

Blood-Borne Pathogens

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- Blood-borne infectious diseases include HIV/AIDS and Hepatitis B.
- The risk of transmission of blood-borne infectious diseases during athletic competition is small compared to non-athletic high-risk behaviors.
- The risk of transmission of blood-borne infectious diseases can be decreased through proper hygiene, the use of Universal Precautions and immunizations.

SIGNIFICANCE

The risk of transmission of blood-borne infectious diseases is very low during athletic competition, but these illnesses remain major considerations in the U.S. and around the world. While treatment of HIV/AIDS has improved, there is still no cure and there are tens of thousands of new cases reported annually in the U.S. Viral hepatitis (which includes Hepatitis A, Hepatitis B, Hepatitis C and others) is the leading cause of liver cancer. Close to 100,000 people become infected with viral hepatitis yearly, and more than five million Americans are living with chronic Hepatitis B and C. If proper procedures are followed, the risk of transmission of any blood-borne infectious disease during athletic activity is virtually zero.

MANAGEMENT AND PREVENTION

The prevention of transmission of blood-borne infectious diseases includes immunization as well as the use of Universal Precautions for the handling of blood and other body fluids. The basis of Universal Precautions is the assumption that all individuals are potentially carrying a blood-borne infectious disease and must be treated as such.

Children and adolescents in the U.S. have been routinely vaccinated against Hepatitis B for the past decade. Health-care workers and other individuals at risk of exposure to blood and body fluids should also receive Hepatitis B vaccine. There are currently no available vaccines for HIV or Hepatitis C. Hepatitis A is not a blood-borne infection.

Universal Precautions for the handling of blood and body fluids include:

- Any athlete who is bleeding, has an open wound or has any amount of blood on the uniform or body, must be directed to leave the activity (contest or practice) and cannot return until the bleeding has stopped, the wound is covered, the uniform and/or body is appropriately cleaned, and/or the uniform is changed.
- Caregivers must wear gloves and take precautions to prevent blood and/or body fluids from contaminating themselves or others. Gloves must be changed and properly disposed of after dealing with each individual athlete or clean-up.
- In the event of contact with blood or body fluids, the contaminated skin or mucous membranes must be immediately washed with soap and water.
- All contaminated surfaces and equipment must be cleaned with an appropriate disinfectant. For example, the Centers for Disease Control and Prevention recommends a bleach:water ratio of 1:10.
- Any blood exposure or bites to the skin that break the surface must be reported and evaluated by a health-care professional immediately.
- "Body fluids" in the athletic setting primarily refers to blood. Universal precautions do not apply to feces, nasal secretions, saliva, sweat, tears, urine or vomit, unless it contains visible blood.
- Materials that are blood-soaked, including gauze, band aids, gloves and towels used to stop or clean the blood or body fluids, must be disposed of properly. They should not be placed in regular trash containers, but rather placed in special bags for blood and other potentially infectious materials.

School districts should have a policy in place outlining Universal Precautions and the procedures for the implementation of these precautions. A sample institutional control form is provided in Figure 12.

Figure 12. Universal Precautions and Institutional Procedures.

GUIDELINES FOR PROPER HANDLING, DISPOSAL AND CLEANING OF POTENTIALLY INFECTIOUS MATERIALS

Listed below are the Universal Precautions currently recommended by the Centers for Disease Control. After each precaution, specifics are given as to how the (your school) staff will implement these precautions. These precautions and our approach are designed for the safety of the athlete as well as the athletic trainer nurse, administrator, official, coach or faculty member in guarding against the transfer of infectious disease.

1. Routine use of barrier precautions should be practiced to prevent skin and mucous-membrane exposure when contact with blood or other bodily fluids is anticipated. Gloves should be used for touching blood, bodily fluids, mucous membranes or non-intact skin (e.g., abrasions, dermatitis, etc.) of all student-athletes, and for handling items or surfaces soiled with blood or body fluids. Gloves should be changed after contact with each student athlete. Masks and protective eye wear or face shields 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, nose and eyes. Gowns may be warranted if the amount of blood exposure is too great.

Action: Gloves will be located in all athletic training rooms, locker rooms and Infirmary. Additionally, gloves must be carried in all athletic training/first-aid kits and travel vans and must be present and readily available at all practice and competition sites. Scenarios when gloves must be worn include: any open wound, blister, ingrown nail care, changing dressings, suture care or removal, contact with the mouth and cleansing of the mats or any athletic surface for blood or bodily fluids.

2. Hands and other skin surfaces should be washed immediately and thoroughly if contaminated with blood or bodily fluids. Hands should be washed immediately after gloves are removed.

Action: Dry hand wash/wipes will be available for all athletic training/first-aid kits and at all practices and competition sites. This will eliminate the need to leave the site to clean the hands. Sinks and hand antibacterial soap are located in the athletic training facility and in the infirmary.

3. Surfaces contaminated with blood should be cleaned with a solution made from a 1:10 dilution of household bleach or with any OSHA approved disinfectant solution.

Action: Such surfaces include tables, benches, floors, playing surfaces and equipment. All treatment tables, taping tables and benches will be disinfected daily at closing. When known blood or body fluid contact has occurred, it is the responsibility of the attending athletic trainer, coach, nurse or other health-care personnel to ensure immediate disinfection of the soiled surface(s). OSHA has approved specific disinfectants that can be used on any vinyl, leather or plastic surfaces eliminating the damaging effect of bleach on these surfaces. Cans of OSHA-approved disinfectants will be available in the athletic training room, infirmary and at all indoor competition sites to ensure a safe playing environment.

4. Precautions should be taken to prevent injuries caused by needles, scalpels and other sharp instruments or devices. To prevent needle-stick injuries, needles should not be recapped, purposely bent or broken by hand, removed from disposable syringes, or otherwise manipulated by the hand.

Action: All sharp instruments and objects should be carefully stored in kits, drawers and cabinets so there is no risk of injury as the areas are accessed. All needles, blades, scalpels, razors, glass, etc. should be disposed of by placing them in a "Sharps" container immediately after use. Red Sharps containers are located in the athletic training room and infirmary. Sharp objects should not be forced into a full container. A full Sharps container will be taken to the infirmary for proper disposal.

5. Although saliva has not been implicated in HIV transmission, to minimize the need for emergency mouth-to-mouth resuscitation, mouthpieces, resuscitation bags or other ventilation devices should be available for use.

Action: Mouth-to-mouth protection barrier or one-way valve masks will be stored in all athletic training/emergency care kits and will be available at all practice and competition sites.

6. Health-care providers who have draining or oozing lesions or weeping dermatitis should refrain from all direct student-athlete care until the condition resolves.

Action: All open wounds on athletes, athletic trainers, nurses, staff and faculty should be properly cleaned and covered to prevent the risk of infection.

7. Soiled linen should be bagged and washed in hot water with detergent and bleach.

Action: Special red bags will be located in the athletic training room, infirmary, athletic training kits and travel vans and available at all competition sites. All towels, uniforms, bandages, gloves or other linens soiled with blood or body fluids should be dispensed in the red bags provided. The soiled materials will then be washed separately or disposed of in clearly marked biohazardous containers located in the athletic training room and infirmary.

8. In the athletic environment, universal precautions should be considered in the immediate control of bleeding and when handling bloody dressings, mouthguards, and other articles containing blood or bodily fluids. Cleansing of an athletic surface for the same type of contamination requires the same universal precautions.

Action: All faculty, staff and student workers associated with (your school) Athletics will be informed of these universal precautions. A copy of these guidelines will be made available to every student and staff member, and will be posted in the athletic training room and infirmary.

References

Advisory Committee on Immunization Practices. www.cdc.gov/vaccines/recs/acip/default.htm
Centers for Disease Control Guidelines for Disinfection and Sterilization in Healthcare Facilities, 2008.
www.cdc.gov/hicpac/pdf/Disinfection_Sterilization/Pages38_42Disinfection_Nov_2008.pdf
www.cdc.gov/hepatitis/index.htm
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