

Department of
Environmental and Occupational
Health and Safety

180 E. Mill Street
Akron, Ohio 44325-0607

**BLOODBORNE PATHOGEN
STANDARD
29 CFR 1910.1030**

SUMMARY

The U.S. Occupational Safety and Health Administration (OSHA) issued the **NEW BLOOD-BORNE PATHOGENS STANDARD** (29 CFR 1910.1030) on December 6, 1991. This standard applies to **all employers** with workers that may come in contact with **BLOOD OR OTHER BODY FLUIDS** while on duty. Full compliance was expected by July 6, 1992.

Blood-borne pathogens include the **Hepatitis B Virus (HBV)** and the **Human Immunodeficiency Virus (HIV)**. Occupational exposure to these pathogens could cause liver infection or AIDS. Other potentially infectious materials covered under this standard include **semen, vaginal secretions, cerebrospinal fluids, synovial fluid, pleural fluid, pericardial fluid, peritoneal fluid, amniotic fluid, saliva in dental procedures, and all body fluids** where it is difficult to differentiate between body fluids – such as accident scenes.

In order to comply with the Standard, The University of Akron must:

- **Develop an Exposure Control Plan**
- **Develop a Post-Exposure Plan**
- **Train Employees on Blood-borne pathogens**
- **Provide Hepatitis B Vaccinations to Applicable Employees**
- **Provide Protective Equipment and Mandate its Use**
- **Keep Accurate Records**

Employees facing significant health risks here at the University are in the following areas: Student Health Services, University Police, Safety Department, Athletics (Sports Medicine), Allied and Physical Health, and the Science areas.

Exposure can be minimized or eliminated through a combination of engineering controls, work practices, protective clothing, training, and medical surveillance. This standard went into effect on March 6, 1992, became effective on May 6, 1992, required the establishment of records on training for affected employees by June 4, 1992, and a full implementation by July 6, 1992.

I. EXPOSURE CONTROL PLAN

1. DEFINITIONS
2. WHO MUST COMPLY
3. INFECTION CONTROL PLAN
4. WASTE DISPOSAL PLAN
5. OTHER CONSIDERATIONS
6. EMPLOYEE INFORMATION AND TRAINING
7. PERSONAL PROTECTIVE EQUIPMENT
8. REQUIRED RECORDKEEPING
9. HEPATITIS B. VACCINATIONS
10. FORMS

1. **DEFINITIONS**

BLOOD

Human blood, human blood components, and products made from human blood.

BLOOD-BORNE PATHOGENS

Microorganisms present in blood and able to cause disease in humans. These include but are not limited to **HBV and HIV**.

ENGINEERING CONTROLS

Sharp disposable containers, self-sheathing needles that isolate or remove the blood-borne pathogens hazard.

OCCUPATIONAL EXPOSURE

Reasonably anticipated skin, eye, mucous membrane, or parenteral contact that may result from the performance of an employee's duty. Parenteral means piercing the skin barrier through cuts, human bites, abrasions.

EXPOSURE CONTROL PLAN

This plan must contain:

- The Exposure Determination
- The Schedule and Method of Implementation
- The Procedure for Evaluation of Exposure Incidents

PERSONAL PROTECTIVE EQUIPMENT

Includes gloves, gowns, laboratory coats, face shields, eye protection, masks and other devices.

CONTAMINATED

The presence or reasonably anticipated presence of blood or potentially infectious body fluid on laundry items or sharps or glassware.

REGULATED WASTE

Infectious waste. Any item soiled with blood or other body fluids such as sharps, clothing, and glassware. This waste must be treated as Infectious Waste.

WORK PRACTICE CONTROLS

Measures that reduce likelihood of exposure such as adherence to the practice of universal procedures, prohibiting recapping of needles or other sharps, and prohibiting pipetting or suctioning by mouth.

POTENTIALLY INFECTIOUS MATERIALS

The following human body fluids: semen, vaginal secretions, cerebrospinal, synovial, pericardial, pleural, peritoneal, amniotic, saliva in dental procedures, and any other body fluid in situations where it is impossible to distinguish between fluids.

Any unfixed tissue or organ from a dead or living human. HIV-containing cell or tissue cultures, organ cultures, and HIV-or HBV containing culture medium or other solutions from experimental animals infected with HIV or HBV.

BIOLOGICAL HAZARD

The term biological hazard or biohazard is taken to mean any viable infectious agent (etiologic agent) that presents a risk, or a potential risk, to the well-being of humans. Each supervisor has

identified the specific biological hazard associated with your job, and the supervisor will arrange for your training, if necessary.

ETIOLOGIC AGENTS

The United States Department of Health and Human Services, Public Health Service, Classification of Etiologic Agents on the Basis of Hazard, is the classification system used at The University of Akron for etiologic agents.

MEDICAL WASTES/INFECTIOUS WASTES

All laboratory waste emanating from human or animal tissues, blood or blood products or fluids; all cultures of tissues or cells of human origin or cultures of etiologic agents; specimens of human or animal parts or tissues removed by surgery, autopsy, or necropsy.

UNIVERSAL PRECAUTIONS

Refers to a system of infectious disease control that assumes that every direct contact with body fluids is infectious and requires every employee exposed to be protected as though such body fluids were infected with blood-borne pathogens. All infectious/medical material must be handled according to Universal Precautions.

2. **WHO MUST COMPLY**

All University employees that could be exposed to human blood, human blood components, and products made from human blood, and other potentially infectious materials as defined earlier. This includes all those designated by their supervisors and on payroll at:

Student Health Services

University Police

Department of Environmental & Occupational Health & Safety

Athletics (Sports Medicine)

Allied Health

Department of Biology

The College of Nursing

Biomedical Engineering

Department of Chemistry

Department of Physical Health

Blood-borne pathogens covered are **Hepatitis B virus (HBV)** and the **Human Immunodeficiency virus (HIV)**. All those on the University payroll in these areas are covered under this Standard.

3. **INFECTION CONTROL PLAN**

The purpose of the Infection Control Plan is to protect the health and safety of the persons directly involved in handling the materials, The University of Akron personnel and the general public by ensuring the safe handling, storage, use, processing, and disposal of infectious medical waste. This plan complies with OSHA requirement proposed for 29 CFR 1910.1030, Blood-Borne Pathogens.

Medical wastes/Infectious wastes: All laboratory waste emanating from human or animal tissues, blood or blood products or fluids; all cultures of tissues or cells of human origin or cultures of etiologic agents; specimens of human or animal parts or tissues removed by surgery, autopsy, or necropsy.

Universal precautions: Refers to a system of infectious disease control which assumes that every direct contact with body fluids is infectious and requires every employee exposed to be protected as though such body fluids were infected with blood-borne pathogens. All infectious/medical material must be handled according to Universal Precautions (OSHA Instruction CPL2-2.44A).

The Basic Rule Is:

“Always treat potentially infectious blood or other material as though it is infectious”

- Do not rely on anyone else to tell you whether the material is infectious or not
- Always wear gloves whenever there is possibility of contact with infectious blood or material.
- Wear protective clothing and equipment (eye and face protection, gowns, head covers, shoe covers) as needed.
- Follow all decontamination and disposal procedures for contaminated items
- Be extremely careful when handling needles and other sharps.
- Report any exposure to infectious materials immediately

The following universal precautions must be taken:

1. Gloves must be made of appropriate disposable material, usually intact latex or vinyl. They must be used:
 - a. When the employee has cuts, abraded skin, chapped hands, dermatitis, or the like.
 - b. During instrumental examination of the oropharynx, gastrointestinal (G.T.) tract, and genitourinary (G.U.) tract.
 - c. When examining abraded or non-intact skin of a patient with active bleeding.
 - d. While handling blood or blood products or other body secretions during routine laboratory procedures.
2. Gowns, aprons, or lab coats must be worn when splashes of body fluid on skin or clothing are possible.
3. Mask and eye protection are required when contact of mucosal membranes (eyes, mouth or nose) with body fluids is likely to occur (e.g. splashes or aerosolization).
4. Resuscitation equipment, pocket masks, resuscitation bags, or other ventilation equipment must be provided to eliminate the need for direct mouth-to-mouth contact. (This statement is required for groups where resuscitation is a part of their responsibility such as a Fire Department or Police or Medical Emergency Services.)
5. Phlebotomy: Gloves must be available for use by phlebotomists.
6. Pipetting: All pipetting must be carried out with the aid of a rubber bulb or other vacuum assist device. Mouth pipetting is strictly forbidden.

4. WASTE DISPOSAL PLAN

1. Medical/Infectious waste must be segregated from other waste at the point of origin.
2. Medical/Infectious waste, except for sharps (e.g. razor blades, broken glass, needles, etc.) capable of puncturing or cutting must be contained in double, disposable, red bags conspicuously labeled with the words, "INFECTIOUS WASTE – BIO HAZARD."
3. Infectious sharps must be contained for disposal in leak proof, rigid, puncture resistant containers (available from The University of Akron).
4. Infectious waste thus contained as described in procedures 2 and 3 above must be placed in reusable or disposable leak proof bins or barrels which must be conspicuously labeled with the words "INFECTIOUS WASTE – BIO HAZARD." These waste barrels are to be picked up regularly by an outside company licensed to handle infectious wastes.
5. Mixed waste that includes biological/infectious waste and radioactive waste must be disinfected by a person trained in radioisotope safety and waste disposal procedures. After disinfection, call the Responsible Safety Officer for disposal.
6. Spills/Disinfectants: a solution of sodium hypochlorite (household bleach) diluted 1:9 with water must be used to disinfect, following initial clean up of a spill with a chemical germicide approved as a hospital disinfectant. Spills must be cleaned up immediately.
7. After removing gloves, and/or after contact with body fluids, hands and other skin surfaces must be washed thoroughly and immediately with soap or other disinfectant in hot water.
8. Other biological wastes that do not contain radioactive or hazardous substances may be disinfected by steam sterilization (autoclave) and then disposed of in the regular trash.
9. Liquid biohazard waste may be disposed of in the sewage system following chemical decontamination.
10. Reusable glassware must be decontaminated in sodium hyperchlorite (household bleach) solution (1:9) prior to rinsing and acid washing. Then the glassware must be sterilized in an autoclave.

All supervisors must ensure that their staff is trained in proper work practices, the concept of universal precautions, personal protective equipment, and in proper clean-up and disposal techniques.

5. OTHER CONSIDERATIONS

1. The University will promote good **housekeeping** by ensuring that the work site is clean and in good sanitary condition. Each department will be encouraged to

develop a schedule for cleaning and a method for decontamination of work sites. Work sites include fixed and mobile facilities, temporary or permanent. Contaminated equipment or work sites should be cleaned after a procedure, when they are contaminated, and at the end of a workday. Reusable containers must be periodically inspected.

2. The University will make available the **Hepatitis B vaccine** and vaccination series to all employees who have occupational exposure. It will also ensure that all medical evaluations and procedures are made available at no cost to employees, at a reasonable time and place, performed by the University Physician, and according to the U.S. Public Health Service. Post-exposure and follow-up evaluations will be available to employees.
3. The University will display proper **signs and labels**. Warning labels will be affixed on waste containers. These labels will have the **biohazard** logo and appearance.
4. Sharps must be handled according to the Infectious Waste Standard under the Ohio Revised Code. Sharp containers must be **Red** or labeled **Biohazard** and marked with the universal biohazard symbol. They must be readily available, closed prior to moving them, and disposed according to the medical disposal laws.
5. Post-exposure evaluation and follow-up will include: Evaluating the source and manner of employee exposure by the employee's supervisor. A form provided by The Department of Envir. & Occup. Health & Safety will have:
 - Test results of the source blood
 - Test results of the employee's blood
 - Medical prophylaxis used
 - Counseling statement about the employee
 - Evaluation of any reported illness in the weeks following exposure
 - Copy of the OSHA Standard, the employee's duties, and relevant medical records to the health care professional performing the evaluation

6. **EMPLOYEE INFORMATION AND TRAINING**

Pertinent employees will participate in a training program at no cost, during work hours, and with materials appropriate to the literacy, education, and language of the employee.

The training will include:

- A copy of the standard for each employee and an explanation of the content.
- A general explanation of blood-borne pathogens and how they are transmitted.
- Explanation and access to the Exposure Control Plan.
- Explanation of the University Policy on Personal Protective Equipment.
- An awareness of tasks that may involve exposure and how to avoid or minimize it.
- All pertinent Hepatitis B training.
- How to handle emergencies involving exposure.
- Explanation on biohazard labels.

7. **PERSONAL PROTECTIVE EQUIPMENT**

The University of Akron will make available gloves, coats, eye and mouth protection equipment, and other appropriate items needed to avoid or minimize employee exposure.

It is the duty of all employees to use protective equipment while on duty. Coats will be cleaned at the University's expense, by an outside company, and other equipment will be kept in clean, appropriate, and easily accessible containers. Disposable equipment will be handled as infectious waste.

8. RECORDKEEPING

The following records will be kept:

1. **Medical Records:** These records must conform to 29 CFR 1910.20. This includes the name, social security, Hepatitis B vaccination, results of examination and testing, health care professional written opinion, and follow-up procedure. This information must be kept confidentially and not disclosed without the employee's permission for thirty (30) years after duration of employment. The Students Health Services will keep these records.
2. **Training Records:** These records must include the date, content of training, qualifications of the trainers, names and titles of those attending. The Department of Environmental & Occupational Health & Safety Department will keep these records.

9. HEPATITIS B VACCINATION

The University will provide Hepatitis B vaccination at no cost. Employees not accepting this service will have to sign a waiver form. This vaccination will be made available ten (10) working days of the initial assignment involving exposure after a short training of Hepatitis B. The University Health Services will administer the vaccination. At this time, only **Recombivax HB and Engerix-B** are acceptable.

10. SHARP SAFETY

Always keep these sharps safety guidelines in mind:

- Avoid direct contact with sharps as much as possible
- Remember that needle sticks are the most common source of infection
- Always wear gloves when handling sharps
- Never use your hands to sweep up broken glass
- Use tongs or other devices –not your hands – when retrieving reusable sharps
- Be careful of sharps that may be hidden in patients' laundry or linen
- Know and observe all procedures for proper storage and disposal of sharps
- Always report immediately any incident involving potential exposure to bloodborne pathogens
- If exposed to sharps, get medical evaluation quickly

11. PROTECTIVE CLOTHING

Gloves: Never re-use disposable gloves
Never use gloves that are punctured, torn, or damaged in any way
Always wear gloves for any procedure that might put you in contact with infected blood, bodily fluid, or other material
Bandage any cuts or broken skin before putting on gloves
Remove contaminated gloves so that the outside doesn't touch your skin
Always dispose of gloves properly

Masks, Goggles, Face Shields

Wear the right eye and face equipment to give you complete protection

Gowns, Aprons, Surgical Caps

These help provide complete body protection

Remove contaminated clothing carefully and dispose of properly