

## **OSHA Bloodborne Pathogen (BBP) Training for USF Health Sciences Center**

### **Introduction:**

OSHA's Bloodborne Pathogen Standard (29CFR 1910.1030) refers to persons at risk for acquiring on the job bloodborne pathogen infection. Personnel who require this training include any person who, in the normal course of his/her job, has the potential for exposure to blood, bloody body fluids, body tissues or sharps.

If, in the course of your job duties, you might have contact with human or animal blood or other body fluids, body tissues or sharp objects, you are at risk for exposure to bloodborne pathogens. If you do not have contact with blood or other body fluids, body tissues or sharp objects, stop here. You are exempt from this OSHA Standard.

If you are at risk, please proceed. If you are not sure if you are at risk, ask your supervisor.

As a condition of your employment, you are required to have training upon job entry and annual training thereafter to satisfy the OSHA Bloodborne Pathogen Standard. This web-based program will meet the initial and annual training requirements. It will take about 10 minutes, has no examination, but requires your registration as proof of training. Failure to have annual training could have severe repercussions regarding your eligibility for your job.

### **Definitions:**

Standard (Universal) Precautions: All blood and bloody body fluids are to be considered infectious for bloodborne pathogens.

Bloodborne Pathogens (BBP): These are the pathogens which are present in human blood and can cause diseases in humans. Examples:

- Human Immunodeficiency Virus I & II (HIV)
- Hepatitis B Virus (HBV)
- Hepatitis C Virus (HCV)

Contaminated sharps— any contaminated object that can penetrate the skin, including needles, scalpels, suture needles, broken glass, broken capillary tubes, and broken plastic. Contaminated means anything possibly exposed to blood, bloody body fluids or other body tissues.

Workplace and Engineering controls—devices that isolate or remove a BBP from the workplace. Includes sharps containers, safer medical devices such as retractable needles, and sheathed scalpel blades as well as personal protective equipment such as gowns, gloves, masks, lab coats, and face shields.

Other potentially infectious material (OPIM)—body fluids, any unfixed tissue or organ from a human; cell tissue, and organ cultures; HIV, HBV, and HCV containing culture medium or other solutions; blood, organs, or other tissues from experimental animals infected with HIV, HBV, or HCV.

### **I. Exposure Control Plan:**

A. The Exposure Control Plan describes the rationale, policies and procedures, and the interventions available for employees who have the potential for exposure to blood or other potentially infectious materials during the normal course of their employment duties.

B. Each department has a designated representative (Exposure Control Coordinator) whose primary function is to be a liaison between his/her Department and HSC Infectious Disease Center.

The following is a list of Exposure Control Coordinators by Department

Department	Exposure Control Coordinator	Phone Number
Anatomy	Sharon Ladd	974-6102
Anesthesiology	Dr. Malcolm Klein	974-3099
Biochemistry	Laura Pendleton	974-9730
Cardiology	Cindy Rodriguez	259-0652
CON	Sandra Cadena	974-4225
COPH (Admin)	Barbara Kennedy	974-1092
COPH (EOH)	Dr. Azliyati Azizan	974-2079
Comparative Biomedicine	Una Owens	974-7556
Dermatology	Luci Miranda	974-2133
Dialysis	Lani Pearson	975-1811
DIO	Vicki Stephan	615-4278
Environ. Health & Safety	Charles Brown	974-0869
Family Medicine	Mary Jensen	974-6030
Internal Medicine	Julie Dehainaut	974-3532
USFPG Medical Clinic	Anita Fisher/Jane Conley	974-7685
Med. Micro. & Immun.	Cathy Newton	974-4017
MSSC/UMSA	Lynn McCurdy	974-8189
Movement Disorder Clinic	Cheryl Newcomb	844-8068
Neurology	Dr. Juan Sanchez-Ramos	974-2794
Obstetrics & Gynecology	Susan Sharp	259-8574
Ophthalmology	Sharon Millard	974-4627
Otolaryngology	Edna Dixon	974-2749
Pathology & Lab. Med.	Nancy Lowell	974-3133
Pediatrics	Linda Nelson	259-9752
Pharmacology	Veronica Pollock	974-6843
Physical Therapy	Shayne Tarrance	974-8903
Physiology & Biophysics	Carol Landon	974-8590
Psychiatry	Maureen Tavrell	974-4657
Radiology	Corky Crowley	974-2205
Research Compliance	Farah Moulvi	974-0954
Surgery	Pat Whitaker	259-0920
USFPG Facilities Management	Debbie Warren	974-2552

## II. Bloodborne Pathogens:

### A. Routes of transmission

BBPs can enter the body via needlestick, cuts with contaminated instruments or glass, or through abraded skin. They can also enter if a splash occurs on the eyes, nose or mouth.

Some important things to remember about exposures

- Needle size: larger gauge needles are more risky than smaller gauge needles
- Needle type: hollow bore needles are more risky than solid suture needles
- Needles with a syringe of fluid attached are more risky than needles alone.

The following sequence provides an outline representing likelihood of infection:

- Deep puncture with fluid injection > deep puncture without fluid > superficial puncture > superficial scratch with bleeding > mucous membrane exposure > non-intact skin exposure > aerosol of blood.
- B. Types of body fluid:
- Blood is the most risky fluid.
  - Bloody body fluids are more risky than body fluids without blood.
- C. Risk awareness:
- Remember, the greater the inoculum, the greater the risk.
- D. HIV infected patients:
- The amount of circulating virus in patient blood is highest when the patient has advanced AIDS and/or is experiencing acute anti-retroviral syndrome.
  - Almost all seroconversions (presence of HIV antibody in the blood) occur when the patient is symptomatic with a high viral load or has advanced AIDS.
- E. Hepatitis B Virus (HBV)
- Prior to the introduction of Hepatitis B Vaccine in the 1980s, Hepatitis B was a major occupational risk for healthcare providers and researchers (40% of surgeons were HBsAg positive, i.e., were carriers of the virus).
  - Currently 1.25 million persons in the US are chronic carriers.
  - HBV can live for 7 days outside the host in dried blood.
  - HBV disease is preventable by immunization with the Hepatitis B Vaccine.
  - The risk of acquiring HBV, if a source patient has HBV and the exposed person is not vaccinated is 30%, i.e., 3 chances in 10 of getting the HBV.
- F. Hepatitis C Virus (HCV)
- There are now over 3 million cases of HCV in the US; there are 175,000 new cases every year.
  - Highest prevalence groups include hemophiliacs, IV drug users, and blood transfusion recipients prior to 1993.
  - Twenty percent of VA patients carry HCV.
  - After infection, HCV may be clinically silent for years.
  - After infection, 85% develop chronic Hepatitis C.
  - HCV accounts for up to 30% of liver transplants.
  - Treatment is difficult to tolerate (pegylated interferon and ribavirin for 12 months).
  - There is no preventive vaccine and no post-exposure prophylaxis.
  - The risk of acquiring HCV, if a source patient has HCV and the exposed person does not, is 3%, i.e., 3 chances in 100.

#### G. Human Immunodeficiency Virus (HIV)

- Florida has the 3<sup>rd</sup> highest number of adult AIDS cases in the US and the 2<sup>nd</sup> highest number of pediatric AIDS cases.
- In 1983, 240 AIDS cases were reported in the US; by 2003, 750,000 cases had been reported.
- Between 1993 and 2000, the number of people living with AIDS increased 119% in the southeast.
- Thus far, 57 healthcare workers have acquired HIV occupationally with 138 suspected cases.
- At USF, there were 133 exposures reported in 2002 with 0 seroconversions to date.
- Highly active antiretroviral therapy (HAART) is available within 1-2 hours, post exposure through the HSC Infectious Disease Center.
- The risk of acquiring HIV, if a positive source patient has HIV and the exposed person does not, is 0.3%, i.e., 3 chances in a 1000.

### III. Work Practice and Engineering Controls:

#### A. Sharps containers

- Place all needles, syringes, sharps, broken or unbroken glass and plastic ware in red sharps containers.
- Label sharps container with biohazardous symbol and user's address (e.g. USF Medical Clinic, 12901 Bruce B. Downs Blvd., Tampa, FL 33612).
- Seal when ¾'s full.

#### B. Double corrugated boxes or large sharps containers:

- Are available for large contaminated objects such as suction liners.
- Must be labeled with biohazardous symbol and address.

#### C. Safer medical devices

- Include retractable scalpel blades, needles with attached safety devices, blunted suture needles, retractable phlebotomy needles, needleless IV systems, etc.
- These devices are to be evaluated and implemented, as appropriate, by each departmental area.
- Documentation of the evaluation and rationales for usage or non-usage of devices is necessary.

### IV. Hepatitis B Vaccination:

#### A. The Hepatitis B Vaccine is:

- Genetically engineered, non-replicative, safe.
- Available free to "any person who, in the normal course of his/her job, has the potential for exposure to blood".
- Given in a series of 3 injections: Day 0, 1 month, and 6 months.
- Free post vaccine quantitative titers are recommended at least 2 months, post-vaccine.

#### B. The following is a questionnaire to help determine if you are eligible for free Hepatitis B vaccination.

**Answer yes or no to the following questions:**

	Yes	No
1. Do you examine patients or administer treatments in an area where you may be exposed to blood or body fluids?	_____	_____
2. Do you draw blood or start IVs on patients?	_____	_____
3. Do you test blood, body fluids, or unfixed human tissue?	_____	_____
4. Do you handle patient body fluid specimens, such as blood, urine, tissue, etc. before the specimen is properly bagged?	_____	_____
5. Do you dispose of linen or trash that might accidentally expose you to needles or body fluids during this disposal?	_____	_____
6. Do you respond to emergency situations in which you may sustain an injury that causes exposure to blood or body fluids?	_____	_____
7. Do you perform any other task, in the normal course of your job, that has a reasonably anticipated risk of exposure to blood or body substances? If yes, describe the task(s) that put you at risk of exposure?	_____	_____

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If you answered yes to any of the above questions, OSHA has determined that you are eligible for the hepatitis B vaccine series. If you decline the vaccine, a declination form must be signed if you are a new employee. Please contact the Infectious Disease Center, 974-3163.

- C. The vaccine and quantitative titers are available through Health Administration.
- Contact your Departmental Exposure Control Coordinator for instructions or
  - Contact Health Administration/Infectious Disease Center at 974-3163.

**V. Personal Protective Equipment:**

A. Gloves

- Indicated when touching blood, bloody body fluids, and items or surfaces soiled with blood or body fluids.
- Inspect gloves frequently for holes, tears, or deterioration.
- Double gloving decreases the chances of inoculation by 50%.
- Do not wash or re-use gloves.
- Wash hands after removing gloves.

B. Face shields/goggles

- Indicated when droplets or splashes to mucous membranes are anticipated.
- Goggles must have side protectors to prevent eye splashes.

C. Gowns/lab coats/aprons

- Are indicated when direct contact with potentially infectious material is likely.
- Should be removed when leaving patient room/work area.

D. Masks

- Are indicated when droplets or airborne transmission is likely.
- The N 95 disposable respirator mask is preferable.

E. Handwashing

- Wash for 10 seconds with friction and lather if hands are visibly soiled.
- Wash after removing gloves and when leaving work area.
- Alcohol gel is an acceptable alternative to soap and water if hands are not visibly soiled.

**VI. Exposure and post exposure prophylaxis:**

A. Immediate procedure

- Remove BBP.
- Sharps exposure—wash with soap and water.
- Mucous membrane exposure—flush with copious amounts of water.
- Report exposure to immediate supervisor.
- Report within 1-2 hours of exposure to:

**EXPOSURE CONTACT PERSONS**

Hospital Based

Non Hospital Setting

Regular Business Hours

Contact Hospital's Employee Health Department	Contact Dede Craig, ARNP B. 216-0153 or John N. Greene, MD B. 222-2763
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After Regular Business Hours

Contact hospital's evening or night nursing supervisor  If no nursing supervisor available, contact Infectious Disease Fellow on call at 974-2201 (USFPG answering service)	Contact Infectious Disease Fellow on call at 974-2201 (USFPG answering service)
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B. Post exposure evaluation, prophylaxis, and follow up:

- Coordinated through Health Administration and the Division of Infectious and Tropical Diseases.
- If indicated, two or three drug prophylaxis and laboratory evaluations will be provided at no cost.
- Code names are used for all laboratory testing to assure confidentiality.

## **VII. Decontamination, disposal and transportation of biohazardous material:**

### **A. Blood spills**

- Put on gloves.
- Remove any sharp objects with forceps.
- Saturate the spill with one part of chlorine bleach to ten parts water (make fresh weekly).
- Let stand 15-20 minutes.
- Wipe up the spill with a paper towel.
- Discard gloves and paper towels into a red biohazardous bag.

### **B. Biohazardous bags**

- Red, biohazardous bags are indicated for non-sharps waste that is contaminated and distinguishable from general waste.
- Red bags are to be 2-ply thickness and labeled with a biohazardous symbol.

### **C. Transportation of potentially infectious specimens**

- Place the specimen in a sealed container (e.g. specimen cup, test tube).
- Place the sealed container in a secondary sealed container (e.g. freezer storage bag, plastic cooler) and line with absorbent material.
- Label the outside container with the biohazard symbol.

## **Review:**

- A. Always practice Standard Precautions—assume all blood, bloody body fluids, and tissue are positive for bloodborne pathogens such as HIV, Hepatitis B, and Hepatitis C.
- B. Obtain free Hepatitis B vaccine and quantitative titer.
- C. If exposure occurs, wash or flush area, report incident to immediate supervisor, and access employee health within 1-2 hours of exposure.
- D. Remember the risk rule of three:
  - Hepatitis B: 30%
  - Hepatitis C: 3%
  - HIV: 0.3%
- E. Use of Personal Protective Equipment
  - Wear gloves to decrease inoculum from sharps injury.
  - Wear gowns, faceshields, and gloves to decrease extent of mucous membrane or skin exposure.
- F. Elimination of risky practices
  - Do not recap needles.
  - Do not overfill sharps containers.
- G. Do not attempt invasive skills without training and/or supervision.
- H. Contain sharps and other contaminated waste in identifiable biohazardous containers.

Please type your name, department and job title on the lines below and return via email to [dcraig@hsc.usf.edu](mailto:dcraig@hsc.usf.edu) or to Dede Craig, MDC 19.

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Name

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Department

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Title

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Date

If you have any questions about Bloodborne Pathogens, please call or see:

- Your Departmental Exposure Control Coordinator (see list)
- Health Administration/Infectious Disease Center at 974-3163 (Dede Craig)
- Environmental Health and Safety at 974-0869 (Charles Brown)