- Fellows must demonstrate a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to a diverse patient population, including:
 - Showing respect, compassion, and integrity during interactions with patients.
 - Showing responsiveness and accountability to the needs of patients and their families and clinicians that supercedes self-interest, including contributions to the timely completion of reports, and discussion of results with clinicians.

- Demonstrating commitment to excellence and ongoing professional development, such as completing directed and independent reading from pathology textbooks and journal articles, designing and completing research projects, undertaking literature searches on various transfusion medicine topics, providing high-quality presentations at conferences, and attending in-house and off -site pathology lectures and conferences.
- Demonstrating a commitment to ethical principles pertaining to confidentiality of donor and patient information.
- Demonstrating commitment to ethical principles pertaining to business practices, including helping to ensure accurate billing for services.
- Demonstrating adherence to the highest principles of mutual respect of colleagues and support personnel.

VI. SYSTEMS-BASED PRACTICE

Objectives –

- **To develop an awareness of and responsiveness to the larger context and system of health care and the ability to access and effectively use resources to provide value-added pathology services.**
- **To understand how pathology services affects other health care professionals, organizations and systems.**
- **To develop an understanding of the principles of cost-effective health care and resource allocation that enhances (and does not compromise) quality of service and patient care.**

Approach -

- Fellows must demonstrate an awareness of and responsiveness to the larger context and system of health care and the ability to effectively call on system resources to provide care that is of optimal value. This includes:
 - Gaining an appreciation for transfusion medicine as a public health practice, and participating in policy discussions and decision-making.
 - Demonstrating knowledge of methods for controlling health care costs and allocation of resources.
 - Practicing cost-effective health care and resource (e.g. blood product) allocation that does not compromise the quality of care.
 - Demonstrating knowledge of how to partner with health care managers and health care providers to assess, coordinate, and improve health care, and knowledge of how these activities can affect system performance.