

Section 8: OVERHEADS

AIDS = Acquired Immunodeficiency Syndrome

AIDS is caused by HIV = Human Immunodeficiency Virus

Outcome of infection with the virus varies:

- Some have no symptoms.**
- Some have less severe symptoms than those with AIDS.**
- AIDS results from destruction of the immune system which allows diseases to threaten life or health.**

How widespread is HIV infection?

- 80,000 cases of AIDS in the U.S. (January 1989)**
- Over half of these have died.**
- Estimate: 1.5 million Americans are infected.**
- Infected people represent all ages, races, men and women, and all lifestyles.**

You cannot "catch" HIV:

- through the air (like a cold or flu)**
- through casual, everyday contact (sharing bathrooms, kitchens, etc.)**
- through nonsexual social situations**
- through insects or mosquitoes**
- through urine, feces, nasal secretions, sputum, vomitus, saliva, sweat or tears from an infected person**

What personal behaviors/practices put you at risk?

- sexual contact with an infected person**
- sharing infected needles**
- infected women to her child at birth**

Blood supply is screened so that risk of infection from transfusion is extremely small.

How can you prevent HIV transmission in your personal life?

Refrain from:

- anal sex**
- vaginal or oral sex with someone who uses IV drugs or engages in anal sex**
- sex with someone you do not know well**
- sex with someone who has multiple sex partners**
- sex without a condom with an infected person**
- sharing IV drug needles**

Occupationally Acquired HIV Infection and AIDS

There are a small number of health care workers who have become infected through work-related duties.

Protect yourself from HIV on the job by avoiding contact with blood and potentially infectious body fluids that can transmit the virus.

Blood is the single most important source of HIV in the occupational setting.

Protect yourself from fluids that are contained in the spine, chest cavity and abdomen, and in the womb surrounding an unborn child because the risk for these fluids is unknown.

The risk of HIV infection through contact with feces, nasal secretions, saliva, sputum, sweat, tears, urine and vomitus is extremely low or nonexistent.

Workers can come into contact with blood or potentially infectious body fluids through:

- Needlestick**
- Broken or nonintact skin***
- Mucous membranes of the eye, nose, and mouth**

***Nonintact skin = chapped, abraded, weeping, or having rashes or eruptions.**

Risk of HIV Infection through:

- Needlestick: 0.5% following needlestick contaminated with blood from a known infected person.**
- Chapped/broken skin or mucous membranes: less, but not definitively known**

Antibodies to HIV in an infected person's blood can be detected by a test.

Persons usually develop antibodies within 6 to 12 weeks after becoming infected.

How can you protect yourself from HIV?

- Use protective procedures and equipment that we are going to describe.**
- There is no vaccine at the present time.**

What is hepatitis B?

- Caused by hepatitis B virus (HBV)**
- Is a disease that damages the liver, causing symptoms that range from mild or inapparent to severe or fatal.**
- 25% of infected individuals develop acute hepatitis.**
- 6% to 10% become HBV carriers. Carriers can develop liver disease and are infectious to others.**

- **In 1987, new cases of HBV infection in U.S. = 300,000**
- **12,000 health care workers become infected through occupational exposure each year.**
- **500-600 infected health-care workers are hospitalized each year.**
- **200-300 infected health-care workers die each year with associated diseases.**

What personal behaviors put you at risk for HBV infection?

- Sexual contact with an infected person.**
- Sharing drug needles and syringes with infected person.**
- Since blood supply is screened for HBV, the chance of being infected through transfusion is extremely small.**

What occupational exposures put a worker at risk for HBV?

Contact with blood or potentially infectious body fluids through:

- Needlestick**
- Broken or nonintact skin**
- Mucous membranes of eyes, nose and mouth**

Saliva injected through a human bite can also transmit HBV.

The same protective equipment and procedures that will be discussed for HIV will protect the worker against HBV.

Blood tests are available to detect antibodies for HBV in an infected person.

**Vaccines provide protection against HBV infection
(90% protection for 7 or more years).**

Vaccines are 70% to 88% effective when given within 1 week of exposure.

**HBIG (hepatitis B immune globulin) provide some temporary protection
after exposure.**

How are HBV and HIV similar? Different?

	<u>HBV</u>	<u>HIV</u>
<u>Mode of transmission:</u>		
Blood	yes	yes
Semen	yes	yes
Vaginal secretions	yes	yes
Saliva (from a bite)	yes	no
Target in the body	liver	immune system
Risk of infection after needlestick to infected blood	6% to 30%	0.5%
High number of viruses in blood	yes	no
Vaccine available	yes	no

PROTECTIVE EQUIPMENT

Gloves

- **disposable protects against blood and fluids**
- **heavy protects against sharp objects**
- **change if torn or soiled**
- **change between handling of different people**

Masks, Eyewear, Gowns

- **not needed unless blood or potentially infectious fluids are present**
- **masks and eyewear are worn together if you anticipate splashes**
- **gowns or apron are worn to avoid soaking of clothes**

**No reported cases of HBV or HIV transmission
from mouth-to-mouth resuscitation.**

**Because other diseases can be transmitted this way,
use protective devices:**

- mechanical respiratory devices**
- pocket mouth-to-mouth resuscitation masks**

How can you protect yourself against HIV and HBV?

- If you perform tasks that put you in contact with blood, or other potentially infectious body fluids, you should be vaccinated against HBV.**
- Wear disposable gloves if blood or possibly infectious body fluids are present.**
- Put on protective equipment if the chance of exposure to blood or possibly infectious body fluids is high.**
- Carry personal protective equipment on emergency response vehicles.**

HIV cannot live in a dry environment for more than a few hours.

HBV can live in a dry environment for at least 7 days.

Once the virus is dead--it's dead. You cannot "reactivate" it by adding water.

Needles and sharps disposal

- Needles should not be recapped or manipulated by hand.**
- Disposable blades and other sharps should be placed in a puncture-resistant container.**
- Puncture-resistant containers should go to the site of victim assistance.**
- Reusable needles should be placed in puncture-resistant containers for transport to reprocessing area.**

Handwashing

- Use a utility or restroom sink for handwashing-- not the food preparation area.**
- Wash with soap and water.**
- Waterless antiseptic hand cleanser should be available on response vehicles.**

Carefully read labels and package inserts with germicidal products.

Sterilization: use for instruments that penetrate the skin.

- **Methods: steam under pressure (autoclave)
gas
dry heat
immersion in EPA-approved chemical for long period**

High-level disinfectant: for instruments that come into contact with mucous membranes.

- **Methods: hot water pasteurization
exposure to same chemical as above, but for
shorter period**

Intermediate-level disinfectant: for surfaces that come into contact with intact skin.

- **Methods: use of chemical germicides that are tuberculocidal
bleach (1:100 dilution)**

Low-level disinfection: removal of soiling with no visible blood

- **Method: "hospital disinfectants"**

Cleaning and decontaminating spills of blood:

- Put on gloves and clean with disposable towels. Place soiled towels in plastic bag.**
- Wear eye and face protection if there is splashing.**
- Wear shoe covers if amount of blood is great.**
- Decontaminate with germicide or bleach. Wipe area with clean towels and air dry.**
- Remove contaminated items, shoe coverings, etc. and place in plastic bag for disposal. Remove gloves last.**
- Wash hands after removing gloves.**

Laundry

- **Handle soiled items as little as possible.**
- **Bag soiled linen where it was used and place in bags that prevent leakage.**
- **Wash linens in normal laundry cycles according to recommendations of machine and detergent manufacturers.**

Decontaminating and laundering of protective clothing

- Transport clothing in bags or containers that prevent leakage.**
- Wear gloves when bagging and placing in washer.**
- Uniforms should be washed and dried according to manufacturer's recommendations.**

Follow local regulations concerning disposal of infective waste.

An exposure is contact with blood or fluids that have the potential to be infectious through a needlestick, through broken or nonintact skin, or through the mucous membranes of the nose, mouth, or eyes.

Workers who are exposed should:

- . Wash the affected area.**
- . Report the incident and be examined by the proper medical authority for:**

**Assessment
Counseling**

