UNIVERSITY OF SOUTH CAROLINA

BLOODBORNE PATHOGENS EXPOSURE CONTROL PLAN

Environmental Health & Safety

The South Carolina Occupational Safety and Health standard on Bloodborne Pathogens, Subarticle 6, Section 1910.1030 requires an **annual review** of the exposure control plan. In addition, whenever changes in tasks, procedures, or employee positions affect, or create new occupational exposure, the existing plan must be reviewed and updated accordingly.

The exposure control plan **must be accessible** to employees, as well as to OSHA and NIOSH representatives. The location of the plan may be adapted to the circumstances of a particular workplace, provided that employees can access a copy at the workplace during the work shift. If the plan is maintained solely on computer, employees must be trained to operate the computer.

A hard copy of the exposure control plan must be provided **within 15 working days** of the employee's request in accord with 29 CFR 1910.1020.

MOST RECENT EXPOSURE CONTROL PLAN REVIEW DATE		
Name (Print)	**Signature**	**Date**
Dr. Jim Mensch	*James Mensch*	June 25, 2018

POLICY

The Athletic Training Program is committed to providing a safe and healthful work environment for our entire staff. In pursuit of this goal, the following exposure control plan (ECP) is provided to eliminate or minimize occupational exposure to bloodborne pathogens in accordance with OSHA standard 29 *CFR* 1910.1030, "Occupational Exposure to Bloodborne Pathogens."

This program applies to all work operations in the Athletic Training Program where you may be exposed to blood or other potentially infectious materials under normal working conditions or during an emergency situation. Copies of the program may be obtained from the Infectious Waste Manager, Amy Hand (Athletic Training Program Clinical Education Coordinator, 803) 777-7175), and located in Blatt 101A. This Exposure Control Plan will be reviewed and updated at least annually by Dr. Jim Mensch, Athletic Training Program Director, and whenever necessary to reflect new or modified tasks, and/or new or revised employee positions which affect occupational exposure.

This ECP includes:

- Determination of employee exposure
- Implementation of various methods of exposure control, including:
  - Universal precautions
  - Engineering and work practice controls
  - Personal protective equipment
  - Housekeeping
- Hepatitis B vaccination
- Post-exposure evaluation and follow-up
- Communication of hazards to employees and training
- Recordkeeping
- Procedures for evaluating circumstances surrounding exposure incidents

Implementation methods for these elements of the standard are discussed in the subsequent pages of this ECP.

The purpose of this exposure control plan is to:

- Eliminate or minimize employee occupational exposure to blood and other potentially infectious materials
- Comply with the OSHA Bloodborne Pathogens Standard, 29 CFR 1910.1030

SCOPE

The plan applies to all employees who have or may have occupational exposure to blood or other potentially infectious materials (OPIM).

- **Blood** is defined as human blood, human blood components, and products made from human blood.
- **Bloodborne Pathogens** include any pathogenic microorganism that is present in human blood or OPIM and can infect and cause disease in persons who are exposed to blood containing that pathogen. Pathogenic microorganisms can also cause diseases such as hepatitis C, malaria, syphilis, babesiosis, brucellosis, leptospirosis, arboviral infections, relapsing fever, Creutzfeldt-Jakob disease, adult T-cell leukemia/lymphoma (caused by HTLV-I), HTLV-I associated myelopathy, diseases associated with HTLV-II, and viral hemorrhagic fever.
- **Contaminated** means the presence or the reasonably anticipated presence of blood or other potentially infectious materials on an item or surface.
- **Contaminated Laundry** means laundry which has been soiled with blood or potentially infectious materials or may contain sharps
- **Contaminated Sharps** means any contaminated object that can penetrate the skin including, but not limited to, needles, scalpels, and broken glass.
- **Decontamination** means the use of physical or chemical means to remove, inactivate, or destroy bloodborne pathogens on a surface or item to the point where they are no longer capable of transmitting infectious particles and the surface or item is rendered safe for handling, use, or disposal.
- **Engineering Controls** are controls that isolate or remove the bloodborne pathogens hazard from the workplace.
- **Exposure Incident** is a specific eye, mouth, or other mucous membrane, non-intact skin, or parenteral contact with blood or other potentially infectious materials that results from the performance of an employee's duties.
- **HBV** means hepatitis B virus
- **HIV** means human immunodeficiency virus
- **Occupational exposure** is defined as reasonably anticipated skin, eye, mucous membrane, or parenteral contact with blood or other potentially infectious materials that may result from the performance of an employee's duties.
- **Other potentially infectious materials (OPIM)** is defined as the following: saliva in dental procedures; semen; vaginal secretions; cerebrospinal, synovial, pleural, pericardial, peritoneal, and amniotic fluids; body fluids visibly contaminated with blood; along with all body fluids in situations where it is difficult or impossible to differentiate between body fluids; unfixed human tissues or organs (other than intact skin); HIV-containing cell or tissue cultures, organ cultures, and HIV- or HBV-containing culture media or other solutions; and blood, organs, or other tissues from experimental animals infected with HIV or HBV.

- **Parenteral** is the piercing mucous membranes or the skin barrier through such events as needlesticks, human bites, cuts, and abrasions.

- **Personal Protective Equipment** is specialized clothing or equipment worn by an employee for protection against a hazard.

- **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.

- **Research Laboratory** is a laboratory that produces or uses research-laboratory-scale amounts of HIV or HBV.

- **Source Individual** is any individual, living or dead, whose blood or other potentially infectious materials may be a source of occupational exposure to the employee.

- **Sterilize** means the use of a physical or chemical procedure to destroy all microbial life including highly resistant bacterial endospores.

- **Universal Precautions** is an approach to infection control. The concept of Universal Precautions, all human blood and certain human body fluids are treated as if known to be infectious for HIV, HBV, and other bloodborne pathogens.

- **Work Practice Controls** means controls that reduce the likelihood of exposure by altering the manner in which a task is performed.

PROGRAM ADMINISTRATION

The Athletic Training Program Director, Dr. Jim Mensch (Blatt Physical Education Center 102, (803) 777-3846), is responsible for implementation of this Exposure Control Plan (ECP). This ECP will be reviewed and updated at least annually by Dr. Jim Mensch and whenever necessary to reflect new or modified tasks, and/or new or revised employee positions which affect occupational exposure.

Those employees who are determined to have occupational exposure to blood or other potentially infectious materials (OPIM) must comply with the procedures and work practices outlined in this ECP.

The Athletic Training Program and all affiliated clinical education sites will provide and maintain all necessary personal protective equipment (PPE), engineering controls (e.g., sharps containers), labels, and red bags as required by the standard. The **Supervisor** of employees with occupational exposure to blood or OPIM will ensure that adequate supplies of the aforementioned equipment are available in the appropriate sizes.

The Athletic Training Program will be responsible for ensuring that all medical actions required by the standard are performed and that appropriate employee health and OSHA records are maintained. Contact location/phone number: Blatt Physical Education Center 102, (803) 777-3846

The Athletic Training Program Director, Dr. Jim Mensch, will be responsible for defining all personnel under their supervision with occupational exposure to blood or OPIM and ensuring training,

documentation of training, and making the written ECP available to employees, OSHA, and NIOSH representatives.

EMPLOYEE EXPOSURE DETERMINATION

The following is a list of all job classifications within the department of Environmental Health and Safety in which employees may have occupational exposure:

JOB FUNCTION	TASK/PROCEDURE
Athletic Trainer / Athletic Training Student	**Administering first aid and/or responding to injuries**

UNIVERSAL PRECAUTIONS

All employees will utilize **Universal Precautions**. Universal Precautions is OSHA's required method of control to protect employees from exposure to all human blood and OPIM. The term, "Universal Precautions," refers to a concept of bloodborne disease control which requires that all human blood and certain human body fluids be treated as if known to be infectious for HIV, HBV or other bloodborne pathogens.

EXPOSURE CONTROL PLAN

Employees covered by the bloodborne pathogens standard receive an explanation of this ECP during their initial training session. It will also be reviewed in their annual refresher training. All employees may review this plan at any time during their work shifts by obtaining a copy located in Blatt 102, in the Athletic Training Student Handbook on the University of South Carolina Athletic Training website, or on the USC Athletic Training Blackboard page.

ENGINEERING CONTROLS

Engineering controls and **work practice controls** will be used to prevent or minimize exposure to bloodborne pathogens. The supervisor for the department must annually consider and implement appropriate, commercially-available and effective engineering controls designed to eliminate or minimize exposure. The supervisor must solicit and document for this process input from non-managerial employees who are potentially exposed to injuries from contaminated sharps, materials from infectious waste or spill clean-up materials. Where occupational exposure remains after institution of these controls, personal protective equipment shall be utilized.

The specific engineering controls and work practice controls used are listed below:

- *Athletic training faculty and students do not utilize contaminated sharps directly when performing their job duties. Sharps containers are kept in the Athletic Training Research Lab and affiliated clinical education sites in the event that a sharps device is needed.*

The above controls will be examined and maintained on a regular basis. The schedule for reviewing the effectiveness of the controls is as follows:

An infectious waste spill drill is conducted annually by Dr Jim Mensch. The drill involves an infectious waste spill scenario and provides an opportunity for discussion and input into how to best handle the scenario. The spill drill is attended by Athletic Training Program personnel who might be affected by a bloodborne pathogen spill. Action items identified by the spill drill are documented and resolved as soon as possible. Spill drills and attendance is documented by the Athletic Training Program Director.

The **Athletic Training Program Director, Dr. Jim Mensch,** is responsible for ensuring that these recommendations are implemented.

WORK PRACTICES

Facilities for proper **hand washing** should be readily available in all areas where occupational exposure to bloodborne pathogens is anticipated.

Antiseptic hand cleansers in conjunction with clean cloth/paper towels or antiseptic towelettes are examples of acceptable alternatives to running water. However, when these types of alternatives are used, employees must wash their hands with soap and running water as soon as feasible. These alternatives are only acceptable at worksites where it is infeasible to provide soap and running water.

The standard requires that all **equipment** that may be contaminated must be examined and decontaminated as necessary before servicing or shipping. If complete decontamination is not feasible, the equipment must be labeled with the required biohazard label which also specifically identifies which portions of the equipment remain contaminated. In addition, the employer must ensure that this information is conveyed to the affected employees, the servicing representative, and/or the manufacturer, as appropriate, before handling, servicing, or shipping.

In work areas where there is a reasonable likelihood of exposure to blood or other potentially infectious materials (OPIM), employees are not to eat, drink, apply cosmetics or lip balm, smoke, or handle contact lenses. Food and beverages are not to be kept in refrigerators, freezers, shelves, cabinets, or on counter tops where blood or OPIM. Mouth pipetting/suctioning of blood or OPIM is prohibited. All procedures shall be conducted in a manner which will minimize splashing, spraying, splattering, and generation of droplets of blood or OPIM.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

The **responsibility** for providing laundering, cleaning, repairing, replacing, and disposing of PPE at no cost to employees rests with the Athletic Training Program. PPE is provided to employees at no cost. Training in the use of the appropriate PPE for specific tasks or procedures is provided by the Athletic Training Program faculty. PPE will be chosen based on the expected exposure to blood or OPI materials. The PPE will be considered appropriate only if it does not permit blood or other potentially infectious materials to pass through or reach the employees' clothing, skin, eyes, mouth, or other mucous membranes under normal conditions of use and for the duration of time which the PPE will be used. If laboratory jackets or uniforms are used to protect the employee's body or clothing from contamination, they will be provided at no cost by the employer. Long pants and closed toe shoes shall be worn when handling all infectious waste and while cleaning up any OPIM and/or blood spills.

The types of PPE available to employees who may be exposed to blood or OPIM are as follows: gloves, eye protection, face protection, laboratory coats

All employees using PPE must observe the following precautions:

- Remove PPE after it becomes contaminated and before leaving the work area. A "work area" is generally considered to be an area where work involving occupational exposure occurs or where contamination of surfaces may occur.
- Remove immediately or as soon as feasible any garment contaminated by blood or OPIM, in such a way as to avoid contact with the outer surface.
- Wash hands immediately or as soon as feasible after removing gloves or other PPE.

The use of **eye protection** would be based on the reasonable anticipation of facial exposure. Masks in combination with eye protection devices, such as glasses with solid side shields, goggles, or chin-length face shields, shall be worn whenever splashes, spray, spatter, or droplets of blood or OPIM may be generated and eye, nose, or mouth contamination can be reasonably anticipated.

- If disposable eye and/or face protection becomes contaminated, it will be disposed of with all other contaminated materials.
- If non-disposable eye and/or face protection becomes contaminated, these items will be decontaminated using a disinfectant in the work area.

Gloves will be worn to protect hands from exposure to blood or OPIM. Gloves will not be worn outside contaminated areas. Gloves will be changed when contaminated or the integrity has been compromised. Gloves will be removed to wash hands when work with the hazards has been completed and before leaving the area. Only disposable gloves will be used for these duties.

Appropriate gloves must be worn by employees while handling infectious waste and while cleaning up any OPIM and/or blood spills. Gloves must also been worn when it is reasonably anticipated that there may be hand contact with blood or OPIM, 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.
- Wash hands immediately or as soon as feasible after removing gloves or other PPE.
- Used gloves will be disposed with other contaminated lab waste.
- Hypoallergenic gloves, glove liners, powderless gloves, or other similar alternatives will be readily accessible to those employees who are allergic to the gloves normally provided.

Additional protective clothing such as lab coats, gowns, aprons, or similar outer garments will be worn in instances when gross contamination can be expected.

- Contaminated non-disposable lab coats will be deposited in the EHS laboratory to be laundered. These items will not be taken home by any employee. They will be laundered by a contracted facility.
- Contaminated disposable lab coats will be disposed of with the other contaminated lab waste.

PPE may be obtained through the Supervisor. The supervisor will order required PPE and ensure this PPE is available to employees with potential occupational exposure to blood or OPIM. The supervisor will also ensure appropriate PPE in the appropriate sizes is readily accessible and issued without cost to employees. PPE supplies such as gloves will be stored in the Storage Room (Blatt 107A).

HOUSEKEEPING

OSHA requires contaminated work surfaces to be cleaned with an **"appropriate disinfectant".** Appropriate disinfectants include a diluted bleach solution and EPA-registered tuberculocides (List B), sterilants registered by EPA (List A), products registered against HIV/HBV (List D) or Sterilants/High Level Disinfectants cleared by the FDA, provided that such surfaces have not become contaminated with agent(s) or volumes of or concentrations of agent(s) for which higher level disinfection is recommended. The lists of EPA Registered Products are available from the National Antimicrobial Information Network on its web site at http://nain.orst.edu/ or at (800) 447-6349. The sterilants and high level disinfectants cleared by FDA can be found at http://www.fda.gov/cdrh/ode/germlab.html. The products listed above must be used by the manufacturer's instructions to be fully affective. If using diluted household bleach for disinfecting, it must be made up daily (every 24 hours).

The particular disinfectant used, as well as the frequency with which it is used, will depend upon the circumstances in which a given housekeeping task occurs (i.e., location within the facility, type of surface to be cleaned, type of soil present, and tasks and procedures being performed).

Most contaminated work surfaces will be decontaminated using a 10% dilution of household bleach in water (1:10 dilution). Cleaning procedures are listed below.

Infectious waste is collected in either 96 gallon red wheeled carts or in lined boxes provided by the infectious waste vendor. The vendor will pick up full red wheeled carts and full lined boxes on a weekly basis. Once the vendor has taken the red wheeled cart back to the vendor's facility the cart will be decontaminated prior to returning to campus. When lined boxes are used for infectious waste, the vendor incinerates the boxes and provides new boxes and liners as required. The carts and implements, used for picking up boxed infectious waste, do not come into contact with infectious waste. The infectious waste is boxed before it is placed on the cart. If the cart is accidentally contaminated, it will be cleaned with a solution of 10% bleach in water.

When bins approach capacity (3/4 full), the Athletic Training Program contacts EHS for removal.

REGULATED WASTE

The Bloodborne Pathogens standard uses the term, "**regulated waste**," to refer to the following categories of waste which require special handling: (1) liquid or semi-liquid blood or OPIM; (2) items contaminated with blood or OPIM and which would release these substances in a liquid or semi-liquid state if compressed; (3) items that are caked with dried blood or OPIM and are capable of releasing these materials during handling; (4) contaminated sharps; and (5) pathological and microbiological wastes containing blood or OPIM.

Regulated waste containers will be color-coded with the color red or orange to warn all who may have contact with the containers of the potential hazard posed by its contents. The biological hazard symbol will be used to mark these containers as well. All containers must be labeled with the words "infectious waste", "biological waste" or "medical waste". All waste packages must also include a completed tag, filled out by laboratory personnel, and attached.

Regulated waste shall be discarded immediately or as soon as feasible in **containers** that are:

- Closable;
- Constructed to contain all contents and prevent leakage of fluids during handling, storage, transport or shipping;
- Labeled or color-coded in accordance with paragraph (g)(1)(i) of the standard; and
- Closed prior to removal to prevent spillage or protrusion of contents during handling, storage, transport, or shipping.

If outside contamination of the regulated waste container occurs, it shall be placed in a second container. The **second container** shall be:

- Closable;
- Constructed to contain all contents and prevent leakage of fluids during handling, storage, transport, or shipping;
- Labeled or color-coded in accordance with paragraph (g)(1)(i) of the standard; and
- Closed prior to removal to prevent spillage or protrusion of contents during handling, storage, transport, or shipping.

OSHA does not generally consider discarded **feminine hygiene products**, used to absorb menstrual flow, to fall within the definition of regulated waste. The intended function of products such as sanitary napkins is to absorb and contain blood. The absorbent material of which they are composed would, under most circumstances, prevent the release of liquid or semi-liquid blood or the flaking off of dried blood. OSHA expects these products to be discarded into waste containers which are properly lined with plastic or wax paper bags. Such bags should protect the employees from physical contact with the contents.

Sharps containers shall be maintained upright throughout use, replaced routinely and not be allowed to overfill. When removing sharps containers from the area of use, the containers shall be:

- Closed immediately before removal or replacement to prevent spillage or protrusion of contents during handling, storage, transport, or shipping;
- Placed in a secondary container if leakage is possible. The second container shall be:
    - Closable;
    - Constructed to contain all contents and prevent leakage during handling, storage, transport, or shipping; and
    - Labeled or color-coded according to paragraph (g)(1)(i) of the standard.
- Reusable containers shall not be opened, emptied, or cleaned manually or in any other manner which would expose employees to the risk of percutaneous injury.

Upon closure, duct tape may be used to secure the lid of a sharps container as long as the tape does not serve as the lid itself.

Sharps containers must be **easily accessible** to employees and located as close as feasible to the immediate area where sharps are used (e.g., patient care areas) or can be reasonably anticipated to be found (e.g., laundries).

During infectious waste pickups, the Infectious Waste Handlers will pick up sharps containers that have already been securely closed. The containers must be replaced by the laboratory requesting pickup. Regulated Waste Disposal Procedures:

- **Full Sharps disposal containers** will be discarded directly into the large biohazard waste boxes with red bag liners for pick-up by Stericycle for incineration.
- **Contaminated sharps** are discarded immediately or as soon as possible in containers that are closable, puncture-resistant, leak proof on sides and bottoms, and appropriately labeled or color-coded. Sharps disposal containers are conveniently accessible to the immediate area where sharps are used. If contaminated sharps are involved in the clean-up of a spill, they will be discarded in a sharps container.
- **Reusable sharps** will not be handled by Athletic Training Program students or employees.
- All **other regulated biohazard waste** generated in the labs will be autoclaved, by the laboratory personnel, before they are disposed of in the biohazard boxes which are located in the autoclave rooms.
- For **box pickups**, the infectious waste officer builds a box, inserts the red biohazard liner, and collects the infectious waste in a box. The box is then closed and taped shut. Each box collected is placed in the infectious waste cooler located off Bull Street next to the second floor of Benson School.
- Any **waste generated during the clean-up of a spill** involving blood or OPIM will be discarded in a red biohazard bag and then disposed in the large biohazard boxes with other laboratory infectious waste.
- **Broken glassware** that may be contaminated is only picked up using mechanical means, such as a brush and dustpan.

NOTE: Disposal of all regulated wastes will be in accordance with applicable federal, state and local regulations. DHEC is the controlling agency in South Carolina.

LAUNDRY

Contaminated laundry means laundry which has been soiled with blood or other potentially infectious materials or may contain sharps.

Contaminated laundry shall be handled as little as possible with a minimum of agitation. Contaminated laundry shall be **bagged or containerized** at the location where it was used and shall not be sorted or rinsed in the location of use. Other requirements include:

- Contaminated laundry shall be placed and transported in bags or containers labeled with the biohazard label or color-coded using red or orange to indicate contaminated material. It is the responsibility of the Infectious Waste Officer to ensure all contaminated laundry is handled properly.

- Whenever contaminated laundry is wet and presents a reasonable likelihood of soak-through or leakage from the bag or container, the laundry shall be placed and transported in secondary bags or containers which prevent soak-through and/or leakage of fluids to the exterior. The secondary bag or container must also be labeled with the above requirements.

- Employees who have direct contact with contaminated laundry must wear protective gloves and other appropriate personal protective equipment (PPE). Other appropriate PPE will be determined on a case-by-case basis.

- If contaminated laundry is shipped off-site to a second facility which does not utilize Universal Precautions in the handling of all laundry, contaminated laundry will be placed in bags or containers which are labeled or color-coded in accordance with paragraph (g)(1)(i) of the standard.

- Contaminated laundry is not generated within the EHS department. If clothing is contaminated with blood or OPIM, it will then be place in with infectious waste and that item will be replaced monetarily to the employee by the Environmental Health and Safety department. Contaminated laundry from other departments will also be included with infectious waste. Those items will be replaced by that department for the employee.

Employees are not permitted to take their protective equipment home to launder, it is the responsibility of the EHS department to provide, launder, clean, repair, replace, and dispose of personal protective equipment.

LABELS

A **warning label** that includes the universal biohazard symbol (see 29 CFR 1910.1030(g)(1)(i)(B) followed by the term "biohazard," must be included on bags/containers of contaminated laundry; on bags/containers of regulated waste; on refrigerators and freezers that are used to store blood or OPIM; and on bags/containers used to store, dispose of, transport, or ship blood or OPIM (e.g., specimen containers). In addition, contaminated equipment which is to be serviced or shipped must have a readily observable label attached which contains the biohazard symbol and the word "biohazard" along with a statement relating which portions of the equipment remain contaminated.

The **labels** must be fluorescent orange or orange-red or predominantly so, with symbols and lettering in a contrasting color. The label must be an integral part of the container or affixed as close as feasible to the container by a string, wire, adhesive, or other method to prevent its loss or unintentional removal.

Red bags or red containers may be substituted for the biohazard labels; however, regulated wastes must be handled according to DHEC rules and regulations.

Labeling is **not required** for:

- Containers of blood, blood components, and blood products bearing an FDA-required label that have been released for transfusion or other clinical uses;

- Individual containers of blood or OPIM that are placed in secondary labeled containers during storage, transport, shipment, or disposal; and
- Specimen containers, if the facility uses Universal Precautions when handling all specimens, the containers are recognizable as containing specimens, and the containers remain within the facility; and
- Regulated waste that has been decontaminated

The labeling requirements do not preempt either the U.S. Postal Service labeling requirements (39 CFR Part III) or the Department of Transportation's Hazardous Materials Regulations (49 CFR Parts 171-181).

DOT labeling is required on some transport containers (i.e., those containing "known infectious substances"). It is not required on all containers for which 29 CFR 1910.1030 requires the biohazard label. Where there is an overlap between the OSHA-mandated label and the DOT-required label, the DOT label will be considered acceptable on the outside of the transport container provided that the OSHA-mandated label appears on any internal containers which may be present. Containers serving as collection receptacles within a facility must bear the OSHA label since these are not covered by the DOT requirements.

The Infectious Waste Officer 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 Environmental Health and Safety if they discover regulated waste containers, refrigerators containing blood or OPIM, contaminated equipment, etc., without proper labels.

HIV AND HBV RESEARCH LABORATORIES AND PRODUCTION FACILITIES

Academic **HIV and HBV** research laboratories are regarded as research laboratories under the standard. A research laboratory produces or uses research laboratory-scale amounts of HIV and HBV. Although research laboratories may not have the volume found in production facilities, they deal with solutions containing higher viral titers than those normally found in patients' blood.

The standard covers **animal blood** only for those experimental animals purposely infected with HIV or HBV. Although the standard does not apply to animal blood unless it comes from an experimental animal infected with HIV or HBV, persons handling animals or animal blood should follow general precautions recommended by the Centers for Disease Control/National Institutes of Health Publication, *Biosafety in Microbiological and Biomedical Laboratories*.

EHS employees will not come into direct contact with any substance associated within these laboratories during their normal job duties. If out of scope work is needed within these laboratories, further steps will be taken for protection of EHS employees. Prior to any out of scope work is conducted the Biological Safety Officer and Safety Manager must be contacted.

HEPATITIS B VACCINATION

The hepatitis B 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. Thus, arranging the first dose of the series be administered at a time which will enable this schedule to be met. Vaccination is encouraged unless: 1) documentation exists showing the employee has previously received the series; 2) antibody testing reveals the employee is immune; 3) medical evaluation shows that vaccination is contraindicated; or 4) the employee declines to have the vaccination.

Vaccination will be provided by the **Student Health Services Immunization Clinic**.

If an employee **declines the hepatitis B vaccination**, EHS will ensure the employee signs a hepatitis B vaccine declination. The declination's wording is found in Appendix A of the standard. Documentation of refusal of the vaccination is kept with the Infectious Waste Officer.

Employees have the right to **refuse the hepatitis B vaccine** and/or any post-exposure evaluation and follow-up. Note, however, the employee will be properly informed of the benefits of the vaccination and post-exposure evaluation through training. The employee also has the right to decide to take the vaccination at a later date if he or she so chooses. EHS must make the vaccination available at that time.

EHS may not require an employee to take a pre-screening or post-vaccination serological test prior to receiving hepatitis B vaccination; however, it may be decided by the Safety Make to make pre-screening available at no cost to the employee.

All **medical evaluations and procedures**, including the hepatitis B vaccine and vaccination series, are to be provided according to the current recommendations of the U.S. Public Health Service (USPHS). According to the current guidelines, employees who have ongoing contact with patients or blood and are at ongoing risk for percutaneous injuries should be tested for anti-HBs one to two months after the completion of the three-dose vaccination series. Non-responders must receive a second three-dose series and be retested after the second series. Non-responders must be medically evaluated http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5011a1.htm.

The U.S. Public Health Service (USPHS) does not recommend **routine booster doses** of hepatitis B vaccine, so they are not required at this time. However, if a routine booster dose of hepatitis B vaccine is recommended by the USPHS at a future date, such booster doses must be made available at no cost to those eligible employees with occupational exposure.

Environmental Health & Safety and/or Student Health Services will provide training to employees on hepatitis B vaccinations, addressing safety, benefits, efficacy, methods of administration, and availability.

POST-EXPOSURE EVALUATION AND FOLLOW-UP

All exposure incidents must be reported, investigated, and documented. Should an exposure incident occur, contact **Buddy Harley** at the following number: **office: 803-777-5255 or cell: 803-582-8191**. Personnel must also immediately report all exposure incidents to their immediate supervisor. Step-by-step instructions for how to handle post-exposure events are listed below and are also available in the Student Health Services (SHS) General Medicine Clinic nurse's station. Supervisors are responsible for ensuring that staff are offered immediate medical care, appropriate diagnostics and treatment.

An immediately available confidential medical evaluation and follow-up will be conducted. The exposed employee should immediately report to Student Health Services for a confidential post-exposure evaluation and for assistance with the referrals and appropriate follow-up care. If during business hours, and prior to sending the patient, notification should be provided to the **Student Health Nurse at 803-434-2479**. For some lower risk incidents, provider consultation by phone may be sufficient with subsequent follow up at a later time. **After business hours**, the **exposed employee** should be sent to the **Palmetto Richland Memorial Hospital's Emergency Department** for evaluation, care and

treatment. The General Medicine Center provider will call 803-434-1663 and provide a full verbal report to a provider in the Emergency Department.

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 University can establish that identification is infeasible or prohibited by state or local law).
- Obtain consent and make arrangements to have the source individual tested as soon as possible to determine HIV, HCV, and HBV infectivity. Ensure two "tiger-top" blood tube specimens are drawn from the potential host patient. Each tube should be labeled with the date of the draw, host's name, date of birth and medical record number. Document the source individual's test results were conveyed to the employee's health care provider. If consent cannot be obtained and is required by state law, the employer must document in writing that consent cannot be obtained. Exposures from an unknown source will be managed based on specifics of the injury and the events surrounding the injury. These cases should still be considered worker's compensation cases and handled accordingly.
- If the source individual is already known to be HIV, HCV and/or HBV positive, new testing need not be performed.
- Assure 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 status
- If the employee does not give consent for HIV serological 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.
- Standard worker's compensation paperwork will be completed for all employees experiencing an occupational exposure. An exposure report must be completed for each incident.

ADMINISTRATION OF POST-EXPOSURE EVALUATION AND FOLLOW-UP

Student Health Services will ensure the health care professional(s) responsible for employee's hepatitis B vaccination, post-exposure evaluation and follow-up are given a copy of OSHA's bloodborne pathogens standard.

Student Health Services clinical staff and the exposed employee will ensure the health care professional who is evaluating the 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 Employee Safety Manager must obtain and provide to the employee a copy of the evaluating healthcare professional's **written opinion** within 15 days of completion of the evaluation. The healthcare professional's written opinion for hepatitis B is limited to whether hepatitis B vaccination is indicated and if the employee received the vaccination. The written opinion for post-exposure evaluation must include information that the employee has been informed of, the results of the evaluation and told about any medical conditions resulting from exposure that may require further evaluation and treatment. All other findings or diagnoses must be kept confidential and not included in the written report.

The institution that provides medical services (e.g. Student Health Services and/or the Palmetto Richland Memorial Hospital's Emergency Department) will provide the employee with a copy of the evaluating health care professional's written opinion **within 15 days** after completion of the evaluation.

Post-exposure counseling will be given to employees following an exposure incident. Counseling concerning infection status, test results and interpretation of all tests, will assist the employee in understanding the potential risk of infection and in making decisions regarding the protection of personal contacts. For example, counseling should include USPHS recommendations about the transmission and prevention of HIV. These recommendations include refraining from blood, semen, or organ donation; abstaining from sexual intercourse or using measures to prevent HIV transmission during sexual intercourse; and refraining from breast feeding infants during the follow-up period. Counseling based on the USPHS recommendations must also be provided for HBV and HCV and other bloodborne pathogens, as appropriate. Counseling will be made available regardless of the employee's decision to accept serological testing.

PROCEDURES FOR EVALUATING THE CIRCUMSTANCES SURROUNDING AN EXPOSURE INCIDENT

EHS Safety Manager will review the circumstances of all exposure incidents to determine:

- if engineering controls were in use at the time
- work practices followed
- a description of the device being used (including type and brand)
- protective equipment or clothing used at the time of the exposure incident (gloves, eye shields, etc.)
- Location of the incident (O.R., E.R., patient room, etc.)
- procedure being performed when the incident occurred
- employee's training

All percutaneous injuries from contaminated sharps will be recorded by the Employee Safety Manager in a Sharps Injury Log.

EMPLOYEE TRAINING

All employees who have occupational exposure to bloodborne pathogens receive **initial and annual training** conducted by the Biological Safety Officer or Employee Safety Manager.

- NOTE: The Biological Safety Officer is responsible for providing training for **research lab personnel** handling human-derived research samples. The Safety Manager is responsible for providing training to personnel in **non-laboratory work areas** with occupational exposure to blood or OPIM. **Academic programs** that place students in work environments where the student may have an occupational exposure to bloodborne pathogens are responsible for providing training to these students (see the "Scope" section of the ECP for additional training guidance for academic programs). The **supervisor** is responsible for ensuring all personnel with occupational exposure that work under their supervision have completed required training.

Training will be given at the time of initial assignment to tasks where occupational exposure may occur, and it will be repeated within 12 months of the previous training. In addition, training must be provided **when changes** (e.g., modified/new tasks or procedures) affect a worker's occupational exposure. Part-time and temporary employees are covered and are also to be trained on University time.

The person conducting the training is required to be **knowledgeable** in the subject matter covered by the elements in the training program and be **familiar** with how the course topics apply to the workplace that the training will address. The trainer must demonstrate **expertise** in the area of occupational hazards of bloodborne pathogens.

All employees who have occupational exposure to bloodborne pathogens receive training on the epidemiology, symptoms, and transmission of bloodborne pathogen diseases. In addition, the training program covers, at a minimum, the following elements:

- a copy and explanation of the OSHA bloodborne pathogen 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.

RECORDKEEPING

Training records are completed for each employee upon completion of training. These documents will be kept for at least **three years**. The Employee Safety Manager will maintain copies of the training roster for each Bloodborne Pathogens Training they provide.

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

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

The medical record includes the name and social security number of the employee; a copy of the employee's hepatitis B vaccination status including the dates of all the hepatitis B vaccinations and any medical records relative to the employee's ability to receive the vaccination; copies of all results of examinations, medical testing and follow-up procedures; copies of the healthcare professional's written opinion; and copies of the information provided to the healthcare professional.

Medical records will be kept confidential and are not reported or disclosed without the expressed written consent of the worker, except as required by the standard or as may be required by law.

Student Health Services is responsible for maintenance of the required medical records. Student Health Services is also responsible for obtaining copies of these records for EHS employees that are referred to other institutions for medical services. These confidential records are kept in the Student Health Services medical records for at least the **duration of employment plus 30 years**. If this department is closed or there is no successor employer to receive and retain the records for the prescribed period, the Director of National Institute for Occupational Safety and Health (NIOSH) will be contacted for final disposition.

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 *Student Health Services*.

Any employer who is required to maintain a log of occupational injuries and illnesses under OSHA's Recordkeeping regulation (29 CFR Part 1904) is also required to establish and maintain a **sharps injury log** for the recording of percutaneous injuries from contaminated sharps. All work-related needlestick injuries and cuts from sharp objects that are contaminated with another person's blood or other potentially infectious material (as defined by 29 CFR 1910.1030) will be recorded on the **OSHA 300 Log**.

If an employee is splashed or exposed to blood or OPIM without being cut or punctured, the incident must be recorded on the OSHA 300 Log if it results in the diagnosis of a bloodborne illness or if it meets one or more of the recording criteria in 29 CFR 1904.7.

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 Employee Safety Manager in Environmental Health and Safety.

All percutaneous injuries from contaminated sharps are also recorded in a **Sharps Injury Log** and 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.

All employee records will be made available to the employee or his representative in accordance with OSHA standard 1910.1020. All employee records will be made available to OSHA and the NIOSH under 1910.1020.

Appendix A:

HEPATITIS B VACCINE DECLINATION (MANDATORY)

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: _____