Harvard Medical Toxicology Curriculum

The curriculum of the Harvard Medical Toxicology Fellowship program at Children's Hospital Boston and the Beth Israel Deaconess Medical Center is designed to provide in-depth exposure to wide spectrum of toxicological issues.

The fellow is expected to:
1. Demonstrate competence in assessment and management of the acutely poisoned patient and the patient who is the victim of a subacute or chronic toxic exposure.
2. Understand the principles of pharmacology as they pertain to the poisoned patient.
3. Understand the epidemiology of poisoning and aspects of poisoning prevention.
4. To demonstrate competence in academics by developing skills along the clinician/educator pathway or to select a research problem, apply the appropriate methodology, develop/execute the research plan, analyze the data, and present the findings.
5. Be familiar with the operation of a poison center including administrative functions, the budgeting process, certification standards and all aspects of information retrieval and patient record keeping.
6. Demonstrate knowledge of both occupational and environmental issues in toxicology.
7. Appreciate different toxic assays and testing procedures used in analytical and forensic toxicology.
8. Appreciate aspects of hazardous materials toxicology, issues in nuclear/biological/chemical warfare and disaster planning by public health agencies.

These objectives are attained through specific interaction with specialists in each of the required areas: Poison Control Center operations, research laboratories, emergency medicine, pediatrics, pharmacy, occupational/environmental toxicology, and epidemiology/biostatistics. These individuals are part of our Harvard Medical School faculty at Children’s Hospital Boston and the Beth Israel Deaconess Medical Center working in the Department of Emergency Medicine as well as the Division of Medical Toxicology. This staffing offers extensive involvement in the operation of a poison control center (located at Children’s Hospital Boston), the operation of a Regional Toxicology Treatment Center (located at the University of Massachusetts medical center), and in the proper medical management of acute and chronic intoxications. This experience is combined with ample clinical opportunities to work with health care professionals in a variety of clinical environments including tertiary medical centers, doctors offices, community hospitals, as well as with the lay public. The department also plays a major role in the development, organization and delivery of educational clinical programs for emergency medicine and pediatric physicians and other health-care professionals who provide medical care to the acutely poisoned patient, individuals with occupational or environmental exposure to intoxicants, and other policy-making organizations. Finally, the program allows one to one interactions with the Harvard Medical school students who rotate through the Center.

The Harvard Medical Toxicology Fellowship is an excellent program whereby the fellow sees acutely intoxicated patients upon presentation to the Emergency Department or ICU, and then follows the patients through their course of medical care. In addition, the fellow handles a large volume of request-for-care calls through the Poison Center.

The fellow provides care, in an outpatient setting, for patients with occupational or environmental exposures under attending supervision. This provides the fellow with breadth of exposure, as well as clinical autonomy under the direct supervision of attendings who all have faculty appointments at the Harvard Medical School. In addition, cases may be discussed with other faculty at one of the formal didactic sessions conducted by the training program when indicated.

Together, the curriculum imparts in its trainees skills in data gathering, problem solving, and patient management; allows them to demonstrate breadth of medical knowledge and level of efficiency; and achieve superlative interpersonal, communicative, and professional skills. The graduate will have an understanding of systems-based practice as well as the importance of practice-based learning and improvement to their professional lives.

During the two-year period of the fellowship, the medical toxicology fellow has progressive opportunities to observe and, ultimately, directly participate in the care of intoxicated and toxicant-exposed individuals. Moreover, senior fellows experience graded responsibility in patient management with junior fellows as well as supervising the Emergency Medicine fellows on their Toxicology rotation. This robust clinical experience is augmented by a strenuous academic program that prepares fellows for academic careers. As part of the academic portion of subspecialty training, fellows present quarterly to the Toxicology Scholarship Oversight Committee to either work on their skills as a clinician/educator or to develop their own ideas into sustainable research investigations of public health importance.
Medical toxicology fellows have responsibilities at each level of training different from those of the emergency medicine and pediatric fellows. Specifically, medical toxicology fellows fulfill the role of a consultant; in this role, they are expected to provide direct teaching of the emergency medicine and pediatric fellows in established didactic conferences and in clinical environments such as the emergency department and the intensive care units. Greater responsibility for clinical teaching is placed on second year fellows.