Introduction

The Occupational Safety and Health Administration (OSHA) established the regulatory standard 29 CFR 1910.1030, which is referred to as the Bloodborne Pathogens Standard. This regulation applies to all personnel with an occupational exposure to blood or other potentially infectious materials. Human blood or certain other body fluids may contain pathogenic microorganisms that cause disease in humans. These pathogens include, but are not limited to, hepatitis B (HBV) or human immunodeficiency virus (HIV). An individual is considered to have an occupational exposure if they have a reasonably anticipated skin, eye, mucous membrane, or parenteral contact with blood or other potentially infectious materials that may result from the performance of their job duties.

The regulations require that the university establish a written Exposure Control Plan designed to eliminate or minimize employee exposure. The regulations also require the implementation of additional provisions designed to prevent exposures. These provisions include, but are not limited to, providing personal protective equipment, procedures for disposal of regulated waste, procedures for management of contaminated sharps, availability of containment equipment, training, hepatitis B vaccination, and post-exposure medical evaluation and follow-up.

The term “Universal Precautions” is an approach to infection control that refers to the concept of treating all human blood and certain human body fluids as if they are known to be infectious for HIV, HBV, and other bloodborne pathogens. It is especially important that employees strictly follow “Universal Precautions” any time they may reasonably anticipate contact with these potentially infectious materials.

Definitions

**Contaminated** means the presence or the reasonably anticipated presence of blood or other potentially infectious materials on an item or surface.

**Contaminated Sharps** means any contaminated object that can penetrate the skin including, but not limited to, needles, scalpels, broken glass, and broken capillary tubes.

**Engineering Controls** means controls (e.g., sharps disposal containers, self-sheathing needles, safer medical devices, such as sharps with engineered sharps injury protections and needleless systems) that isolate or remove the bloodborne pathogens hazard from the workplace.

**Exposure Incident** means a specific eye, mouth, other mucous membrane, non-intact skin, or parenteral contact with blood or other potentially infectious materials resulting from the performance of an employee’s duties.

**HBV** means hepatitis B virus.

**HIV** means human immunodeficiency virus.

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

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

**Work Practice Controls** means controls that reduce the likelihood of exposure by altering the manner in which a task is performed (e.g., prohibiting recapping of needles by a two-handed technique).

Scope and Application

The scope of personnel impacted by bloodborne pathogens is described in OSHA’s Bloodborne Pathogens Standard (29 CFR 1910.1030). According to OSHA, this section applies to all occupational exposure to blood or other potentially infectious materials as a result of the performance of an individual’s job duties. These other potentially infectious materials
would include the following human body fluids: semen, vaginal secretions, cerebrospinal fluid, synovial fluid, pleural fluid, pericardial fluid, peritoneal fluid, amniotic fluid, and any body fluid that is visibly contaminated with blood. These infectious materials would also include any unfixed human tissue or organ, and HIV-containing cell or tissue cultures, and HIV or HBV containing culture medium or other solutions.

At the University of South Carolina Sumter, individuals with responsibilities for medical support and emergency response are examples of personnel with a potential occupational exposure. Also, anyone involved in research with human blood, body fluids, or unfixed tissues would be required to comply with the OSHA Bloodborne Pathogens Standard.

However, "good Samaritan" actions, such as an employee or student who provides assistance to another individual in the case of a nose bleed or other injury, are not covered under the Bloodborne Pathogens Standard. These actions are not reasonably anticipated as a result of the performance of a person's job duties.

**Program Description**

**Exposure Control Plan**

Each department develops a written Exposure Control Plan. This plan indicates all job classifications in which all employees in those job classifications have occupational exposure; a list of job classifications in which some employees have occupational exposure; and a list of all tasks and procedures in which occupational exposure occurs. A copy of this plan must be accessible to all employees included in the plan. The Exposure Control Plan should also include procedures for the evaluation of circumstances surrounding exposure incidents. The plan must be reviewed and updated at least annually and whenever necessary to reflect new or modified tasks and procedures which affect occupational exposure.

- An Exposure Control Plan Template is available through EHS Biosafety website and can be found in the Health and Safety Manual.

**Training**

All employees with occupational exposure must participate in a training program. This training is provided at no cost to the employee and during working hours. Training must be provided initially at the time workers are assigned tasks involving exposure and at least annually thereafter. Additional training should be provided when changes in tasks or procedures affect the employee’s occupational exposure. The training provided by Environmental Health and Safety and Occupational Health includes:

- Where to access a copy of the regulations and an explanation of its contents
- Explanation of the epidemiology and symptoms of bloodborne diseases
- Explanation of bloodborne diseases and their modes of transmission
- Explanation of the departmental Exposure Control Plan and where to obtain a copy
- Explanation of methods to recognize activities that may involve exposure
- Explanation of engineering controls, work practices, and personal protective equipment.
- Information on the hepatitis B vaccine
- Information on the actions to take and persons to contact during an emergency or exposure incident
- Information on the post-exposure evaluation and follow-up provided by the university
- Explanation of signs and labels where blood or other infectious materials are present
- An opportunity for questions and answers

It is the responsibility of the supervisor to ensure that workers attend initial and annual training. The department must maintain attendance records. Training records should include the dates of training sessions, summary of training, names and qualifications of person conducting training, and names and job titles of personnel attending training. Training records should be maintained for 3 years from the date training occurred.

**Vaccinations**

Hepatitis B vaccination is made available at no cost and within 10 working days of initial assignment to all employees who have occupational exposure. Although this vaccination is recommended, an individual may choose not to accept it by signing a declination statement. If the employee initially declines vaccination, but later decides to accept it, the university will make the vaccination available at that time. The Occupational Health nurse at Thompson Student Health Center will
administer the vaccination series and provide any necessary medical evaluation or follow-up as a result of exposure incidents.

Roles and Responsibilities

Department

- Identify individuals with occupational exposure and notify EHS.
- Develop a written departmental Exposure Control Plan.
- Review and update the plan on an annual basis or as exposure conditions change.
- Ensure employees attend the required initial and annual Bloodborne Pathogens Training.
- Provide necessary personal protective equipment and engineering controls.
- Ensure appropriate laboratory facilities are available to personnel performing work involving blood or other potentially infectious materials.
- Maintain a current written Exposure Control Plan and training records.

Supervisors

- Ensure all personnel with occupational exposure receive training, are provided and use the appropriate personal protective equipment, and adhere to "Universal Precautions".
- Laboratory supervisors must assure that employees demonstrate proficiency in standard microbiological practices, and in practices and operations of the facility before being allowed to work with HIV or HBV.
- Laboratory supervisors must assure that employees have prior experience in the handling of human pathogens or tissue cultures before working with HIV or HBV.
- Laboratory supervisors should provide training to employees that have no prior experience in handling human pathogens; initial work activities should not include infectious agents; a progression of work activities should be assigned as techniques are learned and proficiency is developed.

Individuals

- Attend Bloodborne Pathogens Training and understand the exposure risks associated with the performance of job duties.
- Notify EHS of hepatitis B vaccination status (e.g. request vaccination, submit signed vaccination declination form).
- Utilize appropriate work practices, engineering controls, and personal protective equipment.
- Adhere to "Universal Precautions" when in contact with blood or other potentially infectious materials.
- Immediately report any exposure incidents to supervisory personnel and seek the necessary post-exposure medical evaluation and follow-up.

SMT/EHS

- Facilitate overall compliance with the OSHA Bloodborne Pathogens Standard.
- Provide guidance regarding appropriate engineering and work practice controls.
- Provide guidance on the selection and use of personal protective equipment.
- Provide guidance on proper management of contaminated sharps.
- Coordinate removal of all regulated waste from campus by contracted firm.
- Provide appropriate warning signs and labels for containers and appliances being used to store regulated waste, blood or other potentially infectious materials.
- Investigate exposure incidents and provide follow-up recommendations for necessary work practice modifications to improve safety.
- Perform inspections of departments with personnel having occupational exposure.
• Review and update the Exposure Control Plan Template annually.

Occupational Health

• Provide medical surveillance, including administration of hepatitis B vaccine.
• Provide medical evaluation and follow-up for exposure incidents.
• Document the route(s) of exposure, and circumstances under which any exposure incident occurs.
• Provide identification and documentation of the source individual following exposures.
• Coordinate collection and testing of blood for HBV and HIV serological status (when applicable).
• Collect blood from exposed employees as soon as feasible and test the blood after consent is obtained.
• Administer post-exposure prophylaxis, when medically indicated, as recommended by the U.S. Public Health Service.
• Provide any employee involved in an exposure incident with a copy of the evaluating healthcare professional's written opinion within 15 days of the completion of evaluation.
• Inform exposed individuals about any medical conditions resulting from exposure to blood or other potentially infectious materials which require further evaluation or treatment.
• Provide counseling and evaluation of reported occupational illnesses.
• Maintain an accurate record for each employee with occupational exposure.
• Conduct initial and annual Bloodborne Pathogens Training.

For More Information

Contact Environmental Health and Safety at 777-5269.

The following materials and references are available online at http://ehs.sc.edu/.

• University Biosafety Manual
• Bloodborne Pathogens Exposure Control Plan Template
• OSHA Bloodborne Pathogens Standard (29 CFR 1910.1030)