

**THE UNIVERSITY OF OKLAHOMA NORMAN CAMPUS  
BLOODBORNE PATHOGEN EXPOSURE CONTROL PLAN**

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## **THE UNIVERSITY OF OKLAHOMA NORMAN CAMPUS BLOODBORNE PATHOGEN EXPOSURE CONTROL PLAN**

### **I. INTRODUCTION**

- A. This document describes the *Bloodborne Pathogen Exposure Control Plan* (ECP) for all University of Oklahoma Norman campus (OU-Norman) employees except the OU Goddard Health Center. This plan has been developed to protect employees from health hazards associated with bloodborne pathogens in the workplace as required by the Occupational Safety and Health Administration (OSHA) Bloodborne Pathogen Standard (29 CFR 1910.1030) adopted by the Oklahoma Department of Labor.
- B. This ECP is made readily available to OU-Norman employees and, upon request, to the Oklahoma Department of Labor.
- C. This ECP is to be reviewed and evaluated by the OU Environmental Health and Safety Office (EHSO) at least annually.

### **II. SCOPE AND APPLICATION**

- A. This ECP applies to all OU-Norman employees, including faculty, staff, and paid students with occupational exposure to human blood or other potentially infectious materials with the exception of OU Goddard Health Center employees.
- B. Occupational exposure means reasonably anticipated eye, skin, mucous membrane or parenteral contact with human blood or other potentially infectious materials that may result from the performance of an employee's duties at OU.
- C. Other potentially infectious material means the following:
  - 1. **Human Body Fluids**
    - a. semen,
    - b. vaginal secretions,
    - c. pericardial fluid,
    - d. cerebrospinal fluid,
    - e. synovial fluid,
    - f. pleural fluid,
    - g. pericardial fluid,
    - h. peritoneal fluid,
    - i. amniotic fluid,
    - j. saliva in dental procedures,
    - k. any body fluid that is visibly contaminated with blood, and
    - l. all body fluids in situations where it is difficult or impossible to differentiate between body fluids.

2. **Other**

- a. any unfixd tissue or organ (other than intact skin) from a human, living or dead, including human cell lines and human cell strains;
    - (1) Only established human cell lines and human cell strains which are characterized (tested by antigenic screening for viral or agent markers, co-cultivation with indicator cells allowing contaminants to grow, or molecular technology such as polymerase chain reaction or nucleic acid hybridization) to be free of bloodborne pathogens (including HIV, HBV, Epstein-Barr virus, Herpes virus and papilloma members of the Papovavirus group, etc.) and documented as such may be excluded from the requirements of the OSHA Bloodborne Pathogen Standard and this ECP.
    - (2) Cell lines/strains that are procured from commercial vendors or other sources with documented testing to be free of human bloodborne pathogens and which have been protected from contamination may be excluded from the requirements of the OSHA Bloodborne Pathogen Standard and this ECP.
  - b. human immunodeficiency virus (HIV)-containing cell or tissue cultures,
  - c. human organ cultures;
  - d. HIV- or hepatitis B virus (HBV)-containing culture medium or other solutions; and
  - e. blood, organs, or other tissues from experimental animals infected with HIV, HBV or other bloodborne pathogens infectious to man.
- D. An exposure determination concerning which employees may incur occupational exposure to blood or other potentially infectious materials has been made [(without regard to the use of personal protective equipment (PPE)]. The following is a list of all job classifications at OU-Norman in which all employees have occupational exposure:
- 1. Environmental Health & Safety Officer, EHSO
  - 2. Occupational Safety Officer, EHSO
  - 3. Hazardous Waste Technician, EHSO
  - 4. Maintenance Plumbers, Facilities Management
- E. The following is a list of job classifications in which some employees at OU-Norman have occupational exposure:
- 1. Facilities Management Housekeeping and Custodial Supervisors and Leads

2. Other Custodial Supervisors and Leads
3. Athletic Trainers and Equipment Managers

### **III. UNIVERSAL PRECAUTIONS**

OSHA requires the use of "Universal Precautions" to prevent contact with human blood or other potentially infectious material. According to the concept of universal precautions, as developed by the United States Centers for Disease Control and Prevention (CDC), all human blood and certain body fluids should be treated as infectious for HBV, HIV, and other bloodborne pathogens. Under circumstances in which differentiation between body fluid types is difficult or impossible, all body fluids should be considered potentially infectious materials.

### **IV. ENGINEERING AND WORK PRACTICE CONTROLS**

- A. Engineering and work practice controls should be utilized first to minimize employee exposure.
- B. Handwashing facilities should be readily accessible to employees. Personnel in work areas that do not have handwashing facilities readily accessible should be provided with an appropriate hand cleanser in conjunction with clean cloth or paper towels or antiseptic towelettes. Employees should wash their hands with soap and running water as soon as feasible after using antiseptic hand cleansers or towelettes.
- C. Employees should wash their hands immediately or as soon as feasible after removal of gloves or other PPE.
- D. Employees should wash their hands or 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.
- E. Appropriate commercially available and effective safer medical devices designed to eliminate or minimize occupational exposure should be used whenever feasible.
  1. Department supervisors should solicit input at least annually from non-managerial employees who are potentially exposed to injuries from contaminated sharps in the identification, evaluation, and selection of effective engineering and work practice controls, should document the solicitation, and provide a copy of the documentation to the EHSO for inclusion in this ECP. Example forms which may be used for such solicitation and documentation may be found in Appendix A.
  2. Where such safer medical devices are identified and to be used, departmental standard operating procedures (SOPs) for such use should be developed and provided to all applicable employees and to the EHSO for incorporation into this ECP.

- F. Contaminated needles or other contaminated sharps should not be bent, recapped, or removed. If needles must be recapped, a mechanical means or a one-handed technique should be used. Needles should not be removed from a blood tube holder in order to re-use the tube holder.
- G. Immediately or as soon as possible after use, contaminated sharps should be placed in appropriate containers, even if the sharps are reusable and will be reprocessed. Blood tube holders, with needles attached, should be immediately discarded into an accessible sharps container after the safety feature has been activated.
  - 1. These sharps containers should be:
    - a. puncture resistant,
    - b. labeled with the biohazard symbol or color-coded,
    - c. leak-proof on the sides and bottom,
    - d. placed near the point of use, and
    - e. not be allowed to overfill (a good guideline is to dispose when approximately two-thirds full).
  - 2. Other guidelines for selection of sharps containers should consider issues such as lids that lock tight for safe disposal, a container that is specifically constructed for the method of sterilization that will be used (if sharps containers are not specifically constructed to be autoclaved, the resulting mass of melted plastic is extremely hazardous due to the needles that often protrude), and a clear top that would allow inspection.
- H. Eating, drinking, smoking, applying cosmetics or lip balm and handling contact lenses is prohibited in areas where there is a reasonable likelihood of occupational exposure.
- I. Food or drink shall not be kept in areas where blood or other potentially infectious materials are present or stored.
- J. Procedures which minimize spraying, splashing, spattering, and generation of droplets of infectious material shall be used whenever possible.
- K. No mouth pipetting should occur.
- L. Specimens of blood or other potentially infectious materials should be placed in a container which prevents leakage during collection, storage, transport, or shipping. This container should be red or labeled with the biohazard symbol and closed prior to being stored, transported, or shipped. If contamination outside this primary container occurs or is likely to occur, it should be placed in a second red or similarly labeled container which prevents leakage during handling processing, storage, transport, or shipping.
- M. Equipment which has been in contact with blood or other potentially infected material should

be examined prior to servicing or shipping and should be decontaminated as necessary.

1. Where complete decontamination cannot occur prior to servicing, a readily observable biohazard label should be attached to the equipment stating which portions of the equipment remain contaminated, and
2. the employee requesting the service or repair is responsible for ensuring that information is conveyed to all affected employees, service representatives, and/or the manufacturer prior to handling, servicing, or shipping so that appropriate precautions can be taken.

## V. PERSONAL PROTECTIVE EQUIPMENT

- A. Where occupational exposure remains after the institution of engineering controls, PPE should also be used, provided by the department/laboratory in the appropriate sizes, appropriate and readily accessible for the job at hand, at no cost to the employee.
- B. Departments are responsible for developing departmental standard operating procedures (SOPs) which specify the type of PPE to be worn and other safety equipment to be used, specific to the work being performed and making them available to departmental employees and the EHSO. These SOPs should be developed with the following guidelines.
  1. Gloves should be worn when it can be reasonably anticipated that the employee may have hand contact with blood or other potentially infectious materials, mucous membranes, and non-intact skin such as during phlebotomies and when handling or touching contaminated items.
  2. Masks in combination with eye protection devices such as goggles or face shields should be worn whenever splashes, spray, spatter, or droplets of blood or other potentially infectious material may be generated and eye, nose, or mouth contamination is reasonably anticipated.
  3. Gowns, aprons, lab coats, surgical caps or hoods, and/or shoe covers should be worn when gross contamination can be reasonably anticipated. The type and characteristics of this protective clothing will depend upon the task and degree of exposure anticipated.
- C. With respect to the use of PPE, supervisors are responsible for:
  1. ensuring that employees use the PPE properly,
  2. ensuring that employees are trained in the use of PPE and that they demonstrate an ability to use PPE properly before allowing them to perform work requiring the use of PPE, and

3. identifying and retraining employees whom the supervisor believes do not have the understanding and skill required to properly use the required PPE. Examples of circumstances which require retraining include, but are not limited to:
  - a. when changes in workplace operations occurs,
  - b. when changes in types of PPE used or required occurs, or
  - c. when inadequacies are demonstrated in an employee's knowledge or use of required PPE.
  
- D. All garments should be removed as soon as feasible if contaminated by blood or other potentially infectious material.
  
- E. Disposable gloves should be removed and replaced when contaminated or torn and should not be reused. Utility gloves may be decontaminated for re-use if the integrity of the glove is not compromised.
  
- F. To prevent widespread contamination, employees must remove gloves before touching objects such as door knobs, light switches, telephones, etc., and before leaving the work site.
  
- G. Removed PPE should be placed in a designated area or container for storage, washing, decontamination, or disposal. Contaminated PPE should be placed in a designated container labeled with the biohazard symbol.
  
- H. PPE should be cleaned, laundered and/or disposed in a proper manner.
  1. Contaminated disposable PPE should be placed in a biohazard bag until it can be sterilized/autoclaved. After complete sterilization is assured, the bag should be placed in an opaque (brown or gray) bag or other container that is not labeled with the biohazard symbol, and placed in the trash for disposal.
  
  2. Contaminated launderable PPE to be sent to an outside vendor should be handled in the following manner.
    - a. Departments must segregate its laundry into two categories - contaminated (laundry which has been soiled with blood or other potentially infectious materials) and uncontaminated.
      - (1) Contaminated laundry should be bagged or containerized in red bags or containers, or bags or containers labeled with the biohazard symbol (purchased by each department), at the location where it was used and should not be sorted or rinsed in the location of use.
      - (2) Contaminated laundry should be transported by the department to the designated pick up and delivery locations in red bags or containers labeled with the biohazard symbol.
      - (3) Whenever contaminated laundry is wet and presents a reasonable likelihood of soak through or leakage from the bag or container, the

laundry should be placed and transported to the designated pick-up locations by the department in bags or containers which prevent soak through and/or leakage of fluids to the exterior.

- b. The department is responsible for informing the vendor that laundry in red bags or bags labeled with the biohazard symbol is contaminated and that the vendor should handle contaminated laundry in accordance with OSHA requirements found at 29 CFR 1910.1030(d)(4)(iv).

## VI. LABELS AND SIGNS

- A. Biohazard labels should be affixed to all containers of biomedical waste, refrigerators, freezers and other containers that hold or are contaminated with blood or other potentially infectious material. Red bags or containers may be substituted for labels.
- B. Labels should be affixed in a manner that prevents loss or unintentional removal.
- C. 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.
- D. 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.
- E. Biomedical waste that has been decontaminated need not be labeled or color-coded.

## VII. HOUSEKEEPING AND SPILL CLEANUP

### A. GENERAL INFORMATION

- 1. Supervisors should ensure that the worksite is maintained in a clean and sanitary manner.
- 2. All equipment and working surfaces should be decontaminated as soon as possible after contact with blood or potentially infectious material.
- 3. Contaminated work surfaces should be decontaminated after completion of procedures, immediately or as soon as feasible after any spill of blood or other potentially infectious material, and at the end of the work shift if the surface has become contaminated since the last cleaning.
  - a. All bins, pails, cans, and similar receptacles intended for reuse which have a reasonable likelihood for becoming contaminated with blood or other potentially infectious material should be inspected and decontaminated on



a regularly scheduled basis and cleaned and decontaminated immediately or as soon as feasible upon visible contamination.

- b. Broken glassware which may be contaminated should not be picked up directly with the hands but by mechanical means such as a brush and dustpan, tongs or forceps.

## B. DISINFECTANTS

Spills of blood and blood-contaminated fluids and potentially contaminated surfaces should be properly cleaned following the manufacturer's handling instructions of only the following disinfectants:

1. products registered by the United States Environmental Protection Agency (USEPA) as a "hospital disinfectant" (chemical germicides that have a label claim for tuberculocidal activity),
2. products registered by the USEPA as being effective against human immunodeficiency virus (HIV), or
3. a solution of 5.25 percent sodium hypochlorite (household bleach) diluted between 1:10 and 1:100 with water (a 1:100 dilution of common household bleach yields 500 parts per million free available chlorine - approximately 1/2 cup of bleach per quart on of tap water).

## C. SPILL PROCEDURES

1. Universal precautions should be observed. Cleaning of spills should be limited to those persons who are trained for the task.
2. If an untrained person encounters a spill, he/she should limit access to the area and immediately call the appropriate person(s) assigned to this duty. If it is unknown who this person is, contact the EHSO.
3. Only disposable towels should be used to avoid the difficulties involved in laundering.
4. If a spill involves broken glassware, the glass should **never** be picked up directly with the hands. It must be cleaned up using mechanical means such as a brush and dustpan, tongs, or forceps.
5. For blood spills on hard surfaces:
  - a. Alert people in immediate area of spill.
  - b. Put on protective equipment. This may include a laboratory coat with long sleeves, back-fastening gown or jumpsuit, disposable gloves, disposable

- shoe covers, safety goggles, and mask or full-face shield.
- c. Pre-Cleaning Procedures:
- (1) Cover spill with paper towels or other absorbent materials.
  - (2) Carefully pour a freshly prepared 1:10 dilution of household bleach (½ cup of bleach to 1 quart of water) or other EPA-registered disinfectant around the edges of the spill and then into the spill. Avoid splashing.
  - (3) Use paper towels to wipe the spill, working from the edges into the center.
  - (4) Collect all paper towels and place into a biohazard bag or opaque bag on which a biohazard label can be placed..
- d. Disinfection Procedures
- (1) Clean-up the spill area again with fresh towels soaked in disinfectant or spray.
  - (2) Follow the manufacturer's contact time or allow twenty minutes of contact time in the absence of manufacturer recommendations.
  - (3) Collect all disposable personal protective equipment, paper towels, gloves, etc., and place in biohazard bag.
- e. Treat or dispose of contaminated material following procedures outlined in Section VIII., *Biomedical Waste Disposal*.
6. For blood spills on carpet:
- a. Do not use chlorine bleach solution on carpet.
  - b. Use only a registered disinfectant as discussed earlier.
  - c. Read and follow manufacturer's instructions.
  - d. Isolate the area, if possible.
  - e. Wear gloves and other appropriate PPE.
  - f. For small spills on carpets (smaller than a quarter):
    - (1) Soak the spill with enough disinfectant to cover the spot.
    - (2) Let dry at least overnight to ensure that the spot is disinfected.
    - (3) Shampoo carpet, if needed, or use 3% hydrogen peroxide to remove discoloration.
  - g. For larger spills on carpet (larger than a quarter):
    - (1) Pour disinfectant on the spot and let stand at least 30 minutes to allow some disinfection to take place.
    - (2) Blot up excess liquid with disposable towels.
    - (3) Soak the area with additional disinfectant and allow to dry overnight.

(4) Shampoo carpet, if needed, or use 3% hydrogen peroxide to remove discoloration.

h. All contaminated towels and gloves should be double-bagged and labeled with the biohazard symbol. Disposal of contaminated material must follow procedures outlined below in Section VIII., *Biomedical Waste Disposal*.

### VIII. BIOMEDICAL WASTE DISPOSAL

A. Biomedical waste includes materials which are (1) capable of producing an infectious disease, or (2) materials which are not otherwise regulated as hazardous waste, but should be incinerated through a biomedical waste incinerator. Examples of biomedical waste include:

1. cultures and stocks of infectious agents and associated biologicals;
2. biological tissues;
3. human blood and blood products;
4. pathological wastes;
5. contaminated sharps including hypodermic needles, syringes, (with or without the attached needle), Pasteur pipettes, scalpel blades, suture needles, and needles with attached tubing and other types of broken or unbroken glassware that have come in contact with infectious agents (such as used slides and cover slips);
6. used blood collection bags, tubes, and vials;
7. animal carcasses and body parts, and contaminated bedding;
8. wastes from surgery, autopsy and other medical procedures;
9. soiled dressings and other patient-care materials;
10. dialysis unit wastes;
11. isolation wastes, unless determined to be non-infectious by the infection control committee at the health care facility;
12. HIV containing cell or HBV-containing culture medium or other solutions; and blood, organs, or other tissues from experimental animals infected with HIV or HBV;
13. pharmaceutical wastes;

14. laboratory reagents contaminated with infectious body fluids;
  15. all materials which have come in contact with cytotoxic/antineoplastic agents or other hazardous drugs; and
  16. any other material or contaminated equipment which, in the determination of the facility infection control staff or Institutional Biosafety Committee, presents a significant danger of infection because it is contaminated with, or may reasonably be expected to be contaminated with, etiologic agents.
- B. If any infectious waste is also a chemical waste, call the EHSO for assistance with disposal after disinfection.
- C. Biomedical wastes that are also radioactive should be treated according to requirements for both biomedical and radioactive waste. Contact the OU Radiation Safety Office for appropriate radioactive waste procedures.
- D. Prior to any treatment, all biomedical wastes, including those to be incinerated, should be enclosed in a puncture resistant bag that is color coded or labeled with the biological hazard symbol.
- E. Untreated biomedical waste is not to be disposed of in the municipal waste stream. All biomedical wastes must be treated and rendered harmless and biologically inert by one of the following methods:
1. Off-Site Treatment/Incineration
    - a. Red biohazard bags or sharps containers should be placed in a suitable cardboard box labeled with the biohazard symbol for storage and shipment through an appropriate biomedical waste vendor for off-site treatment or incineration. Such boxes are available from the vendor. Contact the EHSO for current vendor information.
    - b. Boxes containing biomedical waste that should be incinerated rather than other treatment methods should be labeled with “incinerate only” on both sides of the container. Such labels are available from the vendor or the EHSO.
  2. Steam Sterilization
    - a. Biomedical waste that is to be steam sterilized should be collected in biohazard bags and transported to the sterilization site in a durable, leakproof container which is closed for transport from the laboratory.
    - b. Sterilization should be validated using methods described in Section VIII.G., “Autoclave Sterilization Validation.”
    - c. After sterilization, but before disposal in the municipal waste stream, all

treated biomedical wastes should be enclosed in an unmarked outer bag or box that is **not** red or labeled with the biohazard symbol. Any biomedical waste that has been treated as described above and packaged such that it is clearly evident that the waste had been effectively treated is not subject to regulation as biomedical waste and may be collected, transported, and disposed of as municipal waste.

### 3. Chemical Disinfection

Chemical or liquid disinfectants may be used for treatment of biomedical waste where contact time, concentration, and quantity of the chemical disinfectant are sufficient to achieve microbial inactivation of the waste.

a. Chemical disinfection may not be used for:

- (1) porous material;
- (2) material embedded with infectious agents, such as agar plates;
- (3) mixed waste such as material that is both biomedical and radioactive waste
- (4) hazardous drug waste;
- (5) pharmaceutical waste; or
- (6) contaminated sharps collected in a sharps container.

b. If chemical disinfectants are used, they must have been shown to be effective against the organisms present. Important considerations include:

- (1) temperature;
- (2) time of contact;
- (3) pH;
- (4) concentration;
- (5) penetrability; and
- (6) reactivity of organic material at the site of application (for example, for blood or media containing significant organic material, autoclaving should be considered instead).

c. Use manufacturer's specifications and procedures when using chemical disinfectants.

4. Biomedical waste that has been effectively treated can be disposed of into the regular solid waste receptacle unless the material qualifies as "sharp", in which case the material should be placed in a puncture-proof container (**not** labeled with the biohazard symbol) prior to disposal.

5. Certain chemical disinfectants, such as bleach and alcohol, can be poured down the sink after being used for treatment. Other disinfectants, such as phenol and

gluteraldehyde, require management as a hazardous waste (contact the EHSO). The management after use should be considered when selecting chemical or liquid disinfectants.

#### F. Autoclave Procedures

An autoclave will only work if you use it properly and safely. There are potential physical and biological hazards associated with improper use, as well as the potential for contamination of the research being performed and damage of the equipment. Follow these procedures to minimize these hazards.

1. If the autoclave has an Autoclave Use Log, complete it before every use of the autoclave.
2. If the autoclave is dirty, contact the previous user to clean the machine. **DO NOT USE** the autoclave until it is cleaned. Clean the drain strainer before loading the autoclave.
3. Place all items in a tub before autoclaving. Never place glassware or bags directly on the bottom or floor of the autoclave. Place items inside a heat resistant plastic tub that will sit on a shelf or rack. Ensure tubs are not cracked.
4. Do not overfill the tubs. Nothing should hang over the edges or be tall enough to touch the top or sides of the autoclave. Overloading may lead to the center of the load not getting sterilized properly.
5. Place tubs in the center of the autoclave. It is important to allow the steam to circulate freely throughout the chamber.
6. Never autoclave a sealed container of liquids. Before loading containers of liquids into the autoclave, the caps must be loosened to ensure proper sterilization and to avoid having the bottles shatter during pressurization or when the container is opened.
7. Add a quarter- to a half-inch of water to a tub of empty bottles that are to be autoclaved. This will allow the bottles will heat more evenly.
8. For solid waste, do not pack the bags too full; bags packed to capacity with biohazardous waste will not be properly decontaminated.
9. Add one cup of water to each bag of solid waste and keep the bags open. Polypropylene biohazard bags are impervious to steam.
10. Do not load non-autoclavable plastic materials into the autoclave. They will melt and cause damage to the autoclave.

11. Make sure the door of the autoclave is properly closed before starting the cycle.
12. Know the contents of the bags being placed in the autoclave in order to know which cycle to use, then use the proper cycle. Do not use a gravity cycle for liquid nor a liquid cycle for solids. Use of the wrong cycle can cause improper sterilization or spillage.
13. Be sure you know what you are doing if you want to adjust the temperature or run time. Increasing the temperature can melt trays or containers. Decreasing the temperature or run time can impair the sterilization procedure. Most pre-set programs can accomplish what you need without adjusting the time or temperature.
14. Do not override an autoclave's built-in safety control features under any circumstance.
15. Do not abort a run just because you are in a hurry and want the cycle to finish faster. Aborting of cycles can cause the sterilizer to jam if it happens often, requiring a service call to get the autoclave running again.
16. Wait a full five to ten minutes before removing items after the completion of a run. If the autoclave load contains dry glassware wait five minutes and ten minutes if the load contains liquids.
17. Wear heat-resistant gloves when first opening the door after a run. When removing items from the autoclave, wear a rubber apron in addition to rubber sleeve protectors, heat resistant mitts and a face shield.
18. Let glassware cool for 15 minutes before touching it with ungloved hands.
19. Let liquid loads stand in an out-of-the-way place for a full hour before touching with ungloved hands. With liquid loads be alert for a bottle still bubbling.
20. Close the autoclave door after each use.

#### G. Autoclave Sterilization Validation

Sterilization failure can result from a number of factors including improper loading, insufficient time and/or temperature, or equipment failure. Therefore, it is important to ensure that complete sterilization of biomedical waste has occurred prior to disposal. The use of a biological indicator is the most reliable method for this determination.

1. It is recommended that spore strips inoculated with *Geobacillus stearothermophilus*, *Bacillus atrophaeus* or other suitable and reliable biological indicator be used at least once per week to monitor the adequacy of sterilizer performance. Some commercial spore strips have a color change indicator. This color change does not

indicate that sterility was achieved, only that minimal process parameters were attained. Do not rely on this color change to ensure sterilization.

2. Place the spore strips in the middle or most inaccessible portion of the autoclave load, preferably inside a filled biohazardous waste bag. One way to be able to safely remove the strip from the load after autoclaving is to place a fresh spore strip inside a glass screw cap tube. Tie a string around the neck of the tube. Bury the tube in the center of the load as you build it. Thread the string out of the top of the bag. After the cycle is completed, you can pull on the string to retrieve the spore strip for incubation.
  3. Process and incubate the spore strips according to manufacturer or vendor procedures.
  4. If the processed spore strips indicate microbiological growth, first try increasing the run time or verifying the waste is properly loaded. If growth still occurs with run times of 45 minutes or more, the autoclave may need maintenance or repair. Notify Physical Plant or department technician as soon as possible and do not use the autoclave until it has been repaired. Maintenance and/or repair may need to be completed by a manufacturer's technician if University personnel can not fix the problem. Notify others who may use the equipment as well.
  5. Record all spore strip results in a permanent location, generally near the autoclave.
- H. After disinfection but before disposal in the municipal waste stream, all treated biomedical wastes should be enclosed in an unmarked outer container that is **not** red or labeled with the biohazard symbol. Any biomedical waste that has been treated as described above and packaged such that it is clearly evident that the waste had been effectively treated is not subject to regulation as biomedical waste and may be collected, transported, and disposed of as municipal waste.

## IX. HEPATITIS B VACCINATION

- A. Employees and paid students with reasonable anticipation of occupational exposure to blood or other potentially infectious materials should be offered, at no cost to the employee, the opportunity to receive the hepatitis B vaccination series within ten (10) working days of initial assignment to tasks with the potential for occupational exposure.
- B. Employees and paid students may decline the vaccination series, and may request it at a later date if they so desire, but should document this declination on a form that uses the wording in Appendix A of the OSHA Bloodborne Pathogen Standard (see Appendix B). The employee's department is responsible for keeping this documentation on file.
- C. For hepatitis B vaccinations given after the effective date of this ECP, paid students and employees will be provided the opportunity to have their antibody level measured



approximately 4-8 weeks after administration of the third vaccination to assess adequacy of response.

1. Such vaccination and serology testing shall be at no cost to the employee, and shall be paid for by the employee's college or department. Students are responsible for their own costs.
  2. If, as a result of the titer information, the vaccination series and serology testing should be repeated, this should also be performed at no cost to the employee, and shall be paid for by the employee's college or department.
- D. The vaccination series will be administered by Goddard Health Center in accordance with current CDC guidelines and requirements.

## X. **FIRST AID PROCEDURES**

- A. If any employee responds to an emergency which provides potential for exposure to blood or other potentially infectious materials, standard precautions should be used.
- B. First aid kits should include protective equipment such as gloves, masks, and face shields for response to emergencies in which blood is present. Pocket masks for CPR procedures are also recommended.
- C. For most situations in which first aid is given, the following guidelines for protective clothing are offered.
1. For bleeding control with minimal bleeding, disposable gloves alone should be sufficient.
  2. For bleeding control with spurting blood, disposable gloves, a gown, a mask, and protective eye wear are recommended.
  3. For measuring temperature or measuring blood pressure, no protection is required.
- D. After emergency care has been administered, hands and other skin surfaces should be washed immediately and thoroughly with warm water and soap. Hands should always be washed after gloves are removed, even if the gloves appear to be intact.
- E. If blood is splashed onto the unprotected skin or mucous membranes of persons other than the victim, the skin should be washed with soap and water or the mucous membranes should be flushed with water thoroughly. Immediately after washing or flushing, follow the procedures in Section XI., *Exposure Incident Procedures*.
- F. After an emergency that involves blood is over, clean-up of blood may be required. Housekeeping services will not automatically clean the spill. Departments with personnel trained under this ECP are responsible for cleaning such spills occurring within their

department. If no one in the department is trained, or if a spill is observed that can not be attributed to any department, access to the spill area should be limited and housekeeping or custodial services should be contacted for the needed response.

- G. Waste materials heavily contaminated with blood should not be disposed in the regular trash. These items should be disposed of as biomedical waste. See Section VIII., *Biomedical Waste Disposal*.

## XI. EXPOSURE INCIDENT PROCEDURES

- A. If an employee or student sustains an exposure incident (such as a stick with a contaminated needle/scalpel/dental wire or a splash of potentially infectious material in the eye, mouth, mucous membrane, or non-intact skin), the exposed person should immediately:
1. clean the wound with soap; flush mucous membranes with water or normal saline solution;
  2. notify his/her supervisor, designated coordinator, or other designated individual; and
  3. proceed for treatment at Goddard Health Center or the nearest emergency room as soon as possible, and preferably within 1-2 hours of the exposure.
- B. The responding health care professional should manage the exposure or possible exposure according to the current CDC guidelines or protocol.
- C. Information that must be provided to the responding healthcare professional includes:
1. a description of the exposed employee's duties as they relate to the exposure incident,
  2. documentation of the route(s) of exposure and circumstances under which exposure occurred,
  3. results of the source individual's blood testing, if available, and
  4. all medical records relevant to the appropriate treatment including vaccination status.

## XII. POST-EXPOSURE EVALUATION AND FOLLOW-UP

- A. Following an exposure incident, a confidential examination and follow-up should be made available to the employee to address such infectious diseases as HBV, HCV, and HIV. This should include confidential post-exposure prophylaxis and counseling in accordance with current CDC protocol.

- B. The healthcare professional providing treatment must forward a written opinion (as outlined in the OSHA regulation) to the employee and maintain a copy on file.

### **XIII. TRAINING**

- A. OU-Norman employees who do not have reasonable anticipation of exposure will be provided with information and training regarding first aid procedures in Section X. and emergency procedures through the annual Hazard Communication/General Safety training provided by the EHSO.
- B. All OU-Norman employees with occupational exposure to blood or other potentially infectious materials should receive bloodborne pathogen training in the subject matter identified below at the time of assignment to tasks where occupational exposure may take place, when changes affect employees' occupational exposure and at least annually thereafter. Training must be documented (for example, by means of a quiz) and, when the training is not performed by the EHSO, a copy of this documentation must be forwarded to the EHSO.
- C. The training program should contain at least the following elements:
  - 1. an accessible copy of the regulatory text of the OSHA standard and an explanation of its contents;
  - 2. a general explanation of the epidemiology of and symptoms of bloodborne diseases;
  - 3. modes of transmission of bloodborne pathogens;
  - 4. an explanation of the ECP and how to get a copy of plan;
  - 5. appropriate methods for recognizing tasks and other activities that may involve exposure to blood and other potentially infectious materials;
  - 6. use and limitations of engineering controls, work practices, and PPE;
  - 7. an explanation of the basis for selection of PPE;
  - 8. information regarding the hepatitis B vaccine, including efficacy, safety, method of administration, the benefits of being vaccinated, and that the vaccine and vaccination will be offered free of charge;
  - 9. appropriate actions to take and persons to contact in emergencies involving blood or other potentially infectious materials;
  - 10. procedure to follow if an exposure incident occurs including the methods of reporting the incident and the medical follow-up that will be made available;

11. information on the post-exposure evaluation and follow-up that will be provided following an exposure incident;
  12. signs and labels that are required; and
  13. an opportunity for interactive questions and answers with the instructor.
- D. Employees who are required to use PPE should also be trained to know at least the following:
1. when PPE is necessary,
  2. what PPE is necessary,
  3. how to properly don, doff, adjust and wear PPE,
  4. the limitations of the PPE, and
  5. the proper care, maintenance, useful life and disposal of PPE.

#### **XIV. RECORDKEEPING REQUIREMENTS**

- A. The EHSO will maintain records of training for at least three (3) years. Documentation of training performed by the department or by personnel other than EHSO personnel should be forwarded to the EHSO for inclusion in the EHSO training records.
- B. Copies of any injury/exposure report forms filed with the University's workers' compensation insurance carrier will be forwarded by OU Risk Management to the EHSO where it will be filed in accordance with OSHA recordkeeping requirements.
- C. The employee's hepatitis B vaccination status including the dates of each of the hepatitis B vaccinations in the series, will be maintained by Goddard Health Center.
- D. Information provided to the healthcare professional outlined in Section XI.C. as a result of an exposure incident and the healthcare professional's written opinion generated as a result of an exposure incident, should be maintained by that healthcare professional and made available to OU at any time necessary to prove such documentation has occurred.

**APPENDIX A**

**EXAMPLE SAFER NEEDLE DEVICES QUESTIONNAIRE**

### SAFER NEEDLE DEVICE QUESTIONNAIRE

In an effort to ensure that your concerns regarding needlesticks and other sharps injuries are addressed, we ask that you complete this questionnaire and return it to your supervisor by \_\_\_\_\_ (date).

Supervisor: \_\_\_\_\_

Address: \_\_\_\_\_

1. Are there any tasks you perform using a needle or other sharp for which you feel there is an elevated risk of injury?

- Yes
- No

2. If you answered yes to question 1., please describe the task(s): \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

3. If you answered yes to question 1., do you believe a safer needle device or other device would reduce the risk of injury?

Yes, I would like to try (indicate as much information as you know about the make, model, manufacturer, vendor, catalog number, etc.):

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Yes, I would like someone to suggest a device.

No, I don't think a device will help, but I do think a change in workpractices could help as follows: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

You may remain confidential, but we will not be able to contact you for input. If you would like us to contact you to help select a safer needle device or implement your ideas about how to reduce the risk of injury, please complete the following information:

Name: \_\_\_\_\_

Department: \_\_\_\_\_

Phone Number: \_\_\_\_\_

**APPENDIX B**  
**HEPATITIS B VACCINE DECLINATION FORM**

### **HEPATITIS B VACCINE DECLINATION**

I understand that due to my occupational exposure to blood or other potentially infectious material that 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 material and I want to be vaccinated with hepatitis B vaccine, I can receive the vaccine at no charge to me.

Print Name: \_\_\_\_\_

Signature: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

This form should be signed and submitted for retention to the appropriate Supervisor in departmental files.