Welcome to the Tufts University Radiation Safety Awareness training. All individuals that are required to work in a permitted radiological laboratory are required to attend. Those that handle radioactive materials are required to attend “Introduction to Radiation Safety”, in lieu of “Radiation Safety Awareness” training.
It is important that all members of the Radiation Safety Program (RSP) are acutely aware of the hazards in their work environment and communicate hazards effectively with colleagues, visitors and safety professionals. The objectives chosen serve as a quick review of key areas for those handling radioactive materials and or radiation producing machines.

### Introduction & Objectives

#### Introduction

1. Tufts University has been licensed to handle radioactive materials for over 40 years.
2. Radiation Safety is a high priority and it is a condition of our license that we carefully handle radioactive materials and meet stringent regulatory requirements to ensure safety for employees, contractors, visitors, neighbors, and the general public.
3. There has never been an injury from radioactive materials on any of the three campus locations.
4. Tufts University is committed to maintaining this safety record and invites suggestions for improving our safety programs.

#### Objectives

1. Review characteristics of radioactive materials, radiation and radiological contamination.
2. Review warning signs and postings identifying areas where radioactive materials are located or radiation producing machines are used.
3. Review the characteristics of the Radiation Safety Program.
4. Be aware of the services offered by Radiation Safety staff.
5. Be aware of regulatory licenses, registrations, and notices defining employee rights concerning radiation safety.
Tufts University has been issued a Type B Broad-Scope Radioactive Materials License by the Commonwealth of Massachusetts Department of Public Health Radiation Control Program (DPH-RCP). The license details the possession, use, storage, receipt and transfer of radioactive materials, giving full responsibility for the control and proper use of such materials to the Radiation Safety committee (RSC). This license is on file in Tufts Environmental Health and Safety and imposes certain limitations with respect to radionuclide, chemical compound, and quantity. It states that radioactive materials shall be used by, or under the supervision of individuals designated by the RSC. It also specifies a list of conditions, all of which must be continually satisfied and in accordance with the rules and regulations detailed in 105 CMR Part 120.
The “Notice to Employees Standards For Protection Against Radiation” is required to be conspicuously posted and provides information regarding employer and employee responsibilities, what is covered in the regulations, exposure monitoring, the unannounced inspection process, and the Department of Public Health location and contact number for employees interested in further detail.
The RSC is comprised of the Chairperson, the Radiation Safety Officer, a representative of the Office of the Vice Provost, and faculty members from the academic departments to ensure broad representation and expertise. The Committee is a forum of experts that provide technical and administrative guidance and effectively review safety controls and procedures, security procedures, training programs, annual RSP audits, facility design, amendments to regulatory licenses and internal RSP permits. The main function for this committee is to support the development of radiation safety policies and procedures, advise on the development of the RSP, and to ensure that the safe handling of radioactive materials and use of radiation producing machines is optimized.
The RSC receives its authority from the Vice Provost for Research. Faculty RSC representatives are nominated by the Chairperson and appointed by the Vice Provost. The Office of the Vice Provost for Research:

- Assumes overall responsibility for the Radiation Safety Program (RSP) through the Radiation Safety Committee (RSC) and Radiation Safety Officer (RSO).
- Supports the development and continuing review of the RSP to ensure that radiation protection requirements are met.
- Ensures the implementation of appropriate controls based upon the recommendations of the RSC.
The license requires Tufts University to appoint a qualified RSO to oversee all aspects of the Radiation Safety Program. The RSO operates under the authority of the Vice Provost for Research, is responsible for managing the Radiation Safety Program and to ensure compliance with regulations for the safe use of radioactive materials and radiation producing machines. This individual acts as liaison with regulators and reports directly to the Director of EHS and Executive Management.
The Radiation Safety Program continues to develop and seek improvements to enhance current services. The bulleted services are provided to all campus locations to assist researchers and operations to fulfill their specific goals. For more information regarding EHS services please visit the EHS website (http://publicsafety.tufts.edu/ehs/).
The contact numbers are provided in case of an emergency, to request services or seek further information. The Health Physics Group is contracted to provide Radiation Safety support to the Boston Campus. It is important to recognize that 24 hour emergency response support is available by contacting Tufts Police.
"Caution Radioactive Materials" posting is used for packages, when securing sources, on radiological waste containers, and other areas or devices that contain radioactive materials.
Laboratories that store small quantities of radioactive materials are required to be conspicuously posted in accordance with regulatory requirements. This posting is required based upon materials being present (i.e. radioactive materials being secured, stored or used). The quantity of radioactive materials can range from microcurie to milli-curie quantities and are either sealed or unsealed source materials.
There are few radiation areas that exist at Tufts University, and under normal working conditions radiation areas are limited to the Grafton Nuclear Medicine or Radiology Departments. This is primarily due to the type of radiation emitted, quantity of radioactive material stored or handled, or radiation producing machines used by medical staff in Grafton Veterinary Services. Other researchers approved by the RSC work with small quantities of radioactive materials not capable of producing intense radiation fields as defined by the term “Radiation Area”.
These areas are restricted to trained personnel only. The potential to be exposed to radiation is increased due to the type of radiation being emitted from machines or radionuclides during diagnostic procedures. Personnel are trained to restrict access to the area, distance themselves from radiation scatter using remote handling tools when feasible, and controlling radionuclide sources to minimize contamination during procedures.
Animal patients undergoing diagnostic procedures involving radionuclides are often escorted between procedural rooms and temporary holding areas (stalls) to reduce potential exposure to radiation or contamination. These stalls are often designated as “Radiation Areas”, and urine, feces and other patient bodily fluids are considered to be radioactive.

The area is posted to signify potential to be exposed to radiation and cordoned off with black & yellow tape to designate access for trained personnel. Do not cross over or enter, unless you have received additional training and work requires access.
Food or Drink Prohibited in Laboratory

- Evidence of eating or drinking
  - coffee cups, candy or gum wrappers
- Do not apply cosmetics or handle contact lens

Please remember to leave empty containers or wrappers that were once used for food or beverages outside of the permitted laboratories.
Thanks for attending Radiation Safety Awareness training

- Any questions?
- Please remember to complete and submit the Radiation Safety Awareness Test
  
  http://publicsafety.tufts.edu/ehs/radiation-safety-awareness-training/