



IN CASE YOU HAVEN'T “HERD”



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Safe, Healthful Offices, Classrooms and Meeting Rooms at Tufts

By Stephen R. Larson, Director

A university is sometimes described as a think factory, a place where faculty, staff, students and visitors create, learn and exchange old and new ideas and information. The office, classroom and meeting room is the workplace for many faculty and staff at Tufts. Individuals are most productive when these workplaces are safe and healthful.

Between 1980 and 1990, there was a “perfect storm” of new building designs, new building materials and new office technologies that led to many “white collar” workers in offices, classrooms, libraries and meeting rooms to have concerns about their health and safety.

Since the 1990s, the staff of Tufts Environmental Health and Safety (EHS) has provided guidance to the Tufts community on two of the subjects of greatest concern: indoor air quality and ergonomics.

In 1973, building codes were changed reducing ventilation rates in new buildings. The objective was to conserve energy. However, office workers in these new buildings, many with unopenable windows, experienced stale “dead” air conditions and little no perception of air movement. Between 1980 and 1990, the National Institute of Occupational Safety and Health conducted over 500 indoor air quality investigations and concluded that in 51% of the cases, all of the health effects

experienced by workers were related to lack of adequate ventilation: too little outdoor air, disagreeable odors and too little air movement. The beginning of Sick Building Syndrome.

After 21 years of health research, in 2011, the Massachusetts Building Code for new buildings references the International Mechanical Code (ANSI/ASHRAE 62.1-2004) and requires ventilation that provides comfort and protects the health of all building occupants. Tufts Facilities Services makes every effort to operate buildings that meet the most current standards and works closely with Tufts EHS staff on each campus to respond to any health concern associated with the air quality in any office, classroom or meeting room.

At the same time as the new building standards and new building materials were being introduced, new information processing tools originally called word processors, printers and copy machines were replacing the typewriter as the primary office machines. Workers began to report repetitive strain injuries such as back pain, carpal tunnel disorder, tennis elbow and shoulder pain apparently associated with introduction of this new office technology.

Again, extensive scientific investigations of these workplaces demonstrated that many of these health effects could be eliminated by proper workstation design: adjustable chairs, tables and keyboard trays.



Did you know

61%

of workers have repetitive hand or arm movements

<http://www.hermanmiller.com/Thrive-Portfolio>

In some cases, trackballs seemed better than mice for reducing hand, arm and shoulder discomfort.

This idea of designing a workplace that permits the worker to adjust chairs and other elements of the work area to reduce discomfort is called ergonomics. Tufts EHS staff has provided training and advice to many faculty, staff and students on the actions that can be taken to reduce discomfort and reduce the potential for repetitive strain injuries.

Current information about office ergonomics is available at the Ergonomics section of the Tufts EHS webpage.
<http://publicsafety.tufts.edu/ehs>

Inside this issue:

<i>Laboratory Contamination and Infection of Laboratory Worker in Illinois With Cowpox Virus</i>	2
<i>Reducing Mercury Use and Disposal at Tufts</i>	2
<i>I Just Spilled Some Chemicals. Now What?</i>	3
<i>Disposing of Regulated Infectious Medical Waste at Tufts</i>	4
<i>Fire Prevention in Academic Offices</i>	5
<i>Laboratory Fire Safety</i>	5
<i>Chemical Safety Plans and Registration Forms</i>	6
<i>Dry Ice Shipping</i>	7
<i>Safety's Roll in Construction Projects at Tufts University</i>	7
<i>Upcoming Trainings</i>	8
<i>TEHS Directory and Online Features</i>	9

Laboratory Contamination and Infection of Laboratory Worker in Illinois With Cowpox Virus

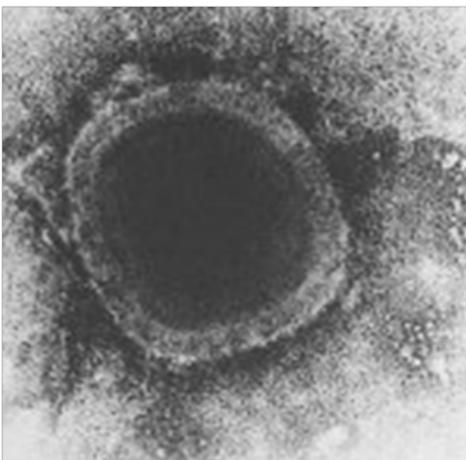
By Julien M. Farland

In 2010 a student laboratory worker at the University of Illinois was infected with cowpox virus, a less virulent form of the smallpox virus. This is the first known case of infection in a laboratory worker in the United States according to a report by the Centers for Disease Control (CDC) and Prevention in Atlanta. The CDC recommends vaccination of laboratory workers who work with cultures of animals orthopoxviruses that may infect humans, including cowpox viruses. Apparently this individual was offered a vaccination but declined.

In July of 2010 the lab worker became infected while working with the cowpox virus and developed a suspicious, painful, ulcerated lesion on a finger that lasted about three months. In October 2010, biopsy specimens were submitted to the CDC for testing. Real-time polymerase chain reaction assays on the biopsy tissue showed positivity for cowpox DNA and negativity for vaccinia virus. Investigation revealed cowpox virus stocks in the laboratory's freezer but no known use of cowpox in the laboratory in the previous 5 years.

Sequencing of an isolate from the laboratory worker revealed a recombinant region consistent with recombinant cowpox strains stored in the freezer. In addition, cowpox was detected in multiple viral stocks and 2 viral lines, including the viral stocks used by the

patient prior to the onset of illness. Orthopoxvirus DNA was also found in environmental swabs of several surfaces in the laboratory and a freezer room, although no live virus was recovered from the swabs.



Cowpox Virus. Transmission Electron Micrograph. Source: CDC

According to the CDC, the patient noticed a small cut at the site of the lesion a few days before the lesion developed. "The patient had no recollection of an accidental needle stick. Evidence suggests that the patient was likely infected by handling laboratory reagents or environmental surfaces that were contaminated with cowpox virus."

The CDC states that orthopoxvirus infections can be severe, particularly in individuals with risk factors for severe complications, including those with an immuno-compromising condition, eczema, or other similar skin conditions, and pregnant women. "Cowpox infections are transmissible by contact with lesions or matter from lesion exudates, and lesions are considered capable of producing infectious virus until a scab falls off and a fresh layer of skin forms. Prompt recognition, diagnosis, and reporting of orthopoxvirus infections to appropriate public health agencies can help reinforce appropriate infection control practices."

The CDC report on this infection is preliminary but a number of points should be stressed. Workers should consider receiving vaccinations offered for the agents they are using in the laboratory. All laboratory workers should report any potential exposures so proper medical attention can be received promptly. Work surfaces and equipment must be properly disinfected on a routine basis. Personal protective equipment, such as gloves, lab coats, and eye protection, must be worn in the lab. Hands must be washed before leaving the work areas.

Source: Promed mail

Reducing Mercury Use and Disposal at Tufts

By Stephen R. Larson, Director

The Tufts community is well aware that mercury as a metal and in chemical compounds is a poisonous heavy metal and its hazards need to be controlled and where feasible eliminated. Fluorescent lamps (CFLs), thermometers, scientific devices, drugs, batteries often contain mercury. Research and teaching laboratory workers have taken many actions since 1992 to reduce the use of mercury containing devices, chemicals and ensure that no mercury is poured down the drain. The discharge limit in

Massachusetts is 1 part per billion in water that goes down the sink drain. Unfortunately, tests on many reagent biochemicals, organic and inorganic compounds that should not contain mercury (less than 50 part per trillion) reveal concentrations of mercury greater than 1 ppb. Cleaning and disinfectant agents such as bleach often contain mercury due to production methods.

Tufts will need the cooperation of the entire community to reduce and if possible eliminate mercury emissions to the environment.

Cleaning and disinfectant agents such as bleach often contain mercury due to production methods.



Image Source: <http://www.deq.state.va.us/waste/>

I Just Spilled Some Chemicals. Now What?

By Stephen R. Larson, Director



Minor spills (Type A) that can be safely cleaned in-house

C. Minor spill of a highly toxic chemical outside a fume hood

All high toxicity chemicals require a written Safety Plan which contains a special spill or release response section. Call x66911.

D. Major spill of a highly toxic chemical anywhere

All high toxicity chemicals require a written Safety Plan, which contains procedures for containing the spilled or released materials and restoring the laboratory or other area to safe condition. Call x66911.

When the Public and Environmental Safety staff is notified of a chemical spill or release by dialing x66911, a Tufts Police Officer will respond to the nearest safe location generally the hallway outside the laboratory or room in which the spill has occurred. Tufts Police will gather and transmit information to the Principal Investigator responsible for the hazardous material via telephone. In addition, the Tufts EHS staff will be contacted to provide technical guidance to the Officer, the Principal Investigator and the laboratory staff involved in the spill or release.

The first priority is first aid for persons exposed to the chemical. Typically this is flushing of skin, eyes and if necessary removal of contaminated lab coat or clothing outside the spill area. The Officer will request emergency medical services (EMS) while assisting with first aid.

The second priority is identifying the perimeter of the spill zone and evacuating all persons from that zone. If the spill occurs in a hallway, stairway or elevator the evacuation zone could be the local area or the entire building depending on the volatility of the spilled materials and their toxic, irritating and nauseating effects by inhalation.

In general, if a chemical exposure has occurred, or building wide evacuation is necessary, then the local fire department will take command of the area or building. Tufts Police, Fire Marshal and Tufts EHS staff will work cooperatively to identify the hazardous material, the amount spilled or released, the degree of hazard, and a plan to control the hazard and restore the room, area or building for normal use.

Anyone handling chemicals in a laboratory, shop, studio, clinic or food service knows that spills (solids, liquids) and releases (gases, vapors) can occur at any time. Hence, procedures should be in place and equipment and supplies available to clean up the spill or control the release.

NOTE: These procedures are described in the *Tufts Emergency Response Guide* and in the *Tufts Red Book-Research and Laboratory Safety Guide*. Electronic copies are available on the Tufts EHS webpage. Paper copies are also available upon request.

The primary concern in any chemical spill/release is controlling exposure to the person spilling the chemical or other persons in the area. Any chemical coming into contact with the eye, mouth, nose or skin must be flushed off immediately using an emergency eyewash or shower. All contaminated clothing must be removed to prevent breakthrough onto the skin. Flush for 15 minutes before seeking medical attention. Wearing laboratory coats will prevent the need to remove street clothes and underwear. Tufts Police should be notified at x66911 if a chemical exposure has occurred or could occur if persons are not evacuated from the room or the building!

At Tufts, there are four types of chemical spills:

A. Minor spill (less than 1/2 liter) of a hazardous chemical

Laboratories are supplied with acid/base/solvent cleanup kits for cleanup of minor chemicals spills. If there is no exposure to lab staff, the staff should identify the spill zone and clean the spill from the perimeter of the zone to the center using standard protective gear-laboratory coat, goggles and chemical resistant gloves

B. Major spill (more than 1/2 liter) of a hazardous chemical

The laboratory staff should be evacuated if there is a potential for toxic, nauseating or irritating vapors to be produced in the spill area. Major spills generally require the assistance of outside hazardous materials cleanup firms, under the guidance of the Tufts EHS staff. Call x66911.

These procedures are described in the Tufts Emergency Response Guide and in the Tufts Red Book-Research and Laboratory Safety Guide.

Disposing of Regulated Infectious Medical Waste at Tufts

By Stephen R. Larson, Director

Are you a generator of medical and biological waste?

Yes, if your work results in the need to dispose of

1. Human blood and blood products
2. Pathological specimens
3. Cultures and stocks of infectious agents
4. Animals and animal waste infected with agents that cause disease in animals and humans.
5. Sharps are any objects that can cause punctures or cuts such as needles, syringes, Pasteur pipettes, broken glassware, scalpel blades, razor blades, knives, dental wires
6. Biotechnology by-product effluents are discarded cultures or solutions made from genetically altered microbes and their products

At Tufts, sharps, animals and animal wastes and pathological specimens must be collected in leak proof containers and shipped off site for

At Tufts, sharps, animals and animal wastes and pathological specimens must be collected in leak proof containers and shipped off site for incineration.

Liquid infectious wastes are typically treated with chemical sterilants and either disposed of into the sewer or treated as chemical waste. Liquid may be autoclaved under certain conditions.

The other types of infectious wastes may be either treated in an autoclave or collected in containers for shipment for off-site incineration.

The Autoclave Problem! An autoclave is machine that uses high pressure steam to inactivate microbial agents. Autoclaves operate at 121C(250F) and 15 psi. The selection, packing and loading of autoclave bags are critical steps. Autoclave bags should be loosely filled to about ¾ capacity with weight limited to 20 lbs or less. Autoclave bags must be small enough such that when loaded into the pan, the bags do not contact the sides of the autoclave. The opening of the autoclave bag must be gathered together but leave about a 1" diameter opening to allow penetration of steam into the bag. Polypropylene bags are steam resistant hence if the bags are twisted tightly closed, then the autoclave is just heating the contents to 250F. The heat sensitive autoclave tag wire should be stuck through the bag not tightly wrapped around the opening.



Autoclave bags in pans—not contacting the walls of the autoclave.

Filled autoclave bags must be stored in pans on the floor of the laboratory while waiting for transport to the autoclave for treatment. If spillage occurs, it's in a container and not onto the floor.

Each bag tag number should be placed on the autoclave log page. Autoclave log books are provided by Tufts EHS.

Each waste treatment cycle on each autoclave must be tested every 3 months to verify effectiveness. The results of these tests are logged. Spore strip testing for waste treatment autoclaves is provided by Tufts EHS. The spore strips are attached to a wooden dowel and pushed through the opening into the middle of a bag of waste.

After autoclaving is complete the bag opening should be sealed with tape, wire or rubber band before placed into the trash for disposal as solid waste.

Fire Prevention in Academic Offices

By Wayne G. Springer

Fire Prevention pays the greatest dividends...the preservation of life and property. Good housekeeping is more than just a adage, it directly reflects the fire incident threat level. For a fire to occur, two components need to be present, fuel and an ignition source. In too many academic office environments, there is an over abundance of combustible materials: books, periodicals, newspapers, files, student papers and cardboard boxes crammed into a very small space. Adding to the fuel load there will be numerous sources of ignition: lamps, power strips, computers, printers, charging devices, microwaves, coffee makers, mini-refrigerators, fans and space heaters. Allowing the combustible materials to be piled on top of electrical cords, and power strips, or to be placed too close to space heaters, presents an opportunity for a fire to occur.

The power strips with overload protection must be plugged

directly into a wall receptacle. An extension cord must never be used. Extension cords are for temporary use only. If you are using an extension cord as a permanent solution, please contact your campus' Facilities Services office to request an additional wall receptacle. When the electrical devices and appliances are plugged into the power strip and the power strip is then plugged into an extension cord, resistance heating will occur in the electrical cord and the power strip and eventually will result in a fire.



Portable space heaters are prohibited in university buildings. Should your space require more heat you must first contact your campus' Facilities Services office and request them to attempt to provide you with more heat from the buildings HVAC system. If the system is not able to provide the required comfort level you desire, Facilities Services will provide you with an authorized portable space heater. Space heaters must be kept at least three (3) feet from any combustibles.

Open flames such as candles and incense are strictly prohibited inside university buildings. By limiting the amount and location of the combustible material in your office space, you will greatly enhance your fire safe environment. Common sense and fire safety awareness will provide you with the ability to protect your life and your valuable and irreplaceable documents.

Good housekeeping is more than just a adage, it directly reflects a fire incident threat level.



Laboratory Fire Safety

By Shaun W. Savage

With New Years well behind us, it is an ideal time to review lab fire safety. Not only is this important for the safety and well being of occupants, it is critical that we prepare for routine regulatory inspections performed by local fire departments. The most aggressive inspection is the annual lab inspections performed by the Boston Fire Department (BFD). Here a representative from BFD will visit each lab to review several fire related issues. Successful participation in these inspections is necessary for registering labs, which is an annual requirement in the City of Boston. Failing to participate

and perform well during these inspections could result in a lab being temporarily closed. Working together, you and the TEHS staff can avoid the following fire hazards:

1. Safety signs on lab doors are not legible and/or accurate.
2. Lab doors that exit into the hallway are not closed.
3. Hallways, egress paths and egress doors are not free of trash, equipment, cylinders or bicycles.

4. Excessive combustible storage such as boxes and papers are not disposed.
5. Storage of supplies are not stored at least 18 inches from ceiling and sprinkler heads.
6. Emergency showers and eye wash stations are not free of obstructions.
7. Fire extinguishers and fire alarm activation devices are not free of obstructions.

8. Fire extinguishers are not mounted on the walls, certified within the last year and do not have an identifying sign.
9. Flammable stock chemicals are not stored in approved flammable storage cabinets.
10. Empty chemical containers kept for the future storage of chemicals do not have the original labels defaced.

As always, if clarification or assistance is needed, please do not hesitate to contact TEHS.

Chemical Safety Plans and Registration Forms

By Kathryn C. Craig

When do I need a safety plan and chemical registration form?

The Tufts Chemical Hygiene Plan, required by OSHA, requires chemical safety plans and registrations for select carcinogens, reproductive toxins, highly acute toxic chemicals or hazardous drugs and novel compounds of unknown toxicity. Tufts Environmental Health and Safety maintains current lists of carcinogenic or high toxicity chemicals on their website under Chemical Safety, Chemical Hygiene.

A Select Carcinogen is any chemical that appears on the most current version of the following lists:

- Chemicals regulated by OSHA as carcinogens;
- Chemicals known to be carcinogenic (Group I) by the National Toxicology Program (NTP)
- Chemicals listed as carcinogenic to humans by the International Agency on Research on Cancer (IARC)
- Chemicals listed as reasonably anticipated to be carcinogenic by the NTP or the IARC (Groups 2A and 2B)
- See Lists on Tufts EHS Chemical Hygiene webpage.

A **reproductive toxin** is a chemical which effects human reproductive capability because of chromosomal damage (mutagenic) or because of an adverse effect on the developing fetus (teratogenic). See List on the Tufts EHS Chemical Hygiene webpage.

Highly acute toxic chemicals or hazardous drugs are chemicals known to be highly acutely toxic in humans or in comparable animal models. Tufts EHS Chemical Hygiene webpage has guidelines for toxicity based on a chemical's lethal dose for 50% of treated subjects (LD50). A chemical registration form must be filled out and submitted along with an MSDS for the chemical to Tufts EHS. Tufts EHS will determine if safety plans are required.

Novel compounds of unknown toxicity are chemicals which have not been tested for toxicity in any animal or other accepted testing protocol for assessing toxic effects and which by their structure are likely to be toxic, carcinogenic, mutagenic or teratogenic. A registration form should be filled out and submitted along with an MSDS for the chemical to Tufts EHS. Tufts EHS will determine if safety plans are required.

Antibiotics used to treat animal infections, anesthetics or analgesics do not need to be reported on a chemical registration form.

What is a chemical safety plan?

There are 2 types of chemical safety plans; one for laboratory use (*in vitro*) and the other for treatment and housing of animals with high toxicity chemicals (*in vivo*).

The laboratory safety plan consists of: a completed chemical registration form, a letter of approval from EHS and the MSDS for the chemical. In order to protect the health of animal facility staff, a Safety Plan (*in vivo*) has to be in place before high toxicity chemicals can be used in animals. The Safety Plan for the treatment and housing of animals with high toxicity chemicals is specific to the Division of Laboratory Animal Medicine (DLAM) in Boston and Medford, the Division of Teaching and Research Resources (DTRR) in Grafton and the Human Nutrition Research Center on Aging (HNRCA) in Boston.

To begin work with a hazardous chemical substance on animals housed at Tufts University facilities an investigator will need an approved IACUC protocol, a laboratory safety plan and an animal facility (*in vivo*) safety plan.

The principal investigator or designate will complete a Carcinogen/Chemical Hazard Registration form and email it to EHS. An MS word electronic copy of the most current version of the Chemical Registration form is available on line at Tufts EHS Chemical Safety web page. The EHS Chemical Safety Officer will review the Carcinogen/Chemical Hazard Registration form and make changes as necessary and grant approval. This may take some back and forth communications between EHS and the investigative staff. The registration expires 3 years from the date of approval. EHS will send a copy of the approval letter to the Animal Facility Manager at the DLAM, DTRR or HNRCA. Upon approval of the chemical registration, the EHS chemical safety officer with input from the Animal Facility Managers and/or facility Veterinarians, will develop a safety plan specific to the chemical's use in animals at that facility (DLAM, DTRR or HNRCA). When this safety plan is complete the EHS chemical safety officer and the animal facility manager will meet with investigative staff in the animal facility to review the safety plan. The animal room will be labeled as containing a chemical hazard, the chemical safety plan will be posted on the door and the cages containing the animals treated with the chemical will be labeled with a chemical hazard card. The animal facility manager will review the safety plan with their staff.

Each Safety Plan for the treatment and housing of animals treated with high toxicity chemicals is specific to the DLAM in Boston and Medford, the DTRR in Grafton and the HNRCA in Boston

Dry Ice Shipping

By Kathleen Joseph

Dry ice is a **dangerous good (DG)** when used during shipping. The definition of a dangerous good in part: *Articles/substances capable of posing a risk to health, safety or the environment.* Whenever a DG is sent, multiple sets of regulations require training in order to minimize the risk to everyone in the shipping chain. Although many of the shipping classes are temporarily on hold due to changes in personnel, there is a dry ice training module available to help you continue your work. Researchers needing to ship purified proteins are great candidates for this module. Plan ahead and contact Kathleen.Joseph@tufts.edu for assistance.

Explosions, sometimes resulting in personal injury, are the most commonly encountered problems when dry ice is used for shipping. A shipping company related the following: A package had been damaged during transport. The DG guy was called at 1:00 AM by the people at the transfer station. He determined over the phone that the damaged package could

continue its journey with added precautions. The damaged package was placed in a 50-gal steel drum (standard operating procedure). The next day, the DG guy received a call from the recipient - they couldn't get the lid off the drum. And was it supposed to bulge like that? He asked what was in the package. "Infectious materials and dry ice" was the reply. He groaned, "Nobody told me that there was dry ice. DON'T TOUCH IT. I'll contact the DG representative in your town, and he'll come open it for you."

The local DG guy collected a maintenance person and a drill with a medium bit, to relieve the pressure of the package. Unfortunately, about 10 minutes before they arrived at the facility, the Facilities Guy declared, "I'll get that thing open!" With his crowbar, he did in fact get the lid off the drum. The lid was under enough pressure to shoot straight up in the air, hit a beam, and come down on his arm, breaking it in two places.



Remnants of a container that exploded on a train in Switzerland back in 2009. The container initially contained influenza samples. <http://www.tagesschau.sftv.2009.Web.28.Apr.2009>.

Explosions, sometimes resulting in personal injury, are the most commonly encountered problems when dry ice is used for shipping.



Haematoma caused by exploding transport container. Editorial. *BMJ* 2001;322(7283):434.

Safety's Roll in Construction Projects at Tufts University

By Peter J. Nowak

Tufts Environmental Health and Safety (TEHS) takes an active role in many construction and deferred maintenance projects throughout the university. This role often consists of providing guidance on laboratory design in a science building, but may also include providing input on general safety items relevant to an administrative or dormitory building. For laboratory design or renovations, a team is formed that typically consist of a Tufts Project Manager who generally takes the lead, members of Tufts Facilities Services, TEHS, Tufts Office of Sustainability, and outside

contractors, such as an architect, and in some cases a commissioning agent, who's responsibility is to ensure that everything is working as designed once the project is complete. Specific areas that TEHS provides guidance in a laboratory may include placement of fume hoods, safety eyewashes and safety showers. In addition to the placement of equipment, recommendations on the type of equipment are addressed to assure applicable safety standards are met. An example of this is the Tufts Fire Marshals recommending certain fire extinguishers, smoke and fire detectors, and placement of sprinkler heads. Another function

performed by TEHS is to determine how many air changes might be required for the kind of work that may be going on in a specific lab. Many construction projects include work in older buildings. On all 3 campuses, Tufts may have buildings that can be close to or over 100 years of age. These building sometimes develop problems with leaks in windows, doors, or even in the brick exterior. Very often when these projects begin, Tufts staff members are still occupying the location. Steps need to be taken to ensure that the occupant's needs and concerns are addressed. Again, a team is

formed to determine the best way to approach each project. A Tufts Project Manager will take the lead role with TEHS offering consultation and advice. Some examples include noise and dust levels. Another example is hazardous materials and what steps will be taken while the project is under way to make sure that no one is exposed. As described above, TEHS is often part of the construction and deferred maintenance team. If you have questions regarding a particular project, do not hesitate to contact the Project Manager and/or TEHS.

Upcoming Trainings

Boston

- 03-09-11:** Biosafety in Research Laboratories (BRL); 3:00-5:00pm
- 03-15-11:** Introduction to Radiation Safety Training; 9:00-11:00am
- 03-22-11:** New Employee Orientation (NEO) & OSHA Bloodborne Pathogens (BBP); 9:30-11:30am
- 03-31-11:** BRL Training; 10:00-12:00pm
- 04-05-11:** NEO & BBP; 9:30-11:30am
- 04-19-11:** Intro. Rad. Safety; 9:00-11:00am
- 04-19-11:** BRL Training; 1:00-3:00pm
- 04-20-11:** NEO & BBP; 9:30-11:30am
- 05-03-11:** NEO & BBP; 9:30-11:30am
- 05-04-11:** IATA/DOT Shipping for Dangerous Goods Class 6.2 & 9; 1:00-3:30pm
- 05-11-11:** BRL Training; 10:00-12:00pm
- 05-17-11:** Intro. Rad. Safety; 9:00-11:00am
- 05-17-11:** NEO & BBP; 9:30-11:30am
- 05-19-11:** Introduction to Laser Safety Training; 9:30-11:00am
- 06-01-11:** NEO & BBP; 9:30-11:30am
- 06-02-11:** BRL Training; 1:00-3:00pm
- 06-14-11:** NEO & BBP; 9:30-11:30am
- 06-21-11:** Intro. Rad. Safety; 9:00-11:00am
- 06-21-11:** BRL Training; 10:00-12:00pm
- 07-12-11:** NEO & BBP; 9:30-11:30am
- 07-13-11:** BRL Training; 1:00-3:00pm
- 07-19-11:** Intro. Rad. Safety; 9:00-11:00am
- 07-26-11:** NEO & BBP; 9:30-11:30am
- 08-04-11:** BRL Training; 10:00-12:00pm
- 08-09-11:** NEO & BBP; 9:30-11:30am
- 08-16-11:** Intro. Rad. Safety; 9:00-11:00am
- 08-23-11:** NEO & BBP; 9:30-11:30am
- 08-23-11:** BRL Training; 1:00-3:00pm
- 09-07-11:** NEO & BBP; 9:30-11:30am
- 09-14-11:** BRL Training; 10:00-12:00pm
- 09-15-11:** Intro. Laser Safety; 9:30-11:00am
- 09-20-11:** Intro. Rad. Safety; 9:00-11:00am
- 09-20-11:** NEO & BBP; 9:30-11:30am
- 10-04-11:** NEO & BBP; 9:30-11:30am
- 10-06-11:** BRL Training; 1:00-3:00pm
- 10-18-11:** Intro. Rad. Safety; 9:00-11:00am
- 10-18-11:** NEO & BBP; 9:30-11:30am
- 10-25-11:** BRL Training; 10:00-12:00pm
- 11-01-11:** NEO & BBP; 9:30-11:30am
- 11-15-11:** Intro. Rad. Safety; 9:00-11:00am
- 11-15-11:** NEO & BBP; 9:30-11:30am
- 11-16-11:** BRL Training; 1:00-3:00pm
- 11-29-11:** NEO & BBP; 9:30-11:30am
- 12-01-11:** BRL Training; 10:00-12:00pm
- 12-13-11:** NEO & BBP; 9:30-11:30am
- 12-20-11:** BRL Training; 1:00-3:00pm
- 12-27-11:** NEO & BBP; 9:30-11:30am

Grafton

- *Dates subject to change based on attendance*
- 03-17-11:** Intro. Laser Safety; 9:30-11:00am
 - 03-18-11*:** NEO & BBP; 10:00-12:00pm
 - 04-01-11*:** NEO & BBP; 10:00-12:00pm
 - 04-04-11:** Intro. Rad. Safety; 9:00-11:00am
 - 04-15-11*:** NEO & BBP; 10:00-12:00pm
 - 04-28-11:** BRL Training; 1:00-3:00pm
 - 04-29-11*:** NEO & BBP; 10:00-12:00pm
 - 05-13-11*:** NEO & BBP; 10:00-12:00pm
 - 05-20-11:** IATA/DOT Shipping for Dangerous Goods Class 6.2 & 9; 12:00-2:30pm
 - 05-27-11*:** NEO & BBP; 10:00-12:00pm
 - 06-06-11:** Intro. Rad. Safety; 9:00-11:00am
 - 06-10-11*:** NEO & BBP; 10:00-12:00pm
 - 06-23-11:** BRL Training; 10:00-12:00pm
 - 06-24-11*:** NEO & BBP; 10:00-12:00pm
 - 07-08-11*:** NEO & BBP; 10:00-12:00pm
 - 07-21-11:** Intro. Laser Safety; 9:30-11:00am
 - 07-22-11*:** NEO & BBP; 10:00-12:00pm
 - 08-01-11:** Intro. Rad. Safety; 9:00-11:00am
 - 08-05-11*:** NEO & BBP; 10:00-12:00pm
 - 08-25-11:** BRL Training; 1:00-3:00pm
 - 08-19-11*:** NEO & BBP; 10:00-12:00pm
 - 09-02-11*:** NEO & BBP; 10:00-12:00pm
 - 09-16-11*:** NEO & BBP; 10:00-12:00pm
 - 09-30-11*:** NEO & BBP; 10:00-12:00pm
 - 10-03-11:** Intro. Rad. Safety; 9:00-11:00am
 - 10-14-11*:** NEO & BBP; 10:00-12:00pm
 - 10-27-11:** BRL Training; 10:00-12:00pm
 - 10-28-11*:** NEO & BBP; 10:00-12:00pm
 - 11-17-11:** Intro. Laser Safety; 9:30-11:00am
 - 12-05-11:** Intro. Rad. Safety; 9:00-11:00am
 - 12-09-11*:** NEO & BBP; 10:00-12:00pm
 - 12-15-11:** BRL Training; 1:00-3:00pm
 - 12-23-11*:** NEO & BBP; 10:00-12:00pm

Medford

OSHA Bloodborne Pathogens (BBP) Training available upon request

- 03-10-11:** BRL Training; 1:00-3:00pm
- 03-28-11:** NEO; 10:50-11:25am
- 04-11-11:** NEO; 10:50-11:25am
- 04-21-11:** Intro. Laser Safety; 9:30-11:00am
- 04-25-11:** NEO; 10:50-11:25am
- 05-05-11:** Intro. Rad. Safety; 9:00-11:00am
- 05-09-11:** NEO; 10:50-11:25am
- 05-23-11:** NEO; 10:50-11:25am
- 06-06-11:** NEO; 10:50-11:25am
- 06-09-11:** BRL Training; 1:00-3:00pm
- 06-16-11:** Intro. Laser Safety; 9:30-11:00am
- 06-20-11:** NEO; 10:50-11:25am
- 07-05-11:** NEO; 10:50-11:25am
- 07-07-11:** Intro. Rad. Safety; 9:00-11:00am
- 07-18-11:** NEO; 10:50-11:25am
- 08-01-11:** NEO; 10:50-11:25am
- 08-15-11:** NEO; 10:50-11:25am
- 08-18-11:** Intro. Laser Safety; 9:30-11:00am
- 08-29-11:** NEO; 10:50-11:25am
- 09-01-11:** Intro. Rad. Safety; 9:00-11:00am
- 09-08-11:** BRL Training; 1:00-3:00pm
- 09-12-11:** NEO; 10:50-11:25am
- 09-26-11:** NEO; 10:50-11:25am
- 10-11-11:** NEO; 10:50-11:25am
- 10-20-11:** Intro. Laser Safety; 9:30-11:00am
- 10-24-11:** NEO; 10:50-11:25am
- 11-03-11:** Intro. Laser Safety; 9:30-11:00am
- 11-07-11:** NEO; 10:50-11:25am
- 11-21-11:** NEO; 10:50-11:25am
- 12-05-11:** NEO; 10:50-11:25am
- 12-15-11:** Intro. Laser Safety; 9:30-11:00am
- 12-19-11:** NEO; 10:50-11:25am

Class size is limited; Registration is required. Please contact Tufts Environmental Health and Safety (ehs-training@tufts.edu), to reserve your spot.





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Fax: (617)636-2419

What's Your Opinion?

What do you think of
In Case You Haven't "HERD"?
Do you have ideas for future
topics? How to make it
better? We want to know!
Contact Natalie Viernes at
natalie.viernes@tufts.edu

<http://publicsafety.tufts.edu/ehs/>

Tufts Environmental Health and Safety Directory

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TEHS Online Features

<http://publicsafety.tufts.edu/ehs/>

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