Albert Einstein College of Medicine

Exposure Control Policies and Procedures

Table of Contents

I. Purpose

This document, known as the Exposure Control Policies and Procedures, establishes the procedures for employee protection from bloodborne pathogens at the Albert Einstein College of Medicine (Einstein). This plan is in compliance with Occupational Safety and Health Administration 29 CFR 1910.1030 on bloodborne pathogens and ensures worker safety and environmental protection. See Appendix A for the complete Bloodborne Pathogen Standard.

II. Scope

The Policy and the procedures outlined herein apply to all Einstein faculty, staff, and students.

III. Policy

OSHA's Occupational Exposure to Bloodborne Pathogens Standard covers all employees who could be "reasonably anticipated," as the result of performing their job duties, to have contact with blood and other potentially-infectious materials. The standard requires that the employer write an exposure control plan, identify staff at risk for occupational exposure, list jobs in which employees can be exposed, offer the Hepatitis B Virus vaccination and post-exposure evaluation and follow up to employees in listed jobs, train employees annually, keep records of trained individuals, and keep records of any exposures. This plan is, or must be, accessible to employees and available to OSHA. Employers must review and update it at least annually, or more often, if necessary, to accommodate workplace changes.

On request, the Exposure Control Plan will be made available to the Assistant Secretary and to the Director for examination and copying.

III.A. Responsibilities

III.A.1. Infection Control Program Coordinator

Einstein has named the Safety Specialist and the Laboratory Safety Officer as Program Coordinators, charged with overall responsibility for the Exposure Control Plan in compliance with OSHA's Occupational Exposure to Bloodborne Pathogens Standard. The Program Coordinators have the full support and authority of Albert Einstein College of Medicine to ensure compliance with the conditions of OSHA's Bloodborne Pathogen Standard.

Einstein is complying with this standard by determining exposure risks of personnel, implementing an infection control program, maintaining records and providing extensive training in the form of lecture, written material and videotapes. A written Exposure Control Program has been in effect for the University since 1991, the inception of the OSHA BBP Standard.

III.A.2. Principal Investigators, Department Heads, and Supervisors

Principal Investigators, Department Heads, and Supervisors are responsible for employees under their supervision and must ensure the following:

- That they identify positions and procedures in the laboratory, which present the possibility of occupational exposure to human blood or other potentially infectious materials.

- That employees, at risk of exposure to bloodborne pathogens, receive initial training as well as annual retraining.
- That they insure employees follow universal precautions and have appropriate personal protective equipment available to them.
- That they ensure that all exposures are properly treated and reported to Health Service and EH&S.

Individual Employees

Individual employees are responsible for following the guidance outlined in the Exposure Control Plan, which includes the following:

- Attending required training sessions.
- Following universal precautions.
- Reporting all occupational exposure incidents.
- Participating in the HBV Immunization Program, if desired.
- Reporting all occupational exposure incidents.

III.A.3. Employee Health

Employee Health shall:

- Administer Hepatitis B vaccine to employees identified to be at risk for occupational exposure to bloodborne pathogens after obtaining appropriate consent.
- Obtain/maintain HBV Vaccination Declination forms for employees who have exposure but choose not to be vaccinated.
- Administer post-exposure evaluation, counseling, and follow-up.
- Maintain confidential medical records.

III.B. Exposure Determination

OSHA's Occupational Exposure to Bloodborne Pathogens standard requires that all employers prepare an exposure determination for its facility. This exposure determination will include all job classifications with potential exposures and all tasks and procedures in which occupational exposure occurs and are performed by employees listed in the at-risk job classifications.

Jobs in which all employees will have occupational exposure to bloodborne pathogens:

- Medical Doctors
- Dentist
- Nurses
- Nurses' Aides
- Physician Assistants
- Technologists (Clinical)
- Technicians (Clinical)
- Mortuary Workers

Jobs in which some employees may have occupational exposure to bloodborne pathogens:

- PhDs
- Post-Doctoral Fellows
- Research Technicians
- Housekeeping Staff
- Animal Handlers
- Veterinarians
- Engineering Staff

Tasks and procedures in which occupational exposure to bloodborne pathogen occurs in the job classifications listed below:

- Phlebotomy and injections - Handling blood and other body fluid specimens.
- Procedures involving body orifices such as pelvises and sigmoids.
- Catheterizations, cauterizations, lacerations.
- Contact with saliva with the possibility of blood present.
- X-rays of open wounds.
- Cleaning, maintaining and sterilizing instruments.
- Housekeeping tasks - toilets, floors, emptying infectious wastes.
- Housekeeping and laundry - blood-soaked linens.
- Venipuncture and biopsy.
- Patient examination.
- Diagnostic procedure involving bodily fluids.
- Clinical laboratory assays or tests involving potentially-infectious materials.
- Cell, tissue, or organ culture.
- Blood culture and cell separation.
- Research procedures involving potentially-infectious material.
- Animal injection with human pathogens.
- Embalming.
- Human tissue pathological analysis.
- Transporting blood or related products.
- Cleaning blood spills.
- Repairing and cleaning contaminated equipment.
- Certain laboratory repair work, e.g., plumbing.

Historically, an Exposure Identification Form, (see Appendix B and B1) was distributed to all departments to help identify individuals who may have been exposed to bloodborne pathogens in the course of their work at Einstein. Currently, a Health and Safety Assessment Form is completed by the PI, prior to an employee's hire. If an employee has a reasonably anticipated risk of bloodborne pathogen exposure, but the employee's job classification is not included, notify the Department of Environmental Health and Safety at (718) 430-3560.

III.C. Bloodborne Pathogen Information

III.C.1. Hepatitis

Hepatitis is an inflammation of the liver caused by medication, alcohol, or many viruses. Two such viruses are Hepatitis B (HBV) and Hepatitis C (HCV). These viruses may be acquired from exposure to human blood and other potentially-infectious materials.

Hepatitis affects four to five times as many Americans as HIV. Initial symptoms are mild and flu-like, but may often include, with progress of the disease: jaundice, a yellow hue to the skin, loss of appetite, nausea, and elevated liver function tests.

Many HBV- and HCV-infected people have no problems or symptoms. Small percentages do develop serious or fatal problems such as cirrhosis, liver cancer or chronic liver disease.

Hepatitis Vaccination

Einstein offers the Hepatitis B vaccine and vaccination series to all employees who have occupational exposure to bloodborne pathogens, and post-exposure follow-up to employees who have had an exposure incident.

Hepatitis B vaccination will be offered within 10 working days of initial assignment to all employees who have a potential exposure to BBP. If the employee initially declines Hepatitis B vaccination, but at a later date, while still covered under the standard, decides to accept the vaccination, the vaccination will be made available. All employees who decline the Hepatitis B vaccination must sign the OSHA-required waiver indicating their refusal. See Appendix C for Informed Refusal for Hepatitis B Vaccination Form.

The HBV vaccine is provided free of charge to all potentially exposed employees through our Occupational Health Service. The vaccine is administered in a 3-dose series given over a six-month period.

Currently, there are no vaccines for HCV.

III.C.2. Human Immunodeficiency Virus (HIV)

The Human Immunodeficiency Virus, which causes AIDS, attacks the body's immune system, reducing its ability to fight disease. Early AIDS symptoms include fever, loss of appetite, weight loss, chronic fatigue, and skin rashes. Later, the victim may develop unusual types of cancer (Karposis' Sarcoma) or infections, including pneumonia, which the body can no longer fight off. Some people who carry the HIV have no symptoms. Others don't develop AIDS until years after they are infected. Currently there is no cure or vaccine for HIV.

III.C.3. Transmission

HIV, hepatitis, and other pathogens may be present in blood and other materials including:

- Blood, organs and tissues from experimental infected animals
- Synovial fluid

- Unfixed human tissue or organ
- Pleural fluid
- Pericardial fluid
- Peritoneal fluid
- Amniotic fluid
- Saliva (in dental procedures)
- Semen
- Vaginal secretions
- Cerebrospinal fluid
- Cell or tissue culture containing BBP
- Any fluid visibly contaminated with blood

III.D. Universal Precautions/Standard Precautions

The concept of "Universal Precautions" or "Standard Precautions" is a method of infection control in which all human blood, tissues and other potentially-infectious material are treated as if known to be infectious for HIV, HBV, HCV, or other bloodborne pathogens. These precautions were intended to prevent occupational exposure to human blood or body fluids.

Universal precautions apply to blood and body fluids, tissue, semen, vaginal secretions, cerebrospinal, synovial, pleural, peritoneal, pericardial, amniotic fluids and salvia in dental procedures. It does not apply to feces, nasal secretions, sputum, sweat, tears, urine, vomit, or saliva, unless they are visibly contaminated with blood.

OSHA, EPA, and others have variously defined the amount of blood required to constitute an infectious risk as "substantial," "dripping," and "significant." EPA has offered an objective definition that 15 milliliters of blood (about the size of three teaspoons), must be present to be of sufficient dose to be infectious. This definition of quantity does not preclude the use of protective clothing; it only helps to define what constitutes infectious waste when disposing of blood-soaked materials. When differentiation is difficult, all bodily fluids shall be considered potentially infectious. BBP infections have resulted from microliter quantities of infected blood (the quantity present in an empty syringe recently used to draw blood from an infectious patient).

III.E. Engineering Controls

Engineering controls serve to isolate or remove the hazard from the workplace and thereby minimize or eliminate employee risk from occupational exposure. Engineering controls shall be examined and maintained or replaced on a regular schedule to ensure their effectiveness.

Engineering controls include the following.

1. Sharps containers which are used to dispose of contaminated sharps (i.e. needles, scalpels, broken glass, etc.). These containers help to minimize the potential for cuts or punctures associated with handling sharp items. Approved sharps containers shall be:
   a. Puncture resistant.
   b. Labeled with the universal biohazard symbol or color coded.

c. Leak-proof on the sides and bottom and closable.
d. Replaced when 2/3 full, to avoid overfilling.

2. Hand washing facilities must be reasonably accessible to all employees who have a potential for exposure. This includes hot and cold running water. Waterless antiseptic hand cleansers or antiseptic towelettes must be available to employees at risk of exposure, if running water is not readily available. If waterless cleansers or towelettes must be used, the employee must wash with soap and water as soon as feasible.
3. Biosafety cabinets serve as a primary containment device for operations involving potential splashes, spills or aerosolization of biohazardous materials. These cabinets shall be tested after installation, relocation, and at least annually thereafter, to ensure the effectiveness of the unit. It is the PI/Supervisor's responsibility to ensure Biosafety cabinets are certified annually.
4. Safer medical devices such as syringes with a sliding sheath that shields the attached needle after use, needles that retract into the syringe after use, shielding or retracting catheters used to access the bloodstream for intravenous administration of medication or fluids. (See Appendix D for safer needle evaluation form).
5. Needleless systems provide an alternative to needles for the specified procedures, thereby reducing the risk of percutaneous injury involving contaminated sharps. The bloodborne pathogen standard requires any laboratory or medical facility using blood or other potentially infectious material to evaluate needleless systems.

When they are available, use devices engineered to prevent exposures.

III.F. Work Practice Controls

Work practice controls are modifications of work practices that reduce the likelihood of occupational exposure to bloodborne pathogens. The following is a list of work practice controls.

III.F.1. Handwashing

Handwashing means the use of adequate soap to lather up the hands completely and rinsing them with water. A nailbrush may also be used. The hand washing process should take at least 20-30 seconds. Employees shall wash their hands:

- After the removal of gloves or other personal protective equipment.
- After contact with any potentially-contaminated material.
- Before leaving the laboratory and when work is complete.
- Before eating, drinking, smoking, applying cosmetics, handling contact lenses, or using the bathroom.

III.F.2. Handling Sharps

- Sharps containers shall be readily accessible in areas where sharps waste may be generated.
- Needles shall not be bent, recapped, or removed, sheared or broken.
- If recapping is required, then it must be performed by mechanical means or a one-handed technique.

- Immediately after use, contaminated sharps shall be placed in sharps containers that are puncture resistant, labeled or color-coded and leak proof.
- Broken glassware that may be contaminated shall not be directly handled with gloved or bare hands. Use tongs, dustpan, broom, etc.

III.F.3. Eating, Drinking, Smoking, etc.

- Eating, drinking, smoking, applying cosmetics, applying lip balm and handling contact lenses is prohibited in any work areas where there is a reasonable likelihood of an occupational exposure.
- Food and drink shall not be kept in refrigerators, freezers, on countertops or in other storage areas where blood or other potentially-infectious materials are present.
- Never place pens, pencils or other objects in your mouth where blood or other potentially-infectious materials are handled or may be present.
- Mouth pipetting or mouth suctioning is strictly prohibited.

III.F.4. Specimen Handling and Transport

- Specimens of blood or other potentially-infectious materials shall be placed in a primary container and a secondary plastic bag, which prevents leakage during collection, handling, processing, storage, transport or shipping.
- Specimen containers for transport or shipping outside of the immediate area, shall be labeled with the universal biohazard symbol or color-coded prior to transport.
- If outside contamination of the primary container occurs, then it shall be cleaned with a tuberculocidal disinfectant before being placed in the secondary container. If the specimen can rupture the inner container, then the inner container shall be made of a puncture-resistant material.

III.F.5. Equipment Transport, Cleaning, and Servicing

- Any equipment, which may be contaminated with blood or other potentially-infectious materials, shall be examined and decontaminated prior to transport unless the user can demonstrate that decontamination is not feasible.
- If decontamination is not feasible, then the equipment shall be clearly labeled with a biohazard warning and a statement, identifying the contaminated portions, shall be submitted to employees, service personnel or manufacturer.

III.G. Personal Protective Equipment

Personal protective equipment (PPE) will protect an employee's street clothes, skin, eyes, and mucous membranes from coming in contact with blood or other potentially-infectious materials, during normal conditions.

PPE and clothing are used to minimize or eliminate exposure to human bloodborne pathogens. All PPE must be inspected, cleaned, or replaced, as needed, to maintain its effectiveness. It is the responsibility of each employee and supervisor to be certain that the appropriate equipment is worn when necessary.

It is the PI/Supervisor's responsibility to ensure that PPE, in the appropriate sizes, is readily accessible at the work site or is issued to employees free of charge. PPE may include:

- Gloves
- Gowns/Lab Coats/Aprons
- Eyewear and Face shields
- Respirators

To maintain its effectiveness, PPE shall be repaired or replaced, as needed, at no cost to the employee.

See Einstein's Personal Protective Equipment Policy for additional information.

The use of protective equipment is an OSHA requirement.

III.G.1. Gloves

To be effective, gloves must provide a barrier between an employee's hand and contaminated material. After donning gloves, examine them for physical defects. Fit gloves so they cover the cuff of your clothing, if possible, to reduce the area of skin exposure. Discard gloves after examining each patient, after laboratory procedures, or, if you suspect contamination. Never wear gloves outside of the laboratory or medical area, including corridors and elevators.

Disposable gloves used at Einstein are not to be washed or decontaminated for reuse and are to be replaced as soon as practical when they become contaminated or as soon as feasible if they are torn, punctured, or when their ability to function as a barrier is compromised.

Hypoallergenic gloves, glove liners, powderless gloves, or other similar alternatives shall be readily accessible to employees who are allergic to the gloves normally provided.

Only general-purpose utility (rubber) gloves may be decontaminated for reuse provided that the integrity of the glove is not compromised. Utility gloves will be discarded if they are peeling, torn, punctured, or exhibit other signs of deterioration or when their ability to function as a barrier is compromised.

Gloves must be used:

- If the employee's skin is cut, abraded, or chapped. (Always bandage the injury before donning gloves.)
- When the employee's hands might contact blood or other potentially-infectious material.
- When examining a patient's bleeding, abraded or non-intact skin.
- During invasive procedures.
- During housekeeping and cleaning involving body fluids and decontaminating procedures.

III.G.2. Gowns, Laboratory Coats, and Head Coverings

Gowns, laboratory coats, and other protective clothing must be worn when there is a risk of aerosolization or splattering of human blood or other potentially-infectious material to the employee's skin or clothing. There are various types of suits, gowns, and aprons available for this purpose. The type of protective

clothing selected will depend upon the tasks and degree of exposure anticipated. Contact EH&S for advice.

Head coverings are worn whenever procedures are performed which might create splashing, spraying, or aerosolization. Head covering should cover the hair, ears, parts of the neck, and face.

Never wear gowns or laboratory coats that may have been exposed to infectious material outside of the medical or laboratory setting, including corridors and elevators. Laboratory coats/gowns cannot be laundered at home.

III.G.3. Protective Clothing Disposal

Linens and reusable protective clothing which are soiled with body fluids shall be handled as little as possible and must be placed and transported in bags or containers which are appropriately labeled. When removing protective clothing apparel, avoid contamination of your exposed body parts. Remove PPE inside out. If possible, autoclave this linen prior to having it laundered.

III.G.4. Protective Eyewear and Masks

Employees must wear masks in combination with eye protective devices, such as goggles, glasses with solid side shield, or chin length face shields, whenever splashes, splatter, or droplets of blood or other potentially-infectious material may be generated and reasonably anticipated to contaminate eye, nose, or mouth.

If masks are disposable, they must be removed immediately following use and not be reused. Reusable masks must be properly handled, cleaned and decontaminated prior to reuse. Reusable chin-length face shields may be used to provide protection, but these must also be properly maintained or disposed. If a respirator is used, the worker must be put on our Respiratory Protection Program, which includes medical screening. The worker must also be fit tested to ensure proper respirator fit.

III.G.5. Resuscitation Equipment

Personnel who perform Cardiopulmonary Resuscitation (CPR) should have resuscitation masks on hand for use in an emergency. Most resuscitation masks are disposable and should be handled as contaminated waste following use. The resuscitation mask allows for effective CPR without mouth-to-mouth contact. Most masks are also fitted with a one-way valve, which prevents the flow of materials from victim to rescuer.

III.H. Waste Disposal

III.H.1. Contaminated Waste

Federal, State, and City regulations govern infectious waste disposal. Infectious waste should always be inactivated, if possible, either chemically or by autoclaving prior to disposal as regulated medical waste. If this is not possible, then the infectious waste should be sealed in a plastic bag and disposed into a regulated medical waste container.

Medical waste containers, which contain blood or other potentially-infectious material, shall be closeable, constructed to contain all contents, and prevent fluid leaks during handling, storage, transportation or shipping. See our EH&S Waste Disposal Policies and Procedures for further information.

III.H.2. Contaminated Sharps

Needlestick injuries often occur when cleaning or disposing of sharp instruments and needles. Contaminated needles shall not be sheared, bent, broken, or recapped by hand, nor should contaminated needles be removed from disposable syringes. If recapping is required, then mechanical means or a one-handed technique shall be performed. Contaminated sharps shall be discarded immediately or as soon as feasible in containers that are closable, puncture-resistant, leak-proof, labeled or color-coded and located close to the point of use.

Sharps containers must be readily available in areas where sharps waste may be generated, maintained upright throughout use, and containers disposed when 2/3 full. When moving sharps containers, containers must be closed and placed in secondary containers if there is possibility of leaking.

The Department of Environmental Health and Safety (EH&S) recommends that infectious sharps be autoclaved in their sharps container prior to release as medical waste. See Einstein's Waste Disposal Policies and Procedures for further information on waste disposal.

III.I. Housekeeping

III.I.1. Contaminated Surfaces

Decontaminate equipment, bench tops, floors, etc. with freshly-prepared 10% bleach solution or equivalent:

- When surfaces become overtly contaminated.
- At the end of the work shift.
- After any spill of blood or other potentially infectious materials.

Disinfect medical or laboratory instruments by autoclaving or by using an approved disinfectant.

III.I.2. Broken Glass

Use utensils such as tongs, forceps, dustpan and broom, to clean up broken glass and dispose of it in an appropriate sharps container.

III.I.3. Maintenance

All bins, pails, and cans should be inspected and, if full, or almost full, bags should be tied for bin removal by in-house custodial services.

III.I.4. Laundry

Reusable, contaminated lab coats or gowns will be handled as little as possible and placed in a red bag or container at the location where it was used. Laundry will be sent to a commercial laundry service, which

has the capability to properly handle and launder potentially-infectious materials. Employees cannot take lab coats/gowns home for laundering.

III.I.5. Spills

- Absorb the spill with paper towels, working from the outer perimeter toward the center.
- Pour decontaminant directly onto the absorbing towels or pads.
- Decontaminate with an appropriate disinfectant. (Use an EPA registered hospital-level tuberculocidal or a 1:10 part bleach solution.)
- Allow disinfectant to sit for 10–15 minutes, to provide an adequate contact time.
- Dispose of waste in a biohazard bag.
- Use fresh paper towels wet with disinfectant to wipe the entire area.

III.J. Disinfectants

A freshly prepared 1:10 dilution of sodium hypochlorite (household bleach) in water, or other hospital-level disinfectant, may be used to decontaminate spills of blood and other body fluids. A list of EPA registered disinfectants may be found at the following website: http://www.epa.gov/oppad001/list_j_medicalwaste.pdf.

III.K. Signs and Labels

The biohazard symbol warns of the actual or potential presence of biological hazards and is a regulatory requirement. All work areas and containers are labeled in accordance with the provisions of the bloodborne pathogens standard. Universal biohazard labels will be affixed to containers of regulated waste, refrigerators, freezers, containers used to store, transport or ship blood or other potentially-infectious materials. Labels must include the international biohazard symbol (see picture of biohazard symbol below) and the word "biohazard." The label must be fluorescent orange or orange-red in color with the lettering or symbol in a contrasting color. Signs and labels are available via EH&S.

Biohazard

Signs will be posted at the entrance to work areas in which infectious and potentially infectious materials are used. Required signs will have the universal biohazard symbol along with the name of the infectious agent, telephone number of the PI or responsible person, and any special requirements for entering the area.

III.L. Postexposure Evaluation and Follow-Up

If an employee is exposed to bloodborne pathogens via a spill, splash, or a needlestick, then the employee must encourage bleeding, wash the wound immediately with soap and water, and immediately notify the supervisor so that the supervisor may ensure that immediate medical evaluation is obtained. Mucous membrane exposure (e.g., eye splash) – flush with copious amounts of water for 15 minutes. (Time is of the essence; results can often be improved by prompt action.)

An Exposure Incident Form must be completed and the employee must report to one of the medical facilities listed in Table 1. The medical facility will seek to identify and test the source patient, if appropriate, for HIV and Hepatitis infection. The treating, licensed physician or other licensed health care professional evaluating the employee will determine if prophylaxis or medical treatment is indicated.

Treatment will be provided according to the recommendations of the U.S. Public Health Service. Treatment and tests will be conducted at an accredited laboratory free of charge. Following an incident, the exposed employee will receive a confidential medical evaluation, which documents the routes and circumstances of exposure, identifying and testing the source individual if feasible by law, testing the exposed employee's blood if he/she consents, post-exposure prophylaxis, counseling and evaluation of the reported illnesses. If the exposed employee agrees to a baseline collection but not to HIV testing, the blood sample must be preserved for at least 90 days during which time the sample can be used for testing, should the employee wish and consent to it. To test the source individual's blood, a consent form must be completed.

The health care professional, when faced with an exposed individual, will be provided with:

- Duties performed by exposed individual when the incident occurred.
- Documentation on the route and circumstances of exposure.
- Results of source individual's blood testing, if available.
- Relevant medical records appropriate to the exposed individual's treatment, vaccination status, etc.
- Exposure Incident Form.
- Employee Medical Record Form of Vaccination History and Exposure Incidents.
- OSHA BBP standard.

A written opinion to the employer by the physician will be provided, as required by the OSHA standard, and a confidential medical evaluation with a review of all the circumstances of exposure will be provided to the employee within 15 days.

The primary responsibility for the reporting of exposure incidents lies with the PI. All exposure incidents must be reported immediately to EH&S who will investigate the incident. The investigation will document the route of exposure and the circumstances under which the exposure incident occurred and will make recommendations for modification in work practices or PPE to minimize or eliminate the potential of future exposure.

The health care professional's report will be limited to:

- Whether Hepatitis B vaccine was indicated and was it provided.
- Whether the employee has been informed of the evaluation results.
- Whether the employee was informed of any medical conditions resulting from the exposure.

Medical services should be sought at the following locations:

Medical Facility	Location	Hours of Operation	Phone
Occupational Health	Mazer 219	Monday to Friday 9:00AM – 5:00PM Closed: 1:00PM – 2:00PM	718-430-3141
Occupational Health	1180 Morris Park Avenue – 1st floor	Monday to Friday 8:00AM – 4:00PM Closed: Noon - 1:00PM	718-794-7048
Weiler Hospital Emergency Room	Weiler Hospital	24 hours 7 days a week	718-904-3333

III.M. Medical Research Involving HIV, HBV, and HCV

Medical research involving HIV, HBV, and HCV can be performed under Biosafety Level 2, provided that there is no attempt to propagate the virus or concentrate the virus above the levels normally found in human blood. If any of these BBPs are concentrated or an experimental procedure may increase the likelihood of worker exposure, then Biosafety Level 3 practices and facilities should be considered. (Needlesticks have been the major route of exposure to HIV for healthcare and laboratory workers.)

Work requiring BSL3 conditions will require approval by the Institutional Biosafety Committee (IBC) and will only be allowed in the Biohazard Facility (BHF). Written requests must be made to the Chairperson of the IBC.

The BHF complies with the special practice requirements listed in 40CFR 1910.1030(e) for work in HIV and HBV research laboratories and production facilities.

III.N. Information and Training

Each employee with occupational exposure to bloodborne pathogens will be provided with information and training during their normal work shift. Training shall be provided at the time of initial assignment to tasks where occupational exposure may occur and shall be repeated within twelve months of the previous training or as needed. The employee's supervisor and EH&S will provide this training.

Training content and material will be appropriate to the vocabulary and education level of the employee. The training shall contain, at a minimum, the following elements:

- Copies of the Exposure Control Policies and Procedures and information on obtaining additional copies.
- Bloodborne Standard and its contents.
- The epidemiology and symptoms of bloodborne diseases.
- The mode of transmission of bloodborne pathogens.
- Recognition of tasks and other activities that may involve exposure to blood and other potentially-infectious materials.
- An explanation of the use and limitations of methods that will prevent or reduce exposure including appropriate engineering controls, work practices, and personal protective equipment.
- Information on safer medical devices proposed for adoption, based on identification, evaluation and effectiveness.

- Information on the types, selection, proper use, location, removal, handling, decontamination and disposal of personal protective equipment.
- Information on the Hepatitis B vaccine, including information on its efficacy, safety, method of administration, benefits, and cost (free of charge).
- Emergency procedures and decontamination of a blood or other potentially-infectious material spill.
- Procedures to follow if an exposure incident occurs, including the method of reporting and medical follow-up.
- Information on the post-exposure evaluation and follow-up that the employer is required to provide for the employee following an exposure incident.
- Explanation of signs, labels, and color-coding systems used to identify potentially-infectious materials.
- Opportunity for interactive questions and answers with the person conducting the training.

The person conducting the training will be knowledgeable in the subject matter covered by the elements contained in the training program as it relates to the Einstein Campus and associated Clinics.

The PI shall provide additional training and supervision to employees when there are any changes of tasks or procedures affecting the employee's occupational exposure. The additional training may be limited to addressing the new exposures created.

Additional Initial Training for Employees in HIV, HBV, HCV Laboratories and Production Facilities

Employees in HIV or hepatitis research laboratories and production facilities shall receive the following initial training in addition to the above training requirements. The Principal Investigator or Department Chairman 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, HBV or HCV.
- Assure that employees have prior experience in the handling of human pathogens or tissue cultures before working with HIV, HBV or HCV.
- Provide a training program to employees who have no prior experience in handling human pathogens. Initial work activities shall not include the handling of infectious agents. A progression of work activities shall be assigned as techniques are learned and proficiency is developed. The employer shall assure that employees participate in work activities involving infectious agents only after proficiency has been demonstrated.

III.O. Recordkeeping

III.O.1. Medical Records

Einstein Occupational Health Service will maintain records for each employee with occupational exposure to bloodborne pathogens. These records will be maintained in accordance 29CFR 1910.20 and will be kept for the duration of employment plus 30 years.

Medical records will include:

- The name and social security number or job number of the employee.
- A copy of the employee's Hepatitis B vaccination status including the dates of vaccination. The Hepatitis B waiver form, if applicable.
- A copy of the information provided to the health care professional, including a description of the individual's duties as they relate to the exposure incident and documentation of the routes of exposure and circumstances of the exposure.
- A copy of the health care professional's written opinion.

III.O.2. Confidentiality

All information is confidential and will not be released without the employee's consent, except as required or permitted by law.

III.O.3. Training Records

EH&S is responsible for retaining training records. Training records will be kept for a period of three years from the date of training and will be located in Room 800 of the Forchheimer Building.

The following information shall be documented:

- The dates of the training sessions.
- An outline or summary of the training sessions.
- The names and qualifications of persons conducting the training.
- The names and departments of all persons attending the training session.

III.O.4. Sharps Injury Log

To collect additional information regarding sharps injuries that result in exposure incidents, OSHA requires that a new log be maintained. Employees reporting a sharps injury resulting in an exposure should be prepared to provide:

- Explanation of how incident occurred.
- Body part affected.
- Type, brand and model of sharp involved.
- Whether the sharp had an engineered protection feature.
- Whether safety feature was activated.
- The department or work area where exposure occurred.
- The procedure being performed.

This log will be maintained by Human Resources.

III.O.5. Availability

Albert Einstein College of Medicine will ensure that all records, required to be maintained by this section, will be made available upon request to the Assistant Secretary and the Director of OSHA for examination and copying.

Employee medical records required will be provided upon request for examination and copying to the subject employee, to anyone having written consent of the subject employee, to the Director, and to the Assistant Secretary of OSHA in accordance with 29CFR 1910.1020.

Employee training records required by this paragraph shall be provided upon request for examination and copying to employees, to employee representatives, to the Director, and to the Assistant Secretary of OSHA in accordance with 29CFR 1910.20(h).

III.O.6. Transfer of Records

If Albert Einstein College of Medicine ceases to do business and there is no successor employer to receive and retain the medical records for the prescribed period, the Director of NIOSH will be contacted for final disposition.

III.P. References

1. Biosafety in Microbiological and Biomedical Laboratories, U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention and, National Institutes of Health Fifth Edition.
2. Biohazard/Reference Manual, American Industrial Hygiene Association, 1985.
3. Biosafety in the Laboratory/Prudent Practices for the Handling and Disposal of Infectious Material, National Academy Press, 1989.
4. Occupational Exposure to Bloodborne Pathogens, Occupational Safety and Health Administration 29CFR Part 1910.1030, January 18, 2001.
5. Fleming, Diane and Hunt, Debra. Biological Safety: Principles and Practices, Third Edition, ASM Press, 2000.

III.Q. Telephone Numbers

Albert Einstein College of Medicine:

Infection Control Coordinator	718-430-3560
Occupational Health Services	718-430-3141

Other:

Centers for Disease Control	404-639-3311
CDC Voice Information Service	404-332-4555
CDC National Prevention Information Network	800-458-5231
National Institute for Occupational Safety & Health (CDC Information)	800-232-4636
New York State Department of Health, AIDS Institute	518-474-4284
Occupational Safety and Health Administration (OSHA)	800-321-6742

IV. Definitions

Bloodborne Pathogens (BBP): Microorganisms that are present in human blood and body fluids and can cause diseases in humans. These pathogens include but are not limited to: Hepatitis B Virus (HBV), Hepatitis C Virus (HCV) and Human Immunodeficiency Virus (HIV).

Contamination: Presence, or the reasonably anticipated presence, of blood or other potentially-infectious materials on an object or surface.

Decontamination: Use of physical or chemical means to remove, inactivate, or destroy micro-organisms on a surface or object, to the point where they are no longer capable of causing disease.

Engineering controls: Controls that isolate or remove a biological hazard from the workplace (i.e., sharps disposal containers, self-sheathing needles).

Exposure Incident: A specific eye, mouth, other mucous membrane, non-intact skin or parenteral contact with blood or other potentially-infectious materials as a result of an employee's duties.

HBV: Hepatitis B Virus. Causes inflammation of the liver and may lead to long-term liver damage including cirrhosis and cancer.

HCV: Hepatitis C Virus. Causes inflammation of the liver and may lead to long-term liver damage including cirrhosis and cancer.

HIV: Human Immunodeficiency Virus. Attacks critical cells of the immune system and leads to Acquired Immunodeficiency Syndrome (AIDS).

Occupational Exposure: Reasonably anticipated skin, eye, mouth, mucous membrane, or other parenteral contact with blood or other potentially-infectious materials (OPIM) that may result from performance of the individual's duties or assignments.

Other Potentially Infectious Materials (OPIM): Materials, in addition to human blood, that may be capable of transmitting bloodborne pathogens. These include:

1. Human body fluids (in liquid or dried state): semen, vaginal secretions, cerebrospinal fluid, synovial fluid, pleural fluid, pericardial fluid, peritoneal fluid, amniotic fluid, saliva (in dental procedures), any material visibly contaminated with blood, any body fluid in a situation where it is difficult to differentiate between types of body fluids.
2. Any unfixed human tissue or organ (excluding skin) from a human (living or dead).
3. HIV-containing cell or tissue cultures, organ cultures, and HIV, HBV and HCV-containing culture medium or solutions as well as human cell culture not shown to be free of bloodborne pathogens.
4. Blood, organs, or other tissues from animals experimentally infected with HIV, HBV, and HCV.

Parenteral exposure: A situation in which mucous membranes or the skin barrier is pierced via a needlestick, human bites, cuts, or abrasions.

Personal Protective Equipment (PPE): Specialized clothing or equipment worn by an employee for protection against a hazard. General work clothes are not considered personal protective equipment.

Sharps: Needles, syringes, scalpels, and intravenous tubing with needles attached, as well as any contaminated object that can penetrate the skin (e.g. Pasteur pipettes, razor blades, etc.).

Universal Precautions/Standard Precautions: An approach to infection control, in which all human blood and certain human body fluids and other potentially-infectious materials are treated as if known to be infectious for HIV, HBV, HCV 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).

V. Effective Date

Effective as of: 17 April 2018

VI. Policy Management and Responsibilities

Einstein's Department of Environmental Health and Safety is the Responsible Office under this Policy. Einstein's Associate Dean for Finance and Administration is the Responsible Executive. Einstein's Senior Director of Environmental Health and Safety is the Responsible Officer for the management of this Policy.

VII. Approved (or Revised)

Responsible Executive

7/9/18
Date

Appendix A: Bloodborne Pathogen Standard 29 CFR Part 1910.1030

exam, except that the urine cytologic test is to be performed only on those employees who are 45 years or older or who have worked for 5 or more years in the regulated area; periodic exams, with the exception of x-rays, are to be performed semiannually for this group instead of annually; for this group, x-rays will continue to be given at least annually. The examination contents are minimum requirements; additional tests such as lateral and oblique x-rays or additional pulmonary function tests may be performed if deemed necessary.

B. *Pulmonary function tests.*

Pulmonary function tests should be performed in a manner which minimizes subject and operator bias. There has been shown to be learning effects with regard to the results obtained from certain tests, such as FEV 1.0. Best results can be obtained by multiple trials for each subject. The best of three trials or the average of the last three of five trials may be used in obtaining reliable results. The type of equipment used (manufacturer, model, etc.) should be recorded with the results as reliability and accuracy varies and such information may be important in the evaluation of test results. Care should be exercised to obtain the best possible testing equipment.

[39 FR 23502, June 27, 1974, 41 FR 46784, Oct. 22, 1976, as amended at 42 FR 3304, Jan. 18, 1977; 45 FR 35283, May 23, 1980; 50 FR 37353, 37354, Sept. 13, 1985; 54 FR 24334, June 7, 1989; 61 FR 5508, Feb. 13, 1996; 63 FR 1290, Jan. 8, 1998; 63 FR 33468, June 18, 1998; 70 FR 1142, Jan. 5, 2005; 71 FR 16672, 16673, Apr. 3, 2006; 71 FR 50189, Aug. 24, 2006; 73 FR 75585, Dec. 12, 2008; 76 FR 33608, June 8, 2011; 77 FR 17782, Mar. 26, 2012]

§ 1910.1030 Bloodborne pathogens.

(a) *Scope and Application.* This section applies to all occupational exposure to blood or other potentially infectious materials as defined by paragraph (b) of this section.

(b) *Definitions.* For purposes of this section, the following shall apply:

Assistant Secretary means the Assistant Secretary of Labor for Occupational Safety and Health, or designated representative.

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

Bloodborne Pathogens means 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).

Clinical Laboratory means a workplace where diagnostic or other screening procedures are performed on blood or other potentially infectious materials.

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

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

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

Decontamination means the use of physical or chemical means to remove, inactivate, or destroy bloodborne pathogens on a surface or item to the point where they are no longer capable of transmitting infectious particles and the surface or item is rendered safe for handling, use, or disposal.

Director means the Director of the National Institute for Occupational Safety and Health, U.S. Department of Health and Human Services, or designated representative.

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 that results from the performance of an employee's duties.

Handwashing facilities means a facility providing an adequate supply of running potable water, soap, and single-use towels or air-drying machines.

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

HBV means hepatitis B virus.

HIV means human immunodeficiency virus.

Needleless systems means 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 means 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 means

(1) The following human body fluids: semen, vaginal secretions, cerebrospinal fluid, synovial fluid, pleural fluid, pericardial fluid, peritoneal fluid, amniotic fluid, saliva in dental procedures, any body fluid that is visibly contaminated with blood, and all body fluids in situations where it is difficult or impossible to differentiate between body fluids;

(2) Any unfixed tissue or organ (other than intact skin) from a human (living or dead); and

(3) HIV-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.

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

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

Production Facility means a facility engaged in industrial-scale, large-volume or high concentration production of HIV or HBV.

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

Research Laboratory means a laboratory producing or using research-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.

Sharps with engineered sharps injury protections means 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 means 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.

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

Universal Precautions is an approach to infection control. 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 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).

(c) *Exposure control*—(1) *Exposure Control Plan.* (i) Each employer having an

employee(s) with occupational exposure as defined by paragraph (b) of this section shall establish a written Exposure Control Plan designed to eliminate or minimize employee exposure.

(ii) The Exposure Control Plan shall contain at least the following elements:

(A) The exposure determination required by paragraph (c)(2),

(B) The schedule and method of implementation for paragraphs (d) Methods of Compliance, (e) HIV and HBV Research Laboratories and Production Facilities, (f) Hepatitis B Vaccination and Post-Exposure Evaluation and Follow-up, (g) Communication of Hazards to Employees, and (h) Recordkeeping, of this standard, and

(C) The procedure for the evaluation of circumstances surrounding exposure incidents as required by paragraph (f)(3)(i) of this standard.

(iii) Each employer shall ensure that a copy of the Exposure Control Plan is accessible to employees in accordance with 29 CFR 1910.20(e).

(iv) The Exposure Control Plan shall be reviewed and updated at least annually and whenever necessary to reflect new or modified tasks and procedures which affect occupational exposure and to reflect new or revised employee positions with occupational exposure. The review and update of such plans shall also:

(A) Reflect changes in technology that eliminate or reduce exposure to bloodborne pathogens; and

(B) Document annually consideration and implementation of appropriate commercially available and effective safer medical devices designed to eliminate or minimize occupational exposure.

(v) An employer, who is required to establish an Exposure Control Plan shall solicit input from non-managerial employees responsible for direct patient care who are potentially exposed to injuries from contaminated sharps in the identification, evaluation, and selection of effective engineering and work practice controls and shall document the solicitation in the Exposure Control Plan.

(vi) The Exposure Control Plan shall be made available to the Assistant Secretary and the Director upon request for examination and copying.

(2) *Exposure determination.* (i) Each employer who has an employee(s) with occupational exposure as defined by paragraph (b) of this section shall prepare an exposure determination. This exposure determination shall contain the following:

(A) A list of all job classifications in which all employees in those job classifications have occupational exposure;

(B) A list of job classifications in which some employees have occupational exposure, and

(C) A list of all tasks and procedures or groups of closely related task and procedures in which occupational exposure occurs and that are performed by employees in job classifications listed in accordance with the provisions of paragraph (c)(2)(i)(B) of this standard.

(ii) This exposure determination shall be made without regard to the use of personal protective equipment.

(d) *Methods of compliance*—(1) *General.* Universal precautions shall be observed to prevent contact with blood or other potentially infectious materials. Under circumstances in which differentiation between body fluid types is difficult or impossible, all body fluids shall be considered potentially infectious materials.

(2) *Engineering and work practice controls.* (i) Engineering and work practice controls shall be used to eliminate or minimize employee exposure. Where occupational exposure remains after institution of these controls, personal protective equipment shall also be used.

(ii) Engineering controls shall be examined and maintained or replaced on a regular schedule to ensure their effectiveness.

(iii) Employers shall provide handwashing facilities which are readily accessible to employees.

(iv) When provision of handwashing facilities is not feasible, the employer shall provide either an appropriate antiseptic hand cleanser in conjunction with clean cloth/paper towels or antiseptic towelettes. When antiseptic hand cleansers or towelettes are used, hands shall be washed with soap and running water as soon as feasible.

(v) Employers shall ensure that employees wash their hands immediately or as soon as feasible after removal of gloves or other personal protective equipment.

(vi) Employers shall ensure that employees 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 blood or other potentially infectious materials.

(vii) Contaminated needles and other contaminated sharps shall not be bent, recapped, or removed except as noted in paragraphs (d)(2)(vii)(A) and (d)(2)(vii)(B) below. Shearing or breaking of contaminated needles is prohibited.

(A) Contaminated needles and other contaminated sharps shall not be bent, recapped or removed unless the employer can demonstrate that no alternative is feasible or that such action is required by a specific medical or dental procedure.

(B) Such bending, recapping or needle removal must be accomplished through the use of a mechanical device or a one-handed technique.

(viii) Immediately or as soon as possible after use, contaminated reusable sharps shall be placed in appropriate containers until properly reprocessed. These containers shall be:

(A) Puncture resistant;

(B) Labeled or color-coded in accordance with this standard;

(C) Leakproof on the sides and bottom; and

(D) In accordance with the requirements set forth in paragraph (d)(4)(ii)(E) for reusable sharps.

(ix) Eating, drinking, smoking, applying cosmetics or lip balm, and handling contact lenses are prohibited in work areas where there is a reasonable likelihood of occupational exposure.

(x) Food and drink shall not be kept in refrigerators, freezers, shelves, cabinets or on countertops or benchtops where blood or other potentially infectious materials are present.

(xi) All procedures involving blood or other potentially infectious materials shall be performed in such a manner as to minimize splashing, spraying, spattering, and generation of droplets of these substances.

(xii) Mouth pipetting/suctioning of blood or other potentially infectious materials is prohibited.

(xiii) Specimens of blood or other potentially infectious materials shall be placed in a container which prevents leakage during collection, handling, processing, storage, transport, or shipping.

(A) The container for storage, transport, or shipping shall be labeled or color-coded according to paragraph (g)(1)(i) and closed prior to being stored, transported, or shipped. When a facility utilizes Universal Precautions in the handling of all specimens, the labeling/color-coding of specimens is not necessary provided containers are recognizable as containing specimens. This exemption only applies while such specimens/containers remain within the facility. Labeling or color-coding in accordance with paragraph (g)(1)(i) is required when such specimens/containers leave the facility.

(B) If outside contamination of the primary container occurs, the primary container shall be placed within a second container which prevents leakage during handling, processing, storage, transport, or shipping and is labeled or color-coded according to the requirements of this standard.

(C) If the specimen could puncture the primary container, the primary container shall be placed within a secondary container which is puncture-resistant in addition to the above characteristics.

(xiv) Equipment which may become contaminated with blood or other potentially infectious materials shall be examined prior to servicing or shipping and shall be decontaminated as necessary, unless the employer can demonstrate that decontamination of such equipment or portions of such equipment is not feasible.

(A) A readily observable label in accordance with paragraph (g)(1)(i)(H) shall be attached to the equipment stating which portions remain contaminated.

(B) The employer shall ensure that this information is 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.

(3) *Personal protective equipment*—(i) *Provision.* When there is occupational exposure, the employer shall provide, at no cost to the employee, appropriate personal protective equipment such as, but not limited to, gloves, gowns, laboratory coats, face shields or masks and eye protection, and mouthpieces, resuscitation bags, pocket masks, or other ventilation devices. 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.

(ii) *Use.* The employer shall ensure that the employee uses appropriate personal protective equipment unless the employer shows that the employee temporarily and briefly declined to use personal protective equipment when, under rare and extraordinary circumstances, it was the employee's professional judgment that in the specific instance its use would have prevented the delivery of health care or public safety services or would have posed an increased hazard to the safety of the worker or co-worker. When the employee makes this judgement, the circumstances shall be investigated and documented in order to determine whether changes can be instituted to prevent such occurances in the future.

(iii) *Accessibility.* The employer shall ensure that appropriate personal protective equipment in the appropriate sizes is readily accessible at the worksite or is issued to employees. Hypoallergenic gloves, glove liners, powderless gloves, or other similar alternatives shall be readily accessible to those employees who are allergic to the gloves normally provided.

(iv) *Cleaning, Laundering, and Disposal.* The employer shall clean, launder, and dispose of personal protective equipment required by paragraphs (d) and (e) of this standard, at no cost to the employee.

(v) *Repair and Replacement.* The employer shall repair or replace personal protective equipment as needed to maintain its effectiveness, at no cost to the employee.

(vi) If a garment(s) is penetrated by blood or other potentially infectious materials, the garment(s) shall be removed immediately or as soon as feasible.

(vii) All personal protective equipment shall be removed prior to leaving the work area.

(viii) When personal protective equipment is removed it shall be placed in an appropriately designated area or container for storage, washing, decontamination or disposal.

(ix) *Gloves.* Gloves shall be worn when it can be reasonably anticipated that the employee may have hand contact with blood, other potentially infectious materials, mucous membranes, and non-intact skin; when performing vascular access procedures except as specified in paragraph (d)(3)(ix)(D); and when handling or touching contaminated items or surfaces.

(A) Disposable (single use) gloves such as surgical or examination gloves, shall 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.

(B) Disposable (single use) gloves shall not be washed or decontaminated for re-use.

(C) 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, or exhibit other signs of deterioration or when their ability to function as a barrier is compromised.

(D) If an employer in a volunteer blood donation center judges that routine gloving for all phlebotomies is not necessary then the employer shall:

(*1*) Periodically reevaluate this policy;

(*2*) Make gloves available to all employees who wish to use them for phlebotomy;

(*3*) Not discourage the use of gloves for phlebotomy; and

(*4*) Require that gloves be used for phlebotomy in the following circumstances:

(*i*) When the employee has cuts, scratches, or other breaks in his or her skin;

(*ii*) When the employee judges that hand contamination with blood may occur, for example, when performing phlebotomy on an uncooperative source individual; and

(*iii*) When the employee is receiving training in phlebotomy.

(x) *Masks, Eye Protection, and Face Shields.* Masks in combination with eye protection devices, such as goggles or glasses with solid side shields, or chin-length face shields, shall 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.

(xi) *Gowns, Aprons, and Other Protective Body Clothing.* Appropriate protective clothing such as, but not limited to, gowns, aprons, lab coats, clinic jackets, or similar outer garments shall be worn in occupational exposure situations. The type and characteristics will depend upon the task and degree of exposure anticipated.

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

(4) *Housekeeping*—(i) *General.* Employers shall ensure that the worksite is maintained in a clean and sanitary condition. The employer shall 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.

(ii) All equipment and environmental and working surfaces shall be cleaned and decontaminated after contact with blood or other potentially infectious materials.

(A) Contaminated work surfaces shall 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 blood or other potentially infectious materials; and at the end of the work shift if the surface may have become contaminated since the last cleaning.

(B) Protective coverings, such as plastic wrap, aluminum foil, or imperviously-backed absorbent paper used to cover equipment and environmental surfaces, shall 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.

(C) All bins, pails, cans, and similar receptacles intended for reuse which have a reasonable likelihood for becoming contaminated with blood or other potentially infectious materials shall be inspected and decontaminated on a regularly scheduled basis and cleaned and decontaminated immediately or as soon as feasible upon visible contamination.

(D) Broken glassware which may be contaminated shall not be picked up directly with the hands. It shall be cleaned up using mechanical means, such as a brush and dust pan, tongs, or forceps.

(E) Reusable sharps that are contaminated with blood or other potentially infectious materials shall not be stored or processed in a manner that requires employees to reach by hand into the containers where these sharps have been placed.

(iii) *Regulated Waste*—(A) *Contaminated Sharps Discarding and Containment.* (*1*) Contaminated sharps shall be discarded immediately or as soon as feasible in containers that are:

(*i*) Closable;

(*ii*) Puncture resistant;

(*iii*) Leakproof on sides and bottom; and

(*iv*) Labeled or color-coded in accordance with paragraph (g)(1)(i) of this standard.

(*2*) During use, containers for contaminated sharps shall be:

(*i*) 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);

(*ii*) Maintained upright throughout use; and

(*iii*) Replaced routinely and not be allowed to overfill.

(*3*) When moving containers of contaminated sharps from the area of use, the containers shall be:

(*i*) Closed immediately prior to removal or replacement to prevent spillage or protrusion of contents during handling, storage, transport, or shipping;

(*ii*) Placed in a secondary container if leakage is possible. The second container shall be:

(*A*) Closable;

(*B*) Constructed to contain all contents and prevent leakage during handling, storage, transport, or shipping; and

(*C*) Labeled or color-coded according to paragraph (g)(1)(i) of this standard.

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

(B) *Other Regulated Waste Containment*—(*1*) Regulated waste shall be placed in containers which are:

(*i*) Closable;

(*ii*) Constructed to contain all contents and prevent leakage of fluids during handling, storage, transport or shipping;

(*iii*) Labeled or color-coded in accordance with paragraph (g)(1)(i) this standard; and

(*iv*) Closed prior to removal to prevent spillage or protrusion of contents during handling, storage, transport, or shipping.

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

(*i*) Closable;

(*ii*) Constructed to contain all contents and prevent leakage of fluids during handling, storage, transport or shipping;

(*iii*) Labeled or color-coded in accordance with paragraph (g)(1)(i) of this standard; and

(*iv*) Closed prior to removal to prevent spillage or protrusion of contents during handling, storage, transport, or shipping.

(C) Disposal of all regulated waste shall be in accordance with applicable regulations of the United States, States and Territories, and political subdivisions of States and Territories.

(iv) *Laundry.* (A) Contaminated laundry shall be handled as little as possible with a minimum of agitation. (*1*) Contaminated laundry shall be bagged or containerized at the location where it was used and shall not be sorted or rinsed in the location of use.

(*2*) Contaminated laundry shall be placed and transported in bags or containers labeled or color-coded in accordance with paragraph (g)(1)(i) of this standard. When a facility utilizes Universal Precautions in the handling of all soiled laundry, alternative labeling or color-coding is sufficient if it permits all employees to recognize the containers as requiring compliance with Universal Precautions.

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

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

(C) When a facility ships contaminated laundry off-site to a second facility which does not utilize Universal Precautions in the handling of all laundry, the facility generating the contaminated laundry must place such laundry in bags or containers which are labeled or color-coded in accordance with paragraph (g)(1)(i).

(e) *HIV and HBV Research Laboratories and Production Facilities.* (1) This paragraph applies to research laboratories and production facilities engaged in the culture, production, concentration, experimentation, and manipulation of HIV and HBV. It does not apply to clinical or diagnostic laboratories engaged solely in the analysis of blood, tissues, or organs. These requirements apply in addition to the other requirements of the standard.

(2) Research laboratories and production facilities shall meet the following criteria:

(i) *Standard microbiological practices.* All regulated waste shall either be incinerated or decontaminated by a method such as autoclaving known to

effectively destroy bloodborne pathogens.

(ii) *Special practices.* (A) Laboratory doors shall be kept closed when work involving HIV or HBV is in progress.

(B) Contaminated materials that are to be decontaminated at a site away from the work area shall be placed in a durable, leakproof, labeled or color-coded container that is closed before being removed from the work area.

(C) Access to the work area shall be limited to authorized persons. Written policies and procedures shall 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 shall be allowed to enter the work areas and animal rooms.

(D) 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 shall be posted on all access doors. The hazard warning sign shall comply with paragraph (g)(1)(ii) of this standard.

(E) All activities involving other potentially infectious materials shall be conducted in biological safety cabinets or other physical-containment devices within the containment module. No work with these other potentially infectious materials shall be conducted on the open bench.

(F) Laboratory coats, gowns, smocks, uniforms, or other appropriate protective clothing shall be used in the work area and animal rooms. Protective clothing shall not be worn outside of the work area and shall be decontaminated before being laundered.

(G) Special care shall be taken to avoid skin contact with other potentially infectious materials. Gloves shall be worn when handling infected animals and when making hand contact with other potentially infectious materials is unavoidable.

(H) Before disposal all waste from work areas and from animal rooms shall either be incinerated or decontaminated by a method such as autoclaving known to effectively destroy bloodborne pathogens.

(I) Vacuum lines shall 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.

(J) Hypodermic needles and syringes shall 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) shall be used for the injection or aspiration of other potentially infectious materials. Extreme caution shall be used when handling needles and syringes. A needle shall not be bent, sheared, replaced in the sheath or guard, or removed from the syringe following use. The needle and syringe shall be promptly placed in a puncture-resistant container and autoclaved or decontaminated before reuse or disposal.

(K) All spills shall be immediately contained and cleaned up by appropriate professional staff or others properly trained and equipped to work with potentially concentrated infectious materials.

(L) A spill or accident that results in an exposure incident shall be immediately reported to the laboratory director or other responsible person.

(M) A biosafety manual shall be prepared or adopted and periodically reviewed and updated at least annually or more often if necessary. Personnel shall be advised of potential hazards, shall be required to read instructions on practices and procedures, and shall be required to follow them.

(iii) *Containment equipment.* (A) Certified biological safety cabinets (Class I, 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, shall be used for all activities with other potentially infectious materials that pose a threat of exposure to droplets, splashes, spills, or aerosols.

(B) Biological safety cabinets shall be certified when installed, whenever they are moved and at least annually.

(3) HIV and HBV research laboratories shall meet the following criteria:

(i) Each laboratory shall contain a facility for hand washing and an eye wash facility which is readily available within the work area.

(ii) An autoclave for decontamination of regulated waste shall be available.

(4) HIV and HBV production facilities shall meet the following criteria:

(i) The work areas shall be separated from areas that are open to unrestricted traffic flow within the building. Passage through two sets of doors shall 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.

(ii) The surfaces of doors, walls, floors and ceilings in the work area shall be water resistant so that they can be easily cleaned. Penetrations in these surfaces shall be sealed or capable of being sealed to facilitate decontamination.

(iii) Each work area shall contain a sink for washing hands and a readily available eye wash facility. The sink shall be foot, elbow, or automatically operated and shall be located near the exit door of the work area.

(iv) Access doors to the work area or containment module shall be self-closing.

(v) An autoclave for decontamination of regulated waste shall be available within or as near as possible to the work area.

(vi) A ducted exhaust-air ventilation system shall be provided. This system shall create directional airflow that draws air into the work area through the entry area. The exhaust air shall not be recirculated to any other area of the building, shall be discharged to the outside, and shall be dispersed away from occupied areas and air intakes. The proper direction of the airflow shall be verified (i.e., into the work area).

(5) *Training Requirements.* Additional training requirements for employees in HIV and HBV research laboratories and HIV and HBV production facilities are specified in paragraph (g)(2)(ix).

(f) *Hepatitis B vaccination and post-exposure evaluation and follow-up*—(1) *General.* (i) The employer shall make available the hepatitis B vaccine and vaccination series to all employees who have occupational exposure, and post-exposure evaluation and follow-up to all employees who have had an exposure incident.

(ii) The employer shall ensure that all medical evaluations and procedures including the hepatitis B vaccine and vaccination series and post-exposure evaluation and follow-up, including prophylaxis, are:

(A) Made available at no cost to the employee;

(B) Made available to the employee at a reasonable time and place;

(C) Performed by or under the supervision of a licensed physician or by or under the supervision of another licensed healthcare professional; and

(D) Provided according to recommendations of the U.S. Public Health Service current at the time these evaluations and procedures take place, except as specified by this paragraph (f).

(iii) The employer shall ensure that all laboratory tests are conducted by an accredited laboratory at no cost to the employee.

(2) *Hepatitis B Vaccination.* (i) Hepatitis B vaccination shall be made available after the employee has received the training required in paragraph (g)(2)(vii)(I) and within 10 working days of initial assignment to all employees who have occupational exposure unless the employee has previously received the complete hepatitis B vaccination series, antibody testing has revealed that the employee is immune, or the vaccine is contraindicated for medical reasons.

(ii) The employer shall not make participation in a prescreening program a prerequisite for receiving hepatitis B vaccination.

(iii) If the employee initially declines hepatitis B vaccination but at a later date while still covered under the standard decides to accept the vaccination, the employer shall make available hepatitis B vaccination at that time.

(iv) The employer shall assure that employees who decline to accept hepatitis B vaccination offered by the employer sign the statement in appendix A.

(v) If a routine booster dose(s) of hepatitis B vaccine is recommended by the U.S. Public Health Service at a future date, such booster dose(s) shall be made available in accordance with section (f)(1)(ii).

(3) *Post-exposure Evaluation and Follow-up.* Following a report of an exposure incident, the employer shall make immediately available to the exposed employee a confidential medical evaluation and follow-up, including at least the following elements:

(i) Documentation of the route(s) of exposure, and the circumstances under which the exposure incident occurred;

(ii) Identification and documentation of the source individual, unless the employer can establish that identification is infeasible or prohibited by state or local law;

(A) The source individual's blood shall be tested as soon as feasible and after consent is obtained in order to determine HBV and HIV infectivity. If consent is not obtained, the employer shall establish that legally required consent cannot be obtained. When the source individual's consent is not required by law, the source individual's blood, if available, shall be tested and the results documented.

(B) When the source individual is already known to be infected with HBV or HIV, testing for the source individual's known HBV or HIV status need not be repeated.

(C) Results of the source individual's testing shall be made available to the exposed employee, and the employee shall be informed of applicable laws and regulations concerning disclosure of the identity and infectious status of the source individual.

(iii) Collection and testing of blood for HBV and HIV serological status;

(A) The exposed employee's blood shall be collected as soon as feasible and tested after consent is obtained.

(B) If the employee consents to baseline blood collection, but does not give consent at that time for HIV serologic testing, the sample shall be preserved for at least 90 days. If, within 90 days of the exposure incident, the employee elects to have the baseline sample tested, such testing shall be done as soon as feasible.

(iv) Post-exposure prophylaxis, when medically indicated, as recommended by the U.S. Public Health Service;

(v) Counseling; and

(vi) Evaluation of reported illnesses.

(4) *Information Provided to the Healthcare Professional.* (i) The employer shall ensure that the healthcare professional responsible for the employee's Hepatitis B vaccination is provided a copy of this regulation.

(ii) The employer shall ensure that the healthcare professional evaluating an employee after an exposure incident is provided the following information:

(A) A copy of this regulation;

(B) A description of the exposed employee's duties as they relate to the exposure incident;

(C) Documentation of the route(s) of exposure and circumstances under which exposure occurred;

(D) Results of the source individual's blood testing, if available; and

(E) All medical records relevant to the appropriate treatment of the employee including vaccination status which are the employer's responsibility to maintain.

(5) *Healthcare Professional's Written Opinion.* The employer shall obtain and provide the employee with a copy of the evaluating healthcare professional's written opinion within 15 days of the completion of the evaluation.

(i) The healthcare professional's written opinion for Hepatitis B vaccination shall be limited to whether Hepatitis B vaccination is indicated for an employee, and if the employee has received such vaccination.

(ii) The healthcare professional's written opinion for post-exposure evaluation and follow-up shall be limited to the following information:

(A) That the employee has been informed of the results of the evaluation; and

(B) That the employee has been told about any medical conditions resulting from exposure to blood or other potentially infectious materials which require further evaluation or treatment.

(iii) All other findings or diagnoses shall remain confidential and shall not be included in the written report.

(6) *Medical recordkeeping.* Medical records required by this standard shall be maintained in accordance with paragraph (h)(1) of this section.

(g) *Communication of hazards to employees*—(1) *Labels and signs*—(i) *Labels.* (A) Warning labels shall be affixed to containers of regulated waste, refrigerators and freezers containing blood or other potentially infectious material; and other containers used to store, transport or ship blood or other potentially infectious materials, except as provided in paragraph (g)(1)(i)(E), (F) and (G).

(B) Labels required by this section shall include the following legend:

BIOHAZARD

(C) These labels shall be fluorescent orange or orange-red or predominantly so, with lettering and symbols in a contrasting color.

(D) Labels shall be affixed as close as feasible to the container by string, wire, adhesive, or other method that prevents their loss or unintentional removal.

(E) Red bags or red containers may be substituted for labels.

(F) 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 are exempted from the labeling requirements of paragraph (g).

(G) Individual containers of blood or other potentially infectious materials that are placed in a labeled container during storage, transport, shipment or disposal are exempted from the labeling requirement.

(H) Labels required for contaminated equipment shall be in accordance with this paragraph and shall also state which portions of the equipment remain contaminated.

(I) Regulated waste that has been decontaminated need not be labeled or color-coded.

(ii) *Signs.* (A) The employer shall post signs at the entrance to work areas specified in paragraph (e), HIV and HBV Research Laboratory and Production Facilities, which shall bear the following legend:

BIOHAZARD

(Name of the Infectious Agent)
(Special requirements for entering the area)
(Name, telephone number of the laboratory director or other responsible person.)

(B) These signs shall be fluorescent orange-red or predominantly so, with lettering and symbols in a contrasting color.

(2) *Information and Training.* (i) The employer shall train each employee with occupational exposure in accordance with the requirements of this section. Such training must be provided at no cost to the employee and during working hours. The employer shall institute a training program and ensure employee participation in the program.

(ii) Training shall be provided as follows:

(A) At the time of initial assignment to tasks where occupational exposure may take place;

(B) At least annually thereafter.

(iii) [Reserved]

(iv) Annual training for all employees shall be provided within one year of their previous training.

(v) Employers shall provide additional training when changes such as modification of tasks or procedures or institution of new tasks or procedures affect the employee's occupational exposure. The additional training may be limited to addressing the new exposures created.

(vi) Material appropriate in content and vocabulary to educational level, literacy, and language of employees shall be used.

(vii) The training program shall contain at a minimum the following elements:

(A) An accessible copy of the regulatory text of this standard and an explanation of its contents;

(B) A general explanation of the epidemiology and symptoms of bloodborne diseases;

(C) An explanation of the modes of transmission of bloodborne pathogens;

(D) An explanation of the employer's exposure control plan and the means by which the employee can obtain a copy of the written plan;

(E) An explanation of the appropriate methods for recognizing tasks and other activities that may involve exposure to blood and other potentially infectious materials;

(F) An explanation of the use and limitations of methods that will prevent or reduce exposure including appropriate engineering controls, work practices, and personal protective equipment;

(G) Information on the types, proper use, location, removal, handling, decontamination and disposal of personal protective equipment;

(H) An explanation of the basis for selection of personal protective equipment;

(I) Information on the hepatitis B vaccine, including information on its efficacy, safety, method of administration, the benefits of being vaccinated, and that the vaccine and vaccination will be offered free of charge;

(J) Information on the appropriate actions to take and persons to contact in an emergency involving blood or other potentially infectious materials;

(K) An explanation of the procedure to follow if an exposure incident occurs, including the method of reporting the incident and the medical follow-up that will be made available;

(L) Information on the post-exposure evaluation and follow-up that the employer is required to provide for the employee following an exposure incident;

(M) An explanation of the signs and labels and/or color coding required by paragraph (g)(1); and

(N) An opportunity for interactive questions and answers with the person conducting the training session.

(viii) The person conducting the training shall be knowledgeable in the subject matter covered by the elements contained in the training program as it relates to the workplace that the training will address.

(ix) Additional Initial Training for Employees in HIV and HBV Laboratories and Production Facilities. Employees in HIV or HBV research laboratories and HIV or HBV production facilities shall receive the following initial training in addition to the above training requirements.

(A) The employer shall 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.

(B) The employer shall assure that employees have prior experience in the handling of human pathogens or tissue cultures before working with HIV or HBV.

(C) The employer shall provide a training program to employees who have no prior experience in handling human pathogens. Initial work activities shall not include the handling of infectious agents. A progression of work activities shall be assigned as techniques are learned and proficiency is developed. The employer shall assure that employees participate in work activities involving infectious agents only after proficiency has been demonstrated.

(h) *Recordkeeping*—(1) *Medical Records.* (i) The employer shall establish and maintain an accurate record for each employee with occupational

exposure, in accordance with 29 CFR 1910.1020.

(ii) This record shall include:

(A) The name and social security number of the employee;

(B) A copy of the employee's hepatitis B vaccination status including the dates of all the hepatitis B vaccinations and any medical records relative to the employee's ability to receive vaccination as required by paragraph (f)(2);

(C) A copy of all results of examinations, medical testing, and follow-up procedures as required by paragraph (f)(3);

(D) The employer's copy of the healthcare professional's written opinion as required by paragraph (f)(5); and

(E) A copy of the information provided to the healthcare professional as required by paragraphs (f)(4)(ii)(B)(C) and (D).

(iii) Confidentiality. The employer shall ensure that employee medical records required by paragraph (h)(1) are:

(A) Kept confidential; and

(B) Not disclosed or reported without the employee's express written consent to any person within or outside the workplace except as required by this section or as may be required by law.

(iv) The employer shall maintain the records required by paragraph (h) for at least the duration of employment plus 30 years in accordance with 29 CFR 1910.1020.

(2) *Training Records.* (i) Training records shall include the following information:

(A) The dates of the training sessions;

(B) The contents or a summary of the training sessions;

(C) The names and qualifications of persons conducting the training; and

(D) The names and job titles of all persons attending the training sessions.

(ii) Training records shall be maintained for 3 years from the date on which the training occurred.

(3) *Availability.* (i) The employer shall ensure that all records required to be maintained by this section shall be made available upon request to the Assistant Secretary and the Director for examination and copying.

(ii) Employee training records required by this paragraph shall be provided upon request for examination and copying to employees, to employee representatives, to the Director, and to the Assistant Secretary.

(iii) Employee medical records required by this paragraph shall be provided upon request for examination and copying to the subject employee, to anyone having written consent of the subject employee, to the Director, and to the Assistant Secretary in accordance with 29 CFR 1910.1020.

(4) *Transfer of Records.* The employer shall comply with the requirements involving transfer of records set forth in 29 CFR 1910.1020(h).

(5) *Sharps injury log.* (i) The employer shall establish and maintain a sharps injury log for the recording of percutaneous injuries from contaminated sharps. The information in the sharps injury log shall be recorded and maintained in such manner as to protect the confidentiality of the injured employee. The sharps injury log shall contain, at a minimum:

(A) The type and brand of device involved in the incident,

(B) The department or work area where the exposure incident occurred, and

(C) An explanation of how the incident occurred.

(ii) The requirement to establish and maintain a sharps injury log shall apply to any employer who is required to maintain a log of occupational injuries and illnesses under 29 CFR part 1904.

(iii) The sharps injury log shall be maintained for the period required by 29 CFR 1904.33.

(i) *Dates*—(1) *Effective Date.* The standard shall become effective on March 6, 1992.

(2) The Exposure Control Plan required by paragraph (c) of this section shall be completed on or before May 5, 1992.

(3) Paragraphs (g)(2) Information and Training and (h) Recordkeeping of this section shall take effect on or before June 4, 1992.

(4) Paragraphs (d)(2) Engineering and Work Practice Controls, (d)(3) Personal Protective Equipment, (d)(4) Housekeeping, (e) HIV and HBV Research

Laboratories and Production Facilities, (f) Hepatitis B Vaccination and Post-Exposure Evaluation and Follow-up, and (g)(1) Labels and Signs of this section, shall take effect July 6, 1992.

APPENDIX A TO SECTION 1910.1030—HEPATITIS B VACCINE DECLINATION (MANDATORY)

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

[56 FR 64175, Dec. 6, 1991, as amended at 57 FR 12717, Apr. 13, 1992; 57 FR 29206, July 1, 1992; 61 FR 5508, Feb. 13, 1996; 66 FR 5325, Jan. 18, 2001; 71 FR 16672, 16673, Apr. 3, 2006; 73 FR 75586, Dec. 12, 2008; 76 FR 33608, June 8, 2011; 76 FR 80740, Dec. 27, 2011; 77 FR 19934, Apr. 3, 2012]

§ 1910.1043 Cotton dust.

(a) *Scope and application.* (1) This section, in its entirety, applies to the control of employee exposure to cotton dust in all workplaces where employees engage in yarn manufacturing, engage in slashing and weaving operations, or work in waste houses for textile operations.

(2) This section does not apply to the handling or processing of woven or knitted materials; to maritime operations covered by 29 CFR Parts 1915 and 1918; to harvesting or ginning of cotton; or to the construction industry.

(3) Only paragraphs (h) Medical surveillance, (k)(2) through (4) Recordkeeping—Medical Records, and Appendices B, C and D of this section apply in all work places where employees exposed to cotton dust engage in cottonseed processing or waste processing operations.

(4) This section applies to yarn manufacturing and slashing and weaving operations exclusively using washed cotton (as defined by paragraph (n) of this section) only to the extent specified by paragraph (n) of this section.

(5) This section, in its entirety, applies to the control of all employees exposure to the cotton dust generated in the preparation of washed cotton from opening until the cotton is thoroughly wetted.

(6) This section does not apply to knitting, classing or warehousing operations except that employers with these operations, if requested by NIOSH, shall grant NIOSH access to their employees and workplaces for exposure monitoring and medical examinations for purposes of a health study to be performed by NIOSH on a sampling basis.

(b) *Definitions.* For the purpose of this section:

Assistant Secretary means the Assistant Secretary of Labor for Occupational Safety and Health, U.S. Department of Labor, or designee;

Blow down means the general cleaning of a room or a part of a room by the use of compressed air.

Blow off means the use of compressed air for cleaning of short duration and usually for a specific machine or any portion of a machine.

Cotton dust means dust present in the air during the handling or processing of cotton, which may contain a mixture of many substances including ground up plant matter, fiber, bacteria, fungi, soil, pesticides, non-cotton plant matter and other contaminants which may have accumulated with the cotton during the growing, harvesting and subsequent processing or storage periods. Any dust present during the handling and processing of cotton through the weaving or knitting of fabrics, and dust present in other operations or manufacturing processes using raw or waste cotton fibers or cotton fiber byproducts from textile mills are considered cotton dust within this definition. Lubricating oil mist associated with weaving operations is not considered cotton dust.

Director means the Director of the National Institute for Occupational Safety and Health (NIOSH), U.S. Department of Health and Human Services, or designee.

Equivalent Instrument means a cotton dust sampling device that meets the

Appendix B: Einstein Exposure Identification Form

EINSTEIN EXPOSURE IDENTIFICATION FORM

Employee Name (print)		Social Security Number
Department	Work Site	Extension

I. This form is used to determine exposure levels to bloodborne pathogens. Special protection measures are required by OSHA, if there is any occupational exposure to blood or other body fluids. Presume no usage of protective equipment when reviewing the tasks.

A. Jobs in which all employees will have exposure to bloodborne pathogens:

1. Medical Doctors (Clinical)
2. Dentists
3. Nurses
4. Nurses Aides
5. Physician Assistants
6. Technologists (Clinical)
7. Technicians (Clinical)
8. Mortuary Workers

B. Jobs in which some employees have occupational exposure to bloodborne pathogens:

1. Ph.Ds
2. Post Doctoral Fellows
3. Research Technicians
4. Housekeeping Staff
5. Engineering Staff
6. Animal Caretakers
7. Security
8. Messenger

II. Please review the following tasks and procedures. Circle the tasks and procedures. Circle the tasks you do. Write in other tasks and procedures which are not noted here but which might expose you to blood pathogens:

1. Phlebotomy and injections – Handling blood specimens and other body fluid specimens.
2. Procedures involving body orifices such as pelvises and sigmoids.
3. Catheterizations, cauterizations, lacerations.
4. Contact with saliva with the possibility of blood present.
5. X-rays of open wounds.
6. Cleaning, maintaining and sterilizing instruments.
7. Housekeeping tasks – toilets, floors, emptying infectious wastes.
8. Housekeeping and laundry-blood-soaked linens.
9. Venipuncture.

10. Biopsy.
11. Patient examination.
12. Diagnostic procedures involving patient bodily fluids.
13. Clinical laboratory assays or tests involving potentially-infectious materials.
14. Cell, tissue, or organ culture.
15. Blood culture.
16. Cell separation.
17. Research procedures involving potentially-infectious material.
18. Animal injection with human pathogens.
19. Embalming.
20. Human tissue pathological analysis.
21. Transporting blood or related products.
22. Cleaning blood spills.
23. Repairing and cleaning contaminated equipment.
24. Certain laboratory repair work, e.g., plumbing.

Other tasks and procedures of potential exposure which you do but are not noted here:

III. Determination of the Exposure Risk: (Circle One)

This employee DOES NOT require Bloodborne Pathogen protection.

This employee DOES require Bloodborne Pathogen protection.

_____

Date

_____

Principal Investigator or Department Head

Appendix B1: Historical Exposure Identification Form

M E M O R A N D U M

TO: All Departments **DATE**: 5/5/92

FROM: Anthony Chibbaro
Chief Safety Officer

SUBJECT: Exposure Identification to
Bloodborne Pathogens at Einstein

Current OSHA regulations require all employers to:

I. Identify all those employees who could be reasonably anticipated to face contact with blood or other potentially-infectious materials as a result of the performance of their duties.

II. Develop and implement a plan to minimize exposure to such materials.

III. Set up procedures for training, recordkeeping and post-exposure evaluation and follow up.

Each employer must, therefore, prepare an exposure determination to be used to identify those covered under the regulations. This exposure determination includes all job classifications with potential exposures and all tasks and procedures in which occupational exposure occurs. Attached is a form describing and listing some of the job classifications and duties for those subject to the bloodborne pathogen regulations. Principal Investigators and/or department heads shall review this form, evaluate the job function for each of their employees, and make a determination as to whether or not they are covered. The completed form is to be signed and returned to the Department of Environmental Health and Safety, Chanin Room 203.

Please note that a completed form is required for each employee, covered or not.

The cooperation of all is greatly appreciated.

AC:ckt
Attachment

Appendix C: Informed Refusal for Hepatitis B Vaccination

INFORMED REFUSAL FOR HEPATITIS B VACCINATION

I, _____ am employed by Albert Einstein College of Medicine as _____. 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, I want to be vaccinated with Hepatitis B vaccine, I can receive the vaccination series at no charge to me.

_____

Signature

_____

Name

_____

Address

_____

City State Zip

_____

Date

Appendix D: Engineered Sharps Evaluation Form

DEPARTMENT of ENVIRONMENTAL HEALTH and SAFETY

ENGINEERERD SHARPS EVALUATION FORM

Date: _____

Principal Investigator: _____

Employee Name: _____ Phone: _____

Department: _____ email: _____

Brand: _____

Type: _____

Company: _____

TYPE OF WORK:

_____ human or animal cell lines known to contain BBP
_____ human or animal cell lines which are not known to contain BBP
_____ human blood or body fluids
_____ cultures of tissues containing BBP
_____ no work with any BBP
_____ other, please explain: _____

Will you continue to use this device? _____yes _____no
If not, please explain: _____
_____

PLEASE RETURN THIS FORM TO DELIA VIEIRA-CRUZ AT FORCHHEIMER 800.
IF YOU SHOULD HAVE ANY QUESTIONS, PLEASE CALL X3560

Appendix E: Waste Disposal Policies and Procedures

See Einstein's Waste Disposal Policies and Procedures.