

## HUMAN IMMUNODEFICIENCY VIRUS/AIDS



### DEFINITIONS:

**Immune system:** The immune system is the body's way of fighting infection and preventing illness. White blood cells are the immune system's primary infection fighters. Three special cells are especially important: Helper T-cells, Killer T-cells, and B-cells.

When a virus enters the blood, the immune system recognizes the invader and the white blood cells rush to fight it. Helper T-cells call upon Killer T-cells to destroy the virus by devouring and digesting it. Helper T-cells also call upon B-cells to make antibodies against the virus. These antibodies, in turn, block the virus so that it cannot infect healthy cells.

**Human Immunodeficiency Virus (HIV):** HIV is different from other viruses like the flu and colds. When HIV gets into the blood, it enters Helper T-cells and hides inside them. As the result, the infected Helper T-cells are unable to work as they should. For example, they no longer can call Killer T-cells to destroy the virus.

After the virus has been hidden in the T-cells for a while, which could last from a few months up to 10 years, it begins to make copies of itself. Some of these copies infect other T-cells. Eventually, HIV may destroy almost all the Helper T-cells. Up until this point, there may be no symptoms of infections or diseases. With no immune response from the body, however, it becomes easy for other infections to cause illness.

### TRANSMISSION OF HIV/AIDS OCCURS:

- By having unprotected sexual contact with someone who has the virus.
- By sharing needles or syringes with someone who has the virus.
- By receiving blood transfusion or transplants of tissue or organs donated by someone with the virus.
- By getting HIV-infected blood, semen, breast milk or vaginal secretions into open wounds or sores.
- By having artificial insemination with the sperm of a man who has the virus.
- By being punctured or cut with a needle or surgical instrument contaminated with the virus.

### AIDS IS NOT TRANSMITTED BY:

- Competing in sports
- Coming in contact with sweat
- Having causal contact, such as handshaking or hugging

- Living with someone who has AIDS and sharing utensils, towels, and toilets
- Kissing
- Swimming in a pool with someone who has AIDS

## SYMPTOMS:

### Stages of Acquired HIV/AIDS Progression

#### Stage 1: HIV infection

- A symptom-free condition lasting several years

#### Stage 2: HIV disease

- Chronic diarrhea
- Severe weight loss
- Nonproductive coughs with shortness of breath, swollen lymph nodes
- Fevers of unknown origin
- Chronic fatigue
- Skin rashes
- Increased susceptibility to infections

#### Stage 3: AIDS

- Required hospitalization and complete bed rest

### Patterns of Congenital HIV/AIDS

- Pattern 1: which includes about 50% of infants born with HIV, is a symptom-free status. These infants test seropositive until about 2 years old because of antibodies passed on by their mother.
- Pattern 2: the static form of congenital HIV, includes infants who appear healthy until age 6 to 9 months, then exhibit disease symptoms for a short period, and thereafter have a relatively long period of freedom from illness before the AIDS stage begins. About 60% of these children will survive until age 5.
- Pattern 3: the progressive form of congenital HIV, is similar to pattern 2, except that, once illness begins, health rapidly deteriorates; the mean survival time is 8 months.

## IMPLICATION FOR PHYSICAL EDUCATION

- Practice approved first-aid procedures with injuries in which blood is a factor (such as using gloves when treating broken-skin injuries or nose bleeds).
- Follow preestablished plan for handling body fluid waste and clean up on mats and gym floors.
- Plan rest periods.
- Provide adequate but not overtaxing physical activities.

- Avoid close contact with child who has cold or communicable disease.
- Consult with physician for contraindicated activities.
- Have students avoid contact with the body fluids of others.
- Encourage thorough laundering of uniforms and other clothing that may have been contaminated in play or instructional activity sessions.
- Be aware of the physical limitations of the students with HIV so that conditioning and other activities required strength and cardiovascular endurance are designed appropriate to their tolerance and ability levels.
- Use information about current status of confidentiality laws.
- Model an attitude of acceptance.

*Information on this sheet contains only suggested guidelines. Each student must be considered individually, and in many cases, a physician's written consent should be obtained.*