CENTER FOR HEALTH SCIENCES

BLOODBORNE PATHOGENS EXPOSURE CONTROL MANUAL

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OSU-Center for Health Sciences
BLOODBORNE PATHOGENS EXPOSURE CONTROL MANUAL

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OKLAHOMA STATE UNIVERSITY CENTER FOR HEALTH SCIENCES
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(Reference: 29 CFR 1910.1030 Bloodborne Pathogens)

1.0 INTRODUCTION

The Bloodborne Pathogen standard issued by the Occupational Safety and Health Administration (OSHA) is designed to protect the more than 5 million workers in the United States at risk of occupational exposure to bloodborne pathogens, such as human immunodeficiency virus (HIV), the hepatitis B virus, and the hepatitis C virus. Though the chances of contracting a disease transmitted by blood are relatively low, they are real. Transmission of these infections is preventable. Working together, employers and employees can prevent becoming infected by these diseases in the workplace. All employees who may perform activities where occupational exposure is possible are covered by these regulations. Occupational exposure means skin, eye, mucous membrane or non-intact skin (e.g., needle stick, cuts, abrasions) contact with blood or other potentially infectious materials (OPIM) that may be reasonably anticipated while on the job. Employees whose duties place them "at risk," as defined above, are required to follow the guidelines of this manual. This manual will be reviewed annually and updated as necessary by the Laboratory Safety Coordinator (LSC).

The OSHA Bloodborne Pathogen standard is intended to protect workers from all known and as yet, unknown diseases transmitted by blood. The viruses of greatest concern at present, however, are HIV, hepatitis B, hepatitis C and those found in human or non-human primate derived cell lines.

A. HIV

The human immunodeficiency virus (HIV) is the virus that causes AIDS. The signs of HIV infection are extremely variable. Persons infected with HIV may be asymptomatic for a period of time. The manifestations of AIDS that may eventually develop from the HIV infection include a decreased cellular immune response and a variety of opportunistic infections. AIDS is considered incurable at the present time and eventually results in death of the infected person, however current available medications have extended life expectancy. In the biomedical research workplace, HIV may be transmitted through blood contact and possibly other body fluids. Exposure to tears or saliva, not contaminated with blood, and casual forms of contact have not been found to transmit the virus. Saliva is considered a mode of transmission in dental procedures.

B. Hepatitis B

Hepatitis B virus (HBV) infection is far more common than HIV. HBV is present in very high concentrations in the blood of infected persons giving HBV a greater likelihood of infecting exposed persons. Of those who become infected, only about one-third becomes symptomatic. Flu-like symptoms and jaundice are clinical clues to hepatitis B infection. A few infected individuals who have no symptoms can

be chronic carriers of the virus, possibly infecting others. HBV can also result in chronic hepatitis, cirrhosis or liver cancer and death. HBV is transmitted in the blood and possibly other body fluids, including saliva.

C. Hepatitis C

Hepatitis C virus (HCV) infection is the most common chronic bloodborne infection in the US. HCV causes a viral infection of the liver that is transmitted primarily by contact with infected blood. Most persons who get HCV carry the virus for the rest of their lives. Most of these persons have some liver damage but many do not feel sick from the disease. Some persons with liver damage due to hepatitis C may develop cirrhosis (scarring) of the liver and liver failure that may take many years to develop. 40% of chronic liver disease is HCV related, resulting in the most frequent indication for liver transplantation among adults.

D. Other Bloodborne Pathogens

Several additional infectious diseases are characterized by a phase in which the causative agent may circulate in blood for a prolonged period of time. These diseases include hepatitis non-A, non-B; delta hepatitis; syphilis; malaria; babesiosis; brucellosis; leptospirosis; arboviral infections; relapsing fever; Creutzfeldt-Jakob disease; human T-lymphotropic virus type I; and viral hemorrhagic fever. The risk of contracting these diseases through occupational exposure is very low and with the exception of syphilis, strains of hepatitis, and malaria, these diseases are rare in the United States.

E. Other Potentially Infectious Materials

(1) The following human body fluids: semen, vaginal secretions, cerebrospinal fluid, synovial fluid, pleural fluid, pericardial fluid, peritoneal fluid, amniotic fluid, saliva in dental procedures, 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.

F. Human/non-human primate derived cell lines

In 1994, OSHA issued an interpretation of the applicability of the BBP Standard towards human cell lines. According to the interpretation, human cell lines are considered to be potentially infectious and within the scope of the BBP Standard unless the specific cell line has been characterized to be free of hepatitis viruses, HIV, Epstein-Barr virus, papilloma viruses and other recognized bloodborne pathogens. In alignment with this interpretation, the American Type Culture Collection (ATCC) recommends that all human cell lines be accorded the same level of biosafety consideration as a line known to carry HIV (BSL-2). Moreover, the 5th Edition of the NIH/CDC publication, *Biosafety in Microbiological and Biomedical Laboratories* (BMBL), Appendix H, recommends that human and other primate cells should be

handled using Biosafety Level 2 (BSL2) practices and containment, at a minimum.

If you are using or plan to use any of the above materials (A-F) in research activities, you may be required to do the following:

1. Submit a use application to the Institutional Biosafety Committee (IBC), http://centernet.okstate.edu/fac_staff/research/forms.cfm.
2. Take bloodborne pathogen training, http://centernet.okstate.edu/fac_staff/research/training/bloodbornepath.cfm.
3. Conduct the work in a BSL-2 registered laboratory.

Typical routes of transmission of bloodborne pathogens from an infected source are:

- Needle stick or other sharp object injuries.
- BBP contact with a pre-existing portal of entry (such as a scratch, abrasion, or cut).
- BBP contact with a mucous membrane (mouth, nose, or eye).

OSU Center for Health Sciences believes their employees deserve to be protected from all foreseeable hazards subject to occupational exposure. The campus has made efforts to ensure that the best information concerning the growing threat of infectious disease is provided to our employees, and that a rational policy and procedure has been developed. To decrease the likelihood of transmission of infections, and to minimize employee contact with blood and body fluids, the policy in this manual is in effect.

2.0 DEFINITIONS

"at risk" employees: those who may have potential exposure to bloodborne pathogens, defined in Appendix B

Blood: human blood, human blood components and products made from human blood. The term "human blood components" includes plasma, platelets, and serosanguinous fluids (e.g., exudates from wounds). Also included are medications derived from blood, such as immune globulins, albumin, and factors 8 and 9

Bloodborne Pathogens: pathogenic microorganisms that are present in human blood and can cause disease in humans

Contaminated: the presence or the reasonably anticipated presence of blood or other potentially infectious materials on an person, item or surface

IBC: Institutional Biosafety Committee approves protocols for recombinant DNA research or instructional activities and activities conducted with microorganisms pathogenic to humans,

plants, or animals. In addition the IBC provides guidance for all uses of potentially hazardous or regulated biological materials

LSC: Laboratory Safety Coordinator

Non-Intact Skin: skin with dermatitis, hangnails, cuts, abrasions, chafing, acne, etc.

Occupational Exposure: skin, eye, mucous membrane or non-intact skin contact with blood or other potentially infectious materials from the performance of an employee's duties

Other Potentially Infectious Materials (OPIM): 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; any unfixed tissue or organ (other than intact skin) from a human (living or dead); and bloodborne pathogen contaminated research media, including blood derived cell lines

PI: Principal Investigator-tenure track or research faculty with assigned research laboratory space at OSU-CHS

3.0 PURPOSE

To provide a consistent approach to managing body substances.

To prevent transmission of potentially infectious agents.

Train persons with potential exposure in safe work practices

4.0 POLICY

Since medical history and examination cannot reliably identify all persons infected with HIV, Hepatitis B, or other bloodborne pathogens; all blood, body fluids or unfixed tissues, or OPIM will be considered to be potentially infectious; and **Universal Precautions, listed in Appendix A, will be used by all employees who have potential for exposure.** This approach is recommended by the Center for Disease Control (CDC.)

Student, temporary, volunteer and other workers not paid by OSU are not considered employees. However, all persons that work with blood or OPIM, employees or non-employees, are expected to follow safe work practices, including training, outlined in this manual and as determined by the PI/supervisor to whom they report.

A copy of the "Universal Precautions for Bloodborne Pathogens" information, Appendix A, shall be posted by the PI/supervisor in appropriate locations near areas where work is being conducted with blood, OPIM and human/non-human primate derived cell lines.

5.0 PROTECTIVE EQUIPMENT AND SUPPLIES

Employees performing "at risk" activities will use protective equipment and supplies as indicated by the risk of potential exposure. These may be in the first aid kit. They may include:

- Gloves
- Disinfectant hand cleaner
- Red or orange plastic disposal bags
- Gowns and laboratory coats
- Face shields or respirators
- Eye protection devices
- Mouthpieces, resuscitation bags, pocket masks, and other ventilation devices
- "Sharps" disposal container that is closable, puncture resistant, leak proof on sides and bottom, and labeled with a biohazard label and/or red/orange in color
- nonneedle sharps or needle devices with built-in safety features

PIs must ensure that necessary personal protective equipment is provided at no cost to the employee and that their employees use this equipment consistently. PIs and employees should discuss the appropriate level of protection for each task performed. For example, when it is reasonably assumed that there may be hand contact with blood or OPIM, gloves will be necessary. Face protection (glasses with side shields, face shields in combination with goggles or respirators) must be used if splashing is likely. PIs must monitor all equipment and supplies to ensure that it is readily available and in good condition.

Where employees are required to wear respirators or filtering facepieces (dust masks) the OSU-CHS Respiratory Protection Manual must be reviewed and followed. A copy of the manual shall be present in the respirator use laboratory.

6.0 SHARPS SAFETY:

Needlestick or other sharps injuries are the major cause of occupational exposure to bloodborne pathogens. These injuries may occur when employees dispose of needles, collect and dispose of materials used, administer injections, draw blood, or handle broken glass prior to being discarded. Safer needle devices have been shown to significantly reduce needlesticks and exposures to potentially fatal bloodborne illnesses.

- Contaminated needles and other contaminated sharps shall not be bent, recapped, or removed, except through the use of a mechanical device or a one-handed technique
- Shearing or breaking of contaminated needles is prohibited
- Properly designed devices should be a nonneedle sharp or (1) provide a barrier between the hands and the needle after use; (2) allow or require the worker’s hands to remain behind the needle at all times; (3) have safety features as a part of the device itself rather than as accessories; (4) be in effect before taking apart and remain in

effect after disposal to protect downstream workers; (5) be simple and easy to operate, with little or no training; and/or (6) not interfere with the use of the needle.

PIs who have employees that use sharps or other BBP exposure safety device must annually review and document consideration and implementation of appropriate commercially available and effective safer sharps and devices and work practices to eliminate or minimize sharps injuries and other forms of occupational exposure. Employees must be included in the review process. The forms to be completed annually are found in Appendix D. The completed forms must be kept with a copy of the Bloodborne Pathogens Exposure Control Manual in the department or group files and a copy of each sent to the LSC, office of research.

7.0 CONTAMINATION SPILL INCIDENTS

All employees will use individual judgment based on the Universal Precautions guidelines in determining when barriers are needed. In the event of an emergency involving blood or OPIM, the following procedures will be followed:

1. Notify coworkers and students in the vicinity about the hazard and isolate the hazard.
2. Notify PI/supervisor (and the LSC if a large spill).
3. If possible, assign someone to monitor the site until clean-up is complete.
4. Wearing, at a minimum, gloves and safety eyewear, clean up the spill promptly with a diluted 1:10 bleach/water solution (using at least a 10 minute contact period) or other effective decontaminant. (Recommendation: "Surround and Drown": cover spill with paper towels or other absorbent, covering from outside to inside; saturate with bleach solution or other EPA approved disinfectant, covering from outside to inside; scoop up all disinfected materials into trash bag after contact time; continue to disinfect contaminated area until satisfied that area has been completely decontaminated)
5. Dispose of blood or OPIM contaminated waste that cannot be decontaminated as described in #4 into a properly designated container for disposal (red bag in labeled box) or place in biohazard bag for autoclaving and place in normal trash.
6. After disposal of gloves in trash or biohazard waste, wash hands thoroughly
7. Notify PI/supervisor to document the incident and send a copy to the LSC.

Universal Precautions must be observed as part of the spill clean-up (see appendix A).

8.0 EXPOSURE INCIDENTS

If an exposure incident occurs where there has been blood or OPIM contact with non-intact skin, eye, or other mucous membranes, the following procedures should be followed:

1. If applicable and necessary to prevent further incident, isolate the area in which the exposure occured.
2. Wash exposed area with clean water for 15 minutes.

3. Notify the PI, provide details of incident including necessity for cleansing and decontamination of the area in which the exposure occured (follow instructions in section 7.0).
4. Notify and seek medical evaluation from a health care professional, with the assistance of the PI/supervisor if he/she is available or anyone who can assist.

    a. Employees should go to the OSU Health Care Center (HCC), 2435 SW Blvd (918-582-1980); which is the workman's compensation clinic between 8 a.m. to 5 p.m. weekdays for exposure or other work related injuries.
    b. The OSU in Tulsa manager of safety should be contacted (918-561-8391 or cell 918-830-1367) so that they might provide claim information for workman's compensation.
    c. The PI/supervisor shall ensure that the form "Employee Injury Report", is completed the day of the incident if time allows, or as soon as possible and forwarded to the OSU in Tulsa manager of safety by Fax at 918-561-1261.
    d. A copy of the completed Employee Injury Report shall be provided to the LSC and taken with the employee to the HCC.

5. Identify the source individual where possible, consent should be requested to obtain blood testing of the source individual, unless the source is known to be infected with HIV or HBV and/or drawn blood is already available.
6. The exposed employee shall be informed of source blood test results and of applicable laws governing disclosure of this information. Medical confidentiality shall be maintained.
7. The exposed employee shall be offered blood collection and/or testing and has the right to refuse either or both. However, if consent is given for blood collection but not for HIV testing, the blood is kept for 90 days, during which time the employee can choose to have the sample tested.
8. If indicated, post exposure prophylaxis shall be offered which may include immune globulin for hepatitis B. The recommendations of an evaluating physician who is familiar with current Center for Disease Control guidelines on post exposure prophylaxis treatment for HIV are followed in the event of HIV exposure.
9. Once treatment is complete, the employee is to return to their supervisor with a copy of their "Employee Injury Report and Certificate to Return to Work".
10. If the employee is medically unable to return to work, the employee will be required to make contact with their supervisor each day pending return to work.
11. Confidential professional counseling is available through ComPsych GuidanceResources, 855-850-2397, which is OSU-CHS's employee assistance program, if desired.

9.0 TRAINING AND INFORMATION PROGRAMS

At risk employees, (see Appendix B: 'Occupational Exposure Determination'), are required to receive training in the BBP standards. The BBP training program will be provided online at no

cost during working hours. Employees newly assigned to a job with potential for exposure will be ensured training directed by their PI/supervisor at the time of initial assignment. After the initial training, the PI/supervisor shall provide or ensure employees have annual training updates.

The training program will include the following:

- An explanation of the BBP Exposure Control Manual elements and where a copy can be obtained.
- Access to a copy of the OSHA regulation, 29 CFR 1910.1030 Bloodborne Pathogens, either hard copy or internet access at http://www.osha.gov.
- Details about possible exposure situations, use and handling of personal protective equipment, how personal protective equipment is selected, engineering and work practice controls.
- A discussion on how to report exposure incidents.
- An explanation of the post exposure evaluation and follow-up procedures.
- An explanation of the Hepatitis B vaccinations offered free of charge to employee
- An opportunity to ask questions at the end of the training period (contact the LSC).
- Orientation to Universal Precautions (see Appendix A).

The online quiz will be forwarded to the LSC, research office for recording. This record includes:

- Date of training session
- Material covered (shown at the BBP online training program)
- Name and title of the trainer (developed or consolidated by the LSC)
- Name and department of the trainee

The records will be kept for three years from the date of the training session. Upon request, workers or their representatives will be given access to the training records.

In addition to the formal training program, on the job training will be provided by PIs, to include specific job related controls and procedures, as applicable. Written procedures will be prepared by each risk group supervisor, where appropriate, to outline specific job related information not included in the general procedures of this manual.

Information to supplement this manual and the online and on the job training can be found online at Regulations and Guidance under the Bloodborne Pathogen heading.

10.0 THE HEPATITIS B VACCINE

A safe and effective vaccine is available to protect at risk employees from hepatitis B. The university will offer it free of charge to personnel at risk. Any at risk employee who wishes not to receive the vaccine must decline by checking the appropriate line on the Hepatitis B Virus Vaccination Information form found in Appendix C. All at risk employees (see Appendix B:

'Occupational Exposure Determination') must complete a Hepatitis B Virus Vaccination form, either to accept the vaccine or decline. Employees who decline the vaccination may at any time of employment reverse their decision and receive the vaccination.

The vaccine is generally well tolerated and has not been associated with any serious side effects. (The most common complaint after administration is soreness at the injection site.) The vaccination is given in a series of three injections. The applicable PI/supervisor will ensure that new employees at risk will be offered the vaccination within 10 working days of beginning the job. It will be made available at OSU-CHS Health Care Center, 2345 SW Boulevard, 582-1980, and be given or supervised by a licensed health care professional. In the future, booster doses of vaccine may be recommended by the U. S. Public Health Service, and these would also be made available to employees at no cost and at a reasonable time and place.

If a worker is exposed to hepatitis B virus, post exposure preventive treatment will be made available. This consists of hepatitis B immune globulin given as an intramuscular injection and the vaccine, if not previously given. The immune globulin provides passive immunity to HBV after exposure.

PI/supervisor procedure:

1. Have each employee (new employees within 10 working days of beginning the job) complete a copy of the "Hepatitis B Vaccination Information" form, Appendix C.
2. If the employee declines vaccination, retain a copy of the form and send the original completed form to the LSC with a note to place it in the employee's file.
3. If the employee accepts vaccination, retain a copy of the form and schedule the employee for the initial vaccination with the Health Care Center, 2345 SW Boulevard, 582-1980.
4. Send the vaccination form with the employee at time of scheduled vaccination.
5. The completed vaccination form will be kept on file at the OSU-Health Care Center. The employee may request a copy at any time.

11.0 DISPOSAL

Regulated bloodborne pathogen wastes shall be disposed through a qualified disposal company except for that which is disinfected according to NIH guidelines. Regulated wastes mean liquid or semi-liquid blood or OPIM; contaminated items that would release blood or OPIM 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; sharps whether contaminated or disinfected; and pathological and microbiological wastes containing blood or OPIM.

Most of the regulated waste generated by biomedical research can be disinfected either chemically or by sterilization. Once complete disinfection has been accomplished, the biohazard labels should be defaced and the waste placed in a black waste bag, closed securely and placed in

the normal waste bin.

Sharps shall remain regulated and cannot be placed in the normal trash, even after being disinfected.

The university has contracted disposal services for the removal of regulated waste that cannot be sterilized, autoclaved or disinfected by another method. The disposal company provides collection bags and boxes. Sharps shall be collected separately in a container designed for sharps collection in the laboratory in which the sharp was used. Once the container is filled to the fill line (approximately ¾ full), it must be securely closed and the LSC contacted for removal from the lab. The container will be placed in a red/orange biohazard bag within a box provided by the disposal company. The box is located in the 4th floor hazardous waste storage room in the bioscience and forensics wing of CHS. The LSC will make arrangements with Stericycle for final collection.

FINAL NOTES:

Engineering controls, personal protective equipment, and work practice controls are designed to work together to protect employees and students. The PI/supervisor and the employee will need to actively think about which controls to use under what circumstances to ensure employees and students have the lowest possible risk of infection at all times.

Employees should talk with the lab PI/supervisor or the LSC if they feel Universal Precautions are not being followed at the university; engineering controls, safe work practices, or protective equipment are inadequate; or coworkers or students are being needlessly placed at risk.

APPENDIX A

UNIVERSAL PRECAUTIONS

OSU-CHS
UNIVERSAL PRECAUTIONS FOR BLOODBORNE PATHOGENS

(report variations from precautions to supervisor)

1. **Barrier precautions** shall be used to prevent contact with blood or other potentially infectious material (OPIM). **Gloves** shall be worn for touching blood and OPIM, mucus membranes, non-intact skin, and for handling items or surfaces soiled with blood or OPIM. Gloves shall be changed after contact with each exposure. **Respirators, goggles and/or face shields** shall be worn during activities that are likely to generate splashes of blood or OPIM to mucous membranes of the mouth, nose and eyes. **Gowns** or other protective outerwear shall be worn during activities that are likely to generate splashes of blood or OPIM. **Mouthpieces, resuscitation bags, and other ventilator equipment**, where available, shall be used if the need for resuscitation arises.

2. Hands and other skin surfaces shall be **washed immediately and thoroughly** with an anti-microbial soap, or flush mucous membranes with water, if contaminated with blood or OPIM. Hands shall be washed immediately when gloves are removed.

3. **Precautions and safer devices** shall be used to prevent injuries that may be caused by contaminated needles and other sharp instruments or objects. Needles shall not be recapped, purposely bent or broken by hand or removed from disposable syringes. Disposable syringes and needles, after they are used, and other contaminated sharp items shall be placed in puncture-resistant containers which should be located as close to the work area as possible.

4. The worksite shall be maintained in a **clean and sanitary condition**. Laboratory personnel or housekeeping personnel shall have a written schedule for cleaning and method of decontamination based upon location within the workplace, type of surface to be cleaned, type of soil present, and task or procedures being performed in the area.

5. **Eating, drinking, applying cosmetics or lip balm, and handling contact lenses** are prohibited in work areas with potential for bloodborne pathogen exposure. Food and drink shall not be kept in refrigerators, freezers, shelves, cabinets or on bench tops where blood or other potentially infectious materials may be present.

6. Persons with **open lesions or weeping dermatitis** may be required to refrain from all direct exposure and from handling equipment until the condition resolves. Supervisor should be consulted by such persons.

7. **Warning labels** (orange-red with legend ‘biohazard’) shall be affixed to containers of regulated waste, refrigerators and freezers containing blood or OPIM; and other containers used to store, transport or ship blood or OPIM. A red bag or container may be used if the contents are indicated.

8. All blood or other OPIM **spills** shall be cleaned up promptly with a diluted 1:10 bleach/water solution or other effective disinfectant. Dispose of small amounts of contaminated materials in the glove as it is removed.

9. Discard all **contaminated waste** in a properly designated container for disposal (i.e. red bag in labeled box). Use area specific infectious waste disposal practices.

10. If blood or OPIM are **splashed on garment**(s), remove the garment(s) as soon as possible and place in an appropriately designated area or container for disposal or disinfection prior to laundering.

11. Any eye, mucus membrane or non-intact skin blood or OPIM **exposure** shall be washed immediately and **reported promptly** to the supervisor so response and necessary follow-up can be instituted as outlined under section 8.0, "Exposure Incidents", in the OSU-CHS *Bloodborne Pathogens Exposure Control Manual*.

12. All employees, at risk of exposure, are offered **hepatitis B vaccinations** through OSU Health Care Center at no cost to themselves.

APPENDIX B

AT RISK
OCCUPATIONAL EXPOSURE DETERMINATION

At Risk Occupational Exposure Determination - to Bloodborne Pathogens

Following are job classifications in which some employees may be at risk of exposure to bloodborne pathogens and listing of tasks and procedures in which occupational exposure may occur.

Biomedical Research

- Principal Investigator: research procedures using blood products, human or non-human primate derived cell lines, or OPIM
- Technician, etc (working for PI/supervisor): research procedures using blood products, human or non-human primate derived cell lines, or OPIM
- All workers whose job duties include an expectation to respond to worker injuries

Safety Compliance

- Laboratory Safety Coordinator: may provide assistance to at risk positions
- Director of Regulatory Compliance and Research Facilities: may provide assistance to at risk positions

APPENDIX C

HEPATITIS B VACCINATION FORM

THE OKLAHOMA STATE UNIVERSITY CENTER FOR HEALTH SCIENCES
Hepatitis B Virus Vaccination Information

EMPLOYEE NAME: _____

EMPLOYEE TITLE: _____

EMPLOYEE DEPARTMENT: _____

Within the scope of your responsibilities as an employee of The Oklahoma State University Center for Health Sciences, you may be exposed to human body fluids or other potentially infectious materials which could pose a risk of acquiring hepatitis B virus (HBV) infection.

The university will provide the opportunity to be vaccinated with hepatitis B virus vaccine at no charge. Please indicate below whether you wish to accept or decline the offer of the vaccine.

_____ No, I decline the hepatitis B vaccination for one of the following reasons:

_____ I have previously received the complete hepatitis B vaccination series.

_____ Antibody testing shows that I am immune.

_____ I cannot receive the vaccine for medical reasons.

_____ 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.

_____ Yes, I wish to have the hepatitis B vaccine as soon as possible. I have had the opportunity to ask questions about hepatitis B and the hepatitis B vaccine. I have all the information I desire, and I understand the benefits and risks of hepatitis B vaccination. I understand that I must have three doses for the vaccine to be fully effective. I realize there is no guarantee that a person vaccinated will become immune, and I understand that adverse side effects may be experienced. I request that three doses of the vaccine be given to me.

_____ _____
(Employee's Signature) (Date)

Employee: Return copy of form to PI/supervisor after completion of above information.
PI/supervisor: If yes, schedule employee for requested vaccination with OSU-CHS Health Care Center, 2345 SWB, 918-582-1980; send this completed form with employee.

	Dates Vaccinated	Mfg. & Lot No.	Physician's Signature
1.	_____	_____	_____
2.	_____	_____	_____
3.	_____	_____	_____

Vaccination Provider: retain record upon completion of this form, with a copy given to employee

APPENDIX D

ANNUAL ENGINEERING CONTROLS

SAFETY FEATURE EVALUATION

OKLAHOMA STATE UNIVERSITY CENTER FOR HEALTH SCIENCES

GUIDELINES FOR THE USE OF
SAFETY FEATURE EVALUATION SHEETS FOR ENGINEERINGING CONTROLS

Principal Investigators/supervisors shall complete the following two forms annually to reflect new work practices and technology in medical devices that are commercially available and designed to eliminate or minimize occupational exposure. Employee input shall be requested and a form (next page) completed by each. The original shall be retained in the department with the 'Bloodborne Pathogens Exposure Control Manual' or other bloodborne pathogen records. A copy of each form shall be sent to the Laboratory Safety Coordinator, Research Office. The following suggestions are provided:

Coordinators (PI/supervisor):

- Determine which products are to be evaluated and provide adequate test samples for each individual evaluating the product. (Each evaluator should have enough samples to disassemble and examine the design thoroughly, where possible.)
- Set up a testing station for each type of device which allows testers to evaluate products in a simulated client/work procedure. Provide training dummies (injection pads, oranges, etc.) as necessary.
- Provide visual instructions and demonstrate proper use of each device.
- Review the instructions and rating system with each evaluator.
- Encourage each evaluator to comment on the sheets. This will provide a useful decision making tool and will help alert you to specific areas of concern which may not have been covered.

Evaluators:

- Re-enact all steps of intended or possible procedures performed with the device being tested.
- Attempt to misuse the device and circumvent or disable the safety feature.
- Complete a 'Safety Feature Evaluation Form' for each device.

SAFETY FEATURE EVALUATION FORM
SAFETY SYRINGES

Date:_____ Department:_____ Job Title:_____
Product: _____ Number of times used:_____

Please circle the most appropriate answer for each question. Not applicable (N/A) may be used if the question does not apply to this particular product.

	agree . . disagree
DURING USE:	
1. The safety feature can be activated using a one-handed technique	1 2 3 4 5 N/A
2. The safety feature does not obstruct vision of the tip of the sharp	1 2 3 4 5 N/A
3. Use of this product requires you to use the safety feature	1 2 3 4 5 N/A
4. This product does not require more time to use than a non-safety device	1 2 3 4 5 N/A
5. The safety feature works well with a wide variety of hand sizes	1 2 3 4 5 N/A
6. The device is easy to handle while wearing gloves	1 2 3 4 5 N/A
7. This device does not interfere with uses that do not require a needle	1 2 3 4 5 N/A
8. This device offers a good view of any aspirated fluid	1 2 3 4 5 N/A
9. This device will work with all required syringe and needle sizes	1 2 3 4 5 N/A
10. This device provides a better alternative to traditional recapping	1 2 3 4 5 N/A
AFTER USE:	
11. There is a clear and unmistakable change (audible or visible) that occurs when the safety feature is activated	1 2 3 4 5 N/A
12. The safety feature operates reliably	1 2 3 4 5 N/A
13. The exposed sharp is permanently blunted or covered after use and prior to disposal	1 2 3 4 5 N/A
14. This device is no more difficult to process after use than non-safety devices	1 2 3 4 5 N/A
TRAINING:	
15. The user does not need extensive training for correct operation	1 2 3 4 5 N/A
16. The design of the device suggests proper use	1 2 3 4 5 N/A
17. It is not easy to skip a crucial step in proper use of the device	1 2 3 4 5 N/A

Of the above questions, which three are the most important to your safety when using this product and are there other questions which you feel should be asked regarding the safety/utility of this product?

What are your recommendations for implementing this product?

The original forms shall be retained in the department completing the forms with the 'Bloodborne Pathogens Exposure Control Plan' or other bloodborne pathogen records. A copy of each form shall be sent to the Laboratory Safety Coordinator, Research Office.

SAFETY FEATURE EVALUATION FORM
GENERAL – MEDICAL or BIOMEDICAL DEVICE OR WORK PRACTICE

Date:_____ Department:_____ Job Title:_____
Type of medical device or work practice reviewed: _____
Signature of evaluator: _____

Supervisors should complete this form annually to reflect new work practices and technology in medical and biomedical devices that are commercially available and designed to eliminate or minimize occupational exposure. Employee input shall be requested and a form completed by each.

Description of the safety features of the medical device or work practices that are designed to eliminate or minimize occupational exposure:

Positive attributes of device or work practice:

Negative attributes of device or work practice:

Recommendations for implementing this device or work practice in work activities:

The original forms shall be retained in the department with the 'Bloodborne Pathogens Exposure Control Manual' or other bloodborne pathogen records. A copy of each form shall be sent to the Laboratory Safety Coordinator, Research Office.