

Module 4 - Lesson 2

Blood Borne Pathogens



More About Blood Borne Pathogens

HIV/AIDS

What you will learn in this lesson:

1. Common blood-borne diseases.
2. How blood borne pathogens are spread.
3. The need for and how to use Standard Precautions.
4. An in-depth look at HIV/AIDS.

key word



Definition

Blood borne pathogen	Disease causing germs that spread through contact with blood
Hepatitis (B and C)	Viral infections of the liver
HIV/AIDS	Disease that attacks the immune system, preventing the body from fighting infection
Standard Precautions	Accepted practices used to prevent pathogens being spread through the blood, body fluids, non-intact skin, or mucous membranes
Transmitted	The process of passing something from one person or place to another

As a caregiver, you may come in contact with a client's blood or body fluid. This presents a small risk of exposure to **blood borne pathogens**. As a caregiver, you need to know:

- common types of blood borne diseases;
- how blood borne diseases can and cannot be spread;
- how to use **Standard Precautions** to protect yourself and a client;
- what to do if you are exposed to blood or body fluids.

Blood borne diseases

The three most common blood borne diseases caused by blood borne pathogens are Hepatitis B, Hepatitis C, and HIV/AIDS. Syphilis and the West Nile Virus are also caused by blood borne pathogens.

Hepatitis B (HBV) is a viral infection that infects the liver. It is a more common infection and more contagious than HIV. Approximately 90% of adults infected with HBV will recover. Some people exposed to HBV may not have any symptoms. A vaccine is available to prevent infection with HBV. Talk to your doctor about whether you should have this vaccine.

See page 256 of the Resource Directory for a sample of a hepatitis B consent form.

Hepatitis C (HCV) is also a viral infection of the liver but causes chronic inflammation with possible scarring (cirrhosis) and causes permanent liver damage. HCV is not as easy to contract as HBV, but is still more infectious than HIV. The majority of people who become infected with HCV remain infected and become chronic carriers of the virus. There are no vaccines currently available.

Both HCV and HBV can be spread through contact with dried blood.

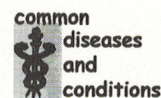
See the Common Diseases and Conditions section page 312 for more information about Hepatitis B and C, as well as A, D, and E.



Human Immunodeficiency Virus (HIV) is a virus that damages the immune system of an infected person. There is no vaccine against HIV. HIV will be covered in more detail in this lesson.

More About Blood Borne Pathogens

key word



How Blood Borne Pathogens are Spread in the Workplace

Blood borne pathogens **CAN** be spread by:

- a needle stick or other puncture wound
- helping a client who is bleeding
- changing linens that are contaminated by blood or other body fluids
- helping to clean up blood, vomit, urine or feces
- changing a dressing or bandage with blood that has oozed from a wound
- contact with broken skin (chapped, weeping, or dermatitis)
- contact with mucous membranes (mouth, nose, and eyes)

Blood borne pathogens **can NOT** be spread by:

- providing care for a client with a blood borne disease when standard precautions are used
- sharing eating utensils, plates, or glasses
- sharing bathrooms
- through the air
- hugging, shaking, or holding hands

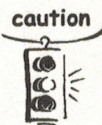
Standard Precautions

Standard Precautions are used any time you may come in contact with a client's blood, body fluids, broken skin, or mucous membranes. Standard Precautions must be used **whether or not you think a client may have a blood borne disease.**



Standard Precautions can include:

- using a protective barrier between you and the blood or body fluids (e.g. gloves, a face mask or goggles, and/or a gown);
- cleaning and disinfecting any surfaces contaminated with blood or body fluids;
- following special laundry procedures;
- properly disposing of contaminated waste;
- handling needles or other sharp objects correctly.



Standard Precautions are used in addition to other routine infection control practices any time there is a risk of exposure to blood or other body fluids.

Protective barriers

Gowns or aprons should be worn when there is a potential for splashing or spraying of blood or body fluids onto your body and clothing from a client.

Masks and goggles should be worn when there is a potential for exposure of blood or body fluids to your mouth, nose, and/or eyes.

Cleaning and disinfecting.

Any surface contaminated with body fluids or blood should be cleaned and disinfected immediately. Gloves must always be worn as well as any other protective barriers that the situation calls for. Use paper towels for clean up if possible. Dispose of contaminated materials properly (see below).

Special laundry procedures

Although the risk of exposure from soiled laundry is very small, laundry soiled with body fluids or blood should be treated as contaminated. Always:

- wear gloves;
- put contaminated items in a leakproof, plastic bag or covered hamper until ready to wash;
- handle as little as possible and do not shake items out;
- avoid holding soiled items against your clothing;
- wash items with a detergent and/or bleach according to the manufacturer's directions;
- keep soiled and clean linen separate;
- wash your hands after you are done.



See page 255 of the Resource Directory for tips on how to do laundry.



Proper disposal of contaminated waste

All contaminated items should be placed in a heavy-duty plastic bag, tied shut, and placed in a second plastic bag before putting in the trash can. Label the bag "contaminated".

Normal trash pickup is generally an appropriate way to dispose of contaminated waste.

Handling needles or other sharp objects

Disposable syringes and needles, blades, and other sharp items should be placed in a puncture-resistant container after use. Regulations vary by county regarding how to dispose of the container, so check with your local Health Department or your supervisor if you are unsure. Special containers can be purchased from a pharmacy.



resources

Exposure to Blood Borne Diseases

Kind of exposure	What to do
Your eyes are splattered with blood or body fluids.	Flush immediately with water for at least five minutes. Rinse under clean running water.
Blood or any body fluids get into your mouth .	Rinse your mouth with a 50/50 mix of hydrogen peroxide and water. Then rinse with plain water. Get medical attention for further action.
Both eyes and mouth are exposed .	Immediately rinse both as recommended above and get medical attention for further action.
A needle stick or puncture wound .	Wash thoroughly with soap and water or pour a small amount of hydrogen peroxide on the wound. Get medical attention for further action.
Any bite, scratch, or lesion that may have had blood or body fluid exposure.	Wash the area thoroughly with soap and water or pour a small amount of hydrogen peroxide on the wound. Cover the wound with a sterile dressing. Get medical attention for further action.

Reporting exposure to blood borne diseases

If you are exposed to another person's blood or other potentially infectious materials (OPIM), check with your employer or supervisor for the procedures in your care setting. If you work in a client's home, call your physician to discuss your exposure.

You can also request HIV testing of the source individual. If the source individual does not want to be tested, assistance from the local health officer can be requested, provided the:

- request is made within 7 days of the exposure;
- health officer determines that a "substantial exposure" has occurred. The health officer may make the determination that testing is unnecessary;
- exposure occurred on the job.

See page 257 in the Resource Directory for further information about risk after exposure and follow up and reporting of exposure.

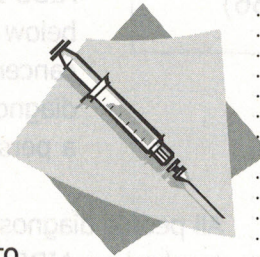


How HIV is spread

HIV is **transmitted** when infected blood, semen, vaginal fluids, or breast milk enter the body through the mucous membranes of the anus, vagina, penis (urethra), or mouth, or through cuts, sores, or abrasions on the skin.

HIV is spread by:

- having unprotected vaginal, anal, or oral sex with an infected person. Unprotected sex is sexual intercourse without consistent and correct condom use.
- using or being stuck with a needle or syringe that has been used by an infected person, including tattoo needles or ink and body piercing needles.
- sharing of drug paraphernalia. The paraphernalia that carries the potential of transmission are the syringe-needle, "cooker", cotton, and/or rinse water. Sharing these items (sometimes called "works") may transmit the virus. Sharing works also has the potential to transmit hepatitis C.
- giving birth. Women with HIV infection can pass the virus to their babies during pregnancy or childbirth.
- breast feeding. Infected moms can pass the virus to their babies through their breast milk.
- receiving blood. The risk of infection through blood transfusions has been practically eliminated since 1985 when careful and widespread screening and testing of the blood supply for evidence of HIV became standard practice.



HIV/AIDS



The highest concentrations of the HIV virus are in the blood, semen, vaginal fluid, and breast milk.

See page 72 for more information on how a blood borne pathogen like HIV may be spread in a caregiving environment.

Anyone who is infected with HIV can transmit the virus. Being infected means the virus is in your body and will be there for the rest of your life. You can infect others if you engage in behaviors that can transmit HIV. You can infect others even if you feel fine, have no symptoms of illness, or don't even know you are infected.

When a person is exposed to HIV

Once a person is exposed to HIV, the virus enters the blood and attaches to certain white blood cells, called T-cells. The role of T-cells is to signal other cells to produce antibodies to fight off pathogens. Producing antibodies is a critical function of our immune system.

With the HIV virus attached to the T-cells, the antibodies produced to fight the HIV virus are unable to do so. Over time, HIV progressively destroys the T-cells and therefore the body's immune system - leaving the person vulnerable to unusual infections, cancer, and other life-threatening disease.

Symptoms of HIV/AIDS

Early symptoms of HIV may include tiredness, fever, diarrhea, enlarged lymph nodes, loss of appetite, or night sweats.

People with HIV infection can develop many different health problems. These include severe pneumonia, several forms of cancer, damage to the brain and nervous system, and extreme weight loss.

**The CDC Information
Line is
1-800-CDC-INFO.
(1-800-232-4636)**

Acquired Immune Deficiency Syndrome (AIDS)

According to the Centers for Disease Control and Prevention (CDC), AIDS begins when a person with HIV infection has a T-cell count below 200 or has one of numerous opportunistic infections and cancers that occur in the presence of HIV infection. Once diagnosed with AIDS, the diagnosis does not change back to HIV if a person's T-cell count goes back above 200.

All people diagnosed with AIDS have HIV, but not all people with HIV have reached an AIDS diagnosis. Medical treatment can delay the onset of AIDS. Without treatment, there is an average of ten years between the time a person is infected with HIV and the start of the symptoms of AIDS.

To stay healthy for as long as possible, it is important for the person to learn his/her HIV status and get treatment as soon as possible. Early detection will allow an infected person to get the treatment needed to take better care of his/her immune system. New drug therapies have been able to sustain the health of a person who has been infected.

Diseases Associated with HIV/AIDS

Common diseases related to HIV/AIDS are called "opportunistic infections" because they are able to attack the body due to the person's weakened immune system. These infections usually pose little or no threat to persons with healthy immune systems. For people diagnosed with HIV/AIDS, these infections may cause one or more of the following diseases.

Pneumocystis carinii Pneumonia – a severe lung infection characterized by dry cough and shortness of breath.

Kaposi's Sarcoma - a skin cancer that causes raised, brownish/purplish lesions on the face, hands, or other areas.

Toxoplasmosis - a disease that invades tissue and may seriously damage the central nervous system, common symptoms may include fever, headaches, confusion and/or seizures.

Cryptococcosis - a disease caused by a fungus, characterized by lesions or abscesses in the lungs, tissue, joints, or brain.

Cryptosporidiosis - a bowel infection caused by a waterborne parasite which causes severe diarrhea, dehydration, and weakness.

Candidiasis - an infection caused by a fungus, characterized by a white, filmy coating of the mouth, esophagus, vagina, or lungs.

Mycobacterium avium-complex (MAC) - infection of the gastrointestinal tract which can rapidly spread to the liver, lymph nodes, and bone marrow. Causes weakness, abdominal pain, fever, and wasting (loss of 10% or greater body weight within 30 days).

HIV-associated Dementia - mild to severe damage to the brain and central nervous system causing confusion, memory loss, motor control problems, mood swings, poor concentration, and personality changes.

Treatment

The treatment focus for HIV/AIDS is on medications that slow the virus and on treating the associated diseases. There is still no cure for HIV/AIDS.

There are a number of antiviral drugs that have been approved to treat HIV/AIDS but the use of these drugs is usually complicated and they have many side effects. There is work being done on new versions of medications and simpler once-a-day dosages.

Research is also being done on ways to make the immune system stronger and on developing a vaccine.

Every local health department should have a person you could contact for HIV/AIDS case management to help an individual find medical or community resources to meet his/her needs.

Look in the Resource Directory page 258 for contacts in your local area.

Testing for HIV/AIDS

Any person exposed to the blood or body fluids of another person may need to be tested for HIV/AIDS. If you work in an adult family home or boarding home, follow the protocol where you work! If you work in a client's home, call your physician to discuss the need for testing.

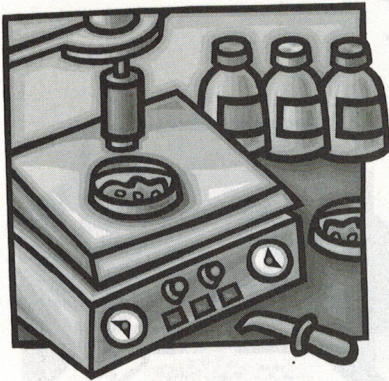
The window period

Tests for HIV look for antibodies to HIV. The test will not be positive until enough antibodies are present in the blood for the test to find them. After infection with HIV, it can take up to 3 months for HIV antibodies to develop.



The time period between when a person is actually infected with HIV and when antibodies to HIV can be detected in a test is called the window period.

Different people take different amounts of time to develop antibodies after being infected. Most people take between 2-12 weeks after becoming infected to produce enough antibodies to show up on the test. In rare cases, it may take as long as 6 months.



Being tested

According to the CDC, you should be tested for HIV as soon as possible after exposure to get a baseline. You will need to be re-tested during the next several months. Check with your doctor or talk with the staff where you were initially tested for what works in your situation. You must give informed consent for HIV testing, either verbally or in writing, and that consent must be documented.

People may test for HIV at home, at public health departments, through their medical provider, and at family planning or sexually transmitted disease clinics. Testing usually involves drawing a small amount of blood, or providing a saliva or urine sample.

Confidential or anonymous testing

Testing can be either confidential or anonymous. Confidential testing means the results of the test are kept private to all but the person being tested and the health care worker who provides the test and/or medical care to the person. With confidential testing, the person gives his or her real name. Health care providers must also submit a confidential report of positive HIV tests results to local public health officials (see reporting on next page).

Anonymous testing means that the clinic keeps no record of the person's name. They use only a code to process records and blood specimens. Anonymous testing cannot be used in cases of occupation exposure.

Counseling

Pre-test prevention counseling is required only for people at increased risk for HIV infection or for those who request it.

Counseling topics are based on recommendations from the CDC, including risk assessment for getting or transmitting HIV, help in setting behavior change goals and risk reduction strategies, and offering referrals.

Post-test prevention counseling must be offered. Only people who test positive must be provided counseling. In this case, the person is referred to the local health department or other community organizations providing this service.

Reporting

AIDS and symptomatic HIV have been reportable conditions in Washington State since 1984 and 1993 respectively. Starting in 1999, asymptomatic HIV also became reportable.

Providers must report HIV and AIDS cases within three working days of diagnosis.

Positive results obtained through anonymous testing are not reportable.

However, when HIV positive patients are seen for health care, or tests are obtained, the health care provider and labs must report the case.

Federal law also requires that states take action to require that a "good faith effort" be made to notify all spouses of HIV-infected persons.

Law against discrimination (RCW Chapter 49.60)

HIV infection and AIDS are medical conditions that are considered disabilities under the Washington State Law Against Discrimination, Chapter 49.60 RCW and the Federal Americans with Disabilities Act.

This means it is illegal to discriminate against someone who has or is **believed** to have AIDS or who is HIV-infected. The areas covered in law are:

- employment;
- rental, purchase, or sale of apartment, house, or real estate;
- places of public accommodation (restaurants, theaters, etc.);
- health care, legal services, home repairs, and other personal services available to the general public;
- applying for a loan or credit card, or other credit transaction;
- certain insurance transactions.

Look in the Resource Directory page 259 for more information about HIV and employment protection.

Difficult realities

Persons with HIV/AIDS and their families and friends face a multitude of very difficult realities. Even with antiviral drugs, persons with AIDS still die prematurely. Persons who are HIV-infected can live 10-12 years or more before developing symptoms, but have to deal with complicated medication schedules and numerous medical appointments.

The infections and cancers that are often part of AIDS can disfigure the body. 90% of all adults with AIDS are in the prime of their life and are not prepared to deal with all of the losses associated with the HIV/AIDS. Many people living with, or working with, people with AIDS have to deal with a succession of losses.



Losses

HIV often produces many losses, which may include the loss of:

- physical strength and abilities;
- mental abilities;
- income and savings;
- health insurance;
- housing, personal possessions, including pets;
- emotional support from family, friends, co-workers, religious and social institutions;
- job;
- independence and privacy;
- social contacts/roles;
- self-esteem
- friends, who may pass away from HIV/AIDS.

Psychological Suffering

Infection with HIV, causes distress for those who have HIV and for those who care for them. Physical weakness and pain can diminish a person's ability to cope with the psychological and social stresses. Often, grief shows up in physical symptoms, including depression, anxiety, insomnia, and the inability to get pleasure from normal daily activities. Some people with HIV/AIDS think about suicide, some attempt suicide, and some kill themselves.

Some of the feelings common for people with HIV/AIDS may include:

- that life, as they knew it, is gone forever;
- disbelief, numbness, and inability to face facts;
- fear of the "unknown" and developing AIDS;
- rejection by family, friends, and co-workers;
- guilt about the disease, about past behaviors, or about the possibility of having transmitted it to others;
- sadness, hopelessness, helplessness, withdrawal, and isolation;
- anger at the disease, at the prospect of a lonely, painful death, at the discrimination that usually accompanies the disease, and at the lack of effective and affordable treatment.

Often the feelings experienced by the caregiver will mirror those of the person with AIDS. Caregivers may experience the same isolation as the person with HIV infection. Finding a support system, including a qualified counselor, can be just as important for the caregiver as for the person who has HIV/AIDS. Support from co-workers can be especially important.



1. True False Most infections are spread through the air.
2. HIV can be spread by: (circle the correct answer)
 - a. Holding hands or hugging.
 - b. Having unprotected sex.
 - c. Sharing utensils or drinking glasses.
3. To effectively kill germs on surfaces, you must: (circle the correct answer)
 - a. Clean with soap and water only.
 - b. Disinfect and then clean with soap and water.
 - c. Clean with soap and water and then disinfect.
4. True False Only use Standard Precautions if you think a client has a blood borne disease.
5. True False It is only mandatory to wash your hands if they look dirty.
6. True False Some people with an infection have no symptoms.
7. A caregiver's job is to break the chain of infection: (circle the correct answer)
 - a. Whenever and wherever you can.
 - b. When it is part of the care plan.
 - c. When you have extra time.
8. The **most** important thing you can do to control infection is to: (circle the correct answer)
 - a. Cover your mouth.
 - b. Wash your hands.
 - c. Get a flu shot.
9. True False There are laws that protect a person living with HIV/AIDS against discrimination.
10. Blood borne pathogens can be spread by: (circle the correct answer)
 - a. Sharing a bathroom.
 - b. Coughing or sneezing.
 - c. Cleaning up blood.
11. True False The only time you must wear disposable gloves is to clean up blood or body fluids.
12. When cleaning any surface with blood, always wear: (circle the correct answer)
 - a. Gloves.
 - b. Goggles.
 - c. An apron.
13. HIV test results are: (circle the correct answer)
 - a. Kept confidential.
 - b. Given to your employer.
 - c. Available on-line.