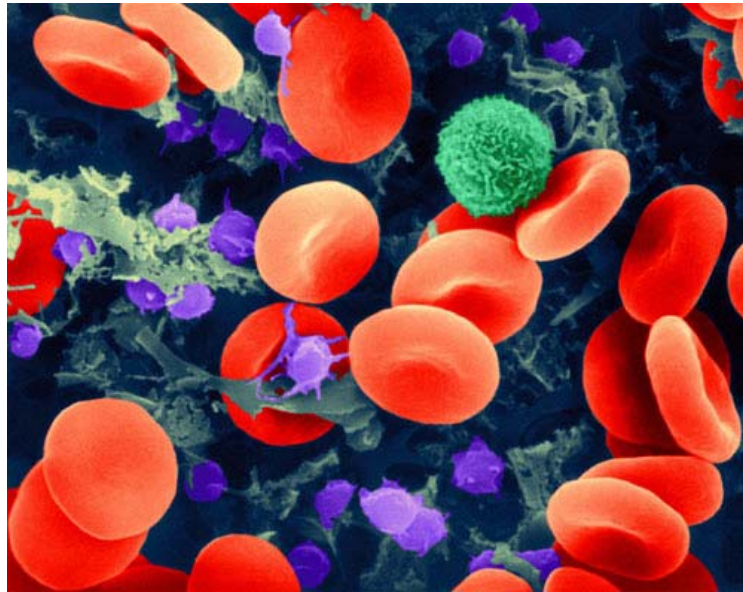


UNIT 3

Sports and Infectious Diseases

Instructor's Background Text



PKIDs' Infectious Disease Workshop

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For educational activities and resources, please visit www.pkids.org/idw.

This publication contains the opinions and ideas of its authors. It is intended to provide helpful and informative material on the subject matter covered. Any information obtained from this workshop is not to be construed as medical or legal advice. If the reader requires personal assistance or advice, a competent professional should be consulted.

The authors specifically disclaim any responsibility for any liability, loss, or risk, personal or otherwise, which is incurred as a consequence, directly or indirectly, of the use and application of any of the contents of this workshop.

Introduction

PKIDs (Parents of Kids with Infectious Diseases) is a national nonprofit agency whose mission is to educate the public about infectious diseases, the methods of prevention and transmission, and the latest advances in medicine; to eliminate the social stigma borne by the infected; and to assist the families of the children living with hepatitis, HIV/AIDS, or other chronic, viral infectious diseases with emotional, financial and informational support.

Remaining true to our mission, we have designed the *Infectious Disease Workshop (IDW)*, an educational tool for people of all ages and with all levels of understanding about infectious diseases. In this workshop, you will learn about bacteria and viruses, how to prevent infections, and how to eliminate the social stigma that too often accompanies diseases such as HIV or hepatitis C.

We hope that both instructors and participants come away from this workshop feeling comfortable with their new level of education on infectious diseases.

The IDW is designed to “train-the-trainer,” providing instructors not only with background materials but also with age-appropriate activities for the participants. Instructors do not need to be professional educators to use these materials. They were designed with both educators and laypersons in mind.

The IDW is comprised of a master Instructor’s Background Text, which is divided into six units: Introduction to Infectious Diseases, Disease Prevention, Sports and Infectious Disease, Stigma and Infectious Disease, Civil Rights and Infectious Disease, and Bioterrorism and Infectious Disease.

For each unit, instructors will find fun and helpful activities for participants in five age groups: 2 to 6 years of age, 6 to 9 years of age, 9 to 12 years of age, 13 to 18 years of age and adults.

We welcome any questions, comments, or feedback you may have about the IDW or any other issue relating to infectious diseases in children.

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PKIDS' INFECTIOUS DISEASE WORKSHOP

Sports and Infectious Diseases

If you coach a little league team, parent an active athlete or are an avid sportsperson yourself, it is important to know what health risks may be present during athletic events other than shinsplints and bruised egos.

Close physical contact and a heightened chance of bleeding present a chance for disease transmission unless appropriate precautions are taken. Athletes, trainers, coaches, parents and teachers alike must know how to prevent the transmission of bloodborne viruses such as HIV and hepatitis B or C or skin-to-skin infections.

These infectious diseases, and others, pose complex problems for athletes of all ages and everyone involved in sports activities. But following standard precautions to prevent bloodborne, skin-to-skin and respiratory infections simplifies and safeguards sports events and ensures that everyone can participate safely.

Sports and Standard Precautions

Universal use of standard precautions is critical because many children, adolescents and adults who are infected with viruses, such as HIV and hepatitis B or C, may not even know they have these viruses. Estimates vary, but some predict that more than half of those infected with these viruses do not know they're infected.



Standard precautions protect everyone, from those whose diseases have been identified to those that have not yet been diagnosed to those not infected. When everyone follows standard precautions, no one who has an infection needs to be treated differently. Essentially, standard precautions are the great equalizer; when followed, they allow everyone to fully and safely participate in sporting events.

The more serious bloodborne viruses that athletes need to be aware of are: HIV, the virus that causes AIDS, hepatitis B and hepatitis C. There is no recommendation that people infected with these viruses not be allowed to participate in most sports.

Although HIV and hepatitis C are not vaccine preventable, there is a safe and effective vaccine that prevents hepatitis B infection.

Skin-to-Skin Infections

According to the NCAA Injury Surveillance System, “skin infections accounted for almost one-third of the practice time loss events” in wrestling during the 2001-2002 season. As a result, the NCAA recommends that coaches, teachers and other sports officials be able to identify

symptoms of skin infections. Symptoms may include:

- Crusting.
- Scaliness.
- Oozing lesions.

Skin infections may include:

- Bacterial skin infections, including impetigo, erysipelas, carbuncle, staphylococcal disease, folliculitis and hidradenitis suppurativa.
- Parasitic skin infections, including pediculosis and scabies.
- Viral skin infections, including herpes simplex, chickenpox and molluscum contagiosum.
- Fungal skin infections, including ringworm.

In some cases, such as fungal infections, the skin conditions can be covered with a securely attached bandage or non-permeable patch to allow participation in the sporting event.

In addition to identification and treatment of individuals with skin infections, prevention can occur through proper routine cleaning of all equipment, including mats and shared common areas, such as locker rooms.

Respiratory Illnesses

Anyone with an infectious respiratory illness, such as the flu or a cold or perhaps tuberculosis, should be prohibited from playing to prevent the spread of infections that are transmitted through respiratory routes.



Bloodborne Pathogens

What risk does an athlete with a bloodborne pathogen pose?

The American Academy of Pediatrics tackled this difficult issue in December, 1999, with a policy statement on *HIV and Other Bloodborne Viral Pathogens in the Athletic Setting*. In it, the Academy made clear, “Because of the low probability of transmission of their infection to other athletes, athletes infected with HIV, hepatitis B or hepatitis C should be allowed to participate in all sports.”

That participation, however, assumes all athletes and coaches will follow standard precautions to prevent and minimize exposure to bloodborne viruses. The Academy tackled each infectious disease individually:

HIV: *The risk of HIV infection via skin or mucous membrane exposure to blood or other infectious bodily fluids during sports participation is very low.... Such transmission appears to require, in addition to a portal of entry, prolonged exposure to large quantities of blood. Transmission through intact skin has not been documented: no HIV infections occurred after 2,712 such exposures in 1 large prospective study. Transmission of HIV in sports has not been documented. One unsubstantiated report describes possible transmission during a collision between professional soccer players.*

Hepatitis B: *The HBV [hepatitis B virus] is more easily transmitted via exposure to infected blood than is HIV.... The risk of infection [is] greater if the blood [is] positive for HBV e antigen.... Transmission of infection by contamination of mucous membranes or broken skin with infected blood has been documented, but the magnitude of risk has not been quantified.*

Although transmission of HBV is apparently rare in sports, 2 reports document such transmission. An asymptomatic high school sumo wrestler who had a chronic infection transmitted HBV to other members of his team. An epidemic of HBV infection occurred through unknown means among Swedish athletes participating in track finding (orienteering). The epidemiologists concluded that the most likely route of infection was the use of water contaminated with infected blood to clean wounds caused by branches and thorns.

An effective way of preventing HBV transmission in the athletic setting is through immunization of athletes. The American Academy of Pediatrics (AAP) recommends that all children and adolescents be immunized. Clinicians and the staff of athletic programs should aggressively promote immunization.

Hepatitis C: *Although the transmission risks of HCV infection are not completely understood, the risk of infection from percutaneous [through the skin] exposure to infected blood is estimated to be 10 times greater than that of HIV but lower than that of HBV. Transmission via contamination of mucous membranes or broken skin also probably has a risk intermediate between that for blood infected with HIV and HBV.*

“There is clearly no basis for excluding any student from sports if they are infected,” said Dr. Steven J. Anderson, who was chair of the Academy’s Committee on Sports Medicine and Fitness when it drafted the Academy’s policy, “and we should also try to protect the confidentiality of each athlete.”



Dr. Anderson, a pediatrics professor at the University of Washington and a team doctor for many high school athletic teams, ballet companies and the U.S. Olympic Diving Team, suggests students should have access to any sport, except boxing, which the Academy opposes for all youths because of its physical risks.

“I personally feel parents have no obligation to disclose the infectious status of their children to anyone,” said Dr. Anderson. Strict compliance with standard precautions is critical for this open-embrace of all athletes, regardless of their infectious status. Coaches and teachers must have a plan in place to handle blood spills, said Dr. Anderson, including latex [or non-permeable] gloves, occlusive dressings, appropriate sterilizing solutions, disposal bags and even a printed protocol for coaches, athletes and officials.

The following is an excerpt of a sample school policy, used by numerous public school districts and in compliance with ADA that addresses HIV infection:

“The privilege of participating in physical education classes, programs, competitive sports and recess is not conditional on a person’s HIV status. School authorities will make reasonable accommodations to allow students living with HIV infection to participate in school-sponsored physical activities.

“All employees must consistently adhere to infection control guidelines in locker rooms and all play and athletic settings. Rulebooks will reflect these guidelines. First aid kits and standard precautions equipment must be on hand at every athletic event.

“All physical education teachers and athletic program staff will complete an approved first aid and injury prevention course that includes implementation of infection control guidelines. Student orientation about safety on the playing field will include guidelines for avoiding HIV infection.”

In addition to the Academy, several sports and other health organizations have also weighed in on this issue. According to the NCAA, National Football League (NFL) and World Health Organization, athletes with HIV should be permitted to participate in all competitive sports at all levels.

These organizations all endorse immunization against hepatitis B for all athletes.

The National Athletic Trainers’ Association (NATA) echoes Dr. Anderson’s suggestion that coaches, trainers, athletic directors, school officials and others take the lead in educating themselves, their teams, parents and their communities about the importance of effective disease prevention.

Trainers and coaches, they suggest, should provide the following information in age-appropriate terms to all participants before or during any competition :

- The risk of transmission or infection during competition.
- The risk of transmission or infection generally.
- The availability of HIV testing (for teens and adults).
- The availability of hepatitis B vaccination and testing (for parents, teens and adults).

“Athletic trainers who have educational program responsibility should extend educational efforts to include those, such as the athletes’ families and communities, who are directly or indirectly affected by the presence of bloodborne pathogens in athletic competitions,” the NATA stated in a position paper.



Guidelines for Before, During and After Each Sports Event

The NCAA and NATA and other sports organizations carefully spell out the standards athletic organizers, including coaches, teachers and others, should follow before, during and after an athletic event.

Before the Event Begins

1. As part of the “pre-game” education program, NATA encourages trainers to:
 - Educate athletes about bloodborne pathogens.
 - Discuss the ethical and social issues related to bloodborne pathogens.
 - Review the importance of prevention programs, including standard precautions and immunizations.
 - Educate athletes about the signs and symptoms of hepatitis B [and hepatitis C] and HIV.
2. Make sure the athletes know the rules concerning standard precautions, including reporting all wounds immediately if and when they occur. This is part of the coach or trainer’s critical pre-game education.
3. Before the opening whistle, cover all wounds, abrasions, cuts or weeping wounds that may serve as a source of bleeding or as a port of entry for bloodborne pathogens. Remember, protection is a two-way street. No one wants germs entering or exiting these wounds or abrasions. The “cover” or bandages should be able to withstand the demands of competition.
4. Wear protective equipment over high-risk areas where bruising commonly occurs, such as elbows or hands.



5. Make sure the necessary equipment and supplies needed to comply with standard precautions are available, including latex [or other non-permeable] gloves, biohazard containers, disinfectants, bleach solutions, antiseptics, containers for soiled equipment and uniforms and sharps containers.

During the Event

1. Underscore the importance of early recognition and control of any cuts or bruises that bleed. Coaches and athletes alike should be prepared for appropriate cleaning and covering procedures and changing of blood-saturated clothes.
2. Require all athletes to report all wounds immediately. Players with active bleeding should be removed from the event as soon as practical. Return to play should be determined by appropriate staff.

3. All personnel involved with sports should be trained in basic first aid and infection control, including standard precautions:

- They should use sterile latex [or other non-permeable] gloves for direct contact with blood or body fluids containing blood.
- Gloves should be changed after treating each individual participant. After glove removal, hands should be washed.
- Any surface or equipment contaminated with spilled blood should be cleaned with gloves on. The spill should be contained in as small an area as possible. After the blood is removed, the surface should be cleaned with a disinfectant or decontaminant.
- Proper disposal procedures should be practiced to prevent injuries caused by needles, scalpels and other sharp devices.
- Any equipment or uniforms soiled with blood should be laundered in accordance with hygienic methods.

4. Any life-saving equipment should be maintained in accordance with infection control guidelines.

After the Event

1. When the game is over, any wounds, cuts, and abrasions should be tended to.
2. Coaches and athletic personnel should constantly review the level of knowledge and implementation of standard precautions policies and recommend revisions and retraining where necessary.
3. Appropriate policy development with legal and administrative assistance of existing OSHA (Occupational Safety and Health Administration) and other legal guidelines and conference or school rules and regulations should be considered on an as needed basis.

Medical Records and Confidentiality

While many experts feel an athlete should not have to “disclose” an infection to a coach, trainer or teacher, some athletes may decide personally to share information about a bloodborne viral infection.

The security, record-keeping and confidentiality requirements and concerns that relate to athletes’ medical records generally apply equally to those portions of athletes’ medical records.

Because social stigma is sometimes attached to individuals infected with HIV or viral hepatitis, athletic officials should pay particular care to the security, record-keeping and confidentiality requirements that govern the medical records for which they have a professional obligation to see, use, keep, interpret, record, update or otherwise handle.



An Infected Trainer, Teacher or Coach

A coach, teacher or trainer infected with a bloodborne pathogen should practice his or her profession while taking into account all professionally, medically and legally relevant issues raised by the infection.

Depending on individual circumstances, the infected coach, trainer or official must take reasonable steps to avoid potential and identifiable risks to his or her own health and the health of his or her team.

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