

**BLOODBORNE PATHOGENS EXPOSURE CONTROL PLAN
SECTION 0050**

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I. INTRODUCTION

The Exposure Control Plan is designed to minimize employee exposure to Bloodborne Pathogens. Bloodborne pathogens are defined as pathogenic microorganisms that are present in human blood and can cause disease in humans. These pathogens include, but are not limited to, Human Immunodeficiency Virus (HIV) and Hepatitis B Virus (HBV).

II. SCOPE

This policy and the following plan applies to all employees whose duties involve "Occupational Exposure to Blood and Other Potentially Infectious Materials": (As defined in Appendix C: Bloodborne Pathogens Standard -- 1910.1030 Paragraph (b) Definitions)

III. STANDARD

OSHNC Part 1910.1030--Bloodborne Pathogens Standard; North Carolina Department of Labor, Division of Occupational Safety and Health.

IV. PROCEDURES

A. Exposure Determination

The exposure determination consists of: a listing of all job classifications in which all employees have occupational exposures; a listing of job classifications in which some employees have exposure, with a list of tasks which may lead to occupational exposure. (See Job Classifications, Appendix A).

Department heads (supervisors and principal investigators) must notify the Office of Safety so that joint adjustments to exposure listings can be made for:

1. New or modified tasks and procedures
2. New or revised employee positions.

B. Methods of Compliance

1. Work Practices

- a. **Engineering and Work Practice Controls** shall be used to eliminate or minimize exposure whenever possible as a first line of defense.
- b. **Universal Precautions shall be observed to prevent contact with blood and other potentially infectious materials.** (Defined: an approach to infection control using personal protective equipment)

such as latex gloves, face shields, as well as, engineering controls such as sharps containers and safe work practices such as not recapping needles, proper biohazard waste handling and proper hand washing.) To observe universal precautions, employee must treat all human blood, human tissue, human blood cultures and biohazardous waste as if infected. **Departments are required to initiate University disciplinary procedures against individuals who do not comply with universal precautions, to insure these procedures are followed.**

- c. Washing facilities, with soap, shall be provided by each department and shall be used immediately by employees after any blood or body fluid contact to the skin or mucous membranes, and after the removal of any personal protective equipment. In any outdoor setting where hand washing facilities are not feasible, antiseptic towelettes shall be provided.
- d. Needles shall be "safety" type, self sheathing whenever they are available. Cost shall not be a reason for not using safety needles. Contaminated needles and other sharps shall: (1) not be broken, sheared, bent, recapped, or removed. (2) be placed, immediately after use, in sharps containers described below in Section 4, Regulated Waste.
- e. Non-managerial employees should be solicited for input in the identification, evaluation, and selection of engineering and work practice controls, especially as it relates to safety type needles. In healthcare settings this input should be documented during annual training.
- f. Food, beverages, and other consumable goods such as cosmetics, contact lenses and cigarettes shall not be stored or handled while in the exposure area.
- g. Blood and potentially infectious material shall be handled in such a manner as to minimize splashing, spraying, splattering, or generation of droplets.
- h. Mouth pipetting/suctioning is strictly prohibited.
- i. Blood (and other potentially infectious materials), specimen containers must be approved for transport, must be puncture and leak resistant, and labeled as BIOHAZARDOUS. If the exterior of the primary container becomes contaminated or it could be punctured, a secondary container is required. The secondary container must also be approved for transport, and labeled as BIOHAZARDOUS.

- j. Portable equipment which may become contaminated shall:
 - 1) be taken out of service and be examined before servicing or shipping.
 - 2) be decontaminated by physical or chemical means to remove, inactivate or destroy bloodborne pathogens on equipment to the point where it is no longer capable of transmitting infectious particles and the equipment is safe for handling, use, or disposal. (i.e. Autoclaving or disinfectant detergents).
 - 3i) be labeled as such, with warning labels which are either an integral part of the equipment or attached by string, wire, or adhesive that prevents the loss of the label or its removal,
 - 3ii) or placed in red bags or red containers which must be labeled BIOHAZARD,
 - 3iii) and have an affixed label which will provide information as to which portions remain contaminated.
 - 4) have appropriate information conveyed to servicing personnel before handling is permitted.

2. Personal Protective Equipment (PPE)

When engineering and work practice controls are not sufficient to eliminate exposure to blood or other potentially infectious materials, PPE shall be used.

- a. PPE shall be provided, cleaned, laundered, repaired, replaced, and disposed of by the department at no cost to the employee.
- b. PPE is not a substitute for other controls and is considered "appropriate" only if it does not permit blood or potentially infectious materials to pass through or reach the employee's work clothes, street clothes, undergarments, skin, eye, mouth, or other mucous membranes under normal working conditions.
- c. PPE may consist of: gloves, gowns, lab coats, face shields or masks and eye protection, mouthpieces, resuscitation bags, pocket masks, or other ventilation devices that meet the requirements above.
- d. PPE shall be worn at all times unless, under rare and extraordinary circumstances in the employee's professional judgment, its use would prevent the delivery of healthcare, or pose an increased hazard to the

employee, or to co-workers. In these circumstances, a thorough investigation shall be made by the immediate supervisor and reported to the Office of Safety within forty-eight hours. This investigation will document the circumstances and whether changes must be made to prevent any recurrences.

- e. Gloves must be worn during any emergency medical procedure, during vascular access procedures, and during any task when it can be reasonably anticipated that skin contact with blood, potentially infectious materials, mucous membranes or non-intact skin will occur, and when touching or cleaning contaminated items or surfaces.
- f. If garments are penetrated by blood or potentially infectious material, the garment shall be removed as soon as feasible. Contaminated PPE will be removed prior to leaving the work area and will be placed in a designated location or container for storage, laundry, decontamination or disposal. A change of clothing must be provided to replace contaminated employee clothing:
 - 1) Disposable gloves shall be replaced as soon as practical after contamination and as soon as feasible if torn, punctured, or compromised.
 - 2) Disposable gloves shall not be washed or decontaminated for re-use.
 - 3) Utility gloves may be decontaminated for re-use if the gloves' integrity is not compromised.
 - 4) Hypoallergenic, powderless, or similar alternative gloves shall be provided to employees who are allergic to the gloves normally provided.
- g. Most personal protective equipment and BBP clean up kits are now on state contract and can be purchased through the UNCG Maintenance Material Store Room. Most items are kept in stock for faster service.

3. Housekeeping

- a. All equipment and work surfaces shall be cleaned and disinfected:
 - 1) after completion of procedures.
 - 2) immediately after overt contamination or spills.
 - 3) at the end of the work shift, if potentially contaminated.
- b. Contaminated disposable work surface coverings shall be replaced as soon

as feasible.

- c. Contaminated re-usable containers and protective equipment shall be cleaned and disinfected as soon as feasible after use.
- d. Broken glass or other potentially contaminated sharp objects will not be handled by hand. (Use brush, tongs, etc.)
- e. Spills of blood or other body fluids should be cleaned up as soon as feasible using an EPA approved disinfectant or a fresh solution of 1:10 household bleach to water. Free liquid should be absorbed with toweling or other approved absorbent, with gloved hands, taking care to watch for sharp objects. If there is a possibility of splattering, protective equipment covering the eyes, nose, and mouth should be worn.

4. Regulated Waste

Regulated waste is defined as any material which is visibly contaminated with human blood, or other potentially infectious material. Disposal of Regulated Waste shall be in compliance with Section 0260 Regulated Medical Waste Program.

5. Laundry

- a. Contaminated laundry:
 - 1) Shall be handled as little as possible, with minimal agitation.
 - 2) Shall be bagged or containerized at the location of use and placed in labeled BIOHAZARD bags
 - 3) Shall be placed in leak-proof containers when wet and if there is a reasonable likelihood of soak-through or leakage, the laundry shall be placed and transported in bags or containers which prevent the escape of fluids to the exterior.
 - 4) All contaminated laundry which is to be transported off site, must be properly containerized and labeled as a BIOHAZARD. The off site laundry must be notified of the incoming articles.
 - 5) Clothing which is designated as PPE shall not be taken home for washing.

C. Information and Training

Department Heads must ensure participation in comprehensive training as described

below by employees with occupational exposure, as defined in Appendix A. This training must occur prior to initial assignment, and annually thereafter. Retraining must also be provided prior to reassignment or when modification of tasks or procedures may affect exposure.

1. A copy of this Exposure Control Plan shall be available upon request to employees. In addition to the department/division copy, a copy is available in the Office of Safety and the Jackson Library Reserve Section.
2. Training shall be coordinated by each department who is to designate a trainer. This person will be trained by the Office of Safety on a train the trainer basis to ensure competence in the subject matter as it relates to the employee's work area. Departmental trainers or the Office of Safety shall be the sole source for bloodborne pathogens training. The Office of Safety is available to assist with departmental training needs to ensure complete compliance. Each department will be audited periodically to ensure the quality of their training or performance.
3. Training shall be performed during working hours at no cost to the employee.
4. The training program shall contain the following elements:
 - a. A copy of the regulatory text of the standard and an explanation of its contents. (Appendix C)
 - b. A general explanation of the epidemiology and symptoms of HIV, HBV and their modes of transmission.
 - c. An explanation and the locations of UNCG's Exposure Control Plan.
 - d. An explanation of appropriate methods for recognizing task and activities that involve exposure to human blood or other potentially infectious materials.
 - e. An explanation of the use and limitations of methods of control used by the department that may prevent or reduce exposure including universal precautions, engineering controls, work practices, and PPE.
 - f. An explanation of the selection criteria of PPE which shall include it limitations, maintenance decontamination and proper disposal.
 - g. Information on the HBV vaccine, including its efficacy, safety, and the benefits of being vaccinated.

- h. At the time of initial training employees must sign either an Acknowledgement of Training and Acceptance of Hepatitis B Vaccine or a Hepatitis B Vaccine Declination. This form will be kept in the employee's medical records file in the appropriate department and a copy must be forwarded to the Office of Safety. Appendix B contains copies of these forms. If an employee has previously received the complete series of vaccinations somewhere other than UNCG or has a positive test, they must still sign an declination or acceptance form. This form is to show that the employee was offered the series by UNCG. The wording cannot be changed on the form but the employee may write in amendments or cross off and initial parts of the paragraph.
- i. An explanation of Section G of this policy, Post Exposure Procedures. This includes procedures to follow if a blood or body fluid exposure incident occurs, the method of reporting the incident, and the medical follow-up that will be made available.
- j. An explanation of the signs, labels, tags, and/or color- coding used to denote biohazards and how they shall be used.
- k. An opportunity for interactive questions and answers between the employee and the trainer.

NOTE: The training must include the specifics of this policy in conjunction with an interactive question and answer session and can not be solely covered by video or other electronic media.

- 5. A copy of all bloodborne training records must be forwarded to the Office of Safety by the corresponding department. It shall include a completed Training Roster, vaccination acceptance or declination forms and Healthcare Professional's Written Opinion as applicable. (All forms are located in Appendix B, Forms). If an employee has completed the vaccination series elsewhere or has a positive test, the department shall also include copies of this documentation.

D. Communication of Hazards to Employees

Warning labels, signs, or tags shall contain the standard red-orange "BIOHAZARD" symbol and shall be affixed to containers of regulated waste, refrigerators and freezers containing blood or potentially infectious materials, and other containers used to store or transport such materials. Individual containers of blood which are

stored, transported and disposed of in labeled containers are exempt. Regulated waste which has been decontaminated is also exempt. Assistance in locating a source of appropriate signs and labels will be provided by the Office of Safety.

E. Hepatitis B Vaccination Program

Department Heads must ensure that covered new employees electing to receive a Hepatitis B Vaccination Series following initial training are scheduled to begin the series within ten working days of initial assignment. The employee wishing to receive the series must be evaluated by a healthcare professional before the first vaccination is administered. (see Healthcare Professional's Opinion For Hepatitis B Vaccination form, Appendix B) This must occur after initial training specified in Section C. Information and Training. Each department is responsible for providing documentation of the written opinion and copies of vaccination cards as the shots are received to the Office of Safety. Documentation of the first shot and the written opinion must be received in the Office of Safety within 10 days of initial training and maintained in the employee's medical records. The employee's department will also provide the employee a copy of the written opinion within fifteen days of the evaluation. The general schedule for the series is as follows: When the first vaccination is given, the second shot must follow one month later. Five months later, the third vaccination must be administered. This schedule must be firmly followed unless otherwise stated in writing to the Office of Safety by the healthcare professional.

1. Employees covered by this policy will receive vaccinations without cost to them. The cost of the vaccination and administration will be paid by the employee's department, if the job position is not supported by state funds. For State-Funded positions, the Office of Safety will pay for the vaccination cost, with employee's department only paying the administration fees. For Fee-Funded or other positions on campus the cost must be fully paid by the employee's department.
2. Hepatitis B vaccinations shall be available at the Student Health Service for employees with occupational exposure.

NOTE: The Student Health Center does not routinely provide vaccination records to the Office of Safety, and it is the responsibility of the department trainer.

3. Vaccinations may be omitted for employees who have previously received the complete series of shots, who test immune or where the vaccine is medically contraindicated.
4. An employee may decline the vaccine, but must sign a Hepatitis B

declination form. (see HBV Declination form, Appendix B)

5. Employees who initially decline, may receive the vaccination series at any later time upon request.
6. Future booster vaccine recommendations by the U.S. Public Health Service and Centers for Disease Control and Prevention shall be followed.
7. As recommended by the Centers for Disease Control, one to two months after completion of the three dose vaccination series Health Care Workers employed by the Student Health Service and School of Nursing should be tested for antibody to hepatitis B surface antigen. Those employees who do not respond to the primary vaccine series should complete a second three dose vaccine series. Re-vaccinated employees should be retested.

Note: This recommendation only applies to Health Care Workers and does not indicate the need for periodic serologic testing to monitor antibody concentrations, nor does it indicate the necessity for booster doses of vaccine.

F. Recordkeeping

1. Records shall be established and maintained for each employee with potential occupational exposure in accordance with the OSHA Medical Records Access Standards within the Office of Safety. Records will include:
 - a. Acceptance or declination of HBV vaccine
 - b. Healthcare Professional's Written Opinion
 - c. Vaccination Records
 - d. Exposure records, documenting any exposures and medical follow-up
2. Exposure records will be maintained by each department. Copies of these records shall be forwarded to the Office of Safety, where they shall be kept in strict confidence for the duration of employment plus thirty years, as required by this Standard or required by law.
3. Exposure records shall be kept confidential, except as required by this Standard or required by law.
4. Employees are entitled access to their records and any reference material used in training upon written request.

5. Training Records shall be maintained for three years from the date of training.
6. Vaccination records, regardless of where received, shall be forwarded to the Office of Safety by the employee's department.
7. The Exposure Control Plan shall be reviewed and updated annually by UNCG's Infectious Disease Advisory Committee and/or the Office of Safety, or whenever workplace changes deem modifications are necessary.

G. Procedures for Evaluation and Follow-up of Exposure Incidents

The following procedures are to be followed after an employee's exposure to blood or other potentially infectious materials. If it is uncertain whether an exposure has taken place, proceed with this set of instructions until a determination can be made. An exposure is defined as any cut, puncture, or other percutaneous entry; splash to mucous membranes, or other contact with blood or other potentially infectious materials on non-intact skin or mucous membrane, that occurs to an employee at work.

1. Any injuries occurring during an exposure incident should be treated and reported following university policy for injury reporting. (Section 0090 of this manual)
2. The exposed employee shall notify their immediate or designated supervisor as soon as feasible. The supervisor will comply with UNCG's policies on bloodborne pathogens, workers compensation and safety, including:
 - a. notifying the Office of Safety at 334-HELP (4357)
 - b. making available, at no cost to the employee, a confidential medical evaluation to the exposed employee as soon as possible and within 24 hours, with the opportunity to receive "Post-Exposure Prophylaxis", (HBV vaccinations, etc.) as recommended by the U.S. Public Health Service.
3. The employee's department shall provide the following information to the health care professional performing the medical evaluation.
 - a. Copy of Bloodborne Pathogen Standard (Appendix C)
 - b. Description of employee's duties as they relate to the exposure incident
 - c. Documentation of route of exposure and circumstances (Appendix A, Form III)

- d. Results of source individual's blood testing, if available
 - e. All relevant medical records including vaccination status of the employee.
4. If possible, the source individual, object, or substance shall be identified. The source individual will be notified, and then tested for HIV and HBV if consent is obtained.
 5. The exposed employee will have the opportunity, at no cost, to have baseline blood drawn and stored for up to 90 days after an exposure. If the employee, during that 90 day time period, wishes to have their baseline blood levels tested for HIV or HBV, this will be done at no cost to the employee. The employer is only obligated to store untested baseline blood samples for 90 days.
 6. The employee will be made aware of the results of source patient testing, if available.
 7. Results of the employee medical evaluations will be kept confidential and maintained in their medical records file by the Office of Safety for the duration of their employment plus thirty years, and not made available to the employer or others. Medical evaluations will be conducted by a licensed physician or other appropriate healthcare professional, at no cost to the employee, and will be conducted as per recommendations of the United States Public Health Service at the time of exposure.
 8. As soon as possible after the exposure, provide an account of the incident using Form III. Review of Employee Exposure to Blood/Infectious Material in Appendix B, shall be prepared by the employee, forwarded to the Office of Safety, and made a part of the medical files. The incident file is to remain confidential if it reveals either the employee's or the source's identification. In addition, if the potential exposure is the result of a needle stick, it will be recorded in the Office of Safety on a Needle stick Log to be maintained along with the university's OSHA 300 Log.
 9. Any acute febrile illness which may occur within twelve weeks after the exposure should be reported to the Office of Safety by the exposed employee. The employee shall be entitled to a no-cost medical evaluation for any such incidents within that time frame.
 10. Employee will receive a copy of the evaluating healthcare professional's written opinion within fifteen days. The written opinion shall contain the evaluation results, as well as a statement pertaining to possible conditions resulting from exposure to blood or other potentially infectious agents which

may require further evaluation. All such information will be kept confidential.

11. The Office of Safety has made arrangements with the UNCG Student Health Service (UNCG SHS) as the primary provider to provide comprehensive post exposure evaluation and counseling to exposed employees. If exposure occurs outside of the normal business hours of the UNCG SHS, the employee will be referred to the nearest emergency room (in Greensboro, Moses Cone is recommended) for evaluation and will be advised to follow-up as soon as possible to the UNCG SHS. The employee's department will be responsible for all charges that may be incurred for the evaluation.

H. HIV and HBV Research Laboratories

Research laboratories engaged in the culture, production, concentration, experimentation, and manipulation of HIV and HBV must comply with the following requirements. Standard Microbiological Practices and the following special practices must be followed.

1. 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.
- n. 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. Biological safety cabinets shall be certified when installed, whenever they are moved and at least annually.

2. Special Laboratory Features
 - a. Each laboratory shall contain a facility for hand washing and an eye wash facility which is readily available within the work area.
 - b. An autoclave for decontamination of regulated waste shall be available.
3. Waste Disposal. All regulated waste shall either be incinerated or decontaminated by a method such as autoclaving known to effectively destroy bloodborne pathogens.
4. Training Requirements. 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 Principal Investigator 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 Principal Investigator shall assure that employees have prior experience in the handling of human pathogens or tissue cultures before working with HIV or HBV.
 - c. The Principal Investigator 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.