



FIMS Position Statement: June 1997

AIDS and Sports

Introduction

A consensus statement by the International Federation of Sports Medicine (FIMS) and the World Health Organization (WHO) on "AIDS and Sports" was presented and circulated in 1989. Recently acquired information has stimulated revisions to this document. The following is based primarily on the joint position of the American Medical Society for Sports Medicine (AMSSM) and the American Orthopaedic Society for Sports Medicine (AOSSM) entitled, "Human Immunodeficiency Virus (HIV) and Other Blood Borne Pathogens in Sports" (1995). The FIMS Position Statement presents a summary of presently available information directed at physicians and other health-care providers involved in the field of sports medicine and is intended to serve as a guide toward:

1. understanding HIV as it relates to sports,
2. implementing practical preventive measures that further minimize the low risk of transmission of this pathogen,
3. developing effective educational initiatives among athletes and others involved in sport regarding this infection, its transmission and prevention, and
4. providing guidance for the care of HIV-infected athletes.

Definition

Typically with AIDS, there is a decline in immunologic function that, over an extended period of time, may be associated with clinically obvious symptomatology (5,6). Because of the progressively worsening nature of this process, the HIV-1 spectrum disease should be considered as chronic with three clearly definable stages. Of these, AIDS represents the final, fatal stage. Initial infection is often unrecognized and it usually takes from 4-12 weeks for the person to become HIV-1 seropositive (2,10). The first phase of HIV-1 spectrum disease can last as long as 10-15 years and is asymptomatic (15). Fifty percent of HIV-infected patients develop AIDS within 8 years of infection and during this time, are capable of transmitting the virus to others (19). Once individuals begin to experience symptoms such as night sweats, unintentional substantial weight loss, thrush, herpes zoster, swollen lymph nodes, chronic diarrhea, fever of unexplained origin, and recurrent upper respiratory tract infections, they have progressed to the second stage of HIV disease (often referred to as early symptomatic pre-AIDS). Only when immunocompetence is severely impaired or unusual, and opportunistic infections such as pneumocystis carinii pneumonia, cryptococcal meningitis, toxoplasmosis or herpes simplex

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encephalitis are present, is the individual diagnosed with AIDS (11).

Epidemiology

According to the WHO, an estimated 2 million people worldwide have developed AIDS and an estimated 10-12 million people have been infected with HIV, the virus that causes AIDS. It has also been projected by WHO that 30-40 million people will be infected with HIV-1 by the year 2000 (14).

Transmission of HIV

The HIV is transmitted through sexual contact, parenteral exposure to blood and blood components, contamination of open wounds or mucous membranes by infected blood, and perinatally from an infected mother to fetus or infant.

While the virus may be present in a variety of body fluids, only blood poses any degree of risk of transmission in athletic settings. The virus cannot be transmitted by giving blood, or by mosquitoes or other insects (9). Tears, sweat, urine, sputum, vomitus, saliva, and respiratory droplets have not been implicated in the transmission of infection.

Transmission of HIV through sports

At present, there are no well-documented epidemiological studies assessing the transmission of HIV or other blood-born

pathogens during sport activity. However, despite the negative data, the theoretical chance for HIV transmission in sport situations where significant blood exposures to open wounds may occur is not zero.

Participation in the bloodiest sports, such as boxing, wrestling, and taekwondo presents the greatest risk. Playing basketball, field hockey, ice hockey, judo, soccer, and team handball is of moderate risk and involvement in sports which require little physical contact such as baseball, gymnastics, and tennis presents the lowest risk (8).

It should be recognized that contact and collision sports have a higher risk of significant blood exposure than do other sports. Athletes competing in such sports need to be aware of the small theoretical risk of blood-borne pathogen transmission. The infected athlete who continues to participate in this form of competition has special responsibilities.

The greatest risk to the athlete for contracting any blood-borne pathogen infection originated not in the sporting arena, but through sexual activity and parenteral drug use.

Education

In the absence of a cure for HIV or a vaccine to prevent it, education and prevention techniques remain the primary means of controlling its spread (1). Sports medicine practitioners should play an important role in educational

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activities directed at athletes, their families, athletic trainers, other health care-providers, coaches, officials and others involved in sports. Abstinence or monogamous sex between uninfected partners is the only certain strategy for protection against sexual transmission. In other sexual relationships, the use of condoms with water based lubricants is recommended. The effectiveness of spermicides containing nonoxynol-9 is still being reviewed; these may serve as adjuncts to condoms. Also, the athlete is susceptible to transmission via shared contaminated needles and syringes associated with drug use. This includes the use of ergogenic aids such as anabolic steroids as well as drugs that are illegally abused, such as heroin. Tattoo applications at parlours that do not use disposable needles or adequately sterilize needles between clients also present a needle transmission risk (19). When traveling, athletes should be aware that they may be exposed to a population with a higher prevalence of these viruses. As well, they could be offered possibly risky medical treatment, such as unscreened blood transfusion or injections with a contaminated needle. These (16), as well as practices of sharing personal items such as razors, toothbrushes and nail clippers may place individuals as an increased risk. Athletes should be made aware of these potential dangers.

Education regarding the risk of transmission during sports competition is important. The risk of

such transmission, though highly improbable, can be further minimized by such common sense hygienic measure as the prompt application of first aid to bleeding injuries. Athletes should be made aware that it is in their best interest to report significant injuries to the appropriate official, coach or caregiver in a timely manner. Caregivers should be trained in and adhere to universal precautions.

Physicians involved in sports medicine can play important roles in general education aimed at reducing the fear and misconceptions concerning blood-borne pathogen transmission among athletes, their families, and all persons associated with sports. Athletic organizations, as well as individual athletes, can make meaningful contributions to the community's overall educational effort. Many sports organizations have already developed policies that provide information about precautionary procedures to decrease blood-borne transmission in sports (1).

The HIV-infected athlete

Physicians involved in sports medicine must be knowledgeable about the issues concerning the management of HIV-infected athletes. Given the continuing epidemic of HIV infection worldwide, it will be diagnosed more frequently in athletes. Although HIV is an extremely serious health problem, it must be recognized that it is a chronic disease. Its natural history frequently allows the infected

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person many years of excellent health and productive life.

Meanwhile, no studies have assessed the effect of strenuous exercise on an HIV-positive athlete. Very strenuous exercise has been shown to suppress the immune system of even those healthy, elite athletes who are not HIV-positive.

The decision to recommend continued athletic competition should be made on an individual basis and should involve the athlete, the athlete's personal physician, and the sports medicine practitioner. Variables to be considered in reaching this decision include:

1. the athlete's current state of health and the status of the HIV infection
2. the nature and intensity of training,
3. the potential contribution of stress from athletic competition, and
4. the potential risk of HIV transmission.

Based on current medical and epidemiological information, the presence of HIV infection alone is not sufficient grounds to prohibit sports competition.

Exercise and the HIV-infected sedentaries

Although no reliable data are yet available regarding exercise training for individuals infected with HIV who are symptomatic, several studies (7,12,17,18) seem to indicate that moderate levels of

supervised physical activity are safe throughout the course of the disease. Therefore, caution is still warranted in this area (13).

Long-term effects of acute, exhaustive exercise in people who have chronic illnesses are not clear. Thus, HIV-infected patients whose immune systems are suppressed, as indicated by low CD4+/CD8+ lymphocyte ratios, should probably not exercise to exhaustion (14). A moderate exercise training program may improve mental health and forestall a decline in immunity in individuals infected with HIV. In fact, exercise appears to offer an adjunctive therapeutic technique that may play an important role in the management of the HIV disease (13).

Everyone infected with HIV should have a complete physical examination prior to beginning any type of physical activity program. Exercise training programs should be discussed with a physician and exercise specialist. It is further recommended that individuals infected with

HIV should begin an exercise program while still healthy. By following these simple recommendations, moderate exercise training can be a safe and beneficial activity for many individuals with HIV infections (13).

HIV testing

(a) Mandatory testing

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Mandatory testing or widespread blood-borne pathogen screening is not justified for medical reasons as a condition for athletic participation or competition (3). Any consideration of a blood-borne pathogen testing program in the athletic setting must address the practical, medical, scientific, and ethical problems that such a program poses.

First, the issue of who should be tested may be unclear. In addition, it would be necessary to determine the frequency of testing. A negative test does not guarantee of invulnerability. Although most people test positively 4 months after being exposed to HIV, in others, the virus can take a year to become evident. For this reason, testing should be done several months following the potentially risky activity. A negative result 12 or more months after the possible exposure indicates that the person is not infected (8). Other factors in mandatory testing include overwhelming costs, as well as legal and ethical considerations for populations that may comprise minors. These issues further suggest that there is no rational basis for supporting blood-borne pathogen tests in sports.

(b) Voluntary testing

Voluntary testing should be suggested to athletes as well as nonathletes who may have been exposed to transmission. This would include those who have had:

1. multiple sexual partners,

2. injections of non-prescription drugs, such as drugs of abuse or ergogenic aids,
3. sexual contacts with at-risk persons,
4. sexually transmitted disease including HBV, or
5. blood transfusions before 1985.

When obtaining informed consent and reviewing the positive and negative results, federal, or local guidelines must be followed. (Guidelines may vary.)

Personal knowledge of blood-borne serum status, combined with pre- and post-test counseling, can be a helpful adjunct to preventive education.

Knowledge of one's infection is helpful for a variety of reasons. These include availability of therapy for asymptomatic patients in the case of HIV, modification of behavior that can prevent transmission of blood-borne pathogens to others, and appropriate counseling regarding exercise and sports participation. Early knowledge of a positive test will enable timely medical intervention that may prolong life (1). The International Federation of Sports Medicine urges that applicable public health measures for handling an epidemic should be implemented with the HIV-infected persons.

Other blood-borne pathogens

Hepatitis B (HBV) and Hepatitis C (HCV) are spread through the same routes as HIV. The chronic hepatitis B carrier presents the

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greatest concern for transmission. Hepatitis delta virus (HDV) requires the presence of HBV for expression of the disease. The HDV results in a more virulent course of the disease than HBV alone. Risk factors for the two diseases are similar. HBV is far more concentrated in blood, thus it is more readily transmitted than HIV.

In the general health-care setting, the risk of HBV transmission from parenteral exposure is much greater than that of HIV. It may be presumed that the sports-related transmission risk for HBV is greater than the risk for HIV.

Accurate laboratory blood tests are available for HBV and HCV screening. There is no evidence that intense, highly competitive training is a problem for the asymptomatic HBV carrier (acute or chronic).

Vaccination for HBV is now available and should be considered particularly by health care workers. No recommendation has been specifically made regarding immunizations against HBV for athletes. However, several groups now endorse universal immunization against HBV of both newborn and young adults.

The recommendations for HIV are also appropriate to reduce the risk of other blood-borne pathogens, including HBV and HCV (16).

Legal considerations

Confidentiality dictates that medical information is the property of the

patient. Exceptions include medical conditions that are reportable by regulation and statute. Therefore, the responsibility of the physician is very clear. The physician is not liable for failure to warn the uninfected opponent. That legal responsibility lies with the HIV-infected athlete. However, the uninfected athlete must be aware that he or she assumes some of the risk (albeit small) of contacting HIV or other blood-borne pathogen disease in sports activities because it cannot be assumed that his or her competitors are HIV (or other blood-borne pathogen) free. This does not differ from other injuries that are inherent in sports.

The responsibility for the sexual transmission of HIV lies with the HIV infected person. As yet, there has been no legal activity regarding transmission of HIV in sports competition. The physician is advised to be aware of local and federal statutes, and regulations concerning confidentiality.

Specific management and preventive measures for sport events

Any risk of blood-borne pathogen transmission in sports is exceedingly small. However, all those involved with sports will help further reduce the risk of transmission by following guidelines that are both practical and simple to implement. A major component to these is common sense and adherence to basic principles of hygiene.

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Because the risk of blood-borne pathogen transmission in sports is confined to contact with blood, body fluids and other fluids containing blood, preventive measures should be focused on the recognition and immediate treatment of bleeding.

The following recommendations are designed to minimize the risk of blood-borne pathogen transmission in the context of athletic events and provide treatment guidelines for caregivers:

1. Proper care for existing wounds is essential. Abrasions, cuts, or oozing wounds that may serve as a source of bleeding or as a portal of entry for blood-borne pathogens should be covered with an occlusive dressing that will withstand the demands of competition. Likewise, care providers with healing wounds or dermatitis should have these areas adequately covered to prevent transmission to or from a patient.
2. Necessary equipment and/or supplies, important for compliance with universal precautions, should be available to caregivers. These supplies include latex or vinyl gloves, disinfectant, bleach (freshly prepared in a 1:10 dilution with tap water), antiseptic, designated receptacles for soiled equipment or uniforms (with separate waterproof bags or receptacles appropriately marked for uniforms and equipment contaminated with blood), bandages or dressings, and a container for appropriate disposal of needles, syringes, or scalpels.
3. During the sports event, early recognition of bleeding is the responsibility of officials, athletes, and medical personnel. Participants with active bleeding should be removed from the event as soon as is practical. Bleeding must be controlled and the wound cleansed with soap and water or an antiseptic. The wound must be covered with an occlusive dressing that will withhold the demands of the activity. When bleeding is controlled and any wound properly covered, the player may return to competition. Any participant whose uniform is saturated with blood, regardless of source, must have that uniform changed before returning to competition.
4. Athletes must be advised that it is their responsibility to report all wounds and injuries including those recognized before the sporting activity in a timely manner. In contact sports, it is the athlete's responsibility to wear appropriate equipment, including a mouth protector, at all times.
5. The care provider managing an acute blood exposure must follow universal precautions. Appropriate gloves should be worn when direct contact with blood, body fluids, and other fluids containing blood is anticipated. Gloves should be

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- changed after treating each individual participation and, as soon as practical after glove removal, hands should be washed with soap and water or antiseptic.
6. Minor cuts or abrasions commonly occur during sport. These do not require interruption of play or removal of the participant from competition. Minor cuts and abrasions that are not bleeding should be cleansed and covered at the next scheduled break in play. Likewise, a small amount of blood staining a uniform does not necessitate removal of the participant or a uniform change.
 7. Lack of protective equipment should not delay emergency care for life-threatening injuries. Although HIV is not transmitted by saliva, medical personnel may prefer using airway devices. These devices should be made available whenever possible.
 8. Any equipment or area (e.g., wrestling mat) soiled with blood should be wiped immediately with paper towels or disposable cloths. The contaminated areas should be disinfected with a solution prepared daily of one part household bleach to ten parts water. The cleaned area should be dry before re-use. Gloves should be worn by persons cleaning equipment or collecting soiled linen.
 9. Post-event considerations should include re-evaluation of any wounds sustained during the sporting event. Further cleaning and dressing of the wound may be necessary. Also, blood-soiled uniforms or towels should be collected for eventual washing in hot water and detergent.
 10. Procedures performed in the training room are also governed by adherence to universal precautions. Gloves should be worn by care providers. Any blood body fluids or other fluids containing blood should be cleaned in a manner as described previously. Equipment handlers, laundry personnel and janitorial staff should be advised to wear gloves whenever contact with bloody equipment, clothing or other items are anticipated. Appropriate containers for the disposal of needles, syringes, or scalpels should be available.
- Many athletic contests and practices, especially at the community or scholastic level, occur without medical personnel in attendance. The above guidelines apply not only to physicians, athletic trainers, and physical therapists involved in the coverage of sports, but also to coaches and officials who may be present as the primary caregivers. All personnel involved with sport should be trained in basic first aid and infection control, including the preventive measures outlined.

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Principal reference

Joint position statement of the
American Medical Society for
Sports Medicine (AMSSM) and The

American Orthopaedic Society for
Sports Medicine (AOSSM),
"Human Immunodeficiency Virus
(HIV) and Other Blood-Borne
Pathogens in Sports" (1995).

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