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**EXPOSURE CONTROL PLAN FOR BLOODBORNE PATHOGENS  
and OTHER POTENTIALLY INFECTIOUS MATERIALS**

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## Section 1 - Overview

St. Louis Community College is committed to providing a safe and healthy work environment for all employees. In pursuit of this goal, the following Exposure Control Plan (ECP) is provided to eliminate or minimize occupational exposure to blood borne pathogens in accordance with the OSHA standard 29 CFR 1910.1030, "Occupational Exposure to Blood borne Pathogens" (BBP) and the Centers for Disease Control (CDC) guidelines bot BBP and Other Potential Infectious Materials (OPIM) materials or waste.

The ECP is a key document to assist our organization in implementing and ensuring compliance with the standard, thereby protecting our employees. The ECP includes:

- Determination of employee exposure
- Implementation of various methods of exposure control including:
  - Overview of BBP and ECP
  - Program Administration
  - Determination of Employee Exposure
  - Methods of Implementation and Controls
  - Universal Precautions
  - Standard Precautions
  - Spill Kits for Infectious Wastes
  - Engineering controls and Work Practices
    - Allied Health Care and Child Development Employees
    - Security/Treatment Providers
    - Athletic Coaches, Trainers and Fitness Center workers
    - Cardiopulmonary Resuscitation providers
    - Housekeeping
    - All employees
    - Personal Protective Equipment
    - Infectious Waste Disposal
    - Hepatitis B Vaccination
- Exposure Incident Procedure
- Post Exposure Evaluation and follow
- Procedure for evaluating circumstances surrounding exposure incidents
- Employee Training
- Recordkeeping

Employees will receive an explanation of the ECP during their initial training session. It will also be reviewed in annual refresher training. All employees can obtain a copy of this plan by request to the Environmental, Health and Safety Specialist at (314) 984-7117.

The EPC will be reviewed and updated annually or more frequently if necessary to reflect any new or modified tasks and procedures that affect occupational exposure.

## **Section 2 – Program Administration**

The Environmental, Health and Safety Specialist (EHS) is responsible for implementation of the ECP and will maintain, review and update the ECP at least annually and whenever necessary to include new or modified information, tasks and procedures.

Those employees who are determined to have occupational exposure to blood or Other Potentially Infectious Materials (OPIM) must comply with the procedures and work practices outlined in this ECP.

Each department is responsible to ensure that spill kits, sharps containers and any other necessary equipment are available to all employees affected. Each department will have work instructions to obtain and maintain all necessary personal protective equipment (PPE), sharps containers, labels, and biohazard bags and containers required by the standard.

Members of the Allied Health department with exposure to BBP or OPIM should develop a department specific ECP. They should participate in the evaluation, selection and use of commercially available devices to be used for engineering controls and work practices.

Each department will send the appropriate records to legal/EHS to maintain.

### **DETERMINATION OF EMPLOYEE EXPOSURE**

- Category I      Involves tasks or procedures in which all or some employees have a reasonable likelihood of contact with blood or other potentially infectious materials. The use of job-appropriate personal protective equipment and other protective measures is required.
  
- Category II     Tasks and work assignments involve no routine exposure to blood or other potentially infectious materials. Employee may be exposed due to any first aid rendered only as a collateral duty responding solely to injuries. Appropriate personal protective devices must be available and these employees must be familiar with protective measures.
  
- Category III    Tasks and work assignments that involve no exposure to blood or other potentially infectious materials. No personal protective equipment needed.

	Category I	Category II	Category III
Job Classification or Departments	Tasks Involve Exposure to blood and/or OPIM	Tasks involve no routine exposure to blood and/or OPIM, but may be exposure due to accidents or injuries.	Tasks/assignments require NO exposure to blood and/or OPIM
Clinical Laboratory Technology	X		
Dental Assisting	X		
Dental Hygiene	X		
Diagnostic Medical Solography	X		
Emergency Medical Technology	X		
Funeral Directing	X		
Funeral Services	X		
Nursing	X		
Respiratory Therapy	X		
Radiologic Technology	X		
Surgery Technology	X		
Occupational Therapy	X		
Physical Therapy	X		
Child Development Nurse	X		
Child Development Staff		X	
Campus Police		X	
Athletic Personnel		X	
Groundskeepers		X	
Housekeepers		X	
Maintenance		X	
Lab Technicians (chemistry, biology, clinical, science)		X	
All others			X

**Tasks and Procedures with Exposed Risk**

1. Physical Examination
  - a. Nasal/oral exams
  - b. Open wound care
  - c. Skin lesion care
2. Laboratory Procedures
  - a. Phlebotomies
  - b. Finger sticks
  - c. Blood specimen handling
3. Decontamination

- a. Equipment
  - b. Work area
  - c. Contaminated receptacles
  - d. Blood spill sites
4. Waste Disposal
- a. Regulated: sharps, needle and vacutainer handling, contaminated waste
  - b. Contaminated dressings/bandages
5. Injuries and Accidents
- a. Fights with blood present
  - b. Cuts when handling tools and/or equipment in shop areas and kitchens
  - c. Accidental injuries (broken bones, scrapes, nosebleeds, or other incidents) and car accidents where blood or other potentially infected materials are present and accessible to others.

## **METHODS OF IMPLEMENTATION AND CONTROLS**

Casual contact with patients does not pose a risk of infection with HIV or HBV. Handshaking, touching, talking, visiting and other casual contact does not require any special infection control procedures since HIV and HBV are not spread through the air.

Frequent hand washing should become a habit for all personnel. If soap, water and towels are not available, an appropriate antiseptic hand cleaner or towelettes must be available. All blood or OPIM shall be disinfected regardless of the perceived status of the source individual.

### **Universal Precautions**

**Universal** precautions are defined by the Center of Disease Control (CDC) as “a set of precautions designed to prevent transmission of HIV, hepatitis B virus (HBV), and other blood borne pathogens when providing first aid or health care. Under universal precautions, blood and certain body fluids of all patients are considered potentially infectious for HIV, HBV and other blood borne pathogens.”

Universal precautions refers to the practice of avoiding contact with bodily fluids by wearing nonporous articles such as gloves, goggles, and face shields. The practice was introduced in 1985–88.

In 1987, the practice of universal precautions **where health care is delivered** was adjusted by a set of rules known as body substance isolation (BSI). In 1996, both practices were replaced by the latest approach known as standard precautions for the health care industry. Standard Precautions are the minimum infection prevention practices that apply to all patient care, regardless of suspected or confirmed infection status of the patient, in any setting where healthcare is delivered. These practices are designed to both protect HCP and prevent HCP from spreading infections among patients. Standard Precautions include:

- 1) hand hygiene,

- 2) use of personal protective equipment (e.g., gloves, gowns, masks),
- 3) safe injection practices,
- 4) safe handling of potentially contaminated equipment or surfaces in the patient environment, and
- 5) respiratory hygiene/cough etiquette. The elements of Standard Precautions are described in the sections that follow.

Universal precautions help prevent infection through the use of protective barriers, such as gloves, masks, gowns and other coverings and safe work practices such as proper disposal of sharps and other contaminated.

### **Standard Precautions**

Standard Precautions include guidelines developed by the Centers for Disease Control (CDC) to cover BBP and other potentially infectious materials such as tuberculosis, etc. Standard Precautions are based on the principle that all blood, body fluids, secretions, excretions (except sweat), non-intact skin and mucous membranes may contain transmissible infections agents. These organisms can be spread from person to person through blood and other body secretions, droplets breathed, sneezed or coughed out of the nose or mouth, skin-to-skin contact, and sexual contact. The application of Standard Precautions during patient care is determined by the nature of the Health Care Worker (HCW) and patient interaction to the extent of anticipated blood, body fluid or pathogen exposure. They include a group of infection prevention practices that apply to all patients, regardless of suspected or confirmed infection status, in any setting in which healthcare is delivered. They include the list of PPE below.

- a. Gloves – use latex gloves any time contact with blood or other body fluids may occur. Other types of impervious gloves must be available in the event of latex allergy. Wash your hands before and after using gloves. Inspect gloves and for damage and change if they are torn or punctured and after contact with each person. Do not reuse disposable gloves.
- b. Hand washing – wash your hands immediately after taking off gloves. Wash your hands immediately before and after each contact with a child/youth.
- c. Abrasions – if you have cuts or sores on your hands, cover these with a bandage or similar protection as an additional precaution before donning gloves.

### **Spill Kits for BBP and Infectious Wastes**

Spill kits will be made available in all departments where there is a routine exposure to blood of OPIM. All employees in the department shall be made aware of the location of the spill kits.

## Direction for Using Spill Kits

1. Remove latex gloves from packet and place one on each hand.
2. Remove bag of absorbent material and open one end of zipper bag. Sprinkle absorbent material on spill and allow 2-3 minutes for powder to absorb spill.
3. Remove red disposal bag and tie. Open bag so that contaminated material can be deposited in the red bio-hazardous containers.
4. Take a small shovel from the bag. When the spill material has jelled, use the instruction card and the scoop/shovel to scoop up the spilled material and deposit in the red bag along with the scoop/shovel and card.
5. After the spill has been removed, use disinfecting towelette to complete the clean-up. Wipe surface thoroughly to clean-up and to disinfect. Deposited used towelette in the red bag.
6. Use dry towel for final wipe to dry area. Deposit it in red bag.
7. Remove gloves and deposit them in the red bag.
8. Clean hands with moist towelettes and deposit in the red bag.
9. Twist top of red bag, fold and close securely with bag tie.
10. Deposit red bag in nearest biohazard container.

### **Instruction for clean-up in where spill kits are not available.**

1. Clean up blood and other body fluids promptly. Always use an approved disinfectant such as bleach added to water any time a surface is contaminated with blood or other body fluids. A solution of 5.25% sodium hypochlorite (household bleach) diluted with 1:10 to 1:100 with water. The standard recommendation is to use at least a quarter cup of bleach per one gallon of water. Be sure to wear gloves and any other necessary protective clothing to prevent contact with body and other body fluids.
2. If you are cleaning up a spill of blood, you can carefully cover the spill with paper towels or rags and gently pour the 10% solution of bleach over the towels or rags and leave it for at least 10 minutes. This will help ensure that any blood borne pathogens are killed before you actually begin cleaning or wiping the material up. By covering the spill with paper towels or rags, you decrease the chances of splash when you pour the bleach on it.
3. With gloves on, wipe up the infectious waste and the paper towel and place them in a plastic garbage bag. Wipe the surface with the 10% solution of bleach with more paper



towels. Dispose of the paper towels in the same plastic garbage bag. Remove your gloves last and place them into the plastic garbage bag. Secure the bag with a tie and place it in a covered garbage container.

4. Wash your hands and any other exposed area with soap and water for at least 2 minutes. Rinse under running water and dry your hands.

## **Section 3 – Engineering Controls and Work Practices**

### **Allied Health Care Departments and Child Development Center Workers**

1. Routine hand washing is a basic infection control procedure. Hands should always be washed before and after contact with a child/youth. Wash hands before putting on gloves and after gloves have been removed.
2. All health care workers shall routinely use appropriate barrier precautions to prevent skin and mucous membrane exposure when contact with blood or other body fluids is anticipated. Barriers include gloves, gowns, masks and goggles.
3. Gloves and other appropriate barrier precautions shall be used for touching blood and body fluids, mucous membranes or non-intact skin when there is a surgical entry into tissues, when treating traumatic injuries and for performing vein-puncture and other vascular access procedures.
4. Gloves shall be changed after contact with each student.
5. Masks and protective eyewear for face shield should be worn during procedures that are likely to generate droplets of blood or other body fluids to prevent exposure of mucous membranes of the mouth, eyes and nose.
6. Gowns or aprons shall be worn during procedures that are likely to generate splashes of blood or other body fluids.
7. All health care workers shall take precautions to prevent injuries caused by needles, scalpels, razors, tools and other sharp instruments or devices during use; when cleaning used tools and instruments and during disposal of used needles.
8. To prevent needle stick injuries, needles shall not be recapped, purposely bent or broken by hand, removed from syringes or otherwise manipulated by hand. Recapping or removal of contaminated needles or sharps should only be done if no other

alternative is feasible and then only through use of a mechanical device or the one-handed technique.

9. After use, syringes, needles, scalpel blades and other sharp items shall be placed in puncture resistant containers for disposal; these containers shall be located as close as practical to the use area.
10. Containers for sharps shall be not only leak proof but puncture resistant. The containers shall be maintained upright through use, easily accessible and not overfilled. They shall be stored in areas not accessible to youths but not so high that the shortest person cannot see the top of the container.
11. Sharps containers are inspected and maintained or replaced by the department every month or whenever necessary to prevent overfilling.
12. Specimens of blood or other potentially infectious materials shall be placed in closable leak-proof containers and labeled or color-coded prior to being stored or transported.
13. All bins, pans and similar receptacles intended for reuse which have a reasonable likelihood for becoming contaminated with blood or other potential infectious materials shall be inspected and decontaminated on a regularly scheduled basis, cleaned and decontaminated immediately or as soon as feasible upon visual contamination.
14. Food and drink shall not be stored in refrigerators, freezers or cabinets where blood or other potentially infectious materials are present or other areas of possible contamination such as counter tops. Food and drink shall not be consumed in areas where the potential for contamination exists. Cosmetics shall not be store or applied in area where contamination could exist.
15. Health care workers who have lesions with exudates or weeping dermatitis shall refrain from all direct contact and from handling all equipment until the condition resolves.

### **Security/Treatment Providers**

All personnel must follow universal precautions as a minimum requirement. Special care shall be followed as listed below:

1. Gloves shall be worn when handling blood or body fluids as may be seen in a fight, when unintentional injuries occur or when cleaning up areas where blood is present.
2. Equipment that may become contaminated with blood or other infectious materials shall be checked routinely and decontaminated as necessary.

### **Athletic Personnel**

All personal must follow universal precautions as a minimum requirement. Special care shall be followed as listed below:

1. Gloves shall be worn when handling blood or body fluids as may be seen in a fight or when cleaning up areas where blood is present.
2. Tools and equipment that may become contaminated with blood or infectious materials should be checked routinely and decontaminated as necessary.

### **Cardiopulmonary Resuscitation**

CPR masks shall be available for mouth-to-mask ventilation. These masks provide diversion of the victim's exhaled air and body fluids away from the rescuer and may be used by health care workers and other staff properly trained in their use. As an additional precaution, gloves should be worn because body fluids may be transferred to the rescuer's hands.

### **Housekeeping**

1. Items contaminated with blood or OPIM will be discarded and not laundered.
2. Standard housekeeping procedures are adequate for routine cleaning of classrooms and student areas. Routine cleanup of rooms is adequate unless there is visible contamination with blood or body fluids. Contaminated areas should be cleaned with a solution of bleach and water. 1:10 dilution is adequate. Gloves must be worn.
3. Broken glassware which may be contaminated shall not be picked up directly with the hands. Use mechanical means such as brush, broom and dustpan, vacuum, tongs or cotton swabs.

### **All Employees**

1. Staff needing to self-puncture for blood sugar readings and insulin injection or other medical procedures during work hours should obtain a sharps container and keep it secured so it is not accessible to others.
2. Disposal of sharps containers can be done where bio-hazardous waste containers are collected.
3. Any blood spills should be cleaned with a spill kit or with a bleach solution or germicide.

### **Personal Protective Equipment (PPE)**

PPE is provided to STLCC employees who are exposed to blood and OPIM during their regular job activities at no cost and includes:

- a. Gloves

- b. Eye protection (glasses, goggles, face shields)
- c. Masks
- d. Gowns
- e. CPR masks

Each department will specify and train their employees on the location of PPE and how to wear it properly. All employees using personal protective equipment must observe the following precautions:

1. Wash hands immediately or as soon as feasible after removing gloves or other PPE.
2. Remove PPE after it becomes contaminated and before leaving the work area.
3. Used PPE may be disposed of in appropriate container for decontamination or disposal.
4. Wear appropriate gloves when it is reasonably anticipated that there may be hand contact with blood or OPIM and when handling or touching contaminated items or surfaces; replace gloves if torn, punctured or contaminated, or if their ability to function as a barrier is compromised.
5. Never wash or decontaminate disposable gloves for reuse.
6. Wear appropriate face and eye protection when splash, spray, splatters or droplets of blood or other infectious material pose a hazard to the eye, nose or mouth.
7. Remove immediately or as soon as feasible any garment contaminated by blood or other infectious materials in such a way as to avoid contact with the outer surfaces.

### **Infectious Waste Disposal**

All infectious waste destined for disposal shall be placed in designated red "Biohazard" bags indicated the waste is infectious or bio hazardous. The bags should be closed with a tie and placed in leak proof, puncture resistant containers labeled "Biohazard" and/or with the universal Biohazard symbol. These containers must be kept closed at all times except when adding waste. These containers are moved to a pickup area and are removed for disposal weekly during regular school schedule.

Warning labels (orange/red-orange) shall be affixed to containers, refrigerators and freezers containing blood or other bio-hazardous material. If outside contamination of a container or bag occurs or is likely to occur, then a second leak proof container or bag, which is closable and labeled or color-coded shall be placed over the outside of the first and then closed to prevent spillage or protrusion of contents during handling, storage, shipping or transport.

### **Containers for Sharps**

The containers for sharps shall be not only leak proof but puncture resistant. The containers shall be maintained upright through use, easily accessible and not overfilled. Before filled containers are moved, they will be closed immediately to prevent spillage or protrusion of contents. They shall be placed into a second container that is leak proof and color-coded or labeled "Biohazard". Removable containers shall not be opened, emptied or cleaned manually for reuse. They shall not be stored where they can cause injury to others.

### **Hepatitis B Vaccination**

Employees who work in areas where the potential for exposure to BBP or OPIM will be offered the Hepatitis B no cost after initial employee training and within 10 days of initial assignment to all employees. They will also be provided with information addressing safety, benefits, efficacy, methods of administration and availability.

- Documentation exists that the employee has previously received the series;
- Antibody testing reveals that the employee is immune; or
- Medical evaluation shows that vaccination is contraindicated.

However, if an employee declines the vaccination, the employee must sign a declination form. Employees who decline may request and obtain the vaccination at a later date at no cost. Documentation of refusal of the vaccination is kept at Risk Management. Vaccinations will be provided by the approved health care provider at several locations. Following the medical evaluation, a copy of the health care professional's written opinion will be obtained and provided to the employee within 15 days of the completion of the evaluation. It will be limited to whether the employee requires the hepatitis vaccine and whether the vaccine was administered.

## **Section 4 – Exposure Incident Procedure**

Notify your supervisor immediately if the following incidents occur:

1. A needle stick injury or other cut or puncture from a contaminated item.
2. Splashing of blood or other body fluids into mouth, eye or nose.
3. Direct contact with a large amount of blood or other infectious fluids
4. Prolonged contact with blood or other body fluids

Wash the exposed skin area immediately with soap and water. If soap and water are not immediately available, use antiseptic hand cleaner along with a clean cloth or paper towels. Washing with soap and running water still must be completed as soon as possible. If a mucous membrane or eye exposure occurs, irrigate the affected area immediately with copious amounts of water at least 3 minutes.

Save any sharps or other items involved for possible testing. Take proper safety precautions with these items so others will not be exposed. If an exposure occurs to an employee, send the employee for medical evaluation and/or treatment. All exposures shall be reported and the Accident Investigation Report must be submitted to Workers Compensation Administrator in Human Resources (#5213). An immediate confidential medical evaluation and follow-up will be arranged. Following initial first aid, the following activities will be performed:

1. Document the routes of exposure and how the exposure occurred.
2. Identify and document the source individual (unless the employers can establish that identification is not feasible or prohibited by state or local law).
3. Obtain consent and make arrangements to have the source individual tested as soon as possible to determine HIV, Hepatitis B (HBV) and Hepatitis C (HCV) status.
4. After obtaining consent collect exposed employee's blood as soon as feasible after exposure incident and test blood for HIV, and Hepatitis B (HBV) serological status.
5. If the source refuses testing or they cannot be identified, an unvaccinated worker shall be offered the hepatitis B vaccine series. Immune globulin administration should be considered on an individual basis if the source individual is known or suspected to be a high risk for HBV infection. Management and treatment, if any, of workers who receive an exposure from a source who refuses testing or who is not identifiable, will be individualized. Current recommendations by the US Public Health Service will be followed in post-exposure prophylaxis.
6. Document that the source individual's test results were conveyed to the employee's health care provider.
7. If the source individual is already known to be HIV, Hepatitis B (HBV) and/or hepatitis C (HCV) positive, new testing need not be performed.
8. Provide the exposed employee with the source individual's test results if consent is given by the source person. If consent is not given, follow the state laws concerning confidentiality.
9. If the employee does not give consent for HIV serological testing during collection of blood for baseline testing, the baseline blood sample should be preserved for at least 90 days. If the exposed employee elects to have the baseline sample tested during this waiting period, the test should be performed as soon as feasible.
10. For any exposure from a source individual who has AIDS, who is found to be positive for HIV infection, or who refuses testing, the workers should be counseled regarding the

risk of infection and evaluated clinically and serologically for evidence of HIV infection as soon as possible after the exposure. In view of the evolving nature of HIV post-exposure management, the workers should be informed of current US Public Health Service Guidelines. The worker will be advised to seek medical evaluation for any acute febrile illness that occurs within 12 weeks after the exposure. Such an illness, particularly one characterized by fever, rash or lymphadenopathy may be indicative of recent HIV infection.

The evaluating physician of the exposure employee should have a copy of the OSHA standard on Occupational Exposure to Blood borne Pathogens, a description of the employee's duties as they relate to the exposure, a description of any personal protective equipment that was used, documentation of the route(s) of exposure and the circumstances under which the exposure occurred, the results of blood tests when available, and all medical records relevant to the appropriate treatment of the employee, including vaccination status.

#### **POST EXPOSURE EVALUATION AND FOLLOW-UP**

Following the initial first aid-treatment such as cleaning the wound, flush eyes or other mucous membranes, and perform the following:

- Document the routes of exposure and how the exposure occurred.
- Identify and document the source individual, unless that is not possible or is prohibited by state or local law.
- Obtain consent and arrange to test the source individual as soon as possible to determine HIV, HCV, HBV infectivity.
- Document that the source individual's test results were conveyed to the employee's health care provider.
- Provide the exposed employee with the source individual's test results.
- Provide the exposed employee with information about laws on confidentiality for the source individual.
- Obtain consent and provide a blood test for the exposed employee as soon as possible for HBV, HCB, and HIV.
  - If the employee does not give consent for HIV serological testing, preserve the baseline blood sample for at least 90 days.
  - If the exposed employee decides to have the sample tested during this time, perform testing as soon as feasible.
  - Provide the exposed employee with a copy of the health care professional's written opinion.

The circumstances of all exposure incidents should be documented on the on the “Accident Investigation Report”. Employee completes page 1, supervisor completes pages 2 & 3. Risk Management completes page 4, root cause analysis and corrective action to determine the following:

1. Engineering controls in use at the time.
2. Work practices followed
3. A description of the device being used (including type and brand)
4. PPE used at the time of the exposure incident (gloves, eye shields, etc.)
5. Location of the incident
6. Procedure being performed when the incident occurred
7. Employee’s training

Listed below are the treatments and testing recommended by the US Health Service that will be covered by workers compensation?

1. Baseline testing at time of exposure
2. Follow up in 6 months
3. Follow up in 1 year
4. Past exposure prophylaxis recommended by the health department is Hepatitis B vaccine, if recommended by the physician, but not HIV Prophylaxis due to its experimental nature and inconclusive data.

After testing and/or treatment are completed, the Risk Management EHS Specialist will complete page 4 of the Accident Investigation Report in detail.

**NOTE:** Students are not directly covered by the Exposure Control Plan. Some clinical agreement requires the college to treat the student as an employee. All student exposures should be recorded on the Blood borne Pathogen Incident Report and Post-Exposure Acknowledgement Student’s Form using the Blood borne pathogen Exposure Control Checklist as a guide. A sharps log will be kept for students based on these reports.

## **Section 5 – Employee Training**

All STLCC employees who have the potential to be exposed to Blood borne Pathogens and/or OPIM shall participate in a training program at the time of their initial employment and annually thereafter at no cost to them and during regular work hours. Material appropriate in content and vocabulary to the educational level, literacy language background of the employees shall be used. The training program covers the Exposure Control Plan. The training will include;



1. An explanation of the OSHA blood borne pathogen standard and how to obtain a copy.
2. An explanation of the exposure control plan and how to obtain the written plan.
3. A general explanation of the epidemiology and symptoms of blood borne diseases and their modes of transmission.
4. An explanation of methods to recognize tasks and other activities that may involve exposure to blood and other potentially infectious material, including what constitutes an exposure incident.
5. The use of practices, equipment and limitation that will prevent and reduce exposure, including appropriate engineering controls, work practices and personal protective equipment
6. Information on the types, proper use, location, removal, handling, decontamination and/or disposal of personal protective clothing and equipment.
7. An explanation of Universal Precautions.
8. Direction on how to use spill kits and other modes of clean-up when spill kits are not available.
9. An explanation of the signs, labels and color-coded items for bio-hazardous waste.
10. Information on the appropriate actions to take and persons to contact in an emergency.
11. An explanation of the procedure to follow when an occupational exposure occurs, including the method of reporting the incident and the medical follow-up available.
12. Information on the medical counseling that the employer is providing for the exposed individuals.

## **Section 6 – Recordkeeping**

Medical Records are maintained for each employee who has an occupational exposure to blood borne pathogens. Human resources are responsible for maintaining medical records. These records are kept for 30 years beyond the length of employment.

### **Sharps Injury Log**

All percutaneous injuries from contaminated sharps are recorded in a Sharps Injury Log. All incidences must include at least:

1. Date of injury
2. Type and brand of the device involved (syringe, scalpel, etc.)
3. Work area where the incident occurred
4. Explanation of how the incident occurred.

This log is reviewed as part of the annual program evaluation and maintained for at least five years following the end of the calendar year covered. If a copy is requested by anyone, it must have any personal identifiers removed from the report.

## **Surveillance**

A medical surveillance program should be in place for all employees covered by this document. All the medical evaluation procedures to be performed will be under the supervision of a licensed physician and all laboratory tests conducted by an accredited laboratory. All evaluations, procedures, vaccinations, and post-exposure evaluation and follow up, including prophylaxis, are provided without cost to the employee, at a reasonable time and place, and according to current standard recommendations for medical practice by the US Public Health Service at the time of these evaluations and procedures take place.

## **Section 7 – Appendix A**

### **A. EPIDEMIOLOGY AND SYMPTOMS OF EXPOSURE TO BBP DISEASES:**

Blood borne pathogens are microorganisms that are present in blood, tissue, blood products, other potential infectious materials (OPIM)--defined by the Centers for Disease Control as:

- semen
- vaginal secretions
- cerebrospinal fluid
- pleural fluid
- peritoneal fluid
- pericardial fluid
- amniotic fluid
- synovial fluid
- breast milk (not all authorities agree)
- saliva in dental procedures.

The level of risk depends on the number of patients with that infection, the frequency and duration of exposure to contaminated material, and the likelihood that a single exposure will result in infection.

While there are other blood borne diseases, those of primary significance to healthcare workers are hepatitis due to either hepatitis B virus (HBV) or hepatitis C virus (HCV) and acquired immunodeficiency syndrome (AIDS) due to the human immunodeficiency virus.

### **B. Hepatitis B Epidemiology**

HBV causes the most serious form of viral hepatitis, commonly referred to as serum

hepatitis. Approximately 300,000 cases of HBV infection are reported each year in the United States. HBV is spread predominantly through exposure to blood or OPIM by the parenteral route (inoculation through the skin), from an infected mother to her unborn infant (trans placental), or via sexual contact. Certain groups of people have a higher risk of HBV infection than the general population including healthcare workers having frequent contact with an HBV-infected patient's blood or OPIM, past recipients of blood or blood products, intravenous drug abusers, persons with multiple sex partners (including homosexuals), residents of institutions for the developmentally disabled, immigrants from areas where many people have HBV, and infants born to mothers with HBV infection.

The most common mode of transmission of HBV to healthcare workers in the work place is by accidental needle sticks or other contaminated sharps injuries. An unimmunized individual has a 6 to 30% chance of becoming infected following a hepatitis B-positive needle stick injury. The transmission rate is high because HBV is present in high numbers in the blood of infected patients. Infection following mucous membrane contact of the eye (conjunctiva) or mouth with blood or OPIM, or through human bites can also occur. Because HBV is quite stable, transmission by means of environmental surfaces that may contact mucous membranes or open skin breaks can occur, especially in areas that have significant blood contamination such as clinical laboratories and hemodialysis clinics. The annual number of cases of hepatitis B among healthcare workers has been steadily decreasing due to the use of the HBV vaccine and improved medical follow up after an occupational exposure.

#### Symptoms

The incubation period is 4 to 28 weeks. Symptoms commonly associated with acute hepatitis B infection include headache, malaise, loss of appetite, nausea and occasional vomiting, moderate fever, and chills. Urine may become dark and stool light or clay colored. Icterus (yellowing of the sclera - "whites of the eyes") may or may not occur.

Most patients either develop immunity (87 to 90%) and clear the infection or become chronic carriers (7%); chronic carriage is not associated with subsequent symptoms. One to three percent will develop rapidly progressive, fatal liver disease. The remaining 3 % develop chronic active hepatitis: This group of patients is at increased risk of developing cirrhosis, liver cancer, or both.

#### C. Hepatitis C Epidemiology

HCV has only recently been recognized as the predominant agent of non-A-non-B hepatitis. HCV is spread predominantly through exposure to blood or OPIM by the parenteral route (inoculation through the skin). Transmission from an infected mother to her unborn infant (trans placental) may occur, but transmission via sexual contact appears to be inefficient. HCV is the most common cause of post-transfusion hepatitis. Persons at high risk for HCV infection include intravenous drug abusers and past recipients of blood or blood products. Healthcare workers do not have an increased risk of acquiring HCV than the general population. However, acquisition of HCV by healthcare workers in the work place has occurred via inadvertent needle sticks or other

sharps injuries. In one study 4% of employees who sustained a known HCV-positive needle stick injury developed HCV infection. The risk of exposure to contaminated environmental surfaces is not yet fully appreciated but is likely to be minimal because of the low concentration of virus in the blood.

#### Symptoms

The incubation period is 2 weeks to 6 months. The clinical signs and symptoms of acute HCV infection cannot be distinguished from those of other types of acute viral hepatitis, such as HBV. Chronic liver disease develops in 50% of individuals with acute HCV infection. About 20% of those with chronic liver disease will develop chronic active hepatitis which is associated with an increased risk of cirrhosis and liver cancer.

#### D. Human Immunodeficiency Virus Epidemiology

HIV, the etiologic agent of AIDS, is spread predominantly through exposure to blood or OPIM by the parenteral route (inoculation through the skin), from an infected mother to her unborn infant (trans placental), or via sexual contact. Persons at high risk of becoming infected with HIV include homosexual and bisexual males, intravenous drug abusers, heterosexuals with multiple sex partners, and hemophiliacs and other people who received blood or blood products before routine screening for HIV antibody began. Healthcare workers account for less than five percent of the reported AIDS cases each year, and many of these individuals report non-occupational risk factors. The most common mode of transmission of HIV to healthcare workers in the work place is by inadvertent needle sticks or other contaminated sharps injuries. An individual has about a 0.4% chance of becoming infected following an HIV-contaminated needle stick injury. There are documented cases of HIV acquisition via exposure of non-intact skin to HIV-containing blood. Contaminated environmental surfaces are an unlikely source of transmission because there is a low concentration of virus in the blood of infected individuals, especially during the latent period (see below).

#### Symptoms

In some individuals, a flu-like illness occurs within 1 to 6 weeks after exposure to the virus. Fever, sweats, malaise, muscle pains, loss of appetite, nausea, diarrhea, and a sore throat are common symptoms. After a long, symptom-free (latent) period of up to 7 to 10 years, HIV infected individuals become symptomatic with development of enlarged lymph nodes, malaise, headache or diarrhea. AIDS develops when the HIV has destroyed many of the immune cells that protect us: Individuals with AIDS develop certain types of tumors or infections caused by "opportunistic" bacteria, fungi, viruses, and parasites that infrequently cause infections in otherwise healthy people. These opportunistic infections are the usual cause of death. AIDS is uniformly fatal.

#### IV. MODES OF TRANSMISSION OF BBP

Blood borne pathogens such as HBV and HIV can be transmitted through contact with infected human blood and other potentially infectious body fluids such as:

- Semen
- Vaginal secretions

- Cerebrospinal fluid
- Synovial fluid
- Pleural fluid
- Peritoneal fluid
- Amniotic fluid
- Saliva (in dental procedures), and
- Anybody fluid that is visibly contaminated with blood.

It is important to know the ways exposure and transmission are most likely to occur in your particular situation, before providing first aid, handling blood samples in the laboratory, or cleaning up blood from a hallway.

HBV and HIV are most commonly transmitted through:

- Sexual Contact
- Sharing of hypodermic needles
- From mothers to their babies at/before birth
- Accidental puncture from contaminated needles, broken glass, or other sharps
- Contact between broken or damaged skin and infected body fluids
- Contact between mucous membranes and infected body fluids

In most work or laboratory situations, transmission is most likely to occur because of accidental puncture from contaminated needles, broken glass, or other sharps; contact between broken or damaged skin and infected body fluids; or contact between mucous membranes and infected body fluids. For example, if someone infected with HBV cut their finger on a piece of glass, and then you cut yourself on the now infected piece of glass, it is possible that you could contract the disease. Anytime there is blood-to-blood contact with infected blood or body fluids, there is a slight potential for transmission. Unbroken skin forms an impervious barrier against blood borne pathogens. However, infected blood can enter your system through:

- Open sores
- Cuts
- Abrasions
- Acne
- Any sort of damaged or broken skin such as sunburn or blisters
- Blood borne pathogens may also be transmitted through the mucous membranes of the
- Eyes
- Nose
- Mouth

For example, a splash of contaminated blood to your eye, nose, or mouth could result in transmission.