



Department of Environmental Health & Safety

Bloodborne Pathogen Written Program and Exposure Control Program

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OHIO UNIVERSITY BLOODBORNE PATHOGENS PROGRAM

1.0 SCOPE

This program applies to all Ohio University employees who have occupational exposure to bloodborne pathogens, to all Campus Units with employees who have occupational exposure to bloodborne pathogens, and to any employee who experiences an exposure incident. The definition of employee comes from the Ohio Revised Code for Worker's Compensation (ORC 4123.01) which defines an employee as "every person in the service of the state...whether paid or volunteer".

2.0 PURPOSE

This program was developed to minimize or eliminate employee occupational exposure to bloodborne pathogens. It is intended to protect employees from acquiring bloodborne pathogens while in the workplace, to ensure that any potentially exposed employee has competent medical treatment and to ensure employee privacy is respected. The requirements of this procedure are designed to comply with the regulations of the Ohio Public Employees Risk Reduction Program (PERRP) - "State Employees OSHA", and the Occupational Safety and Health Administration (OSHA) Bloodborne Pathogen Standard [29 CFR 1910.1030](#). A copy of the OSHA Standard is available by clicking on the link or by contacting the Environmental Health and Safety office (EHS) for a paper copy.

3.0 DEFINITIONS

Blood - human blood, human blood components, and products made from human blood.

Bloodborne Pathogens - pathogenic microorganisms that are present in human blood and can cause disease in humans. These pathogens include, but are not limited to, hepatitis B virus (HBV) and human immunodeficiency virus (HIV).

Campus Unit – Any academic or non-academic: laboratory, department, section, center, division, school or other Ohio University representative that employs persons with occupational exposure to potentially infectious materials. Responsibility for the BBP program will rest at the highest reasonable level within the Campus Unit.

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

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

Contaminated Sharps - any contaminated object that can penetrate the skin including, but not limited to, needles, scalpels, broken glass, broken capillary tubes, and exposed ends of dental wires.

Decontamination - 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 - mean 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 - a specific eye, mouth, 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. Or contact with blood or other potentially infectious materials where the exposed person is unsure if contact with eyes, mouth, mucous membranes, non-intact skin or parenteral contact occurred.

Hand-washing Facility - a facility providing an adequate supply of running potable water, soap, and single use towels or hot air drying machines.

Licensed Healthcare Professional - a person whose legally permitted scope of practice allows him or her to independently perform the activities required by paragraph (f) of 29CFR1910.1020: Hepatitis B Vaccination and Post-exposure Evaluation and Follow-up.

HBV - hepatitis B virus

HIV- human immunodeficiency virus

Needleless System - is a device that does not use needles for (1) the collection of bodily fluids or withdrawal of body fluids after initial venous or arterial access is established; (2) the administration of medication or fluids; or (3) any other procedure involving the potential for occupational exposure to bloodborne pathogens due to percutaneous injuries from contaminated sharps.

Occupational Exposure - 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 -

- 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, and 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).
- 3) HIV or HBV- containing cell or tissue cultures, organ cultures, and HIV or HBV - containing culture medium or other solutions; and blood, organs, or other tissues from experimental animals infected with HIV or HBV.
- 4) Human cell lines
- 5) Any blood, organs or tissue from animals that have been intentionally or are suspected of having been exposed to bloodborne pathogens in research or other procedures.

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

Personal Protective Equipment - specialized clothing or equipment worn by an employee for protection against a hazard. General work clothes (e.g., uniforms, pants, shirts or blouses) not intended to function as protection against a hazard, are not considered to be personal protective equipment.

Potentially Infectious Material – for this program means both blood and other potentially infectious materials.

Regulated Waste - 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.

Ohio Environmental Protection Agency regulations govern the disposal of regulated waste – which is called infectious waste by OEPA. Definitions of infectious waste and Ohio University disposal procedures are located in the university [Biosafety Manual](#).

Research Laboratory - a laboratory producing or using research- or laboratory-scale amounts of HIV or HBV. Research laboratories may produce high concentrations of HIV or HBV but not in the volume found in production facilities.

Sharp with Engineered Sharps Injury Protection - is a nonneedle sharp or a needle device used for withdrawing body fluids, accessing a vein or artery, or administering medications or other fluids, with a built-in safety feature or mechanism that effectively reduces the risk of an exposure incident.

Source Individual - any individual, living or dead, whose blood or other potentially infectious materials may be a source of occupational exposure to the employee. Examples include, but are not limited to, hospital and clinic patients; clients in institutions for the developmentally disabled; trauma victims; clients of drug and alcohol treatment facilities; residents of hospices and nursing homes; human remains; and individuals who donate or sell blood or blood components.

Universal Precautions - is an approach to infection control. According to 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 - 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).

4.0 RESPONSIBILITIES

4.1 Environmental Health & Safety Department

- 1) Maintain this university-wide written program, except for [Appendix B](#). Including a review of the written program at least annually.
- 2) Aid Campus Units in completing and implementing their customized Exposure Control Plan.
- 3) Provide training to all occupationally exposed employees, and maintains a file of all employees who have been trained in this program.
- 4) Maintain the Sharps Injury Log.
- 5) Complete other duties as listed in this written program.

4.2 Occupational Health Clinic

- 1) Provide hepatitis vaccines to eligible employees, as requested by Campus Units.
- 2) Evaluate employees who report exposure incidents to the Clinic.
- 3) Maintain any employee medical records relevant to this program, including hepatitis B vaccinations, exposure incident evaluations and treatment.

4.3 Campus Unit

- 1) Designate an employee to oversee the campus unit program and ensure the other responsibilities are fulfilled.
- 2) Complete the customized Exposure Control Plan in [Appendix B](#). Make the customized ECP available to employees. Review and update the customized ECP at least annually.
- 3) Enforce all requirements of the plan, in order to minimize or eliminate employees' occupational exposure.
- 4) Complete other duties as listed in this written program.

4.4 Employees with Occupational Exposure to Bloodborne Pathogens

- 1) Participate in the required training.
- 2) Comply with all elements of the university Exposure Control Plan (ECP) and the customized ECP for your Campus Unit.
- 3) Report all exposure incidents to the work supervisor immediately after they occur, or as soon as feasible. Work with the supervisor to complete the Incident Report Form and if necessary the Needlestick Report Form.

5.0 EXPOSURE DETERMINATION

The exposure determination must be made for each Campus Unit instituting a BBP program. The exposure determination documentation is found in [Appendix B](#). The exposure determination must include:

- 1) A list of all job classifications in which all employees in those job classifications have occupational exposure; and
- 2) A list of job classifications in which some employees have occupational exposure. Each job classification must include a list of all tasks and procedures or groups of closely related task and procedures in which occupational exposure occurs.

This exposure determination will be made without regard to the use of personal protective equipment.

6.0 PROCEDURES TO REDUCE EXPOSURE TO BBPS

The following procedures: Universal Precautions, Engineering Controls, Work Practice Controls and Personal Protective Equipment (PPE), are the minimum procedures that Campus Units and employees must follow. Campus units may choose to require stricter controls. The specific controls used by each Campus Unit must be documented in [Appendix B](#).

6.1 Universal Precautions

Universal precautions is the approach that underlines all methods of exposure control. This approach recognizes that there is no practical way to determine the bloodborne pathogen status of all potentially infectious material. Therefore, all potentially infectious materials will be treated as if known to be infectious for HIV, HBV and other bloodborne pathogens. Engineering controls, work practice controls, and personal protective equipment will be used to eliminate or minimize exposure of university employees. In any situation where differentiation of body fluids is difficult or it is reasonable to suspect contamination by potentially infectious materials, universal precautions will be employed.

In determining appropriate controls, preference will be given first to engineering controls, second to work practice controls and finally to personal protective equipment.

6.2 Engineering Controls

Engineering controls are measures that reduce contact with potentially infectious materials by removing the hazard or isolating the worker. Examples include sharps containers, safer medical devices, splash shields, mechanical pipetting, biosafety cabinets, and fluid resistant barriers to protect surfaces.

Engineering controls must be inspected, maintained and replaced on a regular schedule. Check with the manufacturer for recommended schedules, or contact the EHS office. As listed in the Ohio University Biosafety Manual, biosafety cabinets must be certified annually.

Campus Units are responsible for purchasing and implementing the use of appropriate engineering controls, including training employees on proper use. Consideration must be given to the use of safe needle devices, needleless systems, and sharps with engineered sharps injury protections. Campus Unit specific engineering controls are listed in [Appendix B](#).

All employees will use the provided engineering controls properly.

Required engineering controls:

Sharps waste containers are required to hold all sharps waste. These containers must be meet all the requirements listed in the section on regulated waste handling, 8.0.

6.3 Work Practice Controls

Work practice controls reduce the likelihood of exposure to BBPs by altering the way a task is performed. Examples including: requiring that used needles be place immediately into a sharps container, requiring hand washing, and standard laboratory safety procedures.

Required work practice controls:

6.3.1 Handwashing Practices

Handwashing facilities will be provided, which are readily accessible to employees. When provision of handwashing facilities is not feasible (for example: at field sites), appropriate

antiseptic hand cleanser in conjunction with clean cloth/paper towels or antiseptic towelettes will be provided. When antiseptic hand cleansers or towelettes are used, hands will be washed with soap and running water as soon as feasible.

Employees are required to wash their hands:

- 1) Immediately, or as soon as feasible, after removing gloves or other PPE,
- 2) After completion of work,
- 3) Between glove changes, and
- 4) Before leaving the work area.

Employees are also required to wash hands and any other skin with soap and water, or flush mucous membranes with water immediately or as soon as feasible following contact of such body areas with potentially infectious materials.

6.3.2 Handling Sharps

Any object capable of penetrating the skin is considered a sharp. Broken equipment that is capable of penetrating the skin is considered a sharp. Some examples include: needles, scalpels, broken glass, and broken capillary tubes. The following work practice controls are required whenever a sharp is contaminated with potentially infectious materials (called a contaminated sharp). These procedures are recommended for all sharps handling, regardless of contamination status.

- 1) Contaminated needles and other contaminated sharps will not be bent, recapped, or removed unless no alternative is feasible and the action is required for a specific laboratory procedure. When recapping or removal of sharps is required, it must be done using a mechanical device or one-handed method.
- 2) Shearing or breaking of contaminated needles is prohibited.
- 3) Immediately or as soon as possible after use, all contaminated sharps must be placed into a sharps container in accordance with the specification in section 8.0. Prior to decontamination or disposal, the used sharps must be stored and handled in a method that does not require employees to touch the sharps.

6.3.3 Other Work Practice Controls

- Eating, drinking, smoking, chewing gum, applying cosmetics or lip balm, and handling contact lenses are prohibited in work areas where there is a reasonable likelihood of occupational exposure.
- Food and drink will not be kept in refrigerators, freezers, shelves, cabinets, on countertops or benchtops where potentially infectious materials are present.
- All procedures involving potentially infectious materials will be performed in such a manner as to minimize splashing, spraying, spattering, and generation of droplets of these substances.

- Mouth pipetting/suctioning of blood or other potentially infectious materials is prohibited.
- Equipment which may become contaminated with blood or other potentially infectious materials must be examined prior to servicing or shipping and decontaminated as necessary, unless it can be demonstrated that decontamination of such equipment or portions of such equipment is not feasible. A readily observable label in accordance with section 13.0 will be attached to the equipment stating which portions remain contaminated. This information will be conveyed to all affected employees, the servicing representative, and/or the manufacturer, as appropriate, prior to handling, servicing, or shipping so that appropriate precautions will be taken.
- Specimens of potentially infectious materials will be placed in a container which prevents leakage during collection, handling, processing, storage, transport, or shipping. The container for storage, transport, or shipping will be labeled or color-coded according to section 13.0 and closed prior to being stored, transported, or shipped.
 - If outside contamination of the primary container occurs, the primary container will be placed within a second container which prevents leakage during handling, processing, storage, transport, or shipping and is labeled or color-coded according to section 13.0. If the specimen could puncture the primary container, the primary container will be placed within a secondary container which is puncture-resistant.

6.4 Personal Protective Equipment

When there is occupational exposure, the Campus Unit will provide, at no cost to the employees, appropriate personal protective equipment such as, but not limited to, gloves, gowns, laboratory coats, face shields/masks, resuscitation bags, and pocket masks. Personal protective equipment will be considered "appropriate" only if it does not permit blood or other potentially infectious materials to pass through to or reach the employee's work clothes, street clothes, undergarments, skin, eyes, mouth, or other mucous membranes under normal conditions of use and for the duration of time which the protective equipment will be used. Campus Unit specific PPE is documented in [Appendix B](#).

Employees are required to use PPE when there is direct or reasonably anticipated contact with potentially infectious materials and when reasonably anticipated contact remains, after engineering and work practice controls been implemented. PPE is recommended in areas with potentially infectious materials, even when engineering and work practice controls are used.

Campus Units will ensure that employees wear PPE, unless the Campus Unit documents that the employee temporarily and briefly declined to wear PPE in the extraordinary (not routine) circumstance when, in the employee's professional judgment, wearing the PPE would prevent the delivery of health care or public safety services or would pose an increased hazard to the safety of the worker or co-worker. All such instances will be investigated by EHS, documented, and determinations made to prevent such occurrences in the future.

The PPE that is provided to the employees by the Campus Unit must meet the following criteria:

- 1) PPE in the appropriate sizes is readily accessible at the worksite or is issued to employees.

- 2) 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.
- 3) The employer will clean, launder, and dispose of personal protective equipment at no cost to the employee.
- 4) The employer will repair or replace personal protective equipment as needed to maintain its effectiveness, at no cost to the employee.

Employees and Campus Units must handle PPE properly:

- 1) If PPE is penetrated by blood or other potentially infectious materials, the PPE will be removed immediately or as soon as feasible.
- 2) All personal protective equipment will be removed prior to leaving the work area.
- 3) When personal protective equipment is removed it will be placed in an appropriately designated area or container for storage, washing, decontamination or disposal.

6.4.1 Gloves

Gloves must be worn when it can be reasonably anticipated that the employee may have hand contact with potentially infectious materials, mucous membranes, and non-intact skin and when handling or touching contaminated items or surfaces.

Disposable (single use) gloves, such as surgical or examination gloves, will be replaced as soon as practical when contaminated or as soon as feasible if they are torn, punctured, or when their ability to function as a barrier is compromised. Disposable (single use) gloves will not be washed or decontaminated for re-use.

Utility gloves may be decontaminated for re-use if the integrity of the glove is not compromised. However, they must be discarded if they are cracked, peeling, torn, punctured, exhibit other signs of deterioration or when their ability to function as a barrier is compromised.

6.4.2 Other PPE

Masks in combination with eye protection devices, such as goggles or glasses with solid side shields, or chin-length face shields, will be worn whenever splashes, spray, spatter, or droplets of blood or other potentially infectious materials may be generated and eye, nose, or mouth contamination can be reasonably anticipated.

Appropriate protective clothing such as, but not limited to, gowns, aprons, lab coats, clinic jackets, or similar outer garments will be worn in occupational exposure situations. The type and characteristics will depend upon the task and degree of exposure anticipated.

Surgical caps or hoods and/or shoe covers or boots will be worn in instances when gross contamination can reasonably be anticipated (e.g., autopsies).

7.0 HOUSEKEEPING

Worksites must be maintained in a clean and sanitary condition by the Campus Unit. The Campus Unit will determine and implement an appropriate written schedule for cleaning and method of decontamination based upon the location within the facility, type of surface to be cleaned, type of soil present, and tasks or procedures being performed in the area. These specific procedures can be found in [Appendix B](#).

General Housekeeping Requirements:

- All equipment, environmental surfaces, and working surfaces will be cleaned and decontaminated after contact with blood or other potentially infectious materials.
- Contaminated work surfaces will be decontaminated with an appropriate disinfectant after completion of procedures; immediately or as soon as feasible when surfaces are overtly contaminated or after any spill of potentially infectious materials; and at the end of the work shift if the surface may have become contaminated since the last cleaning.
- Protective coverings, such as plastic wrap, aluminum foil, or imperviously-backed absorbent paper used to cover equipment and environmental surfaces, will be removed and replaced as soon as feasible when they become overtly contaminated or at the end of the workshift if they may have become contaminated during the shift.
- All bins, pails, cans, and similar receptacles intended for reuse which have a reasonable likelihood for becoming contaminated with potentially infectious materials will be inspected and decontaminated on a regularly scheduled basis and cleaned and decontaminated immediately or as soon as feasible upon visible contamination. List any inspection and decontamination procedures in the customized ECP, [Appendix B](#).
- Broken glassware which may be contaminated will not be picked up directly with the hands. It will be cleaned up using mechanical means, such as a brush and dust pan, tongs, or forceps.
- Reusable sharps that are contaminated with potentially infectious materials will not be stored or processed in a manner that requires employees to reach by hand into the containers where these sharps have been placed.
- Acceptable disinfectant solutions include:
 - 1) Bleach (sodium hypochlorite) – The solution must be 10-15% by volume household bleach in water (for example 1 cup of household bleach mixed with 9 cups of water for a 10% solution). The solution must be dated when made and used within 24 hours. Bleach solutions are only recommended for laboratory use. More concentrated bleach solutions are not necessary, as they do not increase the disinfectant properties of the solution.
 - 2) Chemical agents that have an EPA registration number – These chemicals must be used according to the manufacturer's instructions. These products are recommended for all applications outside of a laboratory.

- 3) Other chemical solutions – These may be acceptable in the laboratory, see the [Biosafety Manual](#) for specific information related to disinfecting agents applicable to the potentially infectious material in use.

8.0 SHARPS AND WASTE HANDLING

See the Ohio University [Biosafety Manual](#) for Regulated/Infectious waste disposal methods.

8.1 Contaminated Sharps

Contaminated sharps will be discarded immediately or as soon as feasible in containers that are: closable, puncture resistant, leakproof on sides and bottom; and labeled or color-coded in accordance with section 13.0.

During use, containers for contaminated sharps will be: easily accessible to personnel and located as close as is feasible to the immediate area where sharps are used or can be reasonably anticipated to be found (e.g., laundries); maintained upright throughout use; and replaced routinely and not be allowed to overfill.

When moving containers of contaminated sharps from the area of use, the containers will be: closed immediately prior to removal or replacement to prevent spillage or protrusion of contents during handling, storage, transport, or shipping; and placed in a secondary container if leakage is possible. The second container will be: closable, constructed to contain all contents and prevent leakage during handling, storage, transport, or shipping; and labeled or color-coded according section 13.0.

Reusable containers will not be opened, emptied, or cleaned manually or in any other manner which would expose employees to the risk of percutaneous injury.

8.2 Regulated Waste

Regulated waste will be placed in containers which 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 section 13.0; 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 will be placed in a second container. The second container will 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 section 13.0; and closed prior to removal to prevent spillage or protrusion of contents during handling, storage, transport, or shipping.

9.0 LAUNDRY

Contaminated laundry will be handled as little as possible with a minimum of agitation. Contaminated laundry will be bagged or containerized at the location where it was used and will not be sorted or rinsed in the location of use. Contaminated laundry will be placed and transported in bags or containers labeled or color-coded in accordance with section 13.0.

Whenever contaminated laundry is wet and presents a reasonable likelihood of soak-through or leakage from the bag or container, the laundry will be placed and transported in bags or containers which prevent soak-through and/or leakage of fluids to the exterior.

The employer will ensure that employees who have contact with contaminated laundry wear protective gloves and other appropriate personal protective equipment.

When a facility ships contaminated laundry off-site to a second facility, the generating facility must place such laundry in bags or containers which are labeled or color-coded in accordance with section 13.0.

10.0 ADDITIONAL PROCEDURES FOR LABORATORIES

All laboratories are directed to the [Biosafety Manual](#) for additional procedures, particularly Standard Microbiological Practices.

Laboratories that work directly with the culture, production, concentration, experimentation, or manipulation of HIV or HBV, must follow the additional BBP program procedures found in [Appendix E](#).

11.0 HEPATITIS B VACCINE

All employees identified as having occupational exposure to blood or other potentially infectious materials will be offered the Hepatitis B vaccination series at no cost to the employee at a reasonable time and place. The appropriate Campus Unit will pay the vaccination expense. The vaccine will be offered within 10 working days of initial assignment. If the employee has not yet completed the EHS Bloodborne Pathogens training, the Campus Unit must provide an overview of this program when offering the vaccine. Vaccinations paid for by the Campus Unit may be completed at the Occupational Health Clinic or may be completed by any licensed health care professional when the use of outside agencies is approved by the Campus Unit. If the Occupational Health Clinic is not used, copies of the vaccination paperwork will be sent by the licensed health care professional or the employee to the Occupational Health Clinic. The vaccine is not indicated for employees who previously completed the series, for whom antibody testing has revealed immunity or for whom the vaccine is contraindicated for medical reasons; if any of these statuses apply documentation will be sent to the Occupational Health Clinic. Pre-screening is not a prerequisite for receiving the vaccination.

Employees who elect to be vaccinated by their family physician, outside of supervisor's approval, may not be reimbursed for its cost and must provide the Occupational Health Clinic with proof of vaccination. Check with your supervisor for campus unit policy.

All new employees in the Bloodborne Pathogen program must register with the Occupational Health Clinic, using the form in [Appendix A](#). The supervisor must give the employee a copy of the Enrollment Form and send the original to the Occupational Health Clinic, Hudson Health Center.

Employees who decline the Hepatitis B vaccine must sign the declination statement in [Appendix A](#). Employees who initially decline the vaccine, but later wish to be vaccinated, may do so at no

cost to themselves by asking their supervisors, so long as their position is still covered by the BBP program.

Current immunization recommendations of the U.S. Public Health Service (USPHS) and the Centers for Disease Control and Prevention (CDC) will be followed at all times. Any laboratory tests will be conducted at an accredited laboratory.

12.0 POST-EXPOSURE EVALUATION AND FOLLOW-UP.

An exposure incident is a specific eye, mouth, other mucous membrane, non-intact skin, or parenteral contact with potentially infectious materials that results from the performance of an employee's duties, or contact with potentially infectious materials that result from the performance of an employee's duties, where the exposed employee is unsure if contact with eyes, mouth, mucous membranes, non-intact skin or parenteral contact occurred.

In case of an exposure incident, the affected employee should immediately begin first aid by washing the exposure site with water or soap and water. All employees must report an exposure incident to their supervisor when first aid is completed, or as soon as feasible. The employee should report to the Occupational Health Clinic or a licensed health professional for a medical evaluation, once first aid and initial reporting is complete. The employee is encouraged to seek medical attention as soon as possible; in some high risk situations the USPHS and CDC recommend beginning treatment immediately. In cases when the supervisor is not available, the employee should seek medical attention, and report the incident to the supervisor as soon as feasible.

Within one working day the employee and supervisor must complete and submit an [Ohio University Employee Incident Report Form](#) to the Workers' Compensation Office. In addition, complete the BBP exposure incident worksheet in [Appendix C](#); and attach this form to the Incident Report Form. If the incident involves a sharps injury the employee and supervisor must also complete the [Needlestick Injury Form](#) (also submitted to Workers' Compensation).

An exposure incident checklist is provided in [Appendix C](#) to guide response to an exposure incident.

All university employees involved in an exposure incident will be offered free post exposure Hepatitis B vaccine, post-exposure medical evaluation, and medical follow-up, regardless of whether they are included in a Bloodborne Pathogens program.

If the employee reports to the Occupational Health Clinic (OHC) for the confidential medical exam:

- 1) The employee should bring copies of all the incident reporting forms, if they are complete. Otherwise, copies of the forms must be sent the OHC as soon as feasible. The OHC already has copies of the other required information.
- 2) The OCH will conduct a confidential medical evaluation, in accordance with the OSHA standard and current USPHS and CDC guidelines.

- 3) The OCH will provide a copy of the health care professional's written opinion directly to the employee.

If the employee reports to a Licensed Health Care Professional, other than the OHC, for the confidential medical exam:

The supervisor must send copies of the incident report forms either along with the employee or directly to the health care professional as soon as the forms are completed.

The supervisor must inform EHS and the OHC that the employee is receiving an exam outside of the OHC, and include the name of the health care professional.

- 1) EHS will send a copy of the federal regulation 29CFR1910.1030, with emphasis on paragraph (F), and copies of the forms in [Appendix C](#) to the health care professional.
- 2) The OHC will send all medical records, as required to be maintained by the employer, which are relevant to treatment of the exposed employee (i.e. the record of HBV vaccination); and any information available about the source material in the exposure incident, for which the university has proper consent to share, to the health care professional.
- 3) The Licensed Health Care Professional will provide a written opinion to the OHC within 15 calendar days of completion of the medical evaluation. The OHC will provide a copy of the written opinion to the employee. That written opinion will only include:
 - a) Whether the Hepatitis B vaccine is recommended for the employee and if the employee has received the vaccine, and
 - b) A statement that the employee has been informed of the results of the evaluation and that the employee has been told about any medical conditions resulting from the exposure incident that require further evaluation or treatment. The actual finding, diagnoses, treatments, etc. are confidential medical information and will not be included in the report.

For All Medical Exams

The OHC or licensed health care professional will offer the exposed employee at least the following procedures, in accordance with current OSHA regulations (these procedures will only be completed if the employee gives consent to the health care professional):

- 1) Collection and testing of blood for HBV and HIV serological status including baseline testing and follow-up at 6 weeks, 3 months and 6 month (all laboratory tests will be conducted at an accredited laboratory),
- 2) Post-exposure prophylaxis, according to current U.S. Public Health Service recommendations,
- 3) Counseling, and
- 4) Medical evaluation of reported illnesses.

The Campus Unit, in conjunction with the Occupational Health Clinic and EHS will:

- 1) Attempt to identify and document the source individual for the source material involved in the exposure incident, when feasible and allowed by state and local laws.
- 2) If consent is received, the source material or source individual will be tested for at least HBV and HIV status, unless it is already known. If consent is not obtained, that status will be documented.
- 3) Results of the testing will be shared with the exposed individual and their health care professional, as allowed by law, but will not be otherwise disclosed. The exposed individual must comply with applicable laws and regulations concerning disclosure of the source individual's status.

13.0 LABELS

Warning labels will be attached to containers of regulated waste, and refrigerators, freezers, storage containers, transport containers and shipping containers that contain potentially infectious materials.

Labels will have the orange, orange/red biohazard warning symbol on them with contrasting lettering, as depicted:



Red bags or red containers may be substituted for labels.

The only exceptions are:

- 1) Containers of blood, blood components or blood products that are labeled as to their contents, and have been released for transfusion or other clinical use.
- 2) Individual containers of potentially infectious materials that are placed into a labeled secondary container during storage, transport, shipment or disposal.

Laboratories are directed to the [Biosafety Manual](#) for additional labeling and signage requirements.

14.0 TRAINING

Occupationally exposed employees will be trained at the time of their initial assignment to at-risk work and annually thereafter. As applicable, the training will include both general EHS training and Campus Unit specific training. This training will be provided at no cost to the employees during work hours. Employees new to the BBP program, who are unable to attend an EHS pre-

scheduled training session, are instructed to contact EHS to make other arrangements. The annual refresher training may be completed by attending a scheduled EHS session or through the [EHS online program](#). All training will be provided with content and vocabulary appropriate to the employees receiving the training.

Training provided by EHS will include the following, in compliance with current OSHA training requirements. Campus Units may choose to conduct these training sessions in house; in which case the training must meet current OSHA requirements, and be document according to the requirements in section 15.0.

- 1) Access to the OSHA standard and explanation of it's contents
- 2) Epidemiology and symptoms of bloodborne diseases
- 3) Modes of transmission of bloodborne pathogens
- 4) Ohio University's Bloodborne Exposure Control Plan, including how to access it
- 5) Procedures for recognizing tasks that might involve exposure to potentially infectious materials
- 6) Control methods and their limitations (work practices, engineering controls, PPE, training, etc.)
- 7) Personal protective equipment, including basic types, use and selection
- 8) Procedures to follow in an exposure incident
- 9) Post-exposure evaluation and follow-up
- 10) Signs and labels
- 11) Hepatitis B vaccine program
- 12) An opportunity for questions and answers

Annual retraining will include any adjustments made to the program in the last year, any new regulatory or technical information, and information on any new equipment or devices introduced into the workplace during the past year.

In addition to formal classroom training, all Campus Units will provide on-site training in the work setting including specific procedures and equipment location, particularly to new employees or those in new roles or using new equipment. Additional training must be provided when changes to tasks, procedures or equipment affect employee's occupational exposure.

15.0 RECORDKEEPING

Training Records will include:

- 1) Dates of the session.

- 2) Contents or summary of session.
- 3) Name and job title of all attendees.
- 4) Names and qualifications of persons conducting training.

Training records will be maintained for 3 years from the date that training occurred. EHS will maintain records of all EHS conducted training. The Campus Unit will maintain records of the training conducted by their employees; Campus Units may also maintain records of EHS training.

These records will be made available to the Chief of the State of Ohio Department of Industrial Relations upon request. Training Records will be provided upon request for copying to the subject employee, anyone having written consent of the subject employee, and Chief of the Department of Industrial Relations in accordance with 29 CFR 1910.1020.

Employee Medical Records will be kept by the Occupational Health Clinic and will include:

- 1) Name and social security number
- 2) Copy of staff member's Hepatitis B vaccination status, including the dates of all vaccines, and any medical records relating to the employee's ability to receive the vaccination.
- 3) A copy of all results of examinations, medical testing, and follow-up procedures for exposure incidents.
- 4) Copies of the health care professional's written opinion.
- 5) Copy of information provided to the health care professional as part of an exposure incident.

Confidentiality is to be maintained. The employee's expressed written consent is required for release of any medical record to any person within or without the workplace except as required by law. Ohio University will maintain medical records for at least the duration of employment plus 30 years. All medical records will be maintained in accordance with local, state and federal regulations.

Sharps Injury Log

Each Campus Unit will report all sharps injuries using the state of [Ohio Needlestick Report Form](#). The needlestick report form is a State of Ohio requirement separate from the BBP sharps injury log; however, the needlestick report form will be used to generate the sharps injury log. EHS will maintain the sharps injury log in accordance with OSHA regulations:

- 1) Employees will not be identified.

The log will include:

- 1) The type and brand of device involved
- 2) The campus unit or work area where the exposure incident occurred
- 3) An explanation of how the incident occurred

4) The log will be kept in accordance with 29CFR1904.6.

APPENDIX A: BBP ENROLLMENT AND HEPATITIS B VACCINATION DECLINATION FORM

Employee Name	
Employee Department	
Supervisor Name	
Supervisor Department	
Supervisor Phone	
Supervisor Email Address	

Employee Initial Appropriate Vaccination Information:

____ Employee will receive the Hepatitis B vaccine at the Occupational Health Clinic (OHC).
 (initial) The employee or supervisor must contact the OHC at 593-4747 to schedule an appointment. The vaccination charges should be made to:

Account Number	
Supervisor Approval Signature	

____ Employee will receive the Hepatitis B vaccine from a licensed health care professional,
 (initial) other than the Occupational Health Clinic. The employee or health care professional must send copies of the vaccination documentation to: Occupational Health Clinic, Hudson Health Center, Ohio University, Athens, OH 45701.

____ Employee will not receive the Hepatitis B vaccine because they were previously
 (initial) vaccinated, antibody testing had revealed immunity or the vaccine is contra-indicated for health reasons. The employee or their health care professional must send documentation of this status to the Occupational Health Clinic, Hudson Health Center.

____ Employee chooses not to have the vaccine at this time.

(initial) 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.

Employee Signature

Date
All employees please sign and date this form, and then send the form to the Occupational Health Clinic.

APPENDIX B: CUSTOMIZED EXPOSURE CONTROL PLAN

Campus Unit:

Position or Person Responsible for the Customized ECP:

[Exposure Determination](#)

[Engineering Controls](#)

[Work Practice Controls](#)

[Personal Protective Equipment](#)

[Housekeeping](#)

[Recordkeeping](#)

[Annual ECPJ Review](#)

5.0 Exposure Determination

I) A list of job classifications in which all employees in the classification have occupational exposure (examples: nurses, faculty researchers, athletic trainers, residential custodians)

Job Title or Classification	Area/Dept (if a subset)
(ex) Laboratory Technician	(ex)Phlebotomy Lab
(ex) Residence Hall Custodians	

II) A list of job classifications in which some employees have occupational exposure. Each job classification must include a list of all tasks and procedures or groups of closely related tasks and procedures in which occupational exposure occurs. (examples: custodians where only some employees are required to clean-up spills of potentially infectious materials or medical secretaries where only some employees are required to give first aid)

Job Title or Classification	Area/Dept (if a subset)	Tasks or procedures that have occupational exposure
(ex) Custodian	(ex)Medical Building	(ex) Cleaning a clinical exam room

6.2 Engineering Controls

Engineering controls are physical measures that either remove the hazard or isolate the worker. (examples: sharps containers, biosafety cabinet, mechanical pipetting)

Task(s) or Procedure(s)	Area/Dept (if in subset)	Engineering Control Used	Instruction Location	Maintenance Activities & Schedule
(ex) all work with open containers of blood	(ex)all	(ex)Biosafety Cabinet	(ex)Attached to side of cabinet	(ex)Cleaning – at end of each use with bleach solution, Certification – annual by outside contractor
(ex) cleaning up broken glass	(ex)all	(ex)Sharps Waste Container	(ex)Main housekeeping office	(ex)Inspection for general condition on each use. Replace when 2/3 full.

6.3 Work Practice Controls

Work practice controls are alterations to task or procedure performance that reduce the likelihood of exposure. Include practices required, only if they go beyond the practices listed in section 6.3 of the main program or in the Biosafety Manual.

Work Practice Control

6.4 Personal Protective Equipment

List the personal protective equipment used by employees in the Campus Unit. Any training provided on PPE use should be documented under Recordkeeping on page 25.

PPE	Intended Use	Disposal or Decontamination	Storage Location
(ex) exam gloves	(ex) any procedure involving potentially infectious materials	(ex) dispose with infectious waste	(ex) benchtop and under sink
(ex) utility gloves	(ex) when using tools to clean-up a spill	(ex) decontaminate for 10 minutes in a commercial cleaner ABC	(ex) main housekeeping office

7.0 Housekeeping

The Campus Unit will maintain a written schedule for cleaning and decontamination, based on: location, surfaces, soil present, and tasks.

Area	Surface/Item	Disinfectant to Use	When to Disinfect	Location of Disinfectant Supplies
(ex) Science Bldg Room #111	(ex)all countertops and equipment other than the biosafety cabinet	(ex)10% household bleach in water, mixed and used within 24 hours	(ex) at the end of the work shift or when surfaces are visibly contaminated	(ex) under sink
(ex) all – except food service areas: consult supervisor	(ex)all – except carpets: consult supervisor	(ex)commercial cleaner ABC	(ex) whenever cleaning a spill of potentially infectious materials	(ex) housekeepers main office

11. Recordkeeping

Training records will be maintained for at least 3 years from the date that training occurred. EHS will maintain records of all EHS conducted training. The Campus Unit will maintain records of the training conducted by their employees; they may also maintain records of EHS training.

Name	Job Classification	Date of Assignment	Initial Training Date	Date HepB Vaccine Offered	Other Campus Unit Training
(ex) Minnie Mouse	(ex)Laboratory Technician	(ex)1/4/10	(ex)1/7/10	(ex)1/7/10	(ex)3/1/10 – Blood collection procedure – Conducted by D.Duck, PI

Annual ECP Review

The review must:

- 1) Occur at least annually.
- 2) Updates must be made to reflect: changes in affected employee positions, new or modified tasks/procedures and changes in technology that eliminate or reduce exposure.
- 3) Document consideration and implementation of commercially available safer medical devices.
- 4) Solicit information on engineering and work practice control effectiveness from non-managerial employees who participate in the program. This solicitation must be documented.

Date	Name of Evaluator	Changes (yes/no)	If yes, what changes were made	Safer Medical Devices – Considered and Decision	Non-Managerial Input Solicited
(ex)3/10/10	(ex)Donald Duck	(ex)Yes	(ex)Added new Asst. Lab Tech position to ECP	(ex)Reviewed current phlebotomy options – no changes	(ex)Pluto, Lab Tech – suggestions: reviewed blood collection procedures – no changes suggested
(ex)4/15/10	(ex)Donald Duck	(ex)Yes	(ex)Added new disinfectant to cleaning procedure	(ex)Housekeeping – not applicable	(ex)Pluto, housekeeper – suggestions: add new disinfectant to cleaning procedure

APPENDIX C: EXPOSURE INCIDENT INFORMATION

- [1\) Exposure Incident Checklist](#)
- [2\) BBP Exposure Incident Worksheet](#)
- [3\) Instructions for the Evaluation Medical Professional](#)
- [4\) Written Opinion of the Healthcare Professional](#)

Exposure Incident Checklist

Employee:

- First Aid – wash exposed area with water or soap and water
- Report the Incident to Your Supervisor – immediately or as soon as possible
- Seek Medical Attention – the Occupational Health Clinic or other licensed healthcare professional
- Complete Incident Report Forms – working with your supervisor

Supervisor:

- Complete Incident Report Forms – working with the employee
 - o [Ohio University Incident Report Form](#)
 - o BBP Exposure Incident Worksheet (on next page)
 - o [Needlestick Report Form](#) – if applicable
- Submit Incident Report Forms:
 - o To Workers Compensation Office within 1 working day
 - o To the OHC or the employee’s licensed health care professional
- Inform EHS (593-1666) and the OHC (593-4747) of the exposure incident
- Source Material – work with EHS and the Occupational Health Clinic, within the confines of applicable regulations to:
 - o Identify the source material
 - o Identify the source individual

Occupational Health Clinic

- Provide Medical Evaluation to Employee – if applicable
- Provide Relevant Medical Information to the Employees’ Healthcare Professional – if applicable
 - o All medical records, which are relevant to treatment of the exposed employee (i.e. the record of HBV vaccination).
 - o Any information available about the source material in the exposure incident, for which the university has proper consent to share.
- Source Material – working with the supervisor and EHS
 - o Obtain any necessary consent from the source individual for testing
 - o Maintain documentation of consent or non-consent
 - o Arrange or perform any testing of source material or source individuals and ensure laboratory testing is performed by an accredited laboratory
 - o Disclose testing results to the employee and their healthcare professional, as allowed by law.
- Provide a copy of the health care professional’s Written Opinion to the employee.

EHS

- Provide necessary paperwork to the health care professional, if it is not the OHC.
 - o A copy of the federal regulation 29CFR1910.1030, with emphasis on paragraph F.
 - o Copies of the forms found in this appendix.
- Work with the supervisor and the Occupational Health Clinic to:
 - o Document the incident
 - o Provide necessary information to the healthcare provider
 - o Identify the source material

Bloodborne Pathogens – Exposure Incident Worksheet

Supplemental Evaluation of Incident – Attached to the [Incident Report Form](#) and send to Workers Compensation at 121A HRTC.

Please print legibly

Employee's Name _____ Date _____

Location of Exposure Incident _____

List any procedures being used and any equipment or devices being used at the time of the exposure incident:

What potentially infectious material were you exposed to?

What was the route of exposure, e.g. mucosal contact, contact with skin, percutaneous, etc.?

Describe any personal protective equipment, devices, or systems in use at the time of exposure incident:

Did the personal protective equipment fail? _____ If "yes", how? _____

Identify the source of the potentially infectious material

Other pertinent information _____

Instructions For The Evaluating Medical Professional

_____, an employee of Ohio University, may have suffered an exposure incident as defined in the OSHA Bloodborne Pathogens Standard. In accordance with the standard's provision for post-exposure medical evaluation and follow-up, this employee is seeking your evaluation. The following items are included with this form to assist you in your evaluation:

1. A copy of 29 CFR 1910.1030, Occupational Exposure to Bloodborne Pathogens.
2. A copy of the Exposure Incident Report. Note, this report describes the exposed employee's duties related to the incident and documents the route of exposure.
3. All medical records concerning the exposed employee including vaccination status, any previous blood tests for the employee or source individual can be requested from Ohio University Occupational Health Clinic (740-593-4747).

After completing the medical evaluation:

1. Inform the employee regarding medical evaluation results, and indicate any appropriate follow-up you deem necessary.
2. Complete the attached written opinion form and send a copy to:

Occupational Health Clinic
Hudson Health Center, RM 101
Ohio University
Athens, OH 45701-2979

CONFIDENTIAL: MEDICAL RECORDS

The copies you send will be maintained as part of the employee's confidential medical record as defined in the Bloodborne Pathogens Standard. **No other medical information is to be sent to Ohio University.**

Written Opinion: Post-Exposure Medical Evaluation

After evaluating _____, employee of Ohio University, please assure the following information has been furnished to the employee, and provide your initials besides the following statements:

The Hepatitis B vaccine is /is not recommended for this employee.
(circle one)

The employee has /has not received the Hepatitis B vaccine.
(circle one)

_____ (initial) The employee has been informed of the results of these medical evaluations.

_____ (initial) The employee has been informed about any medical conditions resulting from the exposure incident of exposure to blood or other potentially infectious materials that require further evaluation and treatment.

All other findings or diagnoses will remain confidential and will not be included in this report.

Thank you for your evaluation of this employee.

_____ Healthcare Professional's signature

_____ Healthcare Professional's name printed

_____ Date

The Occupational Health Clinic will provide a copy of this written report to the employee.

Mail this report to:

Occupational Health Clinic
Hudson Health Center, RM 101
Ohio University
Athens, OH 45701-2979

CONFIDENTIAL: MEDICAL RECORDS

APPENDIX D: NEEDLESTICK INJURY LOG

The Official log will be maintained by the EHS Department, in the EHS office.

Date	Dept/Area	Type of device	Brand of device	How did it occur?

APPENDIX E: HIV AND HBV RESEARCH LABORATORIES

This section applies to research laboratories and production facilities engaged in the culture, production, concentration, experimentation, and manipulation of HIV and HBV. These requirements apply in addition to the other requirements of this program.

Research laboratories and production facilities will meet the following criteria:

- 1) All infectious waste will either be incinerated or decontaminated by a method such as autoclaving known to effectively destroy bloodborne pathogens. Follow the infectious waste procedures in the Biosafety Manual.
- 2) Laboratory doors will be kept closed when work involving HIV or HBV is in progress.
- 3) Contaminated materials that are to be decontaminated at a site away from the work area will be placed in a durable, leakproof, labeled or color-coded container that is closed before being removed from the work area.
- 4) Access to the work area will be limited to authorized persons: written policies and procedures will be established whereby only persons who have been advised of the potential biohazard, who meet any specific entry requirements, and who comply with all entry and exit procedures will be allowed to enter the work areas and animal rooms.
- 5) When other potentially infectious materials or infected animals are present in the work area or containment module, a hazard warning sign incorporating the universal biohazard symbol will be posted on all access doors.
- 6) The employer will post signs at the entrance to work areas specified in paragraph which will bear the following legend:



(Name of the Infectious Agent)

(Special requirements for entering the area)

(Name, telephone number of the laboratory director or other responsible person.)

- 7) All activities involving other potentially infectious materials will be conducted in biological safety cabinets or other physical-containment devices within the containment module. No work with these other potentially infectious materials will be conducted on the open bench.
- 8) Laboratory coats, gowns, smocks, uniforms, or other appropriate protective clothing will be used in the work area and animal rooms. Protective clothing will not be worn outside of the work area and will be decontaminated before being laundered.
- 9) Special care will be taken to avoid skin contact with other potentially infectious materials. Gloves will be worn when handling infected animals and when making hand contact with other potentially infectious materials is unavoidable.
- 10) Before disposal all waste from work areas and from animal rooms will either be incinerated or decontaminated by a method such as autoclaving known to effectively destroy bloodborne pathogens.

- 11) Vacuum lines will be protected with liquid disinfectant traps and high-efficiency particulate air (HEPA) filters or filters of equivalent or superior efficiency and which are checked routinely and maintained or replaced as necessary.
- 12) Hypodermic needles and syringes will be used only for parenteral injection and aspiration of fluids from laboratory animals and diaphragm bottles. Only needle-locking syringes or disposable syringe-needle units (i.e., the needle is integral to the syringe) will be used for the injection or aspiration of other potentially infectious materials. Extreme caution will be used when handling needles and syringes. A needle will not be bent, sheared, replaced in the sheath or guard, or removed from the syringe following use. The needle and syringe will be promptly placed in a puncture-resistant container and autoclaved or decontaminated before reuse or disposal.
- 13) All spills will be immediately contained and cleaned up by appropriate professional staff or others properly trained and equipped to work with potentially concentrated infectious materials.
- 14) A spill or incident that results in an exposure incident will be immediately reported to the laboratory director or other responsible person.
- 15) A biosafety manual is prepared, adopted and periodically reviewed and updated at least annually by the EHS department and the Institutional Biosafety Committee (see the university [Biosafety Manual](#)). Campus Units will keep individual Standard Operating Procedures that are specific to their work. Personnel will be advised of potential hazards, will be required to read instructions on practices and procedures, and will be required to follow them.

Containment Equipment.

- 1) Certified biological safety cabinets (Class II, or III) or other appropriate combinations of personal protection or physical containment devices, such as special protective clothing, respirators, centrifuge safety cups, sealed centrifuge rotors, and containment caging for animals, will be used for all activities with other potentially infectious materials that pose a threat of exposure to droplets, splashes, spills, or aerosols.
- 2) Biological safety cabinets will be certified when installed, whenever they are moved and at least annually.

HIV and HBV research laboratories will meet the following criteria:

- 1) Each laboratory will contain a facility for hand washing and an eye wash facility which is readily available within the work area.
- 2) An autoclave for decontamination of regulated waste will be available.

HIV and HBV production facilities will meet the following criteria:

- 1) The work areas will be separated from areas that are open to unrestricted traffic flow within the building. Passage through two sets of doors will be the basic requirement for entry into the work area from access corridors or other contiguous areas. Physical separation of the high-containment work area from access corridors or other areas or activities may also be provided by a double-doored clothes-change room (showers may be included), airlock, or other access facility that requires passing through two sets of doors before entering the work area.
- 2) The surfaces of doors, walls, floors and ceilings in the work area will be water resistant so that they can be easily cleaned. Penetrations in these surfaces will be sealed or capable of being sealed to facilitate decontamination.

- 3) Each work area will contain a sink for washing hands and a readily available eye wash facility. The sink will be foot, elbow, or automatically operated and will be located near the exit door of the work area.
- 4) Access doors to the work area or containment module will be self-closing.
- 5) An autoclave for decontamination of regulated waste will be available within or as near as possible to the work area.
- 6) A ducted exhaust-air ventilation system will be provided. This system will create directional airflow that draws air into the work area through the entry area. The exhaust air will not be recirculated to any other area of the building, will be discharged to the outside, and will be dispersed away from occupied areas and air intakes. The proper direction of the airflow will be verified (i.e., into the work area).

Training Requirements.

Employees in HIV or HBV research laboratories and HIV or HBV production facilities will receive the following initial training in addition to the regular BBP training requirements.

- 1) The employer will assure that employees demonstrate proficiency in standard microbiological practices and techniques and in the practices and operations specific to the facility before being allowed to work with HIV or HBV.
- 2) The employer will assure that employees have prior experience in the handling of human pathogens or tissue cultures before working with HIV or HBV.
- 3) The employer will provide a training program to employees who have no prior experience in handling human pathogens. Initial work activities will not include the handling of infectious agents. A progression of work activities will be assigned as techniques are learned and proficiency is developed. The employer will assure that employees participate in work activities involving infectious agents only after proficiency has been demonstrated.