

EXPOSURE CONTROL PLAN

as Required by OSHA Bloodborne Pathogens Standard

Regulation

On December 6, 1991, OSHA published its regulation pertaining to bloodborne pathogens, "Occupational Exposure to Bloodborne Pathogens", (29 CFR Part 1910.1030). A summary of the Bloodborne Pathogens Standard is attached (Appendix J). The Bloodborne Pathogens Standard represents OSHA's first regulation of occupational exposure to biological hazards. The standard requires that each employer develop a written **Exposure Control Plan** designed to eliminate or minimize exposures to employees. This document is the University's Exposure Control Plan. It is made available to each employee identified as having occupational exposures to blood or other potentially infectious materials. Compliance with the Exposure Control Plan is a condition of employment for all employees with occupational exposures.

Epidemiology

The Bloodborne Pathogens Standard covers the hepatitis B virus (HBV) and human immunodeficiency virus (HIV), as well as other bloodborne pathogens, including: hepatitis (HCV), delta hepatitis, *Treponema pallidum* (syphilis), several species of parasites of the *Plasmodium* genus (malaria), members of the genus *Brucella* (brucellosis), *Leptospira interrogans* (leptospirosis), arboviruses, pathogenic *Borreliae* (relapsing fever), Creutzfeldt-Jakob disease agent, HTLV-I (adult t-cell leukemia/lymphoma and myelopathy), and viruses associated with hemorrhagic fever. These pathogens can be transmitted via exposure to contaminated human blood.

Hepatitis B virus. Between two thirds and three fourths of all Hepatitis B infections result in either no symptoms of infection or a relatively mild flu-like illness. Between 25% and 33% of the infections, however, take a much more severe clinical course. The symptoms include jaundice, dark urine, extreme fatigue, anorexia, nausea, abdominal pain, and sometimes joint pain, rash, and fever. Hospitalization is required in about 20% of the more severe clinical cases.

The annual number of occupational infections involving HBV has decreased sharply since hepatitis B vaccine became available in 1982. There has been a 90% decrease in the number of estimated cases from 1985 to 1996. Approximately 800 health care workers become infected with HBV each year following an occupational infection. Health care workers who have received the vaccine and have developed immunity to the virus are at virtually no risk for infection. For an unvaccinated person, the risk from a single needlestick or a cut exposure to HBV-infected blood ranges from 6-30%.

Hepatitis C virus. Hepatitis C virus (HCV) infection is the most common chronic bloodborne infection in the United States. At least 85% of persons with HCV infection become

chronically infected, and chronic liver disease develops in an average of 67%. Hepatitis C virus (HCV) is most efficiently transmitted by large or repeated percutaneous exposures to blood. Other bloodborne viruses, such as HBV, are transmitted not only by percutaneous exposures, but also by mucous membrane and in apparent parenteral exposures. Although these types of exposures are prevalent among health-care workers, the risk factors for HCV transmission following mucous membrane and non-intact skin exposures in occupational settings are not well defined.

There are no exact estimates on the number of health care workers occupationally infected with HCV. Seroprevalence studies have reported antibody to HCV (anti-HCV) rates of 1% among hospital-based health care workers (about 1.8% of the U.S. population has evidence of infection). The number of these workers who may have been infected through an occupational exposure is unknown. Based on limited studies, the risk for infection after a needlestick or cut exposure to HCV infected blood is approximately 1.8%. The risk following a blood splash is unknown, but is believed to be low; however, HCV infection from such exposures has been reported.

Human immunodeficiency virus. HIV adversely affects the immune system rendering the infected individual vulnerable to a wide range of clinical disorders. These conditions, some of which tend to recur, can be aggressive, rapidly progressive, difficult to treat, and less responsive to traditional modes of treatment. They usually lead to the death of the HIV infected patient. The CDC has divided disease progression into four stages, grouped according to infections or symptoms reported.

Group I: Within a month after exposure, an individual may experience acute retroviral syndrome, the first clinical evidence of HIV infection. This is a mononucleosis-like syndrome with signs and symptoms that can include fever, lymphadenopathy, myalgia, arthralgia, diarrhea, fatigue, and rash. Acute retroviral syndrome is usually self-limiting and followed by the development of antibodies.

Group II: Although most persons infected with HIV develop antibodies to the virus with 6-12 weeks after exposure, most of these individuals are asymptomatic for months to years following infection. However, they can transmit the virus to others throughout this time.

Group III: Although no other signs or symptoms are experienced, some HIV-infected patients will develop a persistent, generalized lymphadenopathy that lasts more than 3 months.

Group IV: Epidemiologic data indicates that most persons who are infected with HIV will eventually develop AIDS. AIDS can result in severe opportunistic infections that an individual with a normal immune system would only rarely experience, as well as a wide range of neurologic and oncogenic or neoplastic processes. Some patients may experience "constitutional disease" also known as HIV "wasting syndrome," which may be characterized by severe, involuntary weight loss, chronic diarrhea, constant or intermittent weakness, and fever for 30 days or longer. This syndrome may result in death. Individuals with AIDS may also develop HIV encephalopathy, dementia, myelopathy or peripheral neuropathy. In addition, the virus is capable of affecting the peripheral nervous system causing severe pain and weakness or numbness in the limbs. There are specific diseases considered indicators of AIDS. Among these are parasitic diseases such as *Pneumocystis carinii* pneumonia; fungal diseases such as candidiasis of esophagus, trachea, bronchi or lungs; viral diseases such as cytomegalovirus disease of an organ other than the liver, spleen or lymph nodes; cancer/neoplastic diseases such as Kaposi's sarcoma; and bacterial infections such as *Mycobacterium avium* complex.

Reports dealing with HIV infection in health care personnel, including laboratory workers, indicate that the risk of bloodborne transmission from inadvertent exposure is considerably less

for HIV than for HBV infection. Data provided by prospective surveillance studies indicate that the occupational risk of acquiring HIV in health care settings is low and is most often associated with percutaneous inoculation of blood from a patient with HIV infection. These studies, indicate that the risk of seroconversion following needlestick exposures to blood from HIV-infected patients is less than 0.5%, compared with 23% to 43% for HBV. Officials at the CDC state that they have data on 195 health care workers in the United States who are reported to be occupationally infected with HIV. Seroconversion has been documented in 57 of these cases. The dates of seroconversion have not been documented for the remaining 138 cases.

HBV and HIV have been isolated from blood, semen, saliva, urine, and cerebrospinal fluid of infected humans. These viruses are likely to be present in other body fluids and secretions. Percutaneous or parenteral inoculation and direct contact of cuts, scratches, abrasions, or mucosal surfaces with suspensions of virus or specimens containing live virus are considered potential routes of infection. Possible transmission of infection via the parenteral route can occur through self-inoculation with needles, broken glass, or other sharp objects that contain HBV or HIV. Spillage is a possible means of exposure and infection. Spills accompanied by spraying or splashing of potentially infectious materials that may come into direct contact with abraded skin or mucous membranes of the eyes, nose or mouth present the greatest risk for exposures. Inhalation has not been documented as a mode of transmission for either HBV or HIV.

Recognition of Tasks with Occupational Exposures

An "occupational exposure" is defined by the Bloodborne Pathogen Standard as follows:

Occupational Exposure: reasonably anticipated skin, eye, mucous membrane, or parenteral contact with blood or other potentially infectious materials (defined below) that may result from the performance of an employee's duties.

Other Potentially Infectious Materials:

- (1) The following human body fluids: semen, vaginal secretions, cerebrospinal fluid, pleural fluid, pericardial fluid, peritoneal fluid, amniotic fluid, saliva in dental procedures, any body fluid that is visibly contaminated with blood. Under circumstances in which differentiation between body fluid types is difficult or impossible, all body fluids are to be considered potentially infectious materials;
- (2) Any unfixed tissue or organ 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.

Employees covered by the standard are those with job duties that require likely contact or manipulation of blood or other potentially infectious materials. In the clinic or laboratory, invasive patient procedures (phlebotomy), manipulation of sharps or glass equipment, and procedures that could possibly produce sprays and splatters of blood or potentially infectious materials (dental procedures, centrifugation, pipetting, opening tubes) increase the risk of exposure incidents. Emergency personnel are to be able to recognize those situations such as trauma producing accidents and violent confrontations that could possibly increase exposure risks. Recognition of tasks with exposure risks, enables one to utilize engineering and work

practice controls and to choose the proper personal protective equipment, which will eliminate or minimize exposures to blood and other potentially infectious materials.

University employees with occupational exposure include:

Jobs involving patient care

physicians
nurses
physical therapists
dentists
dental assistants
dental hygienists

Other jobs with potential exposure

campus police
athletic trainers
morgue workers
housekeepers in medical or dental clinics
duties include CPR
duties include first aid
research personnel handling blood specimens
medical technologists

Universal Precautions

"Universal precautions" (referred to as "Standard Precautions" according to CDC Isolation Guidelines) is an approach to infection control, in which all human blood and certain human body fluids are treated as if known to be infectious for HIV, HBV, and other bloodborne pathogens. In general, under the OSHA Bloodborne Pathogens Standard, universal precautions are to be observed to prevent contact with blood or "other potentially infectious materials". Specific precautions are described below under "Engineering and Work Practice Controls", "Personal Protective Equipment", "Housekeeping", and "Waste Disposal".

Engineering and Work Practice Controls

Engineering and work practice controls are used to eliminate or minimize employee exposure. Where occupational exposure remains after institution of these controls, personal protective equipment is also to be used. Engineering controls are to be examined and maintained or replaced on a regular schedule to ensure their effectiveness.

Hand washing. Hands and any other contaminated skin are to be washed with soap and water, and mucous membranes flushed with water immediately or as soon as feasible following contact of such body areas with blood or other potentially infectious materials. Hand washing facilities are to be provided which are readily accessible to employees. When provision of hand washing facilities is not feasible, an appropriate antiseptic hand cleanser in conjunction with clean cloth/paper towels or antiseptic towelettes are to be used. When antiseptic hand cleaners or towelettes are used, hands are to be washed with soap and running water as soon as feasible. Hands are to be washed immediately or as soon as feasible after removal of gloves or other personal protective equipment.

Contaminated needles. Contaminated needles and other contaminated sharps are not to be bent, broken, recapped, or removed, unless it can be demonstrated that no alternative is feasible. When necessary, recapping or needle removal must be accomplished through the use of a mechanical device or a one-handed technique. Immediately or as soon as possible after use, contaminated reusable sharps must be placed in puncture resistant, leakproof containers, displaying a **BIOHAZARD** label, until properly reprocessed. Contaminated disposable needles

are to be placed in metal 1-gallon "solvent" cans (available from General Storeroom) after use. The cans must then be autoclaved before disposal.

Sharps with Engineered Sharps Injury Protections. Occupational exposure to bloodborne pathogens from accidental sharps injuries continues to be a serious problem. Since publication of the bloodborne pathogens standard in 1991 there has been a substantial increase in the number and assortment of effective engineering controls available. Protective devices include those that have a built-in safety feature or mechanism and "needleless systems" that effectively reduce the risk of an exposure incident. Device selection and evaluation is an important element to achieving a reduction in sharps injuries, especially as new needle stick protection devices are introduced into the work setting. The Product Evaluation Committee, the Infection Control Committee and the Environment Health and Safety Committee periodically review tasks and procedures to determine where engineering controls such as needle stick prevention devices can be implemented or updated. Information regarding the review process and sharp safety devices in use and under evaluation for UNC can be found in Appendix H.

Food and Drink. Eating, drinking, smoking, applying cosmetics or lip balm, and handling contact lenses are prohibited in work area where there is reasonable likelihood of occupational exposure. Storage of food and drink is prohibited in refrigerators, freezers, shelves, cabinets or on countertops or bench tops where blood or other potentially infectious materials are present.

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

Pipetting. Mouth pipetting/suctioning of blood or other potentially infectious materials is prohibited.

Labels. Warning labels must be affixed to containers of regulated waste, refrigerators and freezers containing blood or other potentially infectious material; and other containers used to store, transport or ship blood or other potentially infectious materials. Labels must include the following legend: Universal Biohazard Symbol, and be fluorescent orange or orange-red with lettering or symbols in a contrasting color. Labels must be affixed as close as feasible to the container by string, wire, adhesive, or other method that prevents their loss or unintentional removal. Red bags or red containers may be substituted for labels.

Specimen Containers. Specimens of blood or other potentially infectious materials are to be placed in a container, which displays a **BIOHAZARD** label and prevents leakage during collection, handling, processing, storage, transport, or shipping. If the specimen could puncture, or, if outside contamination of the primary container occurs, the primary container is to be placed within a second labeled, leakproof container.

Contaminated Equipment. Equipment which may become contaminated with blood or other potentially infectious materials must be examined prior to servicing or shipping, and decontaminated as necessary. Portions of the equipment not feasible for decontamination are to be designated with a **BIOHAZARD** label and the information communicated to service personnel.

Personal Protective Equipment

When there is occupational exposure, personal protective equipment such as, gloves, gowns, laboratory coats, face shields or masks and eye protection, and mouthpieces, resuscitation bags, pocket masks, or other ventilation devices must be available and utilized. Personal protective equipment in the appropriate sizes is to be readily accessible at the worksite or issued to employees. If a garment(s) is penetrated by blood or other potentially infectious materials, the garment(s) must be removed immediately or as soon as feasible. All personal protective equipment must be removed and placed in a designated container (for storage, decontamination, or disposal) prior to leaving the work area.

Gloves. Gloves are to be worn when it can be reasonably anticipated that the employee may have hand contact with blood, other potentially infectious materials, mucous membranes, and non-intact skin; when performing vascular access procedures and when handling or touching contaminated items or surfaces. Disposable (single use) gloves such as surgical or examination gloves, must be replaced as soon as practical when contaminated or as soon as feasible if they are torn, punctured, or when their ability to function as a barrier is compromised. Disposable (single use) gloves are not to be washed or decontaminated for re-use. Utility gloves may be decontaminated for re-use if the integrity of the glove is not compromised. However, they must be discarded if they are cracked, peeling, torn, punctured, or exhibit other signs of deterioration or when their ability to function as a barrier is compromised. Hypoallergenic gloves, glove liners, powderless gloves, or other similar alternatives are to be readily accessible to those employees who are allergic to the gloves normally provided.

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

Gowns, Aprons, and Other Protective Body Clothing. Appropriate protective clothing such as, but not limited to, gowns, aprons, lab coats, clinic jackets, or similar outer garments are to be worn in occupational exposure situations. The type and characteristics will depend upon the task and degree of exposure anticipated. Surgical caps or hoods and/or shoe covers or boots are to be worn in instances when gross contamination can reasonably be anticipated (e.g., autopsies, orthopedic surgery).

Housekeeping

The worksite is to be maintained in a clean and sanitary condition. An appropriate written schedule for cleaning and method of decontamination are to be determined and implemented, based upon the location within the facility, type of surface to be cleaned, type of soil present, and tasks or procedures being performed in the area.

All equipment and work surfaces are to be cleaned and decontaminated with an appropriate disinfectant after completion of procedures, or, immediately after spills. Suitable disinfectants include those that are tuberculocidal (e.g. Vesphene, OMNI II Disinfectant) or a solution of 5.25% sodium hypochlorite (household bleach) diluted to 1:10 to 1:100 with water. Protective coverings, such as plastic wrap, aluminum foil, or imperviously-backed absorbent paper used to cover equipment and environmental surfaces, are to be removed and replaced as

soon as feasible when they become overtly contaminated or at the end of the workshift if they may have become contaminated during the shift.

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

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

Contaminated laundry is to be handled as little as possible with a minimum of agitation. Contaminated laundry must be bagged or containerized at the location where it was used and is not to be sorted or rinsed in the location of use. Contaminated laundry is to be placed and transported in bags or containers labeled or color-coded. Whenever contaminated laundry is wet and presents a reasonable likelihood of soak-through or leakage from the bag or container, the laundry shall be placed and transported in bags or containers which prevent soak-through and/or leakage of fluids to the exterior. Contaminated clothing or other laundry must not be taken home for cleaning. Personal clothing contaminated with blood or other potentially infectious material will be cleaned by a laundry service with arrangements being made through the employee's department.

Clean-up of blood spills. Spills may occur when containers of blood or other potentially infectious materials (OPIM) are dropped in the clinic or laboratory or may occur when an injured person drips blood on the floor. Employees who are exposed to blood or OPIM are to be thoroughly familiar with emergency and decontamination procedures so that the contamination is contained and exposure of individuals is minimized. The following procedure is suggested for clean-up of blood spills:

1. Limit access to the affected area, closing the door and warning others not to enter the contaminated area.
2. Notify the person responsible for the area and Environment, Health and Safety (962-5507).
3. A "Spill Kit" is to be available and is to include bucket, plastic bags, forceps, paper towels, disinfectant, protective clothing, shoe covers, and rubber gloves.
4. Protective clothing is to be worn when entering the spill area. Rubber gloves, disposable footwear, and a lab coat, or disposable coveralls. For spills on the floor, a gown that may trail the floor when bending down is to not be worn.
5. Remove and containerize contaminated items and garments.
6. Paper towels soaked with the germicide may be used to cover the area. Suitable disinfectants include those that are tuberculocidal (e.g. Vespene, OMNI II Disinfectant) or a solution of 5.25% sodium hypochlorite (household bleach) diluted to 1:10 to 1:100 with water. Pour a germicidal solution around the spill and allow to flow into the spill.

7. Let stand 20 minutes to allow adequate disinfectant contact time. Absorb the spill and disinfectant in paper towels or other absorbent material.
8. Using a dust pan and squeegee or broom, transfer contaminated materials (paper towels, glass, liquid, etc.) into a bucket lined with a plastic bag.
9. Remove gloves, shoe coverings, and other contaminated clothing and place in plastic bag.
10. Dispose of waste material in dumpster.

Waste Disposal

The containment and disposal of waste generated in research laboratories and health care facilities at UNC, are subject to federal and state regulations and University policies. The OSHA Bloodborne Pathogens Standard regulates the containment and labeling of blood and certain waste which may be contaminated with blood, as well as, needles and other sharps. North Carolina Medical Waste Management Regulations define "regulated medical waste" as: (1) blood and body fluids in individual containers in volumes greater than 20 ml, which must be treated by incineration or sanitary sewage; (2) microbiological waste, which must be treated by incineration, steam sterilization or chemically; and, (3) pathological waste, which must be incinerated. University policies are designed to assure the safety of employees, including clinical, laboratory, and housekeeping staff, who may be exposed to medical waste during the course of their work duties.

Contaminated Sharps. Contaminated sharps include any sharp item capable of puncturing the skin, such as needles, syringes, broken glass, Pasteur pipettes, and scalpel blades contaminated with blood or other potentially infectious material.

Clinic procedures. Discarded syringes with attached needles, scalpel blades, capillary tubes, slides and cover slips are to be discarded in sharps containers which are closable, puncture resistant, leak proof on sides and bottom and labeled with the **Biohazard** symbol. When the sharps container is ready for disposal, the top is to be taped securely and the container placed in a **Biohazard** waste box which also contains the words "**Infectious Waste**" or "**Medical Waste**" and is lined with a red bag. Clinic staff are responsible for securing and placing sharps containers in the labeled boxes. Housekeeping staff will remove sealed boxes from clinic areas. Glass items, which are contaminated with blood, are to be placed in a **Biohazard/Medical** waste box which is lined with a red bag. Other glass items are to be placed in a cardboard box which is lined with a plastic bag. The box is to be labeled, "**Glass and Sharps**". Clinic staff are responsible for the closing and taping of boxes containing glass waste. Housekeeping staff will remove sealed boxes from clinic areas. The boxes will be transported to the loading dock area where they will be collected by the UNC-Hospitals' waste disposal contractor for transport to an incinerator.

Research Laboratory procedures. Discarded needles, syringes, and scalpels are to be discarded immediately, or as soon as feasible, in metal 1-gallon "solvent" containers, available from General Storeroom. Contaminated glass items are to be contained in a puncture proof container, capable of being autoclaved, and lined with an autoclavable

bag. The needle and glass containers are to be autoclaved if contaminated with infectious material. After autoclaving, the cans of needles or bags of autoclaved glass are to be placed in a box lined with a plastic bag and labeled, "Glass and Sharps". The glass and sharps labels are available from housekeeping. Housekeeping personnel will then remove the containers from the work area for disposal.

Blood and other potentially infectious body fluids. For clinics, blood and blood products can be discarded by pouring the fluid down a clinic sink (not a handwashing sink). When this is done, care is to be taken to avoid splash and the drains are to be flushed with generous amounts of water. Personal Protective Equipment including gloves, mask and eye protection are to be worn during the disposal procedure.

Laboratories that have access to autoclaves are to steam sterilize blood before disposal. If this is not feasible, blood is to be discarded into a 10% solution of sodium hypochlorite and then poured down the sanitary sewer, as permitted by NC Medical Waste Management Rules. When this is done, care is to be taken to avoid splash and the drains are to be flushed with generous amounts of water.

Other Contaminated Waste. Other items contaminated with blood, such as tubes or pipettes containing residual amounts of blood, paper towels, gauze pads, etc. are to be discarded in containers separate from normal trash which are closable, leakproof, labeled, and lined with a plastic bag. When full the plastic bags are to be tied off and taken to a dumpster or otherwise placed in the regular trash. For **Ambulatory Care Clinics**, this waste is to be placed in white plastic bags with a **Biohazard** label. This waste will be removed from the facility and disposed of with general facility waste. All bags of waste from clinic and laboratory areas in the Ambulatory Care Clinics are to be tied off prior to removal. Housekeeping staff are to always remove the entire bag of trash and are to never empty the contents of a bag into larger containers. The boxes will be transported to the loading dock area where they will be collected by the UNC- Hospitals' waste disposal contractor for transport to an incinerator.

Microbiological Waste. Microbiological waste is defined as cultures and stocks of infectious agents, including HIV, and items contaminated with cultures. In research laboratories, microbiological waste is to be autoclaved prior to disposal. See the UNC Biological Safety Manual (Chapter 16, Appendix 16-A) for autoclaving and disposal procedures. In clinic laboratories, microbiological waste is to be placed in a **Biohazard/Medical** waste box which is lined with a red bag. When the box is filled to a reasonable level, the bag is to be tied and the box top secured with packing tape. Laboratory staff are responsible for the closing and taping of boxes containing microbiological waste. Housekeeping staff will remove sealed boxes from laboratory areas. The boxes will be transported to the loading dock area where they will be collected by the UNC-Hospitals' waste disposal contractor for transport to an incinerator.

Pathological Waste. Pathological waste includes human tissues or body parts. Pathological waste is either autoclaved (small tissues only) or incinerated. For **Ambulatory Care Clinics** pathological waste (small tissues only) is to be placed in a **Biohazard/Medical** waste box which is lined with a red bag. Clinic staff are responsible for the closing and taping of boxes containing pathological waste. Housekeeping staff will remove sealed boxes from clinic areas. The boxes will be transported to the loading dock area where they will be collected by the UNC-Hospitals' waste disposal contractor for transport to an incinerator.

HIV and HBV Research Laboratories and Production Facilities

Research and production facilities engaged in the culture, production, concentration, experimentation, and manipulation of HIV and HBV are to carry out their procedures at Biosafety Level 3, described in Chapter 4 of the UNC Biological Safety Manual. This does not apply to clinical or diagnostic laboratories engaged solely in the analysis of blood, tissues, or organs. Employees conducting HIV research are to review the Agent Summary Statement for HIV in the UNC Biological Safety Manual, Chapter 9.

Written policies and procedures are to 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 are allowed to enter the work areas and animal rooms. The Environment Health & Safety office conducts annual inspections and training of HIV research laboratories, to ensure adherence to applicable biosafety practices.

Signs must be posted at the entrance to work areas in HIV and HBV Research Laboratory and Production Facilities, which shall bear the Universal Biohazard Symbol, the name of the infectious agent, special requirements for entering the area, and the name, and telephone number of the laboratory director or other responsible person. These signs are to be fluorescent orange-red or predominantly so, with lettering or symbols in a contrasting color.

Employees working in HIV or HBV research laboratories and HIV or HBV production facilities are to receive the following initial training in addition to other training required by the standard.

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

Hepatitis B Vaccination and Post-Exposure Evaluation and Follow-up

Hepatitis B Vaccination. Hepatitis B vaccination must be made available after the employee has received information and training regarding the vaccine (Appendix B) and within 10 working days of initial assignment to all employees who have occupational exposure unless the employee has previously received the complete hepatitis B vaccination series, antibody testing has revealed that the employee is immune, or the vaccine is contraindicated for medical reasons. Employees who decline to accept hepatitis B vaccination must sign the declination statement in Appendix D. The HBV vaccination involves a series of three injections, the second administered one month following the first, and the third administered six months following the second injection. If an employee terminates his/her employment before finishing all three injections, the University is **not** responsible for providing the remaining injections. The employee is responsible for completing the series, if desired.

Procedures for Requesting a Vaccination

Employees who have occupational exposures are to obtain their vaccine through the UNC Employee Occupational Health Clinic at 145 North Medical Drive.

1. The employee is to call the UNC Employee Occupational Health Clinic (966-9119) to schedule the first appointment.
2. The UNC Employee Occupational Health Clinic will schedule subsequent appointments to complete the vaccination series.
3. UNC Employee Occupational Health Clinic requires the employee to bring a completed Appendix A. (Request for Hepatitis B vaccination)

Medical Evaluation and Follow-up of Bloodborne Pathogens Exposures

To ensure prompt attention, University employees are to call:

During daytime hours (8:30 a.m. -4:30 p.m., M-F): Call the University Employee Occupational Health Clinic, 966-9119, for consultation and assessment.

After-hours: Call Healthlink, 966-7890, for consultation and assessment.

Any University employee who has a job-related exposure to blood or body fluids is to be taken immediately to UNC Employee Occupational Health Clinic (966-9119), calling ahead, to alert them that a patient is being brought in for care, to undergo medical evaluation and follow-up. Exposed skin is to be washed and sites of parenteral exposure are to be washed thoroughly with soap and water. Eyes are to be flushed with water at the eyewash station for 15 minutes. If exposed, the mouth is to be flushed with clean water.

Healthlink has nurses on duty 24 hours per day, 7 days per week. The Department of Medicine provides medical supervision with attending physicians on-call at all times. The Universities protocol for management of occupational exposures to HIV was developed by infectious disease specialists in the Department of Medicine and is identical to the protocol followed by the UNC Hospitals Employees Health Clinic. When calling UEOHC or Healthlink, be sure to identify yourself as a UNC-CH employee.

Current protocols for HIV post-exposure prophylaxis, necessitate immediate reporting of occupational exposures, so that administration of antiretroviral prophylaxis can be promptly initiated. The employee's supervisor must complete a Form 19, "Employer's Report of Injury to Employee" directly following the incident. OSHA regulations require that this form be filed with the Environment Health & Safety Office within 48 hours of the incident. The Environment Health & Safety Office will investigate the circumstances of the exposure incident. A report (Appendix E) will be made regarding the incident, and recommendations will be made to avoid further exposure incidents.

Billing: Charges for these services will be billed to the Environment Health & Safety Office and paid from the University's workers' compensation account. Workers' compensation will also pay for any necessary followup.

Medical Records. Medical records will be kept in confidentiality at the UNC Employees Occupational Health Clinic. Records are not disclosed or reported without the employee's express written consent to any person within or outside the workplace except as may be required by law. Employee medical records are to be kept for at least the duration of employment plus 30 years.

Student Exposures. Student Health Services (SHS) evaluates bloodborne pathogen exposures for UNC students including health affairs students. Information regarding exposure reporting and evaluation can be found in Appendix I.

Training

The Standard requires that annual training be provided to all employees with occupational exposures. The required training is a condition for employment for all employees with occupational exposures. The Environment Health & Safety Office conducts monthly training sessions which includes: an explanation of the requirements of the Bloodborne Pathogens Standard, an explanation of the epidemiology and symptoms of bloodborne diseases; and an explanation of the University's exposure control plan. A schedule of classes is provided in the Environment Health & Safety Office web site: <http://www.ehs.unc.edu>. Employees may also elect to use the self-study training for bloodborne pathogens also located at the website.

Documentation is kept at the Environment Health & Safety Office. Training records are to be maintained for 3 years from the date on which the training occurred.

Inspection

All facilities covered by the Bloodborne Pathogen Standard will be inspected annually by the Environment Health & Safety Office. Compliance with requirements of the standard will be documented by the inspection form (Appendix G). The inspection documents that all employees covered by the standard have received training and been offered the hepatitis B vaccine. The supervisor must document in the lab safety plan that engineering controls and work practices to prevent occupational exposures are in place.

Exposure Control for UNC-CH Employees Located in Other Counties

UNC-CH employees working in other counties are to make arrangements to receive training, HBV vaccinations, and post exposure evaluations and follow-up at other institutions or facilities located in their respective cities. They must send documentation for the required training and HBV vaccination records to their respective departments in Chapel Hill and to the Environment Health & Safety Office. They must also receive a copy of the UNC Exposure Control Plan. If they are working in another institution they are to follow the Exposure Control Plan for that institution.

Appendix A

Request for Hepatitis B Vaccination

Appendix B

Information Sheet

I understand that viral Hepatitis B (also called serum hepatitis) is a severe liver disease of adults and children and accounts for about one-half of all hepatitis cases in the United States. It is spread between human beings by contaminated needles, by intimate contact with an infected person, and by blood transfusions. Health care professionals, like myself, are at increased risk for acquiring this infection. Acute Hepatitis B is characterized by fever, loss of appetite, nausea, vomiting, abdominal pain, enlargement of the liver, jaundice (yellow skin) and occasionally by rash and pain in the joints. About 0.1% of persons die with the acute disease. About 10% of people do not recover from their infection but become carriers of the virus throughout their lifetime. This carrier state is associated closely with the development of cirrhosis of the liver, which can be fatal, and the development of liver cancer. I understand that no specific treatment of Hepatitis B is available.

Immunization for Hepatitis B is now available for high risk personnel in the hospital. Available published data about the risk of infection indicates that hospital workers with frequent blood exposure are at high risk. The vaccine will be administered by the UNC Employees Occupational Health Clinic. The vaccine will be given at no cost to the employees and without routine pre-vaccination screening for Hepatitis B virus serological markers

Female personnel who are pregnant or who are nursing mothers are to consult their health care providers, who must give written authorization prior to the vaccine being administered.

Personnel who have any known cardio-pulmonary compromise are to consult their health care providers, who must give written consent prior to the vaccine being administered. Individuals who have well documented allergic reactions to formalin (formaldehyde) or thimerosal (mercury derivative) or yeast are to receive special consultation from University Employee Occupational Health Clinic personnel prior to the administration of the vaccine.

There is one type of vaccine available. This is synthetic. The vaccine is generally well tolerated. No serious adverse reactions attributable to the vaccination have been reported for the vaccine. As with any vaccine, there is the possibility that broad use of the vaccine could reveal rare adverse reactions not observed in the clinical trials. Of the reported reactions, approximately half of them were injection site soreness. Low grade fever, less than 101 F, occurs occasionally and is usually confined to the 48 hour period following vaccination. Systemic complaints including malaise, fatigue, headache, nausea, dizziness, myalgia, and arthralgia are infrequent and have been limited to the first few days following vaccination.

Adult individuals who are not dialysis patients or immunocompromised are to receive 3 one ml doses of the vaccine intramuscularly in the deltoid muscle of the arm. The first dose is given at the elected date, the second dose is given one month later and the third dose is given six months after the first dose. The duration of the protective effect of the vaccine is unknown at present.

ALTHOUGH THE VACCINE PROTECTS AGAINST HEPATITIS B, IT DOES NOT PROTECT ONE FROM OTHER INFECTIONS (SUCH AS HEPATITIS A OR C) WHICH CAN BE TRANSMITTED BY BLOOD AND OTHER BODY FLUIDS. FOR THIS REASON, TECHNIQUES FOR CAREFUL HANDLING OF THESE FLUIDS CANNOT BE RELAXED.

Appendix C
UNC Employee Occupational Health Clinic

HEPATITIS B VACCINE
Consent to Vaccination

The Disease :

Hepatitis B is a dangerous viral infection of the liver that can cause fever, jaundice, nausea, abdominal pain, tiredness, chronic liver disease, liver cancer, and death. It is possible for anyone to get Hepatitis B, but those at greatest risk are intravenous drug users, homosexual and bisexual men, recipients of certain blood products obtained from multiple donors, residents of and immigrants from areas where hepatitis is common, and household and male or female sexual partners or any of the aforementioned groups. At moderate risk are heterosexually active persons with multiple partners or recent sexually transmitted disease, and health care workers who have frequent contact with blood. Tourists who do not belong to any of these groups are at slightly higher risk if they travel to areas where hepatitis is common. There is no specific treatment for Hepatitis B infection. However, persons significantly exposed to hepatitis patients or their body fluids can benefit from post-exposure treatment with hepatitis immune globulin to decrease the risk of their becoming ill.

The Vaccine:

One dose of hepatitis B vaccine is given initially followed by the second dose a month later. The final dose is administered 6 months later. . This series is 80 to 95 percent effective in preventing Hepatitis B infection. Genetically engineered hepatitis vaccine is not derived from animal blood. It does not cause hepatitis or human immunodeficiency virus (HIV or AIDS) infection. Vaccination is recommended for those at moderate or high risk of hepatitis as described above. No countries require Hepatitis B vaccine for admission into their territory.

Possible Side Effects:

Adverse reactions are infrequent and mild. Swelling, itching, pain, or tenderness may occur at the injection site in 15 to 20 percent of persons. Headache, tiredness, or fever occur occasionally. Anaphylactic, or allergic, reactions may rarely occur. These may range from the mild (hives) to the severe (death), but the risk of their occurrence is much less than the risk of sickness or death from Hepatitis. Indeed, no studies have so far shown that any life threatening reactions to Hepatitis B vaccine have occurred.

Statement of Consent:

I have read the above. I have had the opportunity to ask questions and to understand the risks of this vaccine. I understand, as with all medical treatment, there is no guarantee that I will become immune or that I will not have an adverse side effect from the vaccine. I request that the vaccine be given to me.

Patient's Signature

Witness to Consent

Date of Consent

Appendix D

Name: _____ Soc Sec No: _____

Department: _____ Campus Phone: _____

Hepatitis B Vaccine Declination

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

employee signature

date

Appendix E

UNC Department of Environment, Health and Safety

OSHA BLOODBORNE PATHOGENS TRAINING

Employee _____ UNC ID# (ONECARD) _____

UNC-CH Employee? yes no Job Title _____ Department _____

CB# _____ Phone# _____ Manager/Supervisor _____

Duties that involve exposure or potential exposure to blood or other infectious materials

Does your work involve patient care? yes no ^{circle}

(This includes positions such as nurses, physicians, dentists, dental auxiliary personnel, and physical therapists, but does not include clerical, housekeeping, maintenance, or other support personnel)

Is your primary work location in any of the following facilities? (please circle)

- UNC Hospitals School of Dentistry Family Practice Center
 Ambulatory Care Center Student Health Service

TRAINING TOPICS

- Explanation of the OSHA Bloodborne Pathogens (BBP) Standard and accessibility of standard;
- Epidemiology and symptomology of BBP; modes of transmission of BBP;
- Exposure control plan, accessibility of plan;
- Recognition of tasks with exposure risks to blood and other potentially infectious materials;
- Use and limitations of engineering and work practice controls, and personal protective equipment (PPE);
- Personal Protective Equipment: types, selection, use, location, removal, handling, decontamination and disposal;
- Hepatitis B vaccine: efficacy, safety, administration, benefits;
- Procedures and actions to be taken in an emergency involving blood or other potentially infectious materials;
- Responding to an exposure incident; post-exposure evaluation, follow-up;
- Signs and labels;
- Questions and discussion;

Have you already received the Hepatitis B vaccine?: yes no ^{circle}

If yes, give approximate date you received the vaccine: _____

If you have not been previously vaccinated please request your vaccination by completing Appendix A and calling UNC Employee Occupational Health Clinic (966-9119) for an appointment.

If you are declining the Hepatitis B vaccine, please fill out Appendix D.

I have attended a training session on bloodborne pathogens in which the above topics were presented and discussed. I have received a copy of the UNC Exposure Control Plan and understand that I am expected to become familiar with its contents within a week of today's date.

Signature

Date of training

Location

Appendix F

OSHA BLOODBORNE PATHOGEN TRAINING

**ADDITIONAL INITIAL TRAINING FOR EMPLOYEES
IN HIV AND HBV RESEARCH LABORATORIES**

Employee _____ Job Title _____

Department _____ Bloodborne Pathogen _____

Employees in HIV or HBV research laboratories are to receive the following initial training in addition to the regular training topics:

- Employees must demonstrate proficiency in standard microbiological practices and techniques and in the practices and operations specific to the facility before beginning to work with HIV or HBV.
- Employees are to have prior experience in the handling of human pathogens or tissue cultures before working with HIV or HBV.
- A training program must be provided to employees who have no prior experience in handling human pathogens. Initial work activities are not to include the handling of infectious agents. A progression of work activities is to be assigned as techniques are learned and proficiency is developed. Employees are to participate in work activities involving infectious agents only after proficiency has been demonstrated.

The employee has received the additional training required for work in HIV or HBV research laboratories.

Principal Investigator _____ **Date** _____

Employee _____ **Date** _____

Appendix G

Job Classifications and Tasks with Occupational Exposures to Bloodborne Pathogens

- 1) Job classifications in which **all** employees in the job classification have occupational exposure:

Clinical Nurse
Nursing Assistant
Physician
Resident
Staff Clinic Nurse
Physician Extender
Medical Laboratory Technologist
Dental Assistant
Dentist
Dental Hygienist
Physical Therapist
Nurse Clinician
Surgeon's Assistant
Practical Nurse
Nurse Clinician
Police Officer
Dental Equipment Technician
Clinical Nursing Supervisor
Orthopedic Cast Technician
Surgery Technician

- 2) Job classification in which **some** employees in the job classification have occupational exposure:

Job Classification:	Tasks with Occupational Exposures:
Research Technician	processing unfixed tissues and blood specimens, tissue culture of HIV, antibody screening of blood specimens, separation of blood components, performing radioimmunoassays of human sera
Biomedical Photographer	photography in OR, photography of unfixed tissues
Research Associate	processing and examination of unfixed tissues
Laboratory Animal Technician	care of HIV and HBV infected animals

Veterinary Technician	performing experimental procedures and care of HIV and HBV infected animals
Ophthalmic Technician	cleaning contaminated equipment
Medical Laboratory Technician	drawing blood
X-Ray Technician	performing neuroangiograms
Research Specialist	processing blood and semen specimens, bar-code scanning of plasma vials
Medical Laboratory Technologist	blood drawing, handles blood specimens,

Postdoctoral Fellow	processing blood, separation of blood components
Laboratory Technician	blood drawing and processing
Athletic trainer	first aid, examination of injuries
Research Analyst	processing blood for experiments
Medical Laboratory Supervisor	blood drawing, handles blood specimens, handles blood reagents, unwraps unembalmed bodies
Laboratory Technician	cleaning contaminated instruments

Housekeeper	collection and transport of sharps and medical waste
Faculty	processing unfixed tissues, blood drawing, centrifugation of blood, tissue culture of HIV
Secretary	pre-analytical processing of blood specimens
Clerk	transporting blood to labs, organizing plasma specimens for storage and shipment
Medical Laboratory Assistant	washes linen contaminated with blood
Laboratory Manager	handles unembalmed human bodies
Statistical Assistant	blood drawing and processing
Research Assistant	preparing unfixed tissues for microscopy
Graduate Assistant	blood drawing and processing, processing unfixed tissues
plumber	repairing drains in medical and dental clinics
division TEACCH personnel	administering dental hygiene and first aid
Lifeguard	first aid

Appendix H

UNC-CH COMMITTEE REVIEW OF ENGINEERING AND WORK PRACTICE CONTROLS/SHARPS SAFETY DEVICES IN USE AND UNDER EVALUATION FOR THE UNC SCHOOL OF DENTISTRY AND STUDENT HEALTH SERVICES

Health and safety committees have been established at UNC-CH to review injury and illness records, review engineering and work practice controls including safer medical devices that help prevent needlestick injuries, and make advisory recommendations to the administration in order to achieve a safer workplace. Five committees have been established according to the type of work environment: Clinic; Laboratory; Support Services; Industrial, Maintenance, and Construction; and Office. Bloodborne pathogen exposures that occur are reviewed by the respective work environment safety committee for employees in that work environment.

Committee Organization

Each committee is composed of twelve University employees, at least six of whom are non-supervisory employees. The Director of the Environment Health & Safety Office, or designee, serves as an ex-officio member with voting rights on each committee.

Appointments

The Chancellor appoints members of the work environment committees. Terms of the initial appointees are staggered to provide for one-third of the committee members being replaced each year. Terms are for three years and EHS members will normally not serve consecutive

terms although members initially appointed to less than a three-year term may be reappointed to a full term.

Committee Responsibilities

Basic committee responsibilities include:

1. Review sharps injury log, other bloodborne exposure incidents, and other incidents involving work-related fatalities, injuries, and illnesses.
2. Review employee complaints regarding hazards in the workplace.
3. Review engineering controls and commercially available and effective medical devices designed to eliminate or minimize occupational exposures.
4. Document identification, evaluation, and selection of engineering and work practice controls.
5. Make recommendations to appropriate infection control committees for the selection and implementation of safer medical devices
6. Make recommendations for safety improvements and policies to the administration and the Committee

Committee

The Pan University Safety Policy Committee (PUSPC) is composed of: Senior Director for Human Resource Administration; Vice Provost for Graduate Studies and Research; Director Research Services; Deputy of Facilities Services; Associate Vice Chancellor for Auxiliary Services who will chair the Committee; the Director of Environment Health & Safety, Senior University Counsel; Environment Health & Safety Office Section Managers, EHS staff serving as staff support to the Workplace Safety Environment Committees.

Distribution of Committee Minutes

Minutes for the committee meetings are sent to each supervisor in the work environment and are also posted on the website.

Internal Procedures for Sharps Safety Devices in Use and Under Evaluation for UNC School of Dentistry

The UNC School of Dentistry utilizes the Infection Control Committee, which meets once a month to make recommendations regarding sharps safety devices. The Infection control Committee is comprised of Dental Faculty, Dental Hygiene Faculty, Dental Students and School of Dentistry Staff all of who have direct patient contact and are at the highest risk of incident or exposure. The committee makes recommendations and evaluations on procedures and protocols and the safety devices that are used for proper prevention. These recommendations are based upon evaluation of new safety devices and incident that have occurred. The Risk Manager also presents reports to the committee. The minutes from these meetings are shared with School of Dentistry staff.

Internal Procedures for Sharps Safety Devices in Use and Under Evaluation for UNC Student Health Services

Due to the increased attention to needlestick prevention and exposure rules and regulations, Student Health Service (SHS) is on the cutting edge of protecting its employees. SHS has an Infection Control committee that meets once a month and a sub group from that committee acts as our needlestick task force. The people who make up this committee and this subgroup are mainly composed of front-line people who are in direct contact and are at the highest risk of incident or exposure. This process leads to having direct involvement and input from the staff. SHS also have a checks and balances system set up to protect the integrity of each of our committees. The Infection Control Committee and the Environment of Care Committee work hand in hand when making decisions that would affect the organization and its staff. Having this direct interaction allows for equal representation from every department in Student Health. Each committee makes recommendations and evaluations on procedures and protocols and the safety devices that are used for proper prevention. One mechanism used to make these recommendations is the "Product Review Trail Form" (see attached) which provides feedback by personnel who have direct patient care. Another mechanism is the committee's evaluation of any incident that may have occurred, the reason why it occurred, and how the incident could be eliminated or minimized. The final mechanism is the tracking of compliance through random inspections to make sure that the proper procedures and protocols are being followed. Results from the information gathered is documented in the committee minutes and will include device, manufacturer, like/dislike, and justification. The minutes are dispersed three ways: 1) directly with each SHS personnel via the email system, 2) posted in the Human Resources department at SHS, 3) kept in the Environment of Care records.

Sharps Safety Devices in Use and Under Evaluation for UNC UNC School of Dentistry

Devices Currently in Use

- Sheath Prop/Needle-Puncture Guard for one handed recapping - Stik-Shield, Inc.
- Translucent disposal sharps containers attached to wall or counter - Tyko Health Care - Kendall
- Needleless IV System in Oral Surgery – Abbott
- Lancet/Owen Munsford - Unilet 6.P.
- Vacutainer/Becton Dickinson

Devices Currently under Evaluation and Candidates for Adoption

- Evaluate the sheathed IM injection syringes
- Two faculty members attended the Organization for Safety & Asepsis Procedures (OSAP) National meeting in May 2002 and gathered information pertaining to new sharps protection devices in dentistry.

UNC Student Health Service

Devices Currently in Use

IV Catheter – J & J Safety Catheter
IV System – Abbott/Clave Needleless System
Vacutainer – Becton Dickinson Eclipse
Scalpel – Becton Dickinson / Safety Scalpel

Devices Currently Evaluation and Candidates for Adoption

Syringes – Abbott Vanishpoint

Appendix I



The University of North Carolina at Chapel Hill
Division of Student Affairs
Student Health Service

Date Effective: May, 2001	Policy Number: SHS-PE- 14 INF-N-02
Subject: Blood Borne Pathogen Exposure - Mode of Operation Page 1 of 1	

POLICY

Student Health Service (SHS) evaluates blood-borne pathogen exposure as outlined in Policy INF-N-03 for all health affairs students. It is necessary to provide this service on a 24-hour basis since these students need to be evaluated and possibly treated immediately. The following outlines the evaluation protocol at different hours of service.

PROTOCOL

1. The SHS medical providers will continue to manage blood-borne pathogen exposures that occur when the students present to SHS.
2. If the student presents at SHS during the fall/spring semesters when SHS is open, the Acute Care Physician Extender or the on-call physician for SHS will evaluate the student per usual protocol.
3. If the student presents at SHS during the summer sessions when SHS is open, evaluation is done per usual protocol. When SHS is closed, the SHS on-call physician will notify the student of the results.
 - a. If the source is positive and the student is not on prophylaxis, the on-call SHS physician will instruct the patient to go to the UNC Hospitals Emergency Department to see the Infectious Disease Fellow.
 - b. The Infectious Disease Fellow will refer the student back to SHS for follow-up.
4. If the exposure occurs during the time SHS is closed, the student will call HealthLink at 966-2281. HealthLink will contact the SHS physician on-call who will then handle the initial evaluation and refer to the Infectious Disease Fellow if necessary.

ADMINISTRATIVE APPROVAL

_____ Date _____
J. Robert Wirag, H.S.D., Director
Student Health Service

_____ Date _____
Mario F. Ciocca, MD
Chair, Infection Control

Revised 04/09

Appendix J

THE OSHA BLOODBORNE PATHOGENS STANDARD: SUMMARY

The OSHA "Occupational Exposure to Bloodborne Pathogens" (29 CFR Part 1910.1030) is applicable to employees with exposures to blood and other potentially infectious materials. The standard defines an "occupational exposure" as reasonably anticipated skin, eye, mucous membrane, or parenteral contact with blood or other potentially infectious materials that may result from the performance of an employee's duties. "Other potentially infectious materials" include semen, vaginal secretions, cerebrospinal fluid, pleural fluid, pericardial fluid, peritoneal fluid, amniotic fluid, saliva in dental procedures, any body fluid that is visibly contaminated with blood, unfixed human tissue or organs, and cell cultures containing HIV or HBV. The standard is summarized below.

- Employers must write an "Exposure Control Plan" designed to eliminate or minimize employee exposures and must provide a copy to covered employees.
- Employers must identify job classifications in which employees have occupational exposures.
- "Universal Precautions" are to be utilized in the handling of all specimens.
- Engineering and work practice controls and personal protective equipment are to be used to eliminate or minimize employee exposures.
- Hepatitis B vaccine is to be offered to all employees with occupational exposures.
- Post-exposure medical evaluation and follow-up is to be provided for employees with occupational exposures;
- Annual training must be provided for all employees with occupational exposures.
- HBV and HIV research laboratories and production facilities are to provide additional training and engineering controls and work practices.

Questions regarding the Bloodborne Pathogens Standard can be directed to Ray Hackney or John Worthington (2-5507).

EXPOSURE CONTROL PLAN

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EXPOSURE CONTROL PLAN

as Required by

OSHA Bloodborne Pathogens Standard

**Department of Environment Health and Safety
1120 Estes Drive Extension
962-5507**

revised April 16, 2009