

Montana State University Billings
Athletic Training Education Program

BBP/Infection Control

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Introduction

“OSHA estimates that 5.6 million workers in the health care industry and related occupations are at risk of occupational exposure to bloodborne pathogens, including human immunodeficiency virus (HIV), hepatitis B virus (HBV), hepatitis C virus (HCV), and others. All occupational exposure to blood or other potentially infectious materials (OPIM) place workers at risk for infection with bloodborne pathogens. OSHA defines blood to mean human blood, human blood components, and products made from human blood. Other potentially infectious materials (OPIM) means: (1) The following human body fluids: semen, vaginal secretions, cerebrospinal fluid, synovial fluid, pleural fluid, pericardial fluid, peritoneal fluid, amniotic fluid, saliva in dental procedures, any body fluid that is visibly contaminated with blood, and all body fluids in situations where it is difficult or impossible to differentiate between body fluids; (2) Any unfixed tissue or organ (other than intact skin) 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. The following references aid in recognizing workplace hazards associated with bloodborne pathogens.” (<http://www.osha.gov/SLTC/bloodbornepathogens/recognition.html>)

General Information

There is no doubt that illnesses and infections related to contamination by bloodborne pathogens is not only a reality, but of major concern to athletic trainers treating athletes. In an effort to decrease the risk of transmission of bloodborne pathogens between these two parties, the Montana State University Athletic Training Education Program has adopted and will conform to the current procedures of universal precautions and risk management as stated by organizations such as OSHA and the NCAA. Universal precautions assumes that all blood and body fluids of all athletes are potentially infected with AIDS, Hepatitis B or C other bloodborne pathogens. One is at risk when working with blood products; products containing blood; semen; cerebrospinal fluid; synovial fluid; pleural, peritoneal, pericardial and amniotic fluids and vaginal secretions. (One is not considered at risk when working with feces, nasal secretions, sputum, sweat, tears, urine, saliva, breast milk and vomitus.) (Prentice, 2009).

Because the opportunity exists for one to come into contact with a potentially dangerous blood or body fluid spill which may be infected with HIV, HBV, etc., the following protocols and precautions have been established.

Part I Infectious Disease

Although the risks for transmission for HIV and HBV are minimal in athletics, the athletic training student and sports medicine professionals must be informed regarding disease information and transmission (NCAA, 2008; Prentice, 2009)

According to Carondelet, 1997 and Prentice, 2009; the following information pertains to HIV/AIDS and HBV.

HIV (Human Immunodeficiency Virus): is a retrovirus that causes AIDS (Acquired Immunodeficiency Syndrome) and ARC (AIDS Related Complex)

- Signs and Symptom: flu-like symptoms, fever, night sweats, weight loss, diarrhea, severe fatigue, swollen lymph nodes, lesions
- Antibodies: can be detected within one year, may be detected as quickly as 6 to 12 weeks
- HIV is easily killed outside the body
- Transmission: direct or indirect contact- blood, semen and or vaginal fluids. Not transmitted by casual contact.

Hepatitis B is virus that causes an infection/disease which attacks the liver.

- Signs and Symptoms: flu-like symptoms, jaundice
- Antibodies: can be detected 6 weeks to 6 months (can transmit before having signs and symptoms)
- Individuals may be carriers even though they are not experiencing symptoms and can transmit the disease.
- Chronic infection can lead to cirrhosis and cancer
- Transmission: blood, semen and or vaginal fluids
- HBV is an extremely enduring virus (100 time more contagious than HIV)
- HBV vaccination is recommended to provide protection against the HBV.

Hepatitis C is also a concern for healthcare providers. According to Prentice, 2009, Hepatitis C is the “most common chronic bloodborne infection in the United States. At least 85 percent of those infected with acutely with HCV become chronically infected, and 67 percent develop chronic liver disease.”

- Signs and Symptoms: “jaundice, upper right quadrant pain, loss of appetite, nausea, fatigue, dark urine”.
- Antibodies may be detected in one to two weeks
- Most individuals infected with Hep C do not exhibit symptoms or signs
- Transmission: blood (sharing personal care items)
- No vaccination available

Body piercings and tattoos may also place an individual at risk for HIV and Hepatitis B and C. (NCAA, 2008)

Part II Tuberculosis

Tuberculosis - “Tuberculosis is caused by the bacteria *Mycobacterium tuberculosis*. TB is spread by airborne droplets.” (Carondelet, 1997) “Active TB disease occurs when the body is unable to prevent the bacteria from multiplying. The bacteria can be dormant for a number of years, then be reactivated in the future and cause active disease.” (Carondelet, 1997) Some risk factors which increase the likelihood of TB infection causing TB disease are:

- “Recent infection with TB,
- Abnormal chest x-ray with fibrotic lesions
- Insulin-dependent diabetes
- Prolonged treatment with steroids
- Immunosuppression
- Silicosis
- End-stage renal disease, etc.” (Carondelet, 1997)

Positive TB Skin Test – if one should have a positive reading from a TB test, it does not necessarily mean that the person has TB and can transmit the disease, rather he/she may have been previously infected with the TB bacteria, but he/she had a strong immune response to prevent the active disease from developing. It is important to remember that only those individuals who have the active disease can transmit tuberculosis and the individual may be required to have both a skin test and x-ray to rule out TB. (Carondelet, 1997)

Signs and Symptoms of TB – include:

- “Loss of appetite
- Weight loss
- Fatigue
- Night sweats
- Persistent cough
- Fever
- Chills
- Hemoptysis” (Carondelet, 1997)

All Athletic Training students will need to have a TBs skin test on record.

Part III Hand Washing

“Hand washing is the single, most important control measure for preventing transmission of germs.” (Carondelet, 1997). Hand washing can help prevent the spread of illness and infections both from patient to healthcare provider as well as from healthcare provider to patient. The basic rule is to wash hands with either soap and water or use an alcohol based sanitizer before and after each patient contact. (Center for Disease Control and Prevention). When washing your hands use the following technique:

1. “Wet your hands with clean running water and apply soap. Use warm water if it is available.
2. Rub hands together to make a lather and scrub all surfaces
3. Continue rubbing hands for 15-20 seconds. Need a timer? Imagine singing “Happy Birthday” twice through to a friend.
4. Rinse hands well under running water.
5. Dry your hands using a paper towel or air dryer. If possible, use your paper towel to turn off the faucet.
6. Always use soap and water if your hands are visibly dirty.” (Center for Disease Control and Prevention, 2010)

“If soap and water are not available, use an alcohol-based hand rub to clean your hands. Alcohol-based hand rubs significantly reduce the number of germs on skin and are fast acting. When using an alcohol-based hand sanitizer:

1. Apply (enough) product to the palm of one hand.
2. Rub hands together.
3. Rub the product over all the surfaces of hands and fingers until hands are dry.” (Center for Disease Control and Prevention, 2010)

Part IV OSHA BBP Standards

Always assume that blood/bodily fluids, non-intact skin and mucous membranes have the ability to transmit a pathogen or infection. (Carondelet, 1997)

Personal Protective Equipment (PPE) - whenever there is a possibility to come in contact with blood or bodily fluids, one must establish a barrier and wear PPEs.

Hand washing: See Part I. Hand washing is crucial to help prevent the spread of illness and infection. Wash hands or use hand sanitizer before and after each new patient/athlete.

Gloves - Each clinical site will provide gloves for your use. Gloves create a barrier between the patient and the provider and must be used when there will be contact with "mucous membranes, non-intact skin and all bodily substances (blood, body fluids, secretions or excretions). When using gloves make sure to

1. Wash hands before caring for patient/athlete
2. Double glove (gloves on both hands) while caring for patient/athlete
3. Immediately and properly remove gloves after care
4. Dispose of gloves in proper receptacle
5. Wash hands again after removal of gloves.
6. Always apply new gloves between patients. (Carondelet, 1997)

When removing gloves, apply the following technique:

1. "Remove glove and turn it inside out.
2. Place the first glove in the second gloved hand then turn the second glove inside out so as to contain the first glove.
3. Remove second glove, making sure not to touch soiled surfaces with ungloved hand.
4. Discard gloves that have been used, discolored, torn or punctured.
5. Wash hands immediately after glove removal." (Prentice, 2009)

Gowns and Aprons: personal protective clothing is to be used when the potential for blood and/or bodily secretions/fluids would soil clothing. Remove gown/apron immediately after care and properly dispose of disposal gowns in biohazard containers and if it is reusable gown, properly placed in linen receptacle (placed in a separate plastic bag). (Carondelet, 1997)

Mask and Eye Protection: personal face and eye protective equipment is used when there is risk of blood or bodily fluids spraying or splashing during care. A mask will protect the oral and nasal mucosa whereas eye protection, such as goggles (with side shields) will protect the eyes. As with all other personal protective equipment, remember to properly dispose of or place soiled garments or equipment in proper receptacles. (Carondelet, 1997)

CPR Masks must be used when performing mouth-to-mouth ventilations or CPR. CPR masks are available in a one-way valve and are not be reused.

All PPE needs to be removed prior to leaving the training room and placed in proper receptacles.

Treatment of soiled and linen and storage of linens - linen and laundry that has been contaminated with blood or bodily fluids must be contained and confined. Soiled linen must be placed into a separate plastic bag and placed in proper linen receptacle. If the linen is placed in a red biohazard bag, it may be destroyed. All soiled laundry or linens must also be treated as potentially contaminated and hazardous when laundering so use gloves and double bag when transporting and cleaning linens. Contaminated laundry must be washed in hot water, 71 degrees Celsius for at least 25 minutes. (Arnheim, 2009; Carondelet, 1997)

Separating clean and soiled equipment - clean and soiled laundry and equipment need to remain separate and should not be mixed. (Carondelet, 1997)

Cleaning up blood or bodily fluid spills - playing as well as treatment surfaces may become contaminated with blood or bodily fluids. Since many of the microorganisms can survive on soiled surfaces, proper protocol and procedure must be followed to disinfect equipment and surfaces. When cleaning blood or bodily fluid spills:

1. Wear PPE (gloves, mask, goggles, etc)
2. Know the locations of the nearest SHARPS and Biohazard containers.
3. Use disposable, absorbable towel to minimize spill. Dispose of waste in proper receptacle.
4. Treat the area with a 1:10 bleach and water solution or approved commercial cleaner. Allow for “setting time” before wiping the area clean. (Remember that 1:10 bleach solution losses its potency and must be replaced every 24 hours.)
5. Reclean the surface with disposable towels and cleaners.
6. If spill occurs on absorbable materials, use a sanitary absorbent agent according to directions.
7. Dispose of waste in proper receptacle. Treat all materials as potentially contaminated.
8. If there is broken glass or sharp objects, do not attempt to pick up with hands, use a broom and dust pan. (Carondelet, 1997; Prentice, 2009)

Bleeding athlete during game or practice – using PPEs, care must be taken to cover all preexisting wounds prior to activity, but if the athlete should bleed during practice or a game, the athlete must be removed from activity until the wound has been cleaned and dressed appropriately. If the uniform has blood or bodily fluids, using a commercial agent to remove blood may be used, but if the uniform is saturated, the uniform will need to be removed and replaced with a clean uniform. (Prentice, 2009). Remove gloves and wash hands after care.

Reusable Equipment and Supplies – if blood or bodily fluids come in contact with reusable equipment or supplies, those supplies must be properly disinfected. For equipment or surfaces, use procedures for cleaning blood or bodily fluids spills as outlined above including use of PPEs. All equipment and surfaces should be decontaminated/cleaned at the end of the work day as well.

If working with reusable sharps (such as scalpel handles, scissors, forceps), clean surface and place into a clear bag and they will be disinfected by autoclaving.

Disposable Contaminated Equipment and Supplies – if disposable equipment and supplies become soiled with blood or bodily fluids, place into proper biohazard or sharps container. Do not attempt to recap, bend, remove, etc needles. (Occupational Safety and Health Administration)

Sharps Disposal – Sharps containers should be located at each clinical site. Please familiarize yourself with its locations. Sharp containers will be labeled, should be closeable and should not be overfilled. When filled, the Sharps containers will be transported to Ortho Montana for proper disposal. (Carondelet, 1997)

Exposure Incidents – If the possibility exists that one has been exposed to contaminated blood or bodily fluids during the course of duties as an Athletic Trainer or an athletic training student, immediately wash the area with soap and water or flush or irrigate mucous membranes (eyes, nose, mouth). (Carondelet, 1997) If a puncture occurred, encourage spontaneous bleeding.

Incident Reporting - Report any exposure to the Head Athletic Trainer and the Program Director and the need for HIV/HBV testing, etc will be determined by the Head Athletic Trainer and Program Director so the proper referral to Student Health Services and University Police can be made if necessary. Confidentially regarding exposure, incident and student WILL BE maintained at all times. If a student or staff member is exposed to a BBP outside the training room, students or staff are encourage to communicate that information with the Program Director as well.

Please review the following for more information.

http://www.cdc.gov/ncidod/dhqp/gl_hcpersonnel.html

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<http://www.cdc.gov/ncidod/dhqp/pdf/guidelines/InfectControl98.pdf>

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Carondelet Infection Control (1997). *Carondelet Nursing Education*.

Centers for Disease Control and Prevention. *Wash your hands*. Retrieved February 1, 2010 from <https://www.cdc.gov/Features/HandWashing/>

National Collegiate Athletic Association (2008). *Sports Medicine Handbook*. 19th ed.

Occupational and Safety and Health Administration. *Bloodborne pathogens and needlestick prevention*. Retrieved February 9, 2010 from <http://www.osha.gov/SLTC/bloodbornepathogens/recognition.html>

Prentice, W. (2009). *Arnheim's Principles of Athletic Training*. New York, NY: McGraw-Hill



**Bloodborne Pathogen Exposure/OSHA
Incidence Report Form
Athletic Training Education Program**

Student Information

Name: _____ Student ID#: _____
Date of Birth: _____ Gender: _____
Address: _____
Phone: _____ Email: _____

Description of Incident:

Date: _____ Time: _____
Location of Incident: _____ Type of Incident: _____
Location of Injury/Illness: _____
Name of ACI/CI or immediate supervisor present: _____
Action/care provided taken during/after incidence: _____

Detailed Description of the Incident (please be specific – who, what, where, why, how):

Action Taken by ACI/CI:

Action taken by Program Director or MSUB ATEP Program Representative:

Signature(s) of athletic training student and Program Director:

Athletic Training Student Signature

Date

Program Director or MSUB ATEP Program Representative

Date