State of Washington
Office of
Superintendent of Public Instruction
OSPI

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http://www.k12.wa.us/HealthServices/Resources.aspx

Bloodborne Pathogens

Employee training on HIV and protection from bloodborne pathogens in the workplace

Topics to be Discussed

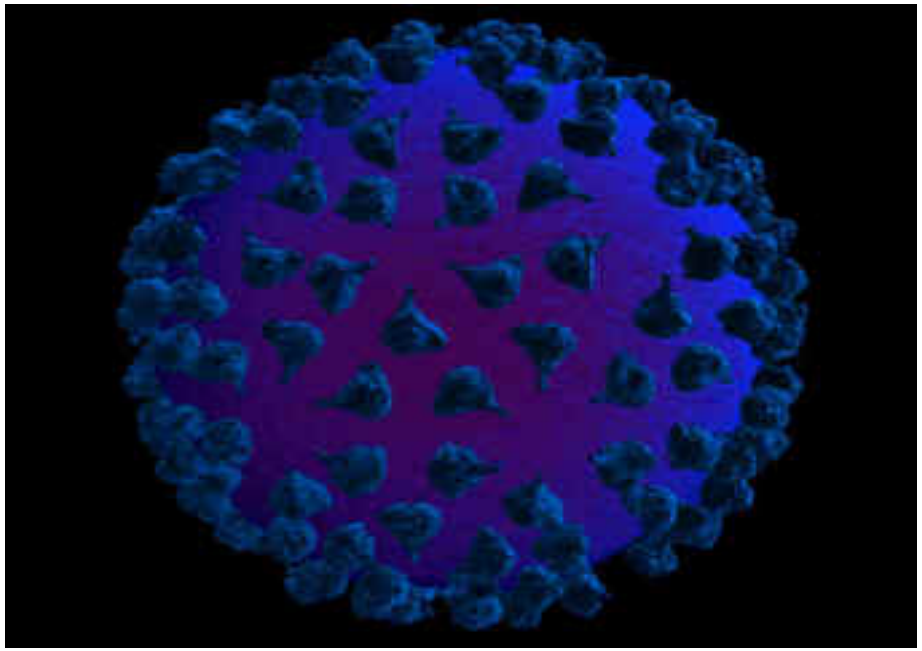
- What's HIV/AIDS and its impact?
- What are BBPs?
- Why are they harmful?
- How can I protect myself?
- What is our Exposure Control Plan?

Examining HIV/AIDS

More Closely

HIV: Human Immunodeficiency Virus

Actual virus that causes AIDS



The History of HIV/AIDS

- **1884-1924:** HIV (the virus that causes AIDS) may have transferred to humans in Africa. The CDC identified a type of chimpanzee in West Africa as the source of HIV infection in humans. The virus most likely jumped to humans when humans hunted these chimpanzees for meat and came into contact with their infected blood.
- **1959:** African man dies of a mysterious illness, later determined to be from complications related to an HIV infection.
- **1981:** AIDS was first conclusively identified in the United States when 189 cases were reported to the CDC.

The History of HIV/AIDS

- **1982**: It was originally called GRID (Gay Related Immune Disorder). The CDC renamed it AIDS and declared it an epidemic.
- **1984:** HIV was identified in Paris, France at the Pasteur Clinic, and in Atlanta at the CDC. Ryan White, an Indiana teenager with AIDS, is barred from school; goes on to speak out publicly against AIDS stigma and discrimination.
- **I985:** The American Red Cross began testing the blood supply for HIV.

The History of HIV/AIDS

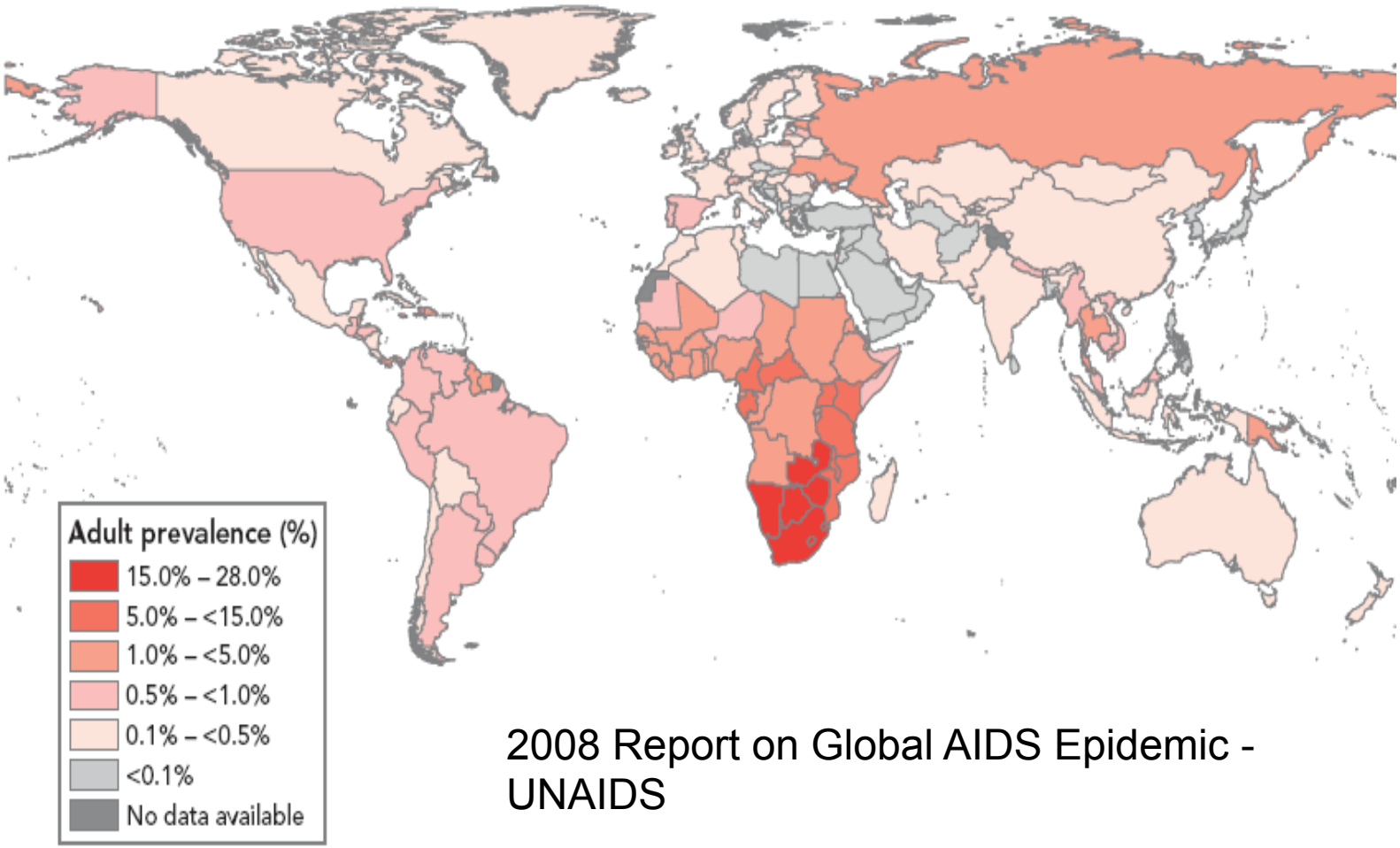
- **1986:** Ricky Ray, a nine-year-old hemophiliac with HIV, is barred from Florida school, and his family's home is burned by arsonists.
- **1987:** AZT is first drug approved for treating AIDS.
- **1988:** U.S. National AIDS Education campaign conducted; a young girl with AIDS can only attend school if she is in a glass enclosure.
- **2002:** HIV is leading cause of death worldwide, among those aged 15-59.

The History of HIV/AIDS

- **2009:** CDC estimates that about one million people in the United States are living with HIV or AIDS. About one– quarter of these people do not know that they are infected: not knowing puts them and others at risk.
- Scientists have isolated the virus, named the virus, and verified the connection between the HIV virus and the disease of AIDS.
- Medication has been developed to treat HIV/AIDS with some success, but a vaccine to prevent the disease has yet to be discovered.

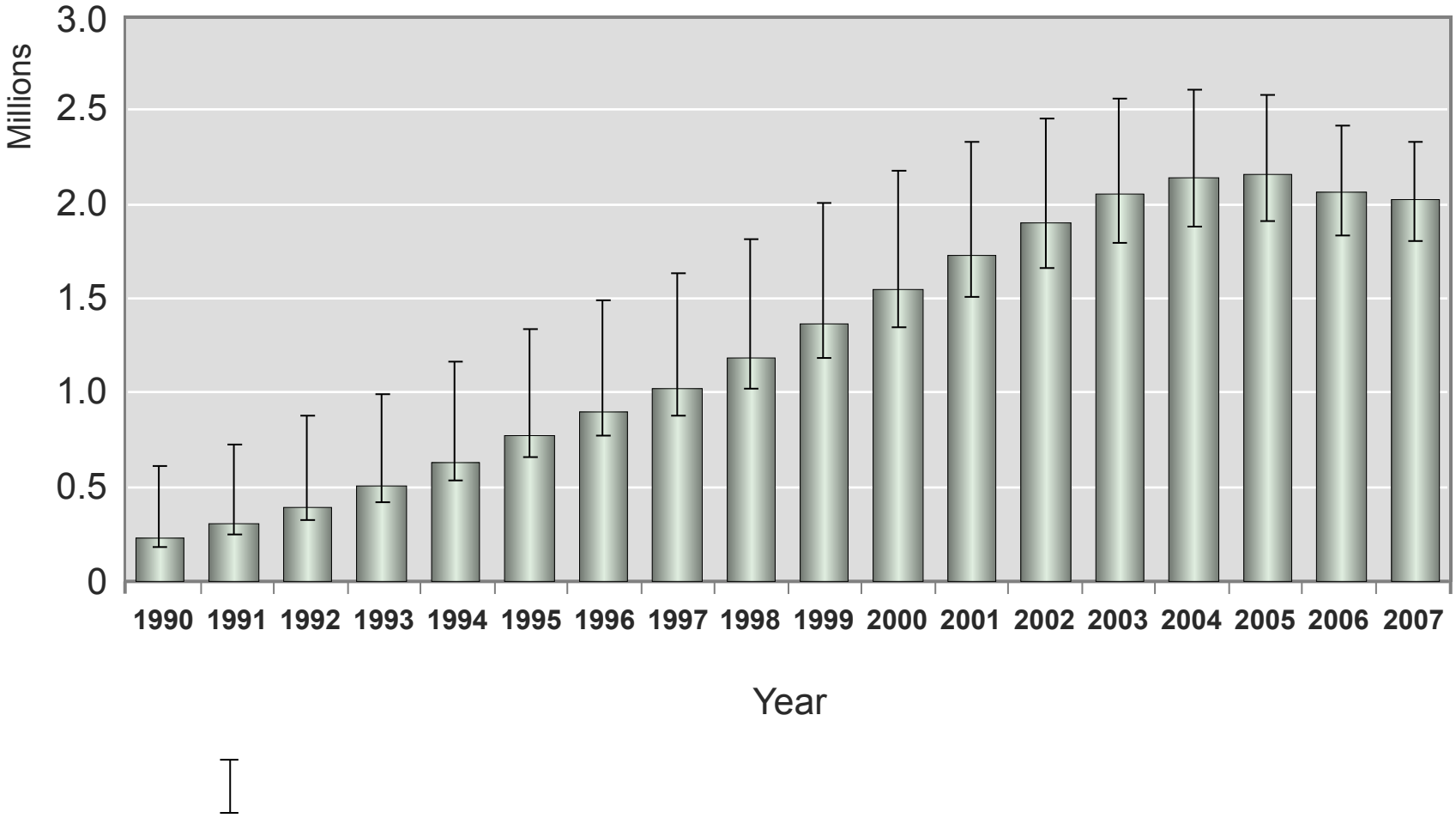
A global view of HIV infection

33 million people [30–36 million] living with HIV, 2007



2008 Report on Global AIDS Epidemic - UNAIDS

Estimated number of adult and child deaths due to AIDS globally, 1990–2007- UNAIDS

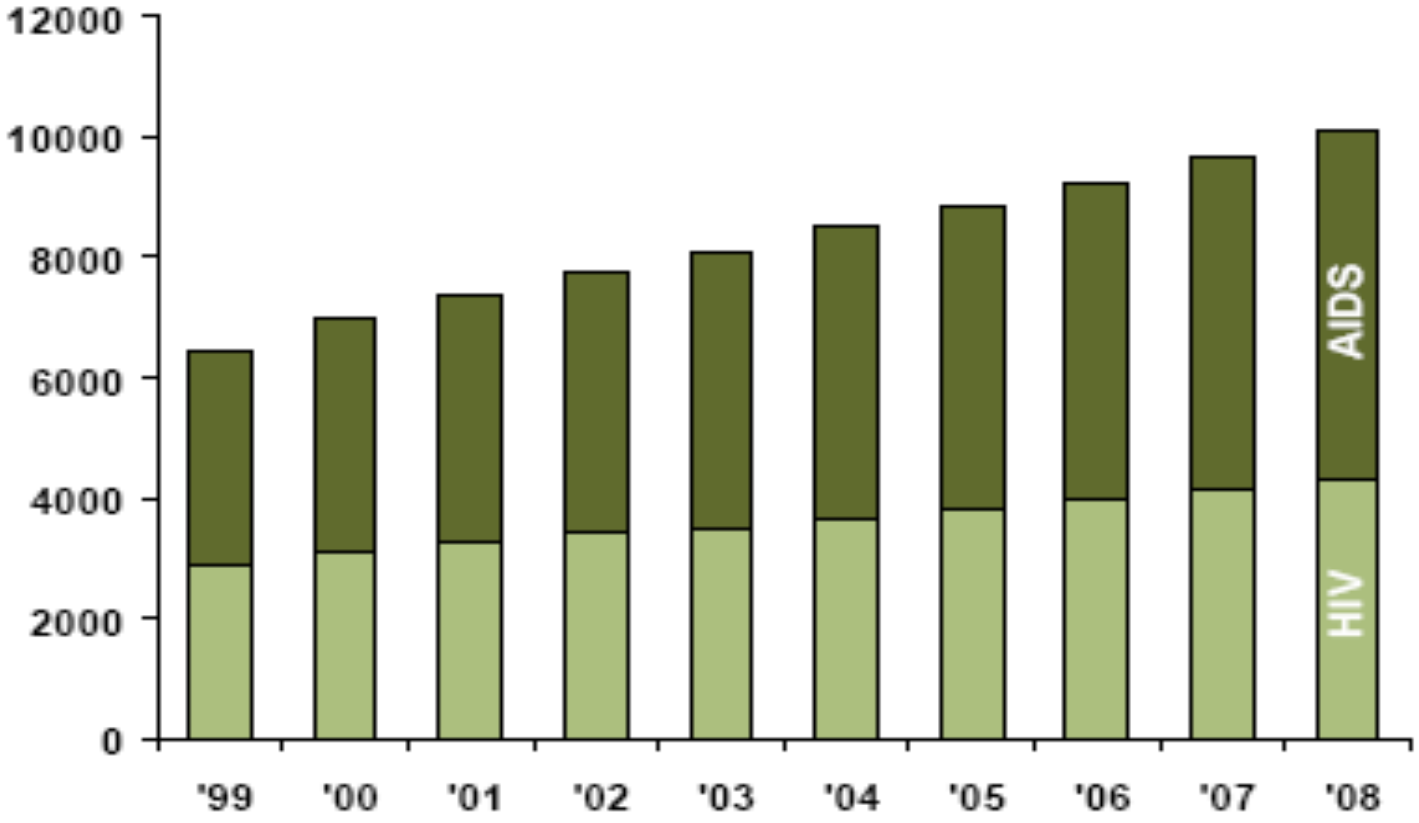


Trends

- African Americans account for 51% of new HIV infections; Hispanics/Latinos 18%; and whites 29%.
- AIDS is the leading cause of death for African American women aged 25 to 34, and HIV rates among Hispanic women are increasing.
- The number of women living with HIV has tripled in the last two decades.

Washington Data

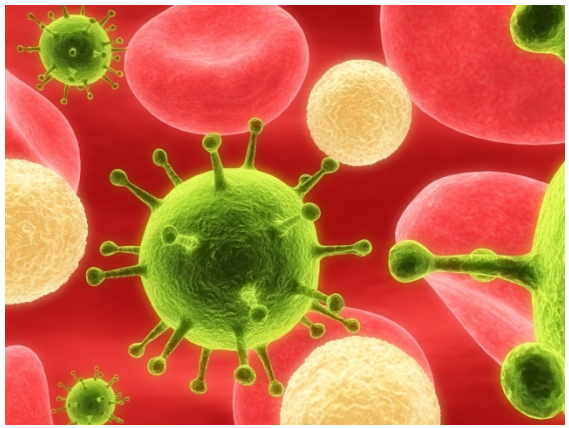
Figure 3. Prevalence of HIV disease in Washington state, 1999-2008



Bloodborne Pathogens (BBPs)

HIV, as well as other diseases, are caused by Bloodborne Pathogens (BBPs).

- Bloodborne Pathogens are microorganisms such as viruses or bacteria that are carried in the blood and body fluids and cause disease in humans.
- Main disease concerns: Hepatitis B and C, HIV/AIDS.



Potentially Infectious Body Fluids

- **Blood**
- Semen
- Vaginal secretions
- Cerebrospinal fluid
- Vomit
- Saliva (in dental procedures)
- Pleural fluid
- Amniotic fluid
- Feces/Urine

Transmission of BBPs

Bloodborne pathogens can enter your body through:

- Contaminated instrument injuries.
- A break in the skin (cut, lesion, etc.).
- Mucus membranes (eyes, nose, mouth).
- Other modes.

Transmission of BBPs

Occupational Exposure:

Means reasonably anticipated skin, eye, mucous membrane, or parenteral (piercing of the skin) contact with blood or other potentially infectious materials (OPIM) that may result from the performance of an employee's duties.

Exposure Incident:

Is a broken skin, mucous membrane, or sharps injury exposure to blood or OPIM.

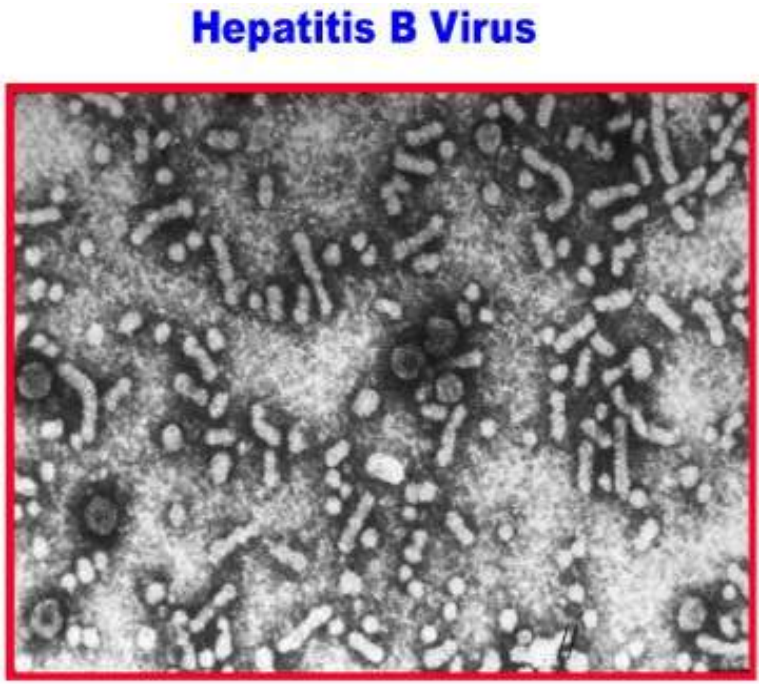
Bloodborne Pathogen Diseases

- Hepatitis B (HBV)
- Hepatitis C (HCV)
- HIV/AIDS

HBV - Hepatitis B Virus

General Facts

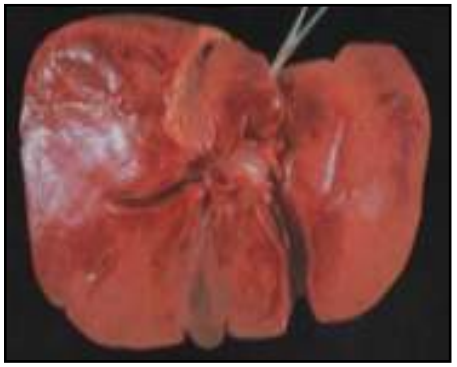
- Hearty – can live for 7+ days in dried blood.
- 100 times more contagious than HIV.
- Approximately 46,000 new infections per year (2006).
- 1.25 million carriers.
- 4,000 deaths/year.
- No cure, but there is a preventative vaccine.



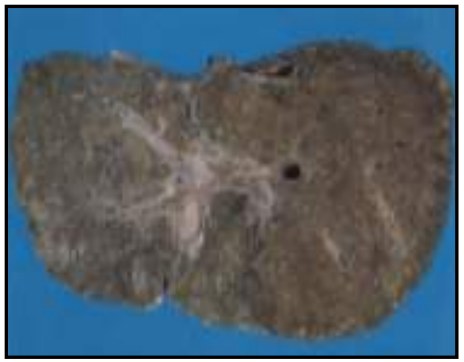
HCV - Hepatitis C Virus

General Facts

- The most common chronic bloodborne infection in the U.S.
- 3.2 million (1.6%) Americans infected; 2.7 million chronically infected.
- 19,000 new infections per year (2006 data).
- Leading cause of liver transplantation in U.S.
- 8,000-10,000 deaths from chronic disease/ year.
- No broadly effective treatment.
- No vaccine available.



Healthy human liver



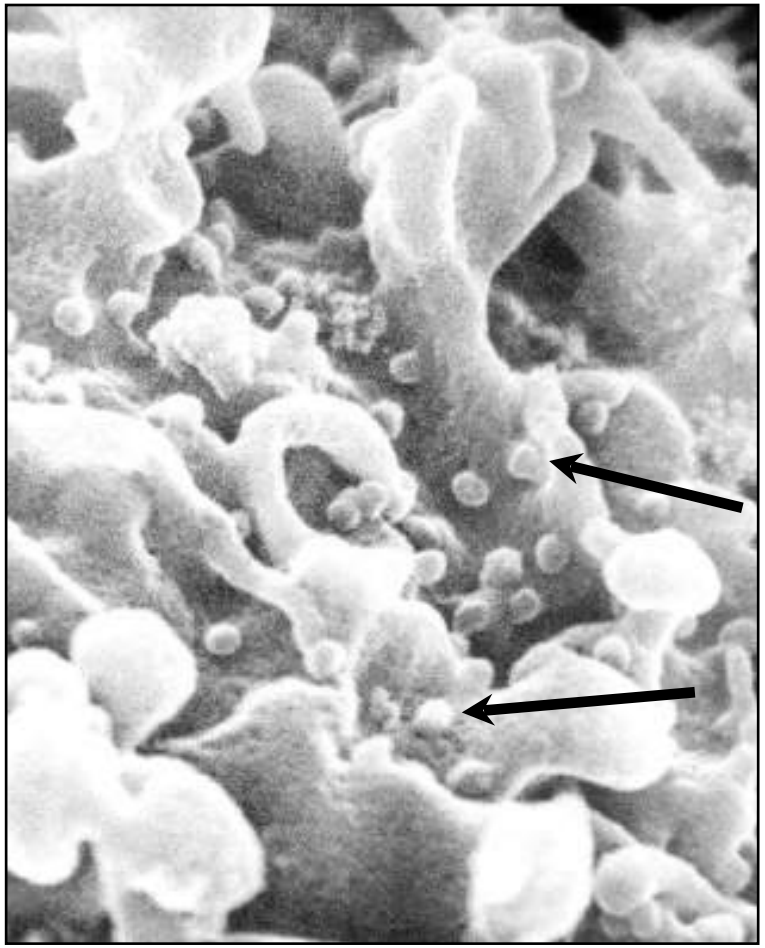
Hepatitis C liver

A healthy human liver contrasted with a liver from an individual who died from Hepatitis C.

Human Immunodeficiency Virus (HIV)

General Facts

- Fragile – survives only a few hours in dry environment.
- Attacks the human immune system.
- Cause of AIDS.
- >1 million infected persons in U.S.
- No cure; no vaccine available yet.



HIV - seen as small spheres on the surface of white blood cells.

Human Immunodeficiency Virus (HIV)

HIV Infection → AIDS

- Many have no symptoms or mild flu-like symptoms.
- Most infected with HIV eventually develop AIDS.
- Incubation period = 10 – 12 years.
- Opportunistic infections and AIDS-related diseases - TB, toxoplasmosis, Kaposi's sarcoma, oral thrush (candidiasis).
- Treatments are limited; do not cure.

What tests are used to detect HIV?

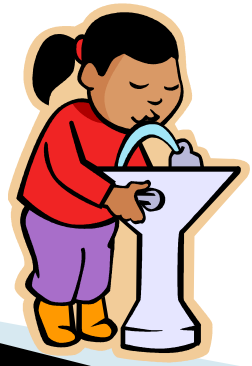
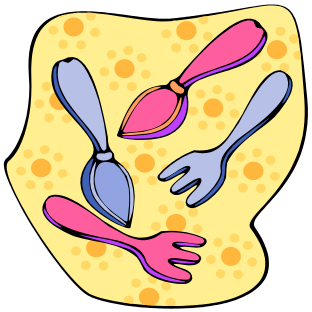
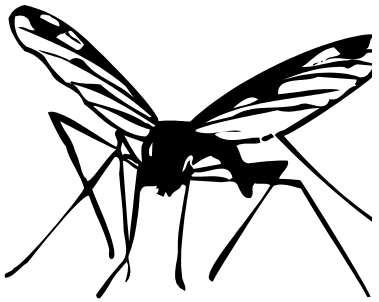
- EIA (enzyme immunoassay), used on blood drawn from a vein, is the most common screening test used to look for antibodies to HIV. There are EIA tests that use oral fluid (not saliva) that is collected from the mouth using a special collection device. Urine tests use urine instead of blood.
- **Rapid Tests:** A rapid test is a screening test that produces very quick results in approximately 20 minutes. Rapid tests use blood from a vein or from a finger stick.
- HIV often will not show up on these tests for the first six weeks to six months after exposure. Average length of time is three months.
- A person can get an HIV test from their doctor, a hospital, a health clinic, or at the local health department.

HIV and AIDS Treatment

- There is no cure for HIV or AIDS.
- Early diagnosis is very important.
- People living with HIV and AIDS must practice very good health and hygiene habits. They must have good general health maintenance.
- There is no vaccine for HIV or AIDS yet.
- Drugs are available that slow down the spread of HIV once it enters the immune systems.
- There are several drugs used to prevent and treat the opportunistic infections that occur. These include anti-viral drugs and antibiotics.

BBP are NOT transmitted by:

- Toilet seats
- Eating utensils
- Drinking fountains
- Mosquitoes
- Giving blood
- Coughing


How do You Prevent HIV Infection and AIDS?

- Practicing abstinence from sexual intercourse unless in a monogamous relationship and practicing safer sex.
- Refraining from injecting and using illicit intravenous drugs.
- Avoid sharing toothbrushes and dental floss.
- Be very careful with body piercing and tattoos.
- Use standard precautions (includes universal precautions).

Exposure Control Plan

To eliminate/minimize your risk of exposure

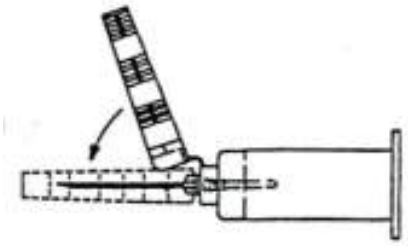
- Exposure determination
- Exposure controls
- Training and Hazard Communication
- Hepatitis B Vaccine
- Post-Exposure Evaluation and Follow-up
- Recordkeeping

Copies of your school's plan is located at:

Exposure Controls

Reducing your risk

- Standard Precautions (includes universal precautions)
- Work practices
- Personal protective equipment
- Equipment and Safer Medical Devices
- Housekeeping
- Laundry handling
- Hazard communication
  - labeling
- Regulated Waste



Exposure Controls

Standard Precautions

In 1996, the Centers for Disease Control and Prevention (CDC) expanded the concept of infection control/universal precautions. Standard precautions apply to contact with blood, all body fluids, secretions, and excretions (except sweat), whether they contain visible blood to all patients regardless of their diagnosis or presumed infection status.

Exposure Controls

Safe Work Practices

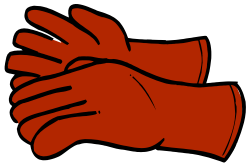
Wash hands after each glove use and immediately or ASAP after exposure.

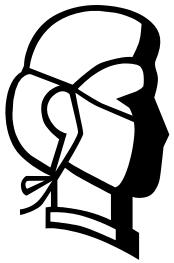
Exposure Controls

Personal Protective Equipment (PPE)

You must wear all required PPE. We provide you with the following PPE at no cost:

- Gloves
- Face shields or masks
- Resuscitation devices





PPE Contact is:

Exposure Controls

Personal Protective Equipment - Gloves

- Non-latex
- Utility

Exposure Controls

Remove gloves safely and properly

- Grasp near cuff of glove and turn it inside out. Hold in the gloved hand.
- Place fingers of bare hand inside cuff of gloved hand and also turn inside out and over the first glove.
- Dispose of gloves into proper waste container.
- Clean hands thoroughly with soap and water (or antiseptic hand rub product, if handwashing facilities not available).

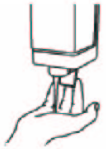
Exposure Controls

Proper handwashing

Hand hygiene with soap and water

1 

Wet hands with water

2 

apply enough soap to cover all hand surfaces

3 

rub hands palm to palm

4 

right palm over left dorsum with interlaced fingers and vice versa

5 

palm to palm with fingers interlaced

6 

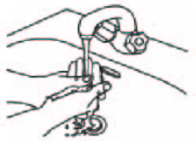
backs of fingers to opposing palms with fingers interlocked

7 

rotational rubbing of left thumb clasped in right palm and vice versa

8 

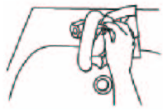
rotational rubbing, backwards and forwards with clasped fingers of right hand in left palm and vice versa

9 

rinse hands with water

10 

dry thoroughly with a single use towel

11 

use towel to turn off faucet

12 

...and your hands are safe.

World Health Organization

Hand hygiene with alcohol–based rub

1 

Apply a palmful of the product in a cupped hand and cover all surfaces.

2 

Rub hands palm to palm

3 

Right palm over left dorsum with interlaced fingers and vice versa

4 

palm to palm with fingers interlaced

5 

backs of fingers to opposing palms with fingers interlocked

6 

rotational rubbing of left thumb clasped in right palm and vice versa

7 

rotational rubbing, backwards and forwards with clasped fingers of right hand in left palm and vice versa

8 

...once dry, your hands are safe.

World Health Organization

Exposure Controls

Safe Work Practices

Clean-up of spills and broken glassware/sharps. (continued)

- Clean the area with 10% bleach or EPA-registered disinfectant.
- Saturate the spill area with disinfectant. Leave for 10 minutes (or as specified by product manufacturer) or allow to air dry.
- Properly dispose of paper towels and cleaning materials into proper waste containers.

Exposure Controls

Safe Work Practices

During clean-up of spills and broken glassware/sharps contaminated with blood or OPIM, do the following:

- Wear protective eyewear and mask, if splashing is anticipated.
- Remove glass and other sharps materials using a brush and dust pan, forceps, hemostat, etc. Do not use your hands.
- Properly discard all materials into a sharps or puncture-resistant biohazardous waste container.
- Use paper/absorbent towels to soak up the spilled materials.

Exposure Controls

Equipment and Safer Medical Devices

Sharps disposal containers are:

- Closable.
- Puncture-resistant.
- Leak-proof.
- Labeled or color-coded.
- Upright, conveniently placed in area where sharps used.

DO NOT OVERFILL!

Exposure Controls

Regulated Waste

- Liquid or semi-liquid blood or OPIM.
- Contaminated items that would release blood or OPIM in a liquid or semi-liquid state if compressed.
- Items caked with dried blood or OPIM that are capable of releasing these materials during handling.
- Contaminated sharps.

Hepatitis B Vaccine

- No cost to you.
- Three shots: 0, 1, and 6 months.
- Effective for 95% of adults.
- Post-vaccination testing for high-risk HCW.
- Post-exposure treatment (if not vaccinated).
  - Immune globulin
  - Begin vaccination series
- If decline, you must sign a “Declination Form.”
  - Vaccine available at later date, if desired.

Exposure Incident

If you have an exposure incident to blood or OPIM, immediately do the following:

- Thoroughly clean the affected area.
- Wash needlesticks, cuts, and skin with soap and water.
- Flush with water splashes to the nose and mouth.
- Irrigate eyes with clean water, saline, or sterile irrigants.
- Report exposure to *supervisor.* Fill out an Incident Report Form.

Post-Exposure Evaluation

Our School's Responsibility

- Provide immediate post-exposure medical evaluation and follow-up to exposed employee:
  - At no cost.
  - Confidential.
  - Testing for HBV, HCV, HIV.
  - Preventive treatment, when indicated.
- Test blood of source person, if HBV/HCV/HIV status unknown, if possible. Provide results to exposed employee, if possible.

Post-Exposure Evaluation

Our School's Responsibility (continued)

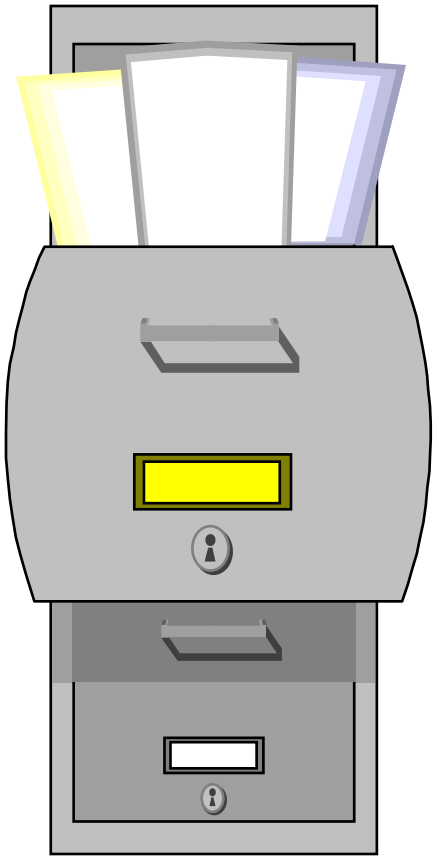
- Provide exposed employee with copy of the evaluating healthcare professional's (HCP) written opinion within 15 days of completion of evaluation.
- Provide employee with information about laws on confidentiality for the source individual.
- Provide post-exposure treatment as needed, including counseling.

Our HCP is:

Recordkeeping

Employee Medical Records

- Confidential.
- Hepatitis B vaccination and post-exposure evaluations.
- HCP's written opinions.
- Information provided to HCP as required.
- Maintain for length of employment + 30 years.



Contact information

Instructor(s) are available for any questions:

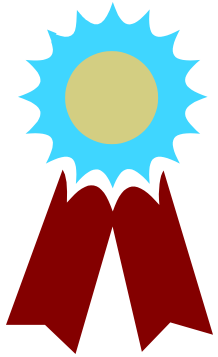
Carrie Harris, RN

Dan Fox LPN

Wahluke School District

2014-2015

Certificate of Completion



For satisfactorily completing
Bloodborne Pathogen Training

In signing this certificate, I certify that I have completed the training and understand the information presented.

_____
Employee Name

Employee Signature _____ Date _____

Supervisor _____ Date _____

After completing both signatures, copy this certificate and retain one for your files. Forward the other copy to your Human Resource district office.