



# SIMMONS

**300 The Fenway  
Boston, MA 02115**

## **HEALTH SERVICES ENVIRONMENTAL HEALTH AND SAFETY MANUAL**

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**HEALTH SERVICES EH&S MANUAL  
REVIEW SUMMARY**

<b>Revision(s)</b>	<b>By</b>	<b>Affiliation</b>	<b>Date</b>	<b>Changes</b>

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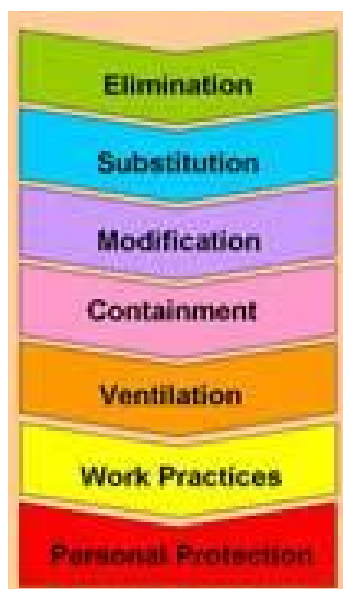
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# 1 INTRODUCTION

Simmons College (Simmons) is committed to promoting the health and well-being of its students. This is accomplished by providing a Health Services Office (Health Services), which is a collaborative venture between Simmons and Beth Israel Deaconess Medical Center (BIDMC). The mission of the Health Services is to provide accessible and high quality health care to the students at Simmons. Health Services will strive to maintain and promote the health and well-being of the student population while treating acute illnesses and coordinating referrals for specialty care when appropriate.

As part of this mission, Health Services is also committed to adhering to the applicable Environmental Health and Safety (EH&S) regulations, policies, and procedures associated with their operations. This EH&S Manual outlines these EH&S requirements for Health Services. It is based on EH&S regulations and best management practices (BMPs). Refer to Section 11 for details. Work with potentially hazardous materials, processes, and/or equipment will be evaluated through the use of a hierarchy of controls as shown by Figure 1.



**Figure 1 – Hierarchy of Controls**

This Health Services EH&S Manual will be reviewed annually by the Director of EH&S and at least one representative from the departments listed in Section 2. The revisions will be documented on the revision table located at the beginning of this manual. It will be revised as necessary. An official copy of this manual will be located in the Buildings and Grounds Office, 300 The Fenway, Boston, MA 02115.

Chemotherapy and prescription drugs are not used by Health Services and as a result, are not included in this manual. Also, a Tuberculosis Control Plan is not included in this document.

## **2 ROLES AND RESPONSIBILITIES**

### **2.1 Director of EH&S**

The Director of EH&S will be responsible for:

- Providing advice regarding administrative controls, engineering controls, personal protective equipment, and waste management to Health Services.
- Training, providing training documentation, and making this EH&S Manual available to Health Services and regulatory agencies, when requested to do so. Training may also be made available via an online training program or by BIDMC's internal training portal.

The Director of EH&S may use a contractor to assist with these responsibilities.

### **2.2 Talent and Human Capital Strategy Department**

The Talent and Human Capital Strategy Department, which is the Human Resources Department (HR), will be responsible for ensuring that all medical actions required by this manual are performed and that the appropriate health and regulatory records are maintained for employees.

### **2.3 Health Services**

Health Services employees will adhere to the requirements outlined in this EH&S manual. The Director and On-site Manager will ensure that all employees meet the requirements outlined in this manual.

A practitioner should develop the practice of keeping blank prescription forms in locations which would preclude patients or casual visitors from stealing the forms for the purpose of falsification. Unused Order Forms should also be kept in a secure location for the same reason.

## **3 BIOLOGICAL SAFETY**

Biological safety (biosafety) is the application of knowledge, techniques and equipment to prevent personal and environmental exposure to biohazards or other potentially infectious materials (OPIM) including bodily fluids.

Biohazard is defined as a risk to human health or the environment arising from biological work, especially with microorganisms.

OPIM is defined by the U.S. Occupational Safety and Health Administration (OSHA) as

- (1) The following human body fluids: semen, vaginal secretions, cerebrospinal fluid, synovial fluid, pleural fluid, pericardial fluid, peritoneal fluid, amniotic fluid, saliva in dental procedures, any body fluid that is visibly contaminated with blood, and all body fluids in situations where it is difficult or impossible to differentiate between body fluids;
- (2) Any unfixed tissue or organ (other than intact skin) from a human (living or dead); and

- (3) Human immunodeficiency virus (HIV)-containing cell or tissue cultures, organ cultures, and HIV- or Hepatitis B (HBV)-containing culture medium or other solutions; and blood, organs, or other tissues from experimental animals infected with HIV or HBV.

### 3.1 Infectious Diseases

The primary routes of infectious disease transmission in US healthcare settings are contact, droplet, and airborne. Contact transmission can be sub-divided into direct and indirect contact. Direct contact transmission involves the transfer of infectious agents to a susceptible individual through physical contact with an infected individual (e.g., direct skin-to-skin contact). Indirect contact transmission occurs when infectious agents are transferred to a susceptible individual when the individual makes physical contact with contaminated items and surfaces (e.g., door knobs, patient-care instruments or equipment, bed rails, examination table). Two examples of contact transmissible infectious agents include Methicillin-resistant *Staphylococcus aureus* (MRSA) and Vancomycin-resistant enterococcus (VRE).

Droplets containing infectious agents are generated when an infected person coughs, sneezes, or talks, or during certain medical procedures, such as suctioning or endotracheal intubation. Transmission occurs when droplets generated in this way come into direct contact with the mucosal surfaces of the eyes, nose, or mouth of a susceptible individual. Droplets are too large to be airborne for long periods of time, and droplet transmission does not occur through the air over long distances. Two examples of droplet transmissible infectious agents are the influenza virus which causes the seasonal flu and *Bordetella pertussis* which causes pertussis (i.e., whooping cough).

Airborne transmission occurs through very small particles or droplet nuclei that contain infectious agents and can remain suspended in air for extended periods of time. When they are inhaled by a susceptible individual, they enter the respiratory tract and can cause infection. Since air currents can disperse these particles or droplet nuclei over long distances, airborne transmission does not require face-to-face contact with an infected individual. Airborne transmission only occurs with infectious agents that are capable of surviving and retaining infectivity for relatively long periods of time in airborne particles or droplet nuclei. Only a limited number of diseases are transmissible via the airborne route. Two examples of airborne transmissible agents include *Mycobacterium tuberculosis* which causes tuberculosis (TB) and the rubella virus which causes measles.

To prevent exposure to infectious diseases, Health Services will adhere to the requirements outlined in this section.

### 3.3 Exposure Determination

An exposure determination must be made for anyone who has a reasonable chance of encountering biological materials, human blood, body fluids, and OPIMs while performing their duties. This exposure determination is made without regard to the use of personal protective equipment (PPE).

Since Health Services will be assessing the wellbeing of students, their employees have a potential to be exposure to OPIM and blood. As a result, the Health Services is required to adhere to the requirements outlined in OSHA's Bloodborne Pathogens (BBP) Standard, 29 Code of Federal Regulations (CFR) 1030.

### 3.4 Universal Precautions

Universal precautions are an approach to infection control. According to the concept of Universal Precautions, all human blood and certain human bodily fluids are treated as if known to be infectious with:

- HBV
- Hepatitis C (HCV)
- HIV
- Other BBPs

Universal precautions techniques developed by the Centers for Disease Control and Prevention (CDC) will be observed at Simmons to prevent contact with blood and OPIMs. These techniques are available at the following webpage: <http://www.cdc.gov/niosh/topics/bbp/universal.html>

**All human blood or other human sources materials will be considered potentially infectious for HIV, HBV, HCV, or OPIMs, regardless of the perceived "low risk" status of the source.**

### 3.5 Administrative and Engineering Controls

Administrative (work practices) and engineering controls will be used to prevent and minimize exposure to BBPs. The following controls are used at Simmons:

- Hands and other skin will be washed with soap and water, and eyes or mucous membranes will be flushed with water immediately or as soon as feasible following contact with blood or OPIMs.
- Contaminated needles and other contaminated sharps shall not be bent, recapped, or removed from the syringe.
- After use, sharps (e.g., needles, syringes, scalpels, razor blades, Pasteur pipettes) will be placed into red, leak-proof, rigid, puncture-resistant, and shatterproof sharps containers that are marked prominently with the universal biohazard symbol and the word "Biohazard" in a contrasting color.
- Eating, drinking, chewing gum, smoking, applying cosmetics, and handling contact lenses is prohibited in work areas where exposure to blood and OPIMs may occur. Medications may be taken only if it is a life and death situation.
- Food and drink will not be kept in refrigerators, freezers, on countertops, or in other storage areas where blood and OPIMs are present.
- Procedures involving blood or OPIM will be performed carefully to minimize splashing, spraying, splattering, and producing droplets or aerosols of blood or OPIM.
- Mouth pipetting/suctioning of blood and OPIM is prohibited.
- Equipment and work surfaces will be cleaned and disinfected on a routine basis and immediately following spills and other exposure to blood and OPIM.



- Leak-proof and labeled containers will be used for disposal of contaminated waste.
- PPE will be worn when working with blood and OPIM. Section 6 explains the PPE requirements.

## 3.6 Housekeeping

It is responsibility of Simmons’s employees to ensure that the Simmons campus is maintained in a clean and sanitary condition. This section outlines the procedures to ensure these conditions.

### 3.6.1 Equipment

Contaminate equipment and working surfaces are cleaned with an Environmental Protection Agency (EPA) registered disinfectant, which are provided on the following webpage. The disinfectant will be used in accordance with the manufacturer’s recommendations.

<http://www.epa.gov/oppad001/chemregindex.htm>

Employees will clean and disinfected equipment and work surfaces after contact with blood or OPIMs after the completion of procedures, immediately (or as soon as feasible) when surfaces are overtly contaminated, or after a spill of blood or OPIM.

### 3.6.2 Biological Waste Disposal

Biological waste at Simmons’s Health Services may be disposed of in three ways:

1. Designated biohazard waste box,
2. Designated sharps containers, or
3. Chemical disinfection.

Steam sterilization is available for the laboratories but not used by Health Services.

#### 3.6.2.1 Solid Biological Waste

Solid biological waste is placed into a cardboard box lined with two red biohazard waste bags. Each box is labeled with the universal biohazard symbol. When constructing the cardboard box, ensure that the U.S. Department of Transportation arrows are pointing towards the ceiling. Tape the bottom of the box with 2-inch shipping tape. Place the label identifying the waste generator information on the pre-printed label location on the box.



## Figure 2 – Universal Biohazard Symbol

When a biological waste box is between two-thirds (2/3) and three-quarters (3/4) full, each bag must be hand-tied by gathering and twisting the neck of the bag. Then, close the cardboard box and ensure that no red bag is visible once closed. Once closed, tape the cardboard box using two-inch shipping tape. The designated person within Health Services will contact the biohazard waste company for disposal.

**NOTES:** DO NOT OVERFILL THE BOX. The weight limit for carrying the box is 55 pounds. Once the cardboard box is ready for disposal, contact the biohazard waste company for disposal. When the cardboard box is picked up by the disposal company, a person trained in biohazard waste must sign the Shipping Tracking form. The MADPH requires that off-site shipments of biohazard waste be documented using a form provided by them: [Log of Off-site Shipments of Biological Waste](#)

### 3.6.2.2 *Liquid Waste*

Liquid biological waste must be rendered non-infectious by chemical disinfection prior to sink disposal.

Chemical disinfection is completed by adding bleach to the liquid waste until the bleach amount is 10% of the total volume of liquid. Then, wait 20 minutes to ensure proper disinfection.

**NOTES:** If bleach is not adequate disinfectant for the biological material, an U.S. EPA approved disinfectant must be used for the biological material. Ensure the proper contact time prior to disposal.

Prior to sink disposal, the treated liquid biological waste should be tested for pH to ensure it is within the permissible range (5.5 – 12.0 standard units) under the Massachusetts Water Resource Authority discharge permit. If the pH is within this range, the treated solution should be poured down the sink drain while running tap water to minimize possible plumbing damage.

### 3.6.2.3 *Biological and Chemical Waste*

The first step when dealing with biological and chemical waste disposal is to render the biological waste as non-infectious through disinfection. Do not select a chemical, which will react with the chemical in the biological and chemical waste. Contact the Director of EH&S if you have any questions.

### 3.6.2.4 *Sharps*

To prevent exposure to biological materials and injuries from sharps, place needles, syringes, suture needles, scalpels, and razor blades into a sharps container immediately after use.

Sharps containers are red, leak-proof, rigid, puncture-resistant, and shatter-proof containers that are marked with the universal biohazard symbol (see Figure 2) and the “Biohazard” in a contrasting color. Place sharps containers in convenient locations near work areas so they will be used after sharps’ use.

Containers should be sealed when they are three-quarters (3/4) full or when they reach the fill line on the sharps containers. Full sharps containers must be sealed with two-inch shipping

tape and placed into the biohazard waste box. If a sharps container is placed into a biohazard waste box, please ensure that the SHARPS box is checked off on the side of the cardboard box.

### 3.6.3 Laundry

Laundering will be performed by a designee at the end of each shift or by the laundering contractor. The following laundering requirements must be met:

- Handle contaminated laundry as little as possible, with minimal agitation.
- Place wet contaminated laundry in leak-proof, labeled or color coded containers before transport. Use red bags marked with the biohazard symbol for this purpose.
- Wear the following PPE when handling and/or sorting contaminated laundry:
  - Disposable latex or nitrile gloves, arm sleeves or extended arm gloves
  - Laboratory coats, gown, scrub, or uniform
  - Safety goggles, safety glasses with side shields, or a face shield

## 3.7 Labels

Equipment and the doors of rooms where blood and other OPIMs are used or stored will be labeled with the universal biohazard symbol. Refer to Figure 2 for an example of this symbol.

The designee is responsible for ensuring that warning labels are affixed or red bags are used as required if regulated waste or contaminated equipment is brought into the facility. Employees are to notify designee if they discover regulated waste containers, refrigerators containing blood or OPIM, contaminated equipment, etc., without proper labels.

## 4 CHEMICAL SAFETY

Below are some general guidelines when working with hazardous chemicals. According to Health Services, the only hazardous chemical is isopropyl alcohol.

- Evaluate the hazards:
  - Read the Safety Data Sheet (formerly called Material Safety Data Sheets) before beginning work with a chemical.
  - Follow hazard control plans for extremely hazardous materials.
  - Pay particular attention to control measures for chemicals that are known to be particularly high hazard or chemical carcinogens.
- Never underestimate risk.
- Do not pipette by mouth.
- Never smell chemicals to identify them.
- Assume that:
  - Any mixture will be more hazardous than its most toxic component
  - All substances of unknown toxicity are highly toxic
- Do not eat, drink, store food, smoke, or apply cosmetics in areas where chemicals. Wash your hands frequently and before eating/drinking.

- Label secondary containers of hazardous chemicals in accordance with the Hazard Communication standard. Below are the requirements. Simmons uses the National Fire Protection Association 704 labeling system to accomplish these requirements.
  - The identity of the chemical and appropriate hazard warnings must be shown on the label.
  - The hazard warning must provide users with an immediate understanding of the primary health and/or physical hazard(s) of the hazardous chemical through the use of words, pictures, symbols, or any combination of these elements.
  - The hazard label message must be legible, permanently displayed and written in English.
- Use engineering controls (e.g., chemical fume hood, exhaust arm) if an assessment warrants the use of them.

## 5 PHYSICAL HAZARDS

A physical hazard is a type of occupational hazard that involves environmental hazards that can cause harm with or without contact. Physical hazards include ergonomic hazards, radiation, heat and cold stress, vibration hazards, and noise hazards.

### 5.1 Ergonomic Hazards

Health Services’ activities may result in unusual body positions, stresses, and strains. Ergonomics is the science of fitting a job to a person and helps prevent fatigue and Musculoskeletal Disorders (MSDs). Some examples of MSDs associated with healthcare are:

- Carpal tunnel syndrome
- Tendinitis
- Rotator cuff injuries
- Muscle strains
- Lower back injuries

Table 1 provides examples of how to eliminate or reduce ergonomic hazards.

<b>Table 1 – Examples of Ergonomic Controls</b>	
<b>Type of Control</b>	<b>Workplace Examples</b>
Engineering Controls	<ul style="list-style-type: none"> <li>● Use a device to lift and reposition heavy objects to limit force exertion</li> <li>● Reduce the weight of a load to limit force exertion</li> <li>● Reposition a work table to eliminate a long/excessive reach and enable working in neutral postures</li> </ul>

Administrative and Work Practice Controls	<ul style="list-style-type: none"> <li>● Require that heavy loads are only lifted by two people to limit force exertion</li> <li>● Maintain a wide, stable base with feet.</li> <li>● Put the bed at the correct height (waist level when providing care, hip level when moving a patient)</li> <li>● Try to keep work in front to avoid rotating the spine</li> <li>● Keep the patient as close to your body as possible to minimize reaching</li> <li>● Establish systems so workers are rotated away from tasks to minimize the duration of continual exertion, repetitive motions, and awkward postures. Design a job rotation system in which employees rotate between jobs that use different muscle groups</li> </ul>
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## 5.2 Slip, Trips, and Falls

Health Services' employees' exposure to wet floors or spills and clutter that can lead to slips/trips/falls and other possible injuries. Below are some guidelines to prevent slips, trips, and falls.

- Keep floors clean and dry. In addition to being a slip hazard, continually wet surfaces promote the growth of mold, fungi, and bacteria that can cause infections.
- Provide warning signs for wet floor areas.
- Where wet processes are used, maintain drainage and provide false floors, platforms, mats, or other dry standing places where practicable, or provide appropriate waterproof footwear.
- Keep all places of employment clean and orderly and in a sanitary condition.
- Keep aisles and passageways clear and in good repair, with no obstruction across or in aisles that could create a hazard. Provide floor plugs or plug covers for equipment, so power cords need not run across pathways.
- Keep exits free from obstruction. Access to exits must remain clear of obstructions at all times.
- Ensure spills are reported and cleaned up immediately.
- Use no-skid waxes and surfaces coated with grit to create non-slip surfaces in slippery areas such as toilet and shower areas.
- Use waterproof footwear to decrease slip/fall hazards.
- Use only properly maintained ladders to reach items. Do not use stools, chairs, or boxes as substitutes for ladders.
- Re-lay or stretch carpets that bulge or have become bunched to prevent tripping hazards.
- Aisles and passageways should be sufficiently wide for easy movement and should be kept clear at all times. Temporary electrical cords that cross aisles should be taped or anchored to the floor.
- Eliminate cluttered or obstructed work areas.
- Countertops or medication carts should be free of sharp, square corners.
- Use prudent housekeeping procedures such as cleaning only one side of a passageway at a time, and provide good lighting for all halls and stairwells, to help reduce accidents.
- Provide adequate lighting.

- Instruct employees and students to use the handrail on stairs, to avoid undue speed, and to maintain an unobstructed view of the stairs ahead of them even if that means requesting help to manage a bulky load.
- Eliminate uneven floor surfaces.
- Promote safe work in cramped working spaces. Avoid awkward positions, and use equipment that makes lifts less awkward.

## 6 PERSONAL PROTECTIVE EQUIPMENT

Personal protective equipment (PPE) is provided to Health Service employees at no cost to them. Training in the use of the appropriate PPE for specific tasks or procedures is provided by the Director of EH&S or designee. The following PPE should be worn by Health Service employees:

- Disposable gloves (latex or Nitrile)
- Safety glasses with side shields

**NOTE:** Safety goggles or face shield is required when there is a splash hazard

Laboratory coats, gowns/scrubs/uniforms, and shoe covers are required if there is potential for an employee's street clothes and shoes to become contaminated with blood, bodily fluids, and/or OPIMs while performing his/her duties at the Health Services Center.

Additional PPE may be required based on a risk assessment.

PPE is located in Health Services' area and may be obtained from the designated PPE storage location. If PPE is not available, please notify the Director of EH&S and she will ensure that the appropriate PPE is made available.

Employees using PPE must observe the following precautions:

- Wash hands immediately or as soon as feasible after removing gloves or other PPE.
- Remove PPE after it becomes contaminated and before leaving the work area.
- Used PPE that meets OSHA's definition of regulated waste may be disposed of in lined biohazard waste boxes, into autoclave bags, or other biohazard waste containers.

**NOTE:** *Regulated Waste* means liquid or semi-liquid blood or other potentially infectious materials; contaminated items that would release blood or other potentially infectious materials in a liquid or semi-liquid state if compressed; items that are caked with dried blood or other potentially infectious materials and are capable of releasing these materials during handling; contaminated sharps; and pathological and microbiological wastes containing blood or other potentially infectious materials.

- Wear appropriate gloves when it is reasonably anticipated that there may be hand contact with blood or OPIM, hazardous chemicals, and when handling or touching contaminated items or surfaces; replace gloves if torn, punctured or contaminated, or if their ability to function as a barrier is compromised.

- Utility gloves may be decontaminated for reuse if their integrity is not compromised; discard utility gloves if they show signs of cracking, peeling, tearing, puncturing, or deterioration.
- Never wash or decontaminate disposable gloves for reuse.
- Wear appropriate face and eye protection when splashes, sprays, spatters, or droplets of blood or OPIM pose a hazard to the eye, nose, or mouth.
- Remove immediately or as soon as feasible any garment contaminated by blood, OPIM, or a hazardous material in such a way as to avoid contact with the outer surface.

The procedure for handling used PPE is as follows.

- Dispose in a lined biohazard waste box or a hazardous waste container, if the used PPE meets the definition of regulated waste. If it doesn't meet the regulated waste definitions then it can be disposed of into the regular trash.
- Reusable PPE (e.g., safety glasses, face shield) is disinfected with a proper disinfectant prior to re-use.

## **7 WASTE DISPOSAL**

Safe and environmentally sound management of waste is an integral part of Simmons's environmental management mission. Failure to comply with regulatory requirements can result in significant fines and liability, increased costs, and adverse publicity. Simmons is committed to meeting stringent federal, state, and local hazardous waste regulations. Responsibility for compliance with waste regulations begins with those generating waste material.

Health Services may generate the following waste streams. Refer to the Waste Flowchart for the Health Services on how to dispose of these waste streams.

- Hazardous chemical waste
- Biological waste
- Sharps
- Pharmaceuticals, which are considered universal waste
- Non-hazardous waste streams

## **8 EMERGENCY RESPONSE**

Please refer to Simmons's Emergency Preparedness webpage developed by Public Safety for information on how to prepare for emergencies. Below are the guidelines for hazardous spills, medical emergencies, and post exposure.

### **8.1 Hazardous Spills**

Below is the procedure for biological and chemical spills:

- Evacuate the area immediately. Turn off heat sources and equipment, if you are able to do it safely, and close all the doors and windows behind you.
- Call Public Safety immediately at 617-521-1111 as well as 911.
- Try to describe the conditions and identify the material, if known. DO NOT attempt to clean up the spill.
- Follow all instructions from Public Safety officers and other local emergency responders about evacuating or sheltering in place.
- Notify others in the area about the spill.
- If a hazardous material spills/splashes on skin or eyes, flush the affected area immediately with water from an eyewash station or a drench shower for at least 15 minutes or until help arrives.
- If the spill or release occurs outdoors, move upwind from the spill location.

## 8.2 Post Exposure Evaluation and Follow-up

Should an exposure incident occur, contact Public Safety at the following number 617-521-1111.

### 8.3.1 Administration of Post-Exposure Evaluation and Follow-Up

An immediately available confidential medical evaluation and follow-up will be conducted by an Occupational Health subcontractor. Following initial first aid (clean the wound, flush eyes or other mucous membrane, etc.), the following activities will be performed:

- Document the routes of exposure and how the exposure occurred.
- Identify and document the source individual (unless the employer can establish that identification is infeasible or prohibited by state or local law).
- If exposed to an OPIM,
  - Obtain consent and make arrangements to have the source individual tested as soon as possible to determine HIV, HCV, and HBV infectivity; document that the source individual's test results were conveyed to the employee's health care provider.
  - If the source individual is already known to be HIV, HCV and/or HBV positive, new testing need not be performed.
- Assure that the exposed employee is provided with the source individual's test results and with information about applicable disclosure laws and regulations concerning the identity and infectious status of the source individual (e.g., laws protecting confidentiality).
- After obtaining consent, collect exposed employee's blood as soon as feasible after exposure incident, and test blood for HBV and HIV serological or hazardous materials, when warranted.
- If the employee does not give consent for testing during collection of blood for baseline testing, preserve the baseline blood sample for at least 90 days; if the exposed employee elects to have the baseline sample tested during this waiting period, perform testing as soon as feasible.

### 8.3.2 Procedures for Evaluating the Circumstances

The HR Department ensures that health care professional(s) responsible for employee's hepatitis B vaccination and post-exposure evaluation and follow-up are given a copy of OSHA's bloodborne



pathogens standard. In addition, this department ensures that the health care professional evaluating an employee after an exposure incident receives the following:

- A description of the employee's job duties relevant to the exposure incident
- Route(s) of exposure
- Circumstances of exposure
- If possible, results of the source individual's blood test
- Relevant employee medical records, including vaccination status

The HR Department provides the employee with a copy of the evaluating health care professional's written opinion within 15 days after completion of the evaluation.

The Director of EH&S or designee will review the circumstances of all exposure incidents to determine:

- Engineering controls in use at the time
- Work practices followed
- A description of the device being used (including type and brand)
- PPE that was used at the time of the exposure incident (gloves, eye shields, etc.)
- Location of the incident
- Procedure being performed when the incident occurred
- Employee's training

The HR Department will record all percutaneous injuries from contaminated sharps in a Sharps Injury Log. Health Services or the Director of EH&S will be responsible for notifying OSHA about the incident if required to do so.

If revisions to this manual are necessary the Director of EH&S will ensure that appropriate changes are made. (Changes may include an evaluation of safer devices, adding employees to the exposure determination list, etc.)

### **8.3.3 OSHA Reporting**

As of January 1, 2015, all employers must report:

1. All work-related fatalities within 8 hours.
2. All work-related inpatient hospitalizations, all amputations and all losses of an eye within 24 hours.

Reporting to OSHA is done by:

- Calling OSHA's free and confidential number at 1-800-321-OSHA (6742).
- Calling your closest Area Office during normal business hours.
- Using the online form that will soon be available.

Only fatalities occurring within 30 days of the work-related incident must be reported to OSHA. Further, for an in-patient hospitalization, amputation or loss of an eye, these incidents must be reported to OSHA only if they occur within 24 hours of the work-related incident.

## 9 IMMUNIZATIONS, VACCINATIONS, AND MEDICAL RESTRICTIONS

Certain biological materials require personnel working with them to receive immunizations and/or have medical restrictions.

### 9.1 Immunizations and Vaccinations

Table 2 summarizes the recommendations from the MADPH and/or OSHA. Health care personnel (HCP) include full- and part-time staff with or without direct patient contact, including physicians, students, and volunteers who work in inpatient, outpatient and home-care settings. As a result, this applies to Health Services' employees. Hepatitis B Vaccine is explained in Section 9.2 and not included in this table even though it is required.

Influenza	1 dose of flu vaccine every flu season
Tdap/Td (Tetanus, diphtheria, pertussis)	1 dose of Tdap as soon as possible, then Td boosters every 10 years.
MMR (Measles, mumps, rubella)	2 doses of MMR, > 28 days apart or documented laboratory-confirmed immunity to measles <b>and</b> mumps <b>and</b> rubella.
Varicella	2 doses of varicella vaccine, or serologic proof of immunity, or history of varicella disease
Meningococcal	1 dose of quadrivalent meningococcal vaccine for microbiologists who are routinely exposed to <i>N. meningitidis</i> isolates.

**Influenza:** All Health Services employees should receive annual flu vaccine. Give inactivated flu vaccine (IIV) to any employee. Give live, attenuated influenza vaccine (LAIV) to non-pregnant healthy employee < 49 years of age. IIV is preferred over LAIV for employees in close contact with severely immunosuppressed persons when patients require a protective environment.

**Tetanus/Diphtheria/Pertussis (Td/Tdap):** All Health Services employees, regardless of age, should receive a single dose of Tdap as soon as feasible if they have not previously received Tdap, and regardless of the interval since last Td dose.

**Measles, Mumps, Rubella (MMR):** All Health Services employees should be immune to measles, mumps, and rubella. Documentation of immunity:

- a) 2 doses of MMR on or after the 1st birthday, and at least 1 month apart; or

- b) laboratory evidence of immunity to measles and mumps and rubella or laboratory confirmation of each disease (Consider employees with “indeterminate” or “equivocal” immunity as susceptible).

**Varicella:** All Health Services employees should be immune to varicella. Evidence of immunity to varicella includes: documentation of 2 doses of vaccine, > 4 weeks apart; laboratory evidence of immunity or laboratory confirmation of disease; diagnosis of history of varicella disease or herpes zoster by a health-care provider, including school or occupational health nurse.

**Meningococcal:** Quadrivalent meningococcal conjugate vaccine (MCV4) is recommended for microbiologists 55 years and younger who are routinely exposed to *N.meningitidis* isolates. MCV4 is preferred over quadrivalent meningococcal polysaccharide vaccine (MPSV4) for those 56 and older who have been vaccinated previously with MCV4 or anticipate multiple doses. Microbiologists of all ages who remain at risk should be revaccinated every 5 years.

## 9.2 Hepatitis B Vaccine

The Director of EH&S or contractor will provide training to employees on HBV vaccinations, addressing safety, benefits, efficacy, methods of administration, and availability.

The HBV vaccination series is available at no cost after initial employee training and within 10 days of initial assignment to all employees identified in the exposure determination section of this plan. Vaccination is encouraged unless:

1. Documentation exists that the employee has previously received the series;
2. Antibody testing reveals that the employee is immune; or
3. Medical evaluation shows that vaccination is contraindicated.

**NOTE:** Employees in certain populations at high risk for chronic hepatitis B (e.g. those born in countries with high and moderate endemicity, behavioral risk factors, immunosuppression, liver disease of unknown etiology) should be tested for HBsAg and anti-HBc/anti-HBs to determine infection status prior to vaccination.

However, if an employee declines the vaccination, the employee must sign a declination form. Employees who decline may request and obtain the vaccination at a later date at no cost. Documentation of refusal of the vaccination is kept at the HR Department’s Office. Vaccination will be provided by an Occupational Health subcontractor, which is contracted by the HR Department. Below is an example of a HBV Declination form in italics.

### *HEPATITIS B VACCINE DECLINATION (MANDATORY)*

*I understand that due to my occupational exposure to blood or other potentially infectious materials I may be at risk of acquiring hepatitis B virus (HBV) infection. I have been given the opportunity to be vaccinated with hepatitis B vaccine, at no charge to myself. However, I decline hepatitis B vaccination at this time. I understand that by declining this vaccine, I continue to be at risk of acquiring hepatitis B, a*

serious disease. If in the future I continue to have occupational exposure to blood or other potentially infectious materials and I want to be vaccinated with hepatitis B vaccine, I can receive the vaccination series at no charge to me.

Signed: (Employee Name) \_\_\_\_\_

Date: \_\_\_\_\_

Print Name: \_\_\_\_\_

Following the medical evaluation, a copy of the health care professional's written opinion will be obtained and provided to the employee within 15 days of the completion of the evaluation. It will be limited to whether the employee requires the hepatitis vaccine and whether the vaccine was administered.

### 9.3 Tuberculosis Testing

Health Services staff should receive baseline Tuberculosis (TB) screening upon hire, using two-step TST or a single BAMT to test for infection with *M. tuberculosis*.

For employees who have no documentation of a TST within the last year, a 2-step TST screening procedure will be administered by a healthcare professional to establish baseline results. Documentation of outside TST administration and reading may be accepted if the documentation is by a facility trained in public health/occupational medicine (i.e. Health Services, Public Health Department, Occupational Health Department of other healthcare facilities, private physician).

After baseline testing for infection with *M. tuberculosis*, additional TB screening is not necessary unless an exposure to *M. tuberculosis* occurs.

Health Services staff with a baseline positive or newly positive test result for *M. tuberculosis* infection (i.e., TST or BAMT) or documentation of treatment for LTBI or TB disease should receive one chest radiograph result to exclude TB disease (or an interpretable copy within a reasonable time frame, such as 6 months). Repeat radiographs are not needed unless symptoms or signs of TB disease develop or unless recommended by a clinician

### 9.4 Other Medical Restrictions

Restrictions or recommendations will be made on an individual basis after discussion with either an occupational medicine practitioner or the affected individual's personal physician.

Examples of some conditions that might warrant special precautions are infection, immunosuppressive conditions, or drug therapy that suppresses the immune system. Therefore, anyone who has any of the above-mentioned conditions is encouraged to inform their personal physician about any issues that prevent them from being able to work with biological materials.

## 10 TRAINING AND RECORDKEEPING

### 10.1 Training

Training will be performed within one month of hiring and an annual basis thereafter. The training will cover the topics, which are required by OSHA, MADPH, and other regulatory agencies and best management practices.

Employees who have occupational exposure to BBPs receive initial and annual training conducted by the Director of EH&S or designee. The training will include the epidemiology, symptoms, and transmission of BBP diseases. In addition, the training program covers, at a minimum, the following elements:

- A copy and explanation of the OSHA BBP standard
- An explanation of our ECP and how to obtain a copy
- An explanation of methods to recognize tasks and other activities that may involve exposure to blood and OPIM, including what constitutes an exposure incident
- An explanation of the use and limitations of engineering controls, work practices, and PPE
- An explanation of the types, uses, location, removal, handling, decontamination, and disposal of PPE
- An explanation of the basis for PPE selection
- Information on the hepatitis B vaccine, including information on its efficacy, safety, method of administration, the benefits of being vaccinated, and that the vaccine will be offered free of charge
- Information on the appropriate actions to take and persons to contact in an emergency involving blood or OPIM
- An explanation of the procedure to follow if an exposure incident occurs, including the method of reporting the incident and the medical follow-up that will be made available
- Information on the post-exposure evaluation and follow-up that the employer is required to provide for the employee following an exposure incident
- An explanation of the signs and labels and/or color coding required by the standard and used at this facility
- An opportunity for interactive questions and answers with the person conducting the training session.

### 10.2 Training Records

Training records are completed for each employee upon completion of training. These documents will be kept for at least three years at HR Department. The training records include:

- The dates of the training sessions
- The contents or a summary of the training sessions
- The names and qualifications of persons conducting the training
- The names and job titles of all persons attending the training sessions

Employee training records are provided upon request to the employee or the employee's authorized representative within 15 working days. Such requests should be addressed to the HR Department.

### **10.3 Medical Records**

Medical records are maintained for each employee with occupational exposure in accordance with 29 CFR 1910.1020, "Access to Employee Exposure and Medical Records."

HR Department is responsible for maintenance of the required medical records. These confidential records are kept in HR Department's Office for at least the duration of employment plus 30 years.

Employee medical records are provided upon request of the employee or to anyone having written consent of the employee within 15 working days. Such requests should be sent to the HR Office, 300 The Fenway, Boston, MA 02115.

### **10.4 OSHA Recordkeeping**

An exposure incident is evaluated to determine if the case meets OSHA's Recordkeeping Requirements (29 CFR 1904). This determination and the recording activities are done by the HR Department.

### **10.5 Sharps Injury Log**

In addition to the 1904 Recordkeeping Requirements, all percutaneous injuries from contaminated sharps are also recorded in a Sharps Injury Log. All incidences must include at least:

- Date of the injury
- Type and brand of the device involved (syringe, suture needle)
- Department or work area where the incident occurred
- Explanation of how the incident occurred.

This log is reviewed as part of the annual program evaluation and maintained for at least five years following the end of the calendar year covered. If a copy is requested by anyone, it must have any personal identifiers removed from the report.

## **11 EH&S REGULATIONS, BMPs, AND REFERENCES**

The following EH&S regulations, BMPs, and references were used to develop this manual.

### **11.1 OSHA**

This section highlights OSHA standards and directives related to healthcare. The details associated with these standards and directives are found on the following webpage:

<https://www.osha.gov/SLTC/healthcarefacilities/standards.html>

### 11.1.1 General Industry Standards

The following General Industry Standards apply to Health Services:

- 29 Code of Federal Regulations (CFR) 1910.132 – Personal Protective Equipment
- 29 CFR 1910.133 –Eye Protection
- 29 CFR 1910.134 – Respiratory Protection
- 29 CFR 1910.1030 – Bloodborne Pathogens
- 29 CFR 1910.1200 – Hazard Communication

### 11.1.2 Directives and Enforcement Policies

OSHA has developed the following directives and enforcements policies to provide instructions to compliance officers.

- Enforcement Procedures and Scheduling for Occupational Exposure to Tuberculosis
- Inspections Guidance for Inpatient Healthcare Settings
- Enforcement Procedures for the Occupational Exposure to Bloodborne Pathogens

## 11.2 Environmental Regulations

The environmental impacts associated with Health Services are waste generation and sink disposal. Below are the regulations, which provide the requirements for these environmental impacts.

- The Resource Conservation and Recovery Act (RCRA) is the public law that creates the framework for the proper management of hazardous and non-hazardous solid waste. The law describes the waste management program mandated by Congress that gave the U.S. Environmental Protection Agency (EPA) authority to develop the RCRA program. Under RCRA, EPA provides regulations about hazardous waste, medical waste, universal waste, and non-hazardous waste.
- Massachusetts Department of Environmental Protection has developed the following regulations, which apply to Health Services:
  - 310 CMR 30.000 – Hazardous waste management
  - 310 CMR 40 – Emergency Response/Spill Reporting
- Massachusetts Water Resource Authority's 360 CMR 10.000 – Sewer Use.

## 11.3 Public Health Regulations

The Massachusetts Department of Public Health (MADPH) issued the following regulations with regards to Health Services:

- 105 Code of Massachusetts Regulations (CMR) 480.000, *Minimum Requirements for the Management of Medical or Biological Waste (State Sanitary Code Chapter VIII)*
- 105 CMR 300.000, *Reportable Diseases, Surveillance, and Isolation and Quarantine*
- 105 CMR 700.000, *Implementation of Massachusetts General Law 94C*, which is the Controlled Substance Act

## 11.4 Best Management Practices

In addition, guidelines from the following agencies, colleges, and organizations were reviewed and used in this document since they provide standards of care with regards to Health Services' EH&S programs:

- American Conference of Governmental Industrial Hygienists (ACGIH)
- American Public Health Association (APHA)
- American National Standards Institute (ANSI) Standards
- American Nurse Association (ANA)
- National Institute for Occupational Safety and Health (NIOSH)
- OSHA's Hospital eTool
- OSHA's Healthcare webpage

## 11.5 References

Below are references used to develop this EH&S manual:

- Simmons Health Services webpage  
(<http://www.Simmons.edu/student-life/student-health-counseling/health-services.html> )
- 21 CFR 1300 – 1321 (<http://www.deadiversion.usdoj.gov/21cfr/cfr/2108cfrt.htm>)
- 105 CMR 700.000  
(<http://www.mass.gov/eohhs/gov/laws-regs/dph/regs-cmr/public-health-regulations-105-cmr-700-799.html>)
- OSHA's *Model Plans and Programs for the OSHA Bloodborne Pathogens and Hazard Communication Standards*, OSHA 3186-06R, dated 2003.
- Harvard Institutes of Medicine/New Research Building *Exposure Control Plan*, dated October 2011
- University of North Carolina's EH&S Manual (<http://ehs.unc.edu/manuals/ehsmanual/>)
- Massachusetts Recommendations and Requirements for 2015  
(<http://www.mass.gov/eohhs/docs/dph/cdc/immunization/guidelines-adult.pdf>)
- CDC's Immunization of Health-Care Personnel – Recommendations of the Advisory Committee on Immunization Practices (ACIP) (<http://www.cdc.gov/mmwr/pdf/rr/rr6007.pdf>)