Instructions for Mail Order

Once you've finished studying the course material:

1. Record your test answers on the answer sheet.
2. Complete the course evaluation.
3. Complete your registration and payment*.

Mail the completed forms with your payment to:

ATrain Education, Inc

5171 Ridgewood Rd

Willits, CA 95490

*Check or money order payable to ATrain Education, Inc (or enter your credit card information on the registration form).

When we receive your order, we will grade your test, process your payment, and email a copy of your certificate to the email address you provide.

If you would like a fancy copy of your certificate (suitable for framing), please add $8.50 to your payment.

Questions? Call 707 459-3475 (Pacific Time) or email (*Sharon@ATrainCeu.com*).

[Continue to next page to start course]

Washington: HIV/AIDS, 4 units (358)

Authors: Susan Walters Schmid, PhD and JoAnn O'Toole, RN, BSN

Contact hours: 4

Price: $29

Course Description

This course covers the following subject areas: HIV etiology and epidemiology, transmission and infection control, testing, the impact of new drugs, legal and ethical issues, and psychosocial issues.

Course Objectives

When you finish this course, you will be able to*:

1. Discuss the etiology and epidemiology of HIV in the United States.
2. Describe transmission, infection control, and prevention of HIV.
3. Understand CDC recommendations for HIV testing.
4. Understand the 6 elements of HIV prevention.
5. Identify 5 legal and ethical issues associated with HIV.
6. Discuss the main psychosocial issues facing HIV-infected people and their caregivers.
7. Identify global and national resources for healthcare professionals and clients with HIV.

*__Please note:__ attainment of course objectives will be assessed in the course evaluation.

1. Etiology and Epidemiology of HIV/AIDS

> If leaders take the bold actions needed now to ensure sufficient and sustainable resourcing and protect everyone's human rights, the number of people living with HIV, requiring life-long treatment, will settle at around 29 million by 2050 but if they take the wrong path, the number of people who will need life-long support will rise to 46 million (compared to 39.9 million in 2023).
>
> UNAIDS, 2024b

1.1 Definitions of HIV and AIDS

[Note: If not otherwise identified, material in this course is taken from the Centers for Disease Control and Prevention.]

The **human immunodeficiency virus (HIV)** has infected tens of millions of people around the globe in the past four decades, with devastating results. According to the CDC, as of 2021, 1.2 million people in the United States have HIV, and 13% of them have not received a diagnosis. In its advanced stage—**acquired immunodeficiency syndrome (AIDS)**—the infected individual has no protection from diseases that may not even threaten people who have healthy immune systems. While there is not yet an effective cure—HIV is something one has for life once infected—proper medical care can control the virus, and long, quality lives are possible with effective, sustained HIV treatment. This treatment can also help provide protection for the partners of infected people.

The human immunodeficiency virus (HIV) kills or impairs the cells of the immune system and progressively destroys the body's ability to protect itself. Over time, a person with a deficient immune system (**immunodeficiency**) may become vulnerable to common and even simple infections by disease-causing organisms such as bacteria or viruses. These infections can become life-threatening.

The term **AIDS** comes from "acquired immunodeficiency syndrome." AIDS refers to the most advanced stage of HIV infection. Medical treatment can delay the onset of AIDS, but HIV infection eventually results in a **syndrome** of symptoms, diseases, and infections. People receive an AIDS diagnosis when their CD4 cell count drops below 200 cells per milliliter of blood, or they develop certain illnesses (sometimes called opportunistic infections). Only a licensed medical provider can make an AIDS diagnosis. A key concept is that all people diagnosed with AIDS have HIV, but an individual may be infected with HIV and not yet have AIDS.

1.2 HIV Infection in the Body

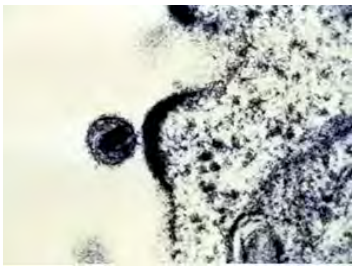
A scanning electron micrograph showing HIV-1 virions (in green) on the surface of a human lymphocyte. HIV was identified in 1983 as the pathogen responsible for AIDS. In the infected individual, the virus causes a depletion of T-cells, which leaves these patients susceptible to opportunistic infections and to certain malignancies.

Human Lymphocyte Showing HIV Infection

Source: Public Health Image Library, image #11279, CDC, 1989.

HIV enters the bloodstream and attacks T-helper lymphocytes, which are white blood cells essential to the functioning of the immune system. One of the functions of T-helper cells is to regulate the immune response in the event of attack from disease-causing organisms such as bacteria or viruses. The T-helper lymphocyte cell is also called the T4 or the CD4 cell. When any pathogen infects the T-helper lymphocyte, the T cell sends signals to other cells, which produce helpful antibodies.

HIV "Budding" Out of a T-cell



Source: NIAID, courtesy of Dr. Tom Folks.

Antibodies (proteins made by the immune system in response to infection) are produced by the immune system to help get rid of specific foreign invaders that can cause disease. Producing antibodies is an essential function of our immune system. The body makes a specific antibody for each pathogen. For example, if we are exposed to the measles virus, the immune system will develop antibodies specifically designed to attack that virus. Polio antibodies fight the polio virus. A healthy immune system creates customized identification of pathogens, which results in the body's ability to target and kill invading microorganisms. When our immune system is working correctly, it protects against these foreign invaders.

HIV infects and destroys the T-helper lymphocytes and damages their ability to signal for antibody production. This results in the eventual decline of the immune system. The HIV is then able to reproduce without being killed from the body. CD4 counts therefore are of great importance to people with HIV to confirm their ability to fight infection. The normal range for CD4 is between 500 and 1,500. A CD4 count below 200 reveals the body's inability to create antibodies and fight infection, putting the client at greater risk for AIDS and other potentially fatal opportunistic infections. Serum lab results may also express CD4 percentage, and a normal result in an HIV negative person is between 25% and 65%, identifying that percentage of lymphocytes are CD4 cells. The remaining cells are other types of lymphocytes also involved in the immune attack against pathogens.

When HIV is not treated, an infected person typically moves through three stages.

Stage 1: Acute HIV Infection

Acute HIV infection (sometimes called primary HIV infection or acute retroviral syndrome) is the first stage of HIV disease. It begins within 2 to 4 weeks of contracting HIV and lasts until the body has created **antibodies** to the virus, all while the virus is establishing itself in the body.

This period of acute infection is characterized by a **high viral load** (large numbers of the virus) and a decline in CD4 cells and during this time infected persons are very contagious. Within two to four weeks after infection most patients experience flu-like symptoms that can include fever, sore throat, swollen lymph nodes, rash, muscle aches, night sweats, mouth ulcers, chills, and fatigue. These may last for only a few days or as long as several weeks, or there may be no symptoms at all. Because symptoms are not life-threatening and also occur with other illnesses, they may be misinterpreted. During this period, since newly infected people are very contagious and they do not yet know they have HIV, they can infect their partners.

The primary infection period ends when the body begins to produce HIV-specific antibodies as the CD4 cells are still able to respond. There are several types of HIV tests available, which are testing for different markers—antibodies, p24 antigen, or the actual virus. No test is effective sooner than 10 days after infection, however, each test has a different window period—**the time between infection with HIV and the body's production of detectable markers**—and the first choice of test may depend on individual circumstances.

If a person has flu-like symptoms and suspects they have been exposed to HIV they should pursue appropriate testing as soon as possible. Important treatments can begin right away and help improve outcomes. Testing is reviewed in detail in module 3.

Stage 2: Chronic HIV Infection

In this stage, the virus is replicating and slowly destroying the immune system. Also called asymptomatic HIV infection or clinical latency, in this stage people infected with HIV continue to look and feel completely well for long periods, sometimes for many years. Although a person looks and feels healthy, they can still infect other people through any body-fluid contact such as unprotected anal, vaginal, or oral sex or through needle sharing. The virus can also be passed from an infected woman to her baby during pregnancy, birth, or breastfeeding when she is unaware of being HIV positive.

People with chronic HIV infection may not have any HIV-related symptoms. Without ART, chronic HIV infection usually advances to AIDS in 10 years or longer, though in some people it may advance faster. People who are taking ART may be in this stage for several decades. While it is still possible to transmit HIV to others during this stage, people who take ART exactly as prescribed and maintain an undetectable viral load have effectively no risk of transmitting HIV to an HIV-negative partner through sex (HIVinfo.hih.gov, 2024).

At the end of this stage, the person's viral load—the amount of HIV in the blood—goes up and the person may move to stage 3 or AIDS.

Apply Your Learning

Q: If a person has been infected with HIV but is not symptomatic, how would you explain this to a patient with HIV?

A: Although there may be no clinical symptoms, the HIV is replicating and slowly attacking the immune system's CD4 cells. An untreated person can look and feel healthy, sometimes for many years, however the virus is still present in the blood and can cause infection in others. Also, the virus can be passed through unprotected sex and from pregnant or lactating mother to child.

Stage 3: Acquired Immunodeficiency Syndrome (AIDS)

This is the final, most severe HIV infection stage and people receive the diagnosis of AIDS when their CD4 cell count drops below 200 cells per milliliter of blood, or they develop certain illnesses known as opportunistic infections. At this point, a person's immune system has been severely damaged, and opportunistic infections are infections and infection-related cancers that occur more frequently or are more severe in people with weakened immune systems than in people with healthy immune systems. Also, in this stage people can have a high viral load and easily transmit the virus to others. With no treatment, people at this stage usually survive about three years.

1.3 The Origin of HIV

Since the human immunodeficiency virus was identified in 1983, researchers have worked to pinpoint the origin of the virus. In 1999 an international team of researchers reported that they discovered the origins of HIV-1, the predominant strain of HIV in the developed world. A subspecies of chimpanzees native to West Equatorial Africa was identified as the original source of the virus. Researchers believe that HIV-1 was introduced into the human population when hunters became exposed to infected blood. The transmission of HIV was driven through Africa by migration, housing, travel, sexual practices, drug use, war, and economics that affect both Africa and the entire world.

1.4 HIV Types, Groups and Subtypes

HIV is divided into two primary types: **HIV-1** and **HIV-2**. Worldwide, the predominant type is HIV-1, and generally when people refer to HIV without specifying the type of virus they are referring to HIV-1. The relatively uncommon HIV-2 type is concentrated in West Africa and rarely found elsewhere.

HIV-1 viruses are further classified into four groups: Group M, Group N, Group O, Group P. Viruses in Group M account for majority of HIV cases around the world ("M" actually stands for "major"). The other three groups are not as common and generally found only in certain areas in Africa. HIV-2 viruses are also divided into groups of which there are nine: A through I, with only A and D currently circulating in humans.

HIV-1 groups are also divided into subtypes. HIV-1 Group M has nine subtypes, and their prevalence varies in different areas of the world with Subtype B the main one in the United States. HIV-2 groups do not have subtypes.

HIV is a highly variable virus that easily mutates. This means there can be many different strains of HIV, even within the body of a single infected person. As an example, within HIV-1 Group M Subtype B there may be many strains that vary slightly but are still genetically similar enough to be classified as Subtype B viruses. It is even possible for 2 or more subtypes to combine and form a hybrid, known as a **CRF—circulating recombinant form** (Seladi-Schulman, 2021; Ellis, 2022; Akahome, 2024).

1.5 Epidemiology of HIV and AIDS

Epidemiology is the study of how disease is distributed in populations and the factors that influence the distribution. Epidemiologists try to discover why a disease develops in some people and not in others. Clinically, AIDS was first recognized in the United States in 1981, including in the state of Washington. In 1983 HIV was discovered to be the cause of AIDS.

People who are infected with HIV come from all races, countries, sexual orientations, genders, and income levels. Globally, in 2023 there were 39.9 million people with HIV and approximately 86% of them knew their HIV status. Worldwide an estimated 1.3 million individuals acquired HIV in 2023. This is a 39% decline in new HIV infections since 2010 and a 60% decline since the peak in 1995 (HIV.gov, 2024; UNAIDS , 2024a).

CDC estimates that in the U.S. in 2022 1.2 million people aged 13 years and older were living with HIV infection, and 13% were unaware of their infection. This is a positive sign because studies have shown that people with HIV who know that they are infected avoid behaviors that spread infection to others, and they can pursue medical care and treatments to improve and prolong their lives. The CDC overall goal is to increase the estimated percentage of people with HIV who have received an HIV diagnosis to at least 95% by 2025 and remain at 95% by 2030 (CDC, 2024a).

There has been continued progress in HIV prevention as shown by a steady overall 12% decline in estimated new HIV infections from 36,200 in 2018 to 31,800 in 2022. The CDC overall goal is a decrease in the estimated number of new HIV infections to 9,300 by 2025 and 3,000 by 2030 (CDC, 2024a).

Recent years' data for HIV diagnoses—the number of people who receive an HIV diagnosis during a given year—present an interpretive issue. The overall goal is to decrease the number of new HIV diagnoses to 9,588 by 2025 and 3,000 by 2030 (CDC, 2024b). However, in the period from 2018 to 2022, diagnoses fell from 37,594 in 2018 to 36,768 in 2019 and 30,630 in 2020 only to rise in 2021 to 36,096 and in 2022 to 37,981. The data for 2020-2022 should be interpreted with caution because of the serious effects of the COVID-19 pandemic and its aftermath on access to HIV testing, care, and related services, and case surveillance activities in state and local jurisdictions. In addition, the potential influence of pandemic effects on the U.S. public health system overall need to be taken into consideration (CDC, 2024c).

Through 2018 the cumulative estimated number of deaths of people with diagnosed HIV infection ever classified as stage 3 (AIDS) in the U.S. was approximately 700,000 (deaths may be due to any cause, which can make data interpretation complex). Worldwide, 42.3 million people have died from AIDS-related illnesses since the epidemic began. In 2023 about 630,000 people died from AIDS-related illnesses, down significantly from 2.1 million in 2004 and 1.3 million in 2010 (UNAIDS, 2024).

The discovery of combination antiviral drug therapies in 1996 resulted in a dramatic **decrease** in the number of deaths due to AIDS among people given the drug therapies. New drug treatments have continued to be developed ever since. People respond differently to the therapies and side effects can be challenging. The medications are expensive and require strict dosing schedules. While not yet sufficient for everyone, financial assistance for drug treatments and other HIV/AIDS care is available, as is case management and mental health support. In developing countries many people with HIV do not have access to the newer drug therapies, but access is improving.


Approximately 15,000 people in Washington State are living with HIV and about 400 new cases are diagnosed every year. From 1983 to 2021 8989 HIV infected people have died, of that total 224 died in 2021 which was a mortality rate of 2.9%. The mortality rate has gone up and down between 2.1% and 2.9% during the years from 2102 to 2021 (WA DOH, 2023).

The Washington State Department of Health collects surveillance data and makes that data available on its website. In Washington State from 2010 to 2018 the incidence of HIV (new diagnoses each year) declined from 7.2 per 100,000 people in 2010 to 5.4 per 100,000 in 2018, but remained there through 2022. The percentage of clients showing viral suppression, engagement in care, and linkage to care (within 30 days of diagnosis) all increased through 2018, but linkage to care has declined by 3% into 2022. The percentage of late diagnosis cases (where initial diagnosis of HIV accompanies initial diagnosis of AIDS) has declined from 34.7% in 2010 to 25.9% in 2018.

In 2022 there were 215 new AIDS cases and 421 new HIV cases, and 119 late diagnoses, in all cases the highest numbers are in King county.

Washington State's Black and Hispanic/Latinx communities are disproportionately affected by HIV. While Blacks are 4% of the state's population they represent 19% of new HIV diagnoses. Hispanic/Latinx make up 13% of the state's population while accounting for 21% of new HIV diagnoses. Neither community is receiving all the medical care and other support services they need (WA DOH, 2020; 2020a).

 1.6 HIV and AIDS Cases Are Reportable in WA

The purpose of disease reporting and surveillance is to:

- Collect information about people who are infected in order to understand how to create programs that will prevent disease.
- Assure that people who are infected are referred to medical care.
- Identify people who are infected and try to stop the spread of infection.

The following people must report information to authorities (Legal Reporting Requirements, effective January 1, 2023, Chapter 246-101 WAC) (WA DOH, 2022):

1. Providers and Health Care Facilities

- Report cases of HIV and AIDS within 3 business days to your Local Health Jurisdiction.

- When possible, submit a WA State HIV/AIDS Case Report Form.
- Report Rapid Screening Tests (RST), if performed at your facility:
    - Providers and facilities performing HIV infection RST (Rapid Screening Tests) shall report as a laboratory and comply with the requirements of WAC 246-101-101 through WAC 246-101-230.

2. Laboratories:

- Report **within 2 business days** to WA State DOH, or Public Health Seattle King County (PHSKC) for labs in King County:
    - Positive or indeterminate results and subsequent negative results associated with those positives or indeterminate results for the tests below:
        - Antibody detection tests (including RST)
        - Antigen detection tests (including RST)
        - Viral culture
    - All HIV nucleic acid detection (NAT or NAAT) tests:
        - Qualitative and quantitative
        - Detectable and undetectable
    - HIV antiviral resistance testing genetic sequences
- Report **within 30 days** to WA State DOH, or Public Health Seattle King County (PHSKC) for labs in King County:
    - All CD4 counts, CD4 percent, or both (patients aged thirteen or older)
- Report at least **annually** to WA State DOH, or Public Health Seattle King County (PHSKC) for labs in King County:
    - Deidentified negative screening results

3. Local Health Jurisdictions:

- Notify the WA State DOH department of HIV and AIDS cases (notifiable to the local health jurisdiction):
    - Within seven days of completing the investigation, or within 21 days of receiving the case report or laboratory report if the investigation is not complete.
    - Immediately reassign cases to the department upon determining the patient who is the subject of the case is a resident of another local health jurisdiction or resides outside Washington state.
    - Local Health Jurisdictions should also work with WA State DOH to investigate possible HIV cases identified through laboratory data reportable to WA DOH, known as Field Investigation Reports (FIRs). Return results of investigations to WA DOH and report any cases identified from these reports using the WA State HIV/AIDS Case Report Form. (WA DOH, 2024).

2. Transmission and Infection Control

2.1 Necessary Conditions for HIV infection

[If not otherwise identified, the material in this section is from CDC historical records or HIVinfo.nih.gov.]

HIV is a relatively fragile virus, which is not spread by casual contact. HIV is not easy to "catch"—it must be **acquired**. In order for HIV to be transmitted, three conditions must occur:

- There must be an HIV source.
- There must be a sufficient dose of virus.
- There must be access to the bloodstream of another person.

2.1.1 Body Fluids That Can Transmit HIV

Anyone infected with the virus is potentially a source of HIV infection. Transmission occurs primarily through infected blood, semen, vaginal secretions, or breast milk. Sweat, tears, saliva, urine, and feces are not capable of transmitting HIV unless visibly contaminated with blood.

In settings such as hospital operating rooms, other fluids such as cerebrospinal fluid, synovial fluid, pleural fluid, pericardial fluid, and amniotic fluid may be considered infectious if the source is HIV positive. These fluids are generally not found outside the hospital setting. Therefore, **the most common body fluids considered potentially infectious for HIV are blood, semen, vaginal secretions, and breast milk**.

2.1.2 Sufficient Dose

The concentration and amount of HIV necessary for infection to occur is called a **sufficient dose**.

2.1.3 Blood

Access to another person's bloodstream involves behaviors or circumstances that place someone at risk for infectious fluid entering their bloodstream. The most common of the risk behaviors are **unprotected sexual intercourse (anal, vaginal, oral) with an infected person** and **use of contaminated equipment for injecting drugs.**

HIV transmission may occur during practices such as tattooing, blood-sharing activities such as "blood brother" rituals, or any other type of ritualistic ceremonies where blood is exchanged, or when unsterilized equipment contaminated with blood is shared. HIV transmission may also occur in occupational settings, which will be discussed later in this section.

2.2 Means and Requirements for HIV Transmission

People may become infected with HIV if they engage in specific risk behaviors or if they are exposed through needlestick injuries (usually in a healthcare setting). Other blood contact with mucous membranes or non-intact skin provides a possible, but not probable, chance of transmission.

HIV is transmitted through:

- Unprotected anal, vaginal, and oral intercourse
- Sharing needles or other injection equipment
- A mother passing the virus to her baby either before or during birth
- An infected woman breastfeeding her infant
- Accidental needlestick injuries, or infected body fluid coming into contact with the broken skin or mucous membranes of another person (as with healthcare workers)
- A transfusion prior to 1986 of HIV-infected blood or blood products

In extremely rare cases, HIV can be transmitted by sharing razors or toothbrushes, if infected blood from one person was deposited on the toothbrush or razor and the blood entered the bloodstream of another person.

The **transmission** of HIV depends upon:

- The **availability** of the infectious agent (HIV) in sufficient quantity
- The **viability** of the infectious agent (how strong it is)
- The **virulence** of the infectious agent (how infectious it is)
- The **ability** of the infectious agent to reach the bloodstream, mucous membranes, or broken skin of a potential host (the entry for getting into another person's body)

One of the predictors of the infectious level of an HIV-positive person is viral load, which is how much HIV is present in the bloodstream. Studies show a clear connection between higher viral load in the blood and increased transmissibility of HIV.

2.2.1 Blood Transfusions

Transmission by contaminated blood or blood products occurred in the United States before March 1985. Testing for HIV at blood banks and organ transplant centers began in 1985 and has almost completely eliminated the risks for transmission in developed countries. In 1999 about 1% of national AIDS cases were caused by transfusions or use of contaminated blood products. The majority of those cases were in people who received blood or blood products before 1985.

2.2.2 Sexual Intercourse

HIV can enter the bloodstream through mucous membranes—breaks, sores, and cuts in the mouth, anus, vagina, or penis. Anal, vaginal, and oral intercourse (both receptive and penetrative) can transmit HIV from person to person.

2.2.2.1 Anal Intercourse

Unprotected anal intercourse is considered to be the greatest sexual risk for transmitting HIV. Anal intercourse frequently results in tears of mucous membranes, which makes it very easy for the virus to enter the bloodstream. The receptive partner is considered to be at more risk of getting HIV if the virus is present. Risks vary for the insertive partner.

2.2.2.2 Vaginal Intercourse

Unprotected vaginal intercourse with the exchange of semen, pre-ejaculate fluid, menstrual blood, or vaginal fluid is also a risk for HIV transmission. Studies have shown that women are more likely to become infected with HIV through vaginal sex than men who have sex with them. The larger amount of mucous membrane surface area of the vagina is a probable reason for women's greater rate of HIV infection from their male partners.

2.2.3 Sharing Needles and Drug Injection Equipment

Sharing injection needles, syringes, and other drug paraphernalia with an HIV-infected person can put HIV directly into the user's bloodstream and is the behavior that most easily transmits HIV, hepatitis B (HBV), and hepatitis C (HCV).

Indirect sharing occurs when drug users share injection paraphernalia or divide a shared or jointly purchased drug while preparing and injecting it. The paraphernalia that carry the potential for transmission are the syringe, needle, "cooker," cotton, and rinse water. Sharing these items (sometimes called "works") may transmit HIV, bacteria, and other viruses. Examples of indirect sharing are when a user squirts the drug back (from a dirty syringe) into the drug cooker or someone else's syringe or shares a common filter or rinse water.

2.2.4 Probability of HIV Transmission from One HIV Exposure

Donor screening, blood testing, and other processing measures have reduced the risk of transfusion-caused HIV transmission in the United States to between 1 in 450,000 and 1 in 600,000 transfusions. Donating blood is always safe in the United States, because sterile needles and equipment are used. All used syringes, needles, and blood or body fluid spills should be considered potentially infectious and should be treated using Standard Precautions (formerly known as Universal Precautions).

Probability of Infection Following One Exposure to HIV*	
Source of Infection	**HIV infection rate (%)**
Contaminated blood transfusion (prior to 1986)	95.0
One intravenous syringe or needle exposure	0.67
One percutaneous exposure (e.g. a needlestick)	0.4
One episode of receptive anal sexual intercourse	0.1–3
One episode of receptive vaginal intercourse	0.1–0.2
One episode of insertive vaginal intercourse	0.03–0.09

*A 1% risk means 1 chance in 100 for infection to occur. A 0.10% risk means 1 chance in 1,000. Source: CDC.

2.2.5 HIV and Pregnancy

An HIV-infected woman may transmit the virus to her baby during pregnancy, during the birth process, or following pregnancy by breastfeeding. One of the predictors of how infectious the woman will be to her baby is her viral load (how much HIV is present in her bloodstream). Women with new or recent infections or people in later stages of AIDS tend to have higher viral loads and may be more infectious.

People should get tested for HIV before they become pregnant or as early as possible during each pregnancy and during the third trimester. The earlier HIV is detected, the sooner HIV medicines (antiretrovirals) can be started.

Perinatal transmission of HIV (previously called mother-to-child transmission of HIV) means passing HIV from the mother or birthing parent to their child during pregnancy, childbirth (labor and delivery), or breastfeeding (through breast milk).

Pregnant people with HIV should take antiretroviral therapy (ART) throughout pregnancy and childbirth to prevent perinatal transmission of HIV. ART is the use of a combination of HIV medicines to treat HIV. The use of HIV medicines and other strategies have helped lower the rate of perinatal transmission of HIV to 1% or less in the United States and Europe.

Vaginal deliveries are possible for most pregnant people. If the person has a high viral load or an unknown viral load near the time of delivery, a cesarean section (C-section) can reduce the risk of perinatal transmission of HIV. After birth, babies born to people with HIV should receive HIV medicines to reduce the risk of perinatal transmission.

Advice about medications and C-section for both the pregnant person and the baby involve a variety of considerations and should be given on an individual basis by a medical provider with experience in treating HIV-positive pregnant women. Washington State law requires pregnant women to be counseled regarding risks of HIV and offered voluntary HIV testing.

2.2.6 Lifelong Infection

HIV infection is lifelong—once people become infected with HIV, their blood, semen, vaginal secretions, and breast milk will always be potentially infectious.

2.2.7 Transmission of Multidrug-Resistant Forms of HIV

There is evidence of transmission of multidrug-resistant forms of HIV. People who have been infected with HIV and have used a number of the available antiretroviral medicines may transmit forms of HIV that are resistant to some of these available drug therapies. This reduces the treatments available for the newly HIV-infected person. As new drugs are developed and more data is obtained this situation changes and should always be addressed with one’s healthcare provider.

2.3 Factors Affecting HIV Transmission

2.3.1 The Presence of Other STDs

The presence of other sexually transmitted diseases (STDs) increases the risk for HIV transmission, because the infected person may have a much larger number of HIV-infected white blood cells present at the site of infection. The infected person's immune system may be less able to suppress or combat HIV infection. Lesions from STDs break down the protective surface of the skin or mucous membrane, which makes the infected person more vulnerable to other infections.

The presence of a co-infection with other STDs increases the risk of HIV transmission because:

- STDs like syphilis and symptomatic herpes can cause breaks in the skin, which provide direct entry for HIV.
- Inflammation from STDs, such as chlamydia, makes it easier for HIV to enter and infect the body.
- HIV is often detected in the pus or other discharge from genital ulcers of HIV-infected men and women.
- Sores can bleed easily and come into contact with vaginal, cervical, oral, urethral, and rectal tissues during sex.
- Inflammation appears to increase HIV viral shedding and the viral load in genital secretions.

2.3.2 Multiple Partners

Having multiple partners for drug injection or sexual intercourse increases the chances of being exposed to a person infected with HIV. People who have unprotected sex with multiple partners are considered to be at high risk for HIV infection. In some studies, the CDC defines multiple partners as six or more partners in a year. However, someone who has only one partner is still at risk if the person is HIV-positive and they have unprotected sex and/or share needles.

2.3.3 Use of Non-Injecting Drugs

Use of other substances, including alcohol and non-injecting street drugs, can also put a person at risk for getting HIV. These substances impair judgment, increasing the likelihood that a person will take risks (have unprotected sex, share needles), or may place the person in unsafe situations. Additionally, some substances have physiologic and biologic effects on the body, including masking pain and producing sores on the mouth and genitals, which can create additional "openings" for HIV and other sexually transmitted diseases.

2.3.4 Gender and Equality Issues

Lack of power (being subservient) in a relationship can affect a person's ability to insist on sexual protection, such as the use of condoms. Women are socially and economically dependent upon men in many societies. This sometimes results in their being unable to ask their partner to use condoms or to leave a relationship that puts them at risk.

In some cultures, females are not encouraged to learn about their bodies, sex, birth control, or sexuality topics, while some other cultures promote the value of the male having multiple sexual partners but discourage the same behavior in females. Gender inequality places women at risk for contracting HIV.

2.3.5 Casual Contact

HIV is not transmitted through the air or by sneezing, breathing, or coughing. Touching, hugging, and shaking hands do not transmit HIV. HIV transmission is not possible through restaurant food prepared or served by an HIV-infected employee.

HIV is not transmitted through casual contact in the workplace. No cases of HIV transmission have been linked to sharing computers, food, telephones, paper, water fountains, swimming pools, bathrooms, desks, office furniture, toilet seats, showers, tools, equipment, coffee pots, or eating facilities. However, personal items that may be contaminated with blood, including but not limited to razors, toothbrushes, and sex toys, should not be shared. There have been no cases of HIV transmission by children playing, eating, sleeping, kissing, and hugging someone infected with HIV.

2.3.6 Unusual Cases of HIV Transmission

To date, less than a dozen known cases of HIV transmission have occurred in household settings in the United States and elsewhere. Reports of these cases have been thoroughly investigated by the CDC. The researchers determined that the transmissions were caused by sharing a razor contaminated with infected blood, exposure of infected blood to cuts and broken skin, and (possibly) deep kissing involving a couple who both had bleeding gums and poor dental hygiene. It is important to remember that these cases were extremely unusual. Sensible precautions with bleeding cuts and not sharing personal hygiene items could have prevented these cases of infection.

There are also few isolated cases of transmission from healthcare workers to patients. To date, there were three instances where transmission of HIV could only be tracked to the HIV-infected clinician treating the patient. At least one of these cases occurred prior to the implementation of strict equipment disinfection.

2.3.7 Biting

Biting poses very little risk of HIV transmission. The possibility only exists if the person who is biting and the person who is bitten have an exchange of blood such as through bleeding gums or open sores in the mouth. Bites may transmit other infections and should be treated immediately by thoroughly washing the bitten skin with soap and warm water and then disinfecting and prophylaxis with antibiotic skin ointment.

2.3.8 Workplace Situations

Workplace exposures generally occur through a needlestick injury but can occur through a splash of infectious blood or exposure to blood-contaminated material. (Occupational exposure is discussed later in the course.)

Apply Your Learning

Q: A client wants to know what behaviors will increase his risk of HIV. What would you teach him?

A: Your risk of exposure to HIV increases by risky behaviors such as having multiple sexual partners, unprotected anal and vaginal intercourse, and exposure to any used and infected IV needles and drug paraphernalia.

2.4 Risk Reduction Methods

There are many effective methods for reducing the risk of sexual and drug-related transmission of HIV.

2.4.1 Sexual Abstinence

Sexual abstinence (not engaging in anal, vaginal, or oral intercourse or other sexual activities where blood, semen, or vaginal fluid can enter the body) is a completely safe and 100% effective method for preventing the sexual transmission of HIV.

2.4.2 Non-Penetrative Sex

Non-penetrative sex, where the penis does not enter the vagina, anus, or mouth, and when penetrative sex toys are not shared, is a safer sex method that greatly decreases your risk of getting infected with HIV. This practice will not transmit HIV, provided that there is no exchange of blood, semen, vaginal fluids, or breast milk in the sexual contact. Non-penetrative sexual intercourse, however, may still be a risk factor for the transmission of other sexually transmitted diseases.

2.4.3 Monogamous Long-Term Relationships

Monogamy—having sex with only one person who only has sex with you—is another choice to prevent/reduce the risk of HIV infection. If neither partner is infected with HIV or other STDs, and neither has other sexual or injection equipment-sharing contacts, then neither partner is at risk of exposure to HIV or other STDs. In order for monogamy to protect against HIV and STDs, both partners must be free of disease and both partners must remain monogamous.

2.4.4 Limiting Partners

The decision to limit the number of sexual or drug-injecting partners may reduce the risk of HIV transmission but is not a guarantee of safety. The fewer the partners the greater the reduction of risk. If, however, even one of the partners has HIV, the risk of transmission increases.

2.4.5 Safer Sexual Practices

Did You Know. . .

Not all condoms and lubricants provide effective protection against the transmission of HIV and other STDs.

2.4.5.1 Latex Condoms

When used correctly and consistently during sexual intercourse (anal, vaginal, and oral), latex condoms are highly effective in preventing the transmission of HIV. To prevent tearing of latex condoms, only water-based lubricants should be used. Oil-based lubricants like petroleum jelly or cooking oils should not be used because the oil in these products breaks down the latex condom.

2.4.5.2 Polyurethane Condoms

For the male, polyurethane condoms are made of a soft plastic. They look like latex condoms but are thinner. Lab tests show that sperm and viruses (like HIV) cannot pass through polyurethane.

Female condoms are insertive (fit inside the vagina or anus). They are made of polyurethane, which blocks sperm and viruses (like HIV). These condoms may be inserted several hours before intercourse. If, however, there is still blood/semen contact with a cut on the outside of the vagina, this may still serve as a point of entry for the HIV even if the female condom is used.

2.4.5.3 Polyisoprene Condoms

Polyisoprene condoms are an option for individuals who are allergic to latex because they are made from synthetic latex (most with allergies are actually allergic to the plant proteins that can contaminate latex). They are FDA approved to prevent pregnancy and STIs including HIV. Users feel that polyisoprene condoms offer sensation similar to latex condoms.

2.4.5.4 Dental Dams

Dental dams—large pieces of new, unused, clear, non-microwaveable plastic wrap—and latex condoms may be used to provide a barrier to reduce the risk of HIV transmission during oral intercourse. The latex condom can be cut into a square for use as a dental dam. Water-based lubricants may be used with the dental dams, plastic wrap, or cut-open condoms to enhance sensitivity and reduce friction.

2.4.5.5 Natural Membrane Condoms

Did You Know. . .

Natural membrane condoms (skins) do not provide protection from HIV, HBV, and some other STDs. They can, however, help prevent pregnancies and some STDs, such as syphilis.

2.4.5.6 When Both Partners Are HIV Positive

If two people are infected with HIV, do they still need to have protected sex? Some people think it is safe for HIV-infected people to have unprotected sex with each other, but latex condoms are advised when both partners are HIV positive. Each additional exposure to the virus may further weaken an immune system already damaged by HIV. Variations and mutations of the HIV may create additional infection from other strains of the HIV with unprotected sex. Other STDs are transmitted through unprotected sex. Any additional viral or bacterial infection stresses the immune system and should be avoided.

2.4.6 Avoidance of Injection Drug Use

Not injecting drugs is another way to avoid transmission of HIV. If a person refuses to abstain from injecting drugs, then they should use a clean needle each time and not share injection equipment. This includes people who use needles to inject insulin, vitamins, steroids, or prescription and non-prescription drugs.

2.4.6.1 Syringe Exchange

Syringe and needle exchange is a disease-prevention program for people who use illegal drugs. It provides new sterile syringes in exchange for used ones. People who trade in their used syringes/needles for clean ones at needle exchanges significantly reduce their risk for becoming infected with HIV or hepatitis through sharing infected needles.

Syringe exchanges are also referral sources for drug treatment. Participants may be able to secure drug treatment through the intervention of the syringe exchange staff. Public support for syringe exchange has grown in recent years. There are 26 counties in Washington State that have syringe service programs. Information is available from the Washington State Department of Health Syringe Service Program Directory (WA DOH, n.d.).

It is safest always to use new, sterile needles and syringes, as well as other “works,” which can all become contaminated with blood. If someone cannot avoid sharing syringes, rinsing out the syringe/needle with full-strength bleach and clean water helps clean the syringe/needle and kill any HIV inside it.

There is high prevalence of HBV and HCV infection among injecting drug users; these viruses are stronger than HIV and are not likely to be killed by short contact with bleach. Cleaning the syringe with bleach and water is not likely to prevent transmission of HBV or HCV. There is no substitute for a new syringe. If there is no possible way to obtain new needles, the directions for using bleach to clean syringes/needles are:

1. Fill the syringe completely with water.
2. Tap it with your finger to loosen any traces of blood.
3. Shake the syringe and shoot out the bloody water.
4. Repeat these steps until you can’t see any blood. Then fill the syringe completely with fresh bleach.
5. Keep the bleach inside the syringe for at least 30 seconds, then shoot out the used bleach.
6. Rinse out the syringe with new, clean water.
7. Shake the syringe and squirt out the water.

It is important to follow these steps exactly, because inadequate cleaning can result in the possibility of HIV infection. Always do the final rinse with water!

2.5 Occupational Exposure to Bloodborne Pathogens

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

Exposure incident means a specific eye, mouth, other mucous membrane, non-intact skin, or parenteral contact with blood or OPIM that results from the performance of an employee's duties. Examples of non-intact skin at risk include skin with dermatitis, hangnails, cuts, abrasions, chafing, or acne.

Occupational groups that have been widely recognized as having potential exposure to HBV/HCV/HIV include, but are not limited to, healthcare employees, law enforcement, fire, ambulance, and other emergency response, and public service employees.


The following requirements are mandated by Washington Administrative Code (WAC) Chapter 296-823, Occupational Exposure to Bloodborne Pathogens. They are enforced by the Department of Labor and Industries Division of Occupational Safety and Health (DOSH). Please check with your agencies to make sure you are complying with the requirements of this rule. Failure to comply may result in citations or penalties.

The compliance directive of the federal Occupational Safety and Health Administration (OSHA) on occupational exposure to bloodborne pathogens, CPL 2-2.69, may be consulted for additional direction. For more information or assistance, contact a Department of Labor and Industries (L&I) consultant in your area. Check with the office nearest you or call L&I's main switchboard at 360-902-5800 or their toll-free Claims line at 800 LISTENS (800 547 8367) or visit the L&I website here.

The following standards and rules are specifically for the state of Washington, however, many states have similar standards and compliance with the occupational exposure rules outlined here are effective in minimizing risk of bloodborne pathogens including HIV, HCV, and HBV.

WAC 296-823, Occupational Exposure to Bloodborne Pathogens, provides requirements to protect employees from exposure to blood or OPIM that may contain bloodborne pathogens. This section applies to employers who have employees with occupational exposure to blood or OPIM, even if no actual exposure incidents have occurred.

Apply Your Knowledge

Q: Healthcare professionals need to receive bloodborne pathogens training. What would it include?

A: Training includes protective measures to minimize the risk and what to do if exposure occurs.

2.5.1 Bloodborne Pathogens

Bloodborne pathogens include any human pathogen present in human blood or OPIM. This includes hepatitis C, hepatitis D, malaria, syphilis, babesiosis, brucellosis, leptospirosis, arboviral infections, relapsing fever, Creutzfeldt-Jakob disease, adult T-cell leukemia/lymphoma (caused by HTLV-I), HTLV-I-associated myelopathy, diseases associated with HTLV-II, and viral hemorrhagic fever.

According to the CDC, hepatitis C (HCV) infection is the most common chronic bloodborne infection in the United States. Hepatitis C is a viral infection of the liver transmitted by exposure to blood or other bodily fluids containing blood.

2.5.2 Bodily Fluids

Blood and bloodborne products are well-accepted as potential carriers of bloodborne pathogens. Bodily fluids have also been linked to the transmission of HIV, HBV, and HCV and Standard Precautions apply to the handling of the following bodily fluids:

- Semen and vaginal secretions
- Cerebrospinal fluid
- Synovial (joint) fluid
- Pleural (lung) fluid
- Peritoneal (gut) fluid
- Pericardial (heart) fluid
- Amniotic (fluid surrounding the fetus) fluid
- Saliva in dental procedures
- Specimens with concentrated HIV, HBV and HCV viruses

Body fluids such as urine, feces, and vomitus are not considered OPIM unless visibly contaminated by blood. Wastewater (sewage) has **not** been implicated in the transmission of HIV, HBV, and HCV and is not considered to be either OPIM or regulated waste. However, plumbers working in healthcare facilities or who are exposed to sewage originating directly from healthcare facilities carry a theoretical risk of occupational exposure to bloodborne pathogens.

Employers should consider this risk when preparing their written “exposure determination.” Plumbers or wastewater workers working elsewhere are probably not at risk for exposure to bloodborne pathogens. Wastewater contains many other health hazards and workers should use appropriate personal protective equipment (PPE) and maintain personal hygiene standards when working.

2.5.3 Bloodborne Pathogens Training

BBP training includes information on the hazards associated with blood/OPIM, the protective measures to be taken to minimize the risk of occupational exposure, and information on the appropriate actions to take if an exposure occurs. Retraining is required annually, or when changes in procedures or tasks affecting occupational exposure occur. Employees must be provided access to a qualified trainer during the training session to ask and have answered questions as they arise.

2.5.4 Exposure Control Plan (ECP)

Each employer covered under WAC 296-823 (Occupational Exposure to Bloodborne Pathogens) must develop an Exposure Control Plan (ECP) according to Section 11010. The ECP shall contain at least the following elements:

- A written "exposure determination" that includes those job classifications and positions in which employees have the potential for occupational exposures. The exposure determination shall have been made without taking into consideration the use of personal protective clothing or equipment. It is important to include those employees who are required or expected to administer first aid.
- The procedure for evaluating the circumstances surrounding exposure incidents, including maintenance of a "sharps injury log."
- How and when the applicable requirements will be implemented.
- The infection control system used in your workplace.
- You must use universal precautions or other at least as effective infection control systems.
- Documentation of consideration and implementation of appropriate, commercially available safer medical devices designed to eliminate or minimize occupational exposure.
- The ECP must be reviewed and updated at least annually and whenever changes occur that affect occupational exposure.
- A copy of the ECP must be accessible in the workplace and you must provide a copy of the ECP to an employee within 15 days of their request for a copy.

2.5.5 Hepatitis B Vaccination

All employees with occupational exposure to blood or OPIM must be offered hepatitis B vaccination after receiving required training and within 10 days of initial assignment. The vaccine must be provided free of charge. Serologic testing after vaccination (to ensure that the shots were effective) is recommended for all people with ongoing exposure to sharp medical devices.

2.5.6 Infection Control Systems

Universal Precautions was a system designed to prevent transmission of bloodborne pathogens in healthcare and other settings. Under Universal Precautions, blood/OPIM of all patients should always be considered potentially infectious for HIV and other pathogens. **Standard Precautions is the preferred, newer system** because it considers all body fluids except sweat to be potentially infectious.

Standard Precautions and Universal Precautions involve the use of protective barriers to reduce the risk of exposure of the employee's skin or mucous membranes to OPIM. It is also recommended that all healthcare workers take precautions to prevent injuries caused by needles, scalpels, and other sharp instruments or devices. Both Standard and Universal Precautions apply to blood and OPIM.

2.5.7 Personal Protective Equipment (PPE)

Gloves, masks, protective eyewear and chin-length plastic face shields are examples of personal protective equipment (PPE). PPE shall be provided and worn by employees in all instances where they will or may come into contact with blood or OPIM. This includes but is not limited to dentistry, phlebotomy, or processing of any bodily fluid specimen, and postmortem (after death) procedures.

Traditionally, latex gloves have been advised for use when dealing with blood or OPIM. However, some people are allergic to latex. In most circumstances, nitrile, vinyl, and other glove alternatives meet the definition of “appropriate” gloves and may be used instead of latex gloves. Employers are required to provide non-latex alternatives to employees with latex and other sensitivities. Reusable PPE must be cleaned and decontaminated or laundered by the employer.

Lab coats and scrubs are generally considered to be worn as uniforms or personal clothing. When contamination is reasonably likely, protective gowns should be worn. If lab coats or scrubs are worn as PPE, they must be removed as soon as practical and laundered by the employer.


All new employees or employees being transferred into jobs involving tasks or activities with potential exposure to blood/OPIM shall receive training in accordance with WAC 296-823-120 prior to assignment to tasks where occupational exposure may occur. The provision of employer-supplied hepatitis B vaccination may be delayed until after probable exposure for employees whose sole exposure risk is the provision of first aid (see WAC 296-823-130).

2.5.8 Safer Medical Devices

Safe medical devices and work practices are preferable to personal protective equipment to minimize or eliminate employee exposure. There are now many safer medical devices available.

Employers must include employees in ongoing evaluation of safer medical devices and implement these devices whenever feasible. Evaluation and implementation of these devices must be documented in the environmental safety manual. Safer medical device lists can be accessed through websites maintained by the California Division of Occupational Safety and Health SHARP program, the National Association for the Primary Prevention of Sharps Injuries, and the International Health Care Worker Safety Center.

2.5.9 Hand Hygiene

Hand hygiene is the first key behavior to minimize risk of contact with potentially infected blood. Washing with soap-and-water or a waterless alcohol-based hand rub must be performed:

- After removal of gloves or other protective equipment
- Immediately after hand contact with blood or other infectious materials
- Upon leaving the work area

Hand hygiene be performed before and after each patient contact and after using restroom facilities. Soap-and-water hand washing must be performed whenever hands are visibly contaminated or there is a reasonable likelihood of contamination.

Proper soap-and-water hand washing technique involves using soap, warm (almost hot) water, and good friction, scrub the top, back, and all sides of the fingers. Lather well and rinse for at least 10 seconds. When rinsing, begin at the fingertips, so that the dirty water runs down and off the hands from the wrists. It is preferable to use a pump-type of liquid soap instead of bar hand soap. Dry hands on paper towels. Use the dry paper towels to turn off the faucets (don't touch with clean hands).

Apply Your Knowledge

Adherence to hand hygiene has been measured at rates as low as 5% in some healthcare settings. How does your workplace measure up? At your next staff meeting, see how many of your coworkers can correctly identify the three steps of hand hygiene listed above.

2.5.10 Housekeeping

The work area is to be maintained in a clean and sanitary condition. The employer is required to determine and implement a written schedule for cleaning and disinfection based on the location within the facility, type of surface to be cleaned, type of soil present and tasks or procedures being performed. All equipment and environmental and working surfaces must be properly cleaned and disinfected after contact with blood or OPIM. Broken glassware that is contaminated must be removed using mechanical means, like a brush and dustpan or vacuum cleaner.

2.5.11 Disinfectants

Chemical germicides and disinfectants used at recommended dilutions must be used to decontaminate environmental surfaces. Consult the Environmental Protection Agency (EPA) lists of registered sterilants, tuberculocidal disinfectants, and antimicrobials with HIV/HBV efficacy claims for verification that the disinfectant used is appropriate.

2.5.12 Laundry

Laundry that is or may be soiled with blood or OPIM, or may contain contaminated sharps, must be treated as though contaminated. Contaminated laundry must be bagged at the location where it was used and shall not be sorted or rinsed in patient-care areas. It must be placed and transported in bags that are labeled or color-coded (red-bagged).

Laundry workers must wear protective gloves and other appropriate personal protective clothing when handling potentially contaminated laundry. All contaminated laundry must be cleaned or laundered so that any infectious agents are destroyed.

Guidance regarding laundry handling and washing procedures in the healthcare setting can be found in the CDC Guideline Disinfection and Sterilization in Health-Care Facilities, 2008 (CDC, 2008; latest available).

2.5.13 Regulated Waste Disposal

All regulated waste must be placed in closeable, leakproof containers or bags that are color-coded (red-bagged) or labeled to prevent leakage during handling, storage, and transport. Disposal of waste shall be in accordance with federal, state, and local regulations. Individual county or health jurisdiction waste management regulations may need to be consulted.

WAC 296-823 defines "regulated waste" as any of the following:

- Liquid or semiliquid blood or other potentially infectious materials (OPIM)
- Contaminated items that would release blood or OPIM in a liquid or semi-liquid state, if compressed
- Items that are caked with dried blood or OPIM and are capable of releasing these materials during handling
- Contaminated sharps
- Pathological and microbiological wastes containing blood or OPIM

Note: RCW 70.95K addresses "biomedical waste management."

Individual county or health jurisdiction waste management regulations may need to be consulted.

Apply Your Knowledge

Q: A co-worker asks you how to dispose of regulated waste. How would you explain the process?

A: Regulated waste is suspicious of body fluids and may not be flushed down toilets and must be placed in closeable leakproof containers or bags and color-coded or labeled. This includes items on which blood has dried.

2.5.14 Sharps Disposal

Needles are not to be recapped, purposely bent or broken, removed, or otherwise manipulated by hand. After they are used, disposable syringes and needles, scalpel blades, and other sharp items are to be immediately placed in puncture-resistant, labeled containers for disposal. Phlebotomy needles must not be removed from holders unless required by a medical procedure. The intact phlebotomy needle/holder must be placed directly into an appropriate sharps container.

Disposal Container

Source: Courtesy of Joe Mabel, photographer, Wikimedia Commons.

2.5.15 Tags/Labels

Tags or labels identifying medical equipment, chemicals or medications must be used to protect employees from exposure to potentially hazardous biological agents.

All required tags must have the following:

- Tags must contain a signal word or symbol and a major message. The signal word shall be BIOHAZARD, or the biological hazard symbol. The major message must indicate the specific hazardous condition or the instruction to be communicated to the employee.
- The signal word must be readable at a minimum of five feet or such greater distance as warranted by the hazard.
- The tag's major message must be presented in either pictographs, written text, or both.
- The signal word and the major message must be understandable to all employees who may be exposed to the identified hazard.
- All employees will be informed as to the meaning of the various tags used throughout the workplace and what special precautions are necessary.

2.5.16 Personal Activities

Eating, drinking, smoking, applying cosmetics or lip balm, and handling contact lenses are prohibited in work areas that carry occupational exposure. Food and drink must not be stored in refrigerators, freezers, or cabinets where blood or OPIM are stored, or in other areas.

2.5.17 Post Exposure Management

Employers must make a confidential post exposure medical evaluation available to employees who report an exposure incident. The employer is also responsible for arranging individual testing in accordance with the law and state statutes.

The post exposure medical evaluation must be:

- Made immediately available to the employee
- Kept confidential
- Provided at no cost to the employee
- Provided according to current U.S. Public Health Service recommendations

2.6 Occupational Exposure to HIV/HBV/HCV and Other Bloodborne Pathogens

An **occupational exposure** to a bloodborne pathogen is defined as a percutaneous injury such as a needle stick or cut with a sharp object or contact of mucous membrane or non-intact skin (eg, exposed skin that is chapped, abraded, or afflicted with dermatitis) with blood, tissue, or OPIM. According to the CDC the risk of infection varies case by case. Factors influencing the risk of infection include:

- Whether the exposure was from a hollow-bore needle or other sharp instrument
- Non-intact skin or mucus membranes (such as the eyes, nose, and/or mouth)
- The amount of blood that was involved
- The amount of virus present in the source's blood

2.6.1 Risk of HIV, HBV, and HCV Transmission

The risk of HIV infection to a healthcare worker through a needlestick is .3% (about 1 in 300). Approximately 1 in 300 exposures through a needle or sharp instrument result in infection. The risks of HIV infection though splashes of blood to the eyes, nose, or mouth is even smaller—approximately 1 in 1,000. There have been no reports of HIV transmission from blood contact with intact skin. There is a theoretical risk of blood contact to an area of skin that is damaged, or from a large area of skin covered in blood for a long period of time. "There have been substantial improvements in safety devices and the use of barriers to help prevent HCP [healthcare personnel] from accidental exposure to bloodborne pathogens, so occupational transmission of HIV is considered to be extremely rare in the U.S. There have been 57 documented transmissions and 143 possible transmissions of HIV to HCP in the U.S. as of 2010" (Sucher et al, 2014)

The risk of getting HBV from a needlestick is 22% to 31% if the source person tests positive for hepatitis B surface antigen (HBsAg) and hepatitis B e antigen (HBeAg). If the source person is HBsAg-positive and HBeAg-negative there is a 1% to 6% risk of getting HBV unless the person exposed has been vaccinated.

The risk of getting HCV from a needlestick is 1.8%. The risk of getting HBV or HCV from a blood splash to the eyes, nose, or mouth is possible but believed to be very small. As of 1999, about 800 healthcare workers a year are reported to be infected with HBV following occupational exposure. There are no exact estimates on how many healthcare workers contract HCV from an occupational exposure, but the risk is considered low.

2.6.2 Treatment After a Potential Exposure

Follow the protocol of your employer. As soon as safely possible, wash the affected area(s) with soap and water. Application of antiseptics should not be a substitute for washing. It is recommended that any potentially contaminated clothing be removed as soon as possible. It is also recommended that you familiarize yourself with existing protocols and the location of emergency eyewash or showers and other stations within your facility.

2.6.3 Mucous Membrane Exposure

If there is exposure to the eyes, nose, or mouth, flush thoroughly with water, saline, or sterile irrigants. The risk of contracting HIV through this type of exposure is estimated to be 0.09%.

2.6.4 Sharps Injuries

Wash the exposed area with soap and water. Do not "milk" or squeeze the wound. There is no evidence that shows using antiseptics (like hydrogen peroxide) will reduce the risk of transmission for any bloodborne pathogens, however, the use of antiseptics is not contraindicated. In the event that the wound needs suturing, emergency treatment should be obtained. The risk of contracting HIV from this type of exposure is estimated at 0.3%.

2.6.5 Bite or Scratch Wounds

Exposure to saliva is not considered substantial unless there is visible contamination with blood from a dental procedure. Wash the area with soap and water, and cover with a sterile dressing as appropriate. All bites should be evaluated by a healthcare professional.

Did You Know. . .

For human bites, the clinical evaluation must include the possibility that both the person bitten and the person who inflicted the bite were exposed to bloodborne pathogens.

2.6.6 Exposure to Urine, Vomitus, or Feces

Exposure to urine, feces, vomitus, or sputum is not considered a potential bloodborne pathogen exposure, unless the fluid is visibly contaminated with blood. Follow your employer's procedures for cleaning these fluids.

2.6.7 Reporting the Exposure

Follow the protocol of your employer. After cleaning the exposed area as recommended above, report the exposure to the department or individual at your workplace that is responsible for managing exposure. Obtain medical evaluation as soon as possible. Discuss with a healthcare professional the extent of the exposure, treatment, follow-up care, personal prevention measures, the need for a tetanus shot or other care.

Your employer is required to report the occurrence and provide an appropriate post exposure management referral at no cost to you. In addition, your employer must provide the following information to the evaluating health care professional:

- A description of the job duties the exposed employee was performing when exposed
- Documentation of the routes of exposure and circumstances under which exposure occurred
- Results of the source person's blood testing, if available
- All medical records that you are responsible to maintain, including vaccination status, relevant to the appropriate treatment of the employee

2.6.8 Post Exposure Prophylaxis

Post exposure prophylaxis (PEP) provides anti-HIV medications to someone who has had a substantial exposure, usually to blood. PEP has been the standard of care for occupationally exposed healthcare workers with substantial exposures since 1996. Animal models suggest that cellular HIV infection happens within 2 days of exposure to HIV and the virus in blood is detectable within 5 days. Therefore, PEP should be started as soon as possible and always within 72 hours after exposure.

PEP requires taking HIV medicines every day for 28 days. Additional testing is required at certain intervals and when the 28 days are completed. PEP medications may cause side effects such as nausea, but in almost all cases they can be treated and are not life threatening. PEP medicines can also interact with other drugs so patient and healthcare provider need to coordinate (CDC, 2024d; thebody.com, 2024).

It is very important to report occupational exposure to the department at your workplace that is responsible for managing exposure and to seek medical attention immediately. If post exposure treatment is recommended, it should be started as soon as possible. In rural areas, police, firefighters, and other at-risk emergency providers should identify a 24-hour source for PEP.

Clinicians caring for workers who've had a possible exposure can call the PEPline (1-888-448-4911) for advice on managing occupational exposures to HIV. Exposed workers may also call the PEPline, but they should seek local medical attention first (CDC, 2024d).

PEP for HIV does not provide prevention of other bloodborne diseases like HBV or HCV. Hepatitis B PEP for susceptible people would include administration of hepatitis B immune globulin and HBV vaccine. This should occur as soon as possible and no later than 7 days post exposure. Immune globulin and antiviral agents are not recommended for PEP of hepatitis C.

In many states, health care and civil workers have a right to file a workers' compensation claim for exposure to bloodborne pathogens. Industrial insurance covers the cost of post exposure prophylaxis and follow-up for the injured worker.

Apply Your Knowledge

Q: A fellow health care worker has just had a needlestick and the source was HIV positive. She panics and asks you what to do. What are resources to help her?

A: After immediately cleaning the affected area with soap and water and a disinfectant, you would direct her to her supervisor and facility director over occupational health, you would direct her to get PEP. She can also make a worker's compensation claim for the PEP. She will need to take it for at least 28 days. You would tell her the National Hotline for PEP is also a resource. PEP should begin immediately, preferably within hours of exposure.

Health care professionals and Providers can call 888-448-4911 for the latest information on PEP for HIV, hepatitis, and other pathogens.

2.6.9 HIV/HBV/HCV Testing Post Exposure

All occupational exposures should be evaluated by a healthcare professional. Evaluation should include follow-up counseling, post exposure testing, and medical evaluation regardless of whether PEP is indicated. Antibody testing for HIV, HBV, and HCV should be conducted for 6 months after occupational exposure. After baseline testing at the time of exposure, follow-up testing is recommended to be performed at 6 weeks, 12 weeks, and 6 months after exposure. Extended HIV follow-up for 12 months is recommended for those who become infected with HCV after exposure to a source co-infected with HIV. Extended follow-up in other circumstances for those people with an impaired ability to mount an antibody response to infection may also be considered.

2.6.10 Source Testing

Many states require the employer to arrange to test the source individual—someone whose blood or OPIM an employee was exposed to—for HIV, HBV, and HCV as soon as feasible after getting their consent. If the employer does not get consent the employer must document such and inform the employee.

2.6.11 Mandatory Source Testing

Because of an increased risk for HIV exposure, many state codes provide for HIV antibody testing of a “source” when a law enforcement officer, firefighter, healthcare provider, or healthcare facility staff, and certain other professions experience an occupational exposure. If you experience an occupational exposure to another person’s blood or OPIM, you can request HIV testing of the source individual through your employer or local health officer.

Before health officers issue an order for HIV testing of the source individual, they will first determine whether a substantial exposure occurred and if the exposure occurred on the job. Depending on the type of exposure and risks involved, the health officer may make the determination that source testing is unnecessary.

In the case of occupationally exposed healthcare workers, if the employer is unable to obtain permission of the source individual, the employer may request assistance from the local health officer if the request is made within 7 days of the occurrence.

Source testing does not eliminate the need for baseline testing of the exposed individual for HIV, HBV, HCV, and liver enzymes. Provision of PEP should also not be contingent upon the results of a source’s test. Current wisdom indicates immediate provision of PEP in certain circumstances, with discontinuation of treatment based upon the source’s test results.

2.7 Non-Occupational Exposure to HIV

Post exposure prophylaxis (PEP) is effective in preventing HIV although CDC notes that to be safe one should always use condoms with sex partners and use safe injection practices. PEP is not a substitute for those safe practices nor is it the right choice for people who are exposed to HIV frequently. PEP is for emergency situations only.

A person who suspects they have been exposed to HIV should talk right away to a health care provider or ER or urgent care provider. HIV.gov provides a locator for PEP services by location (CDC, 2024d).


In Seattle and Western Washington there are clinics that specifically treat HIV-positive people. Go to:

- https://kingcounty.gov/en/dept/dph/health-safety/disease-illness/hiv-sti-hcv and
- https://kingcounty.gov/en/dept/dph/health-safety/disease-illness/hiv-sti-hcv/hiv-and-sti-resources

2.8 Procedures for Homes and Home-like Settings

People who live or work in homes and home-like settings should practice good hygiene techniques in preparing food, handling body fluids, and using medical equipment. Cuts, accidents, or other circumstances can result in spills of blood/OPIM. These spills may be deposited upon carpeting, vinyl flooring, clothing, a person's skin, or other surfaces.

It is important that everyone, even young children, have a basic understanding that they should not put their bare hands in, or on, another person's blood. Safe practices for some commonly encountered situations can help minimize the risk of HIV exposure and infection.

2.8.1 Gloves

Gloves are available in latex, nitrile, or vinyl. Gloves should be worn when caretakers anticipate direct contact with any body substances (blood or OPIM) or non-intact skin. Gloves should be changed—and hands washed—as soon as possible between children, patients, and others. Hand hygiene is the first key behavior to minimize risk of contact with potentially infected blood.

When removing gloves, carefully pull them off, inside-out, one at a time, so that the contaminated surfaces are inside the gloves, and you avoid contact with any potentially infectious material. Never rub the eyes, mouth or face while wearing gloves. Latex gloves should never be washed and reused.

2.8.2 Cleaning Blood/OPIM

To clean up blood or stop the flow of blood from an injury, wear appropriate gloves, use sterile gauze or other bandages, and follow normal first-aid techniques to stop the bleeding. After applying a bandage, remove the gloves slowly, so that fluid particles do not splatter or become aerosolized. Hands should be washed using good technique as soon as possible.

2.8.3 Cleaning Body Fluid Spills on Vinyl Floors

Broken glass should be swept up using a broom and dustpan and emptied into a well-marked plastic bag or heavy-duty container. A body fluid spill may be pretreated with full-strength liquid disinfectant or detergent.

Wipe up the body fluid spills with a mop, paper towels, and hot soapy water. Dispose of the paper towels in the plastic bag. Use a good disinfectant such as household bleach mixed fresh with water (1:10) to disinfect the area that the spill occurred. If a mop was used for the cleaning, soak it in a bucket of hot water and disinfectant after use. Empty the mop bucket water in the toilet, rather than a sink. Sponges and mops used to clean up body fluid spills should not be rinsed out in the kitchen sink, or in a location where food is prepared.

Sponges and mops that are used in a kitchen should not be used to clean body fluid spills or bathrooms. All sponges and mops should be disinfected routinely with a fresh bleach solution or another similar disinfectant.

2.8.4 Cleaning Body Fluid Spills on Carpeting

Pour dry cat litter or other absorbent material on the spill to absorb the body fluid. Then pour full-strength liquid detergent on the carpet, which helps to disinfect the area. If there are pieces of broken glass present, the broom-and-dustpan method can be used next to sweep up the kitty litter and visible broken glass. Use carpet-safe liquid disinfectant instead of diluted bleach on the carpeting. Pour this carefully on the entire contaminated area; let it remain there for the time recommended by the manufacturer. Follow this by absorbing the spill with paper towels and sturdy rubber gloves. Vacuum normally afterwards.

Any debris, paper towels, or soiled kitty litter should be disposed of in a sealed plastic bag that has been placed inside another plastic garbage bag. Twist and seal the top of the second bag as well.

2.8.5 Cleaning Laundry in Home Settings

Clothes, washable uniforms, towels, or other laundry that have been stained with blood/OPIM should be cleaned and disinfected before further use. If possible, have the person remove the clothing, or use appropriate gloves to assist with removing the clothes. If it is a distance to the washing machine, transport the soiled clothing items in a sturdy plastic bag. Next, place the items in the washing machine, and soak or wash the items in cold, soapy water to remove any blood from the fabric. Hot water permanently sets blood stains. Use hot soapy water for the next washing cycle, and include sufficient detergent, which will act as a disinfectant, in the water. Dry the items using a clothes dryer. Wool clothing or uniforms may be rinsed with cold soapy water and then dry cleaned to remove and disinfect the stain.

Apply Your Knowledge

Q: A family member of an HIV positive patient asks you how to avoid any infectious HIV when doing the laundry. How would you advise her on home clothing care?

A: When caring for an HIV-infected person at home, clothes or towels that are contaminated with blood or OPIM should be cleaned and disinfected before further use. If there is no blood contamination on clothing, the clothes can be laundered like any other clothing.

2.8.6 Diaper Changes

Care providers should use a new pair of appropriate gloves to change diapers. Gloves should be removed carefully and discarded in the appropriate receptacle. Hands should be washed immediately after changing the diaper. Disinfect the diapering surface afterwards. Cloth diapers should be washed in very hot water with detergent and a cup of bleach and dried in a hot clothes dryer.

2.8.7 Toilet/Bedpan Safety

It is safe to share toilets/toilet seats without special cleaning, unless the surface becomes contaminated with blood/OPIM. If this occurs, disinfect the surface by spraying on a solution of 1:10 bleach. Wearing gloves, wipe this away with disposable paper towels. People with open sores on their legs, thighs, or genitals should disinfect the toilet seat after each use. Urinals and bedpans should not be shared between family members unless they are thoroughly disinfected beforehand.

2.8.8 Thermometers

Electronic thermometers with disposable covers do not need to be cleaned between users, unless they are visibly soiled. Wipe the surface with a disinfectant solution if necessary. Glass thermometers should be washed with soap and warm water before and after each use. If it will be shared between family members, the thermometer should be soaked in 70%–90% ethyl alcohol for 30 minutes, then rinsed under a stream of warm water between each use.

2.8.9 Pet Care Precautions

Certain animals may be health hazards for people with compromised immune systems. These animals include turtles, reptiles, birds, puppies and kittens under the age of 8 months, wild animals, pets without current immunizations, and pets with illnesses of unknown origin.

Did You Know. . .

HIV cannot be spread to, from, or by cats, dogs, birds, or other pets.

Pet cages and cat litter boxes can harbor infectious, and often aerosolized organisms. These pet items should be cared for only by someone who is not immunocompromised. If this is not possible, a mask with a sealable nose clip, and disposable latex gloves should be worn each time pet care is done. Follow all pet care with thorough handwashing.

Animals may carry a variety of diseases harmful to people with weakened immune systems. Some of these diseases may be passed by the animal licking their person's face or open wounds. Wash hands after petting or other contact with pets. Keep cats' and dogs' nails trimmed. Wear latex gloves to clean up a pet's urine, feces, or vomitus. The soiled area should be cleaned with a fresh solution of 1:10 bleach.

Pet food and water bowls should be regularly washed in warm, soapy water, and then rinsed. Cat litter boxes should be emptied out regularly and washed at least monthly. Fish tanks should be kept clean. It is possible to order disposable latex "calf-birthing" gloves with longer sleeves from a veterinarian for immunocompromised individuals. These gloves should offer protection from the organisms that are present in the fish tank.

Do not let your pet drink from the toilet, eat other animal's feces, or eat any type of dead animal or garbage. It is best to restrict cats to the indoors only. Dogs should be kept indoors or on a leash. Many communities have volunteer groups and veterinarians that will assist people with HIV take care of their pets, if needed. Do not hesitate to consult your veterinarian with your questions.

2.8.10 Kitchen Safety and Proper Food Preparation

Wash hands thoroughly before preparing food and use care when tasting food. Use a clean spoon and wash the spoon after using it once. People with HIV infection should avoid unpasteurized milk, raw eggs or products that contain raw eggs, raw fish, and cracked or non-intact eggs. Cook all meat, eggs, and fish thoroughly to kill any organisms that may be present in them. Wash fruits and vegetables thoroughly before eating.

Disinfect countertops, stoves, sinks, refrigerators, door handles, and floors regularly. Use window screens to prevent insects from entering the room. Discard food that has expired or is past a safe storage date, shows signs of mold, or smells bad.

Use separate cutting boards for meat and for fruits and vegetables. Disinfect cutting boards frequently. Avoid wooden cutting boards if possible. Kitchen garbage should be contained in a leakproof, washable receptacle that is lined with a plastic bag. Seal the garbage liner bags and remove the garbage frequently.

2.9 Safe and Legal Disposal of Sharps

Disposal of sharps, which includes syringes, needles, and lancets is regulated. They can carry hepatitis, HIV, and other germs that cause disease. Throwing them in the trash or flushing them down the toilet can pose health risks for others. Regulations governing disposal of sharps protect garbage and other utility workers and the general public from needlesticks and illness. There are different rules and disposal options for different circumstances. Contact your local health department to determine which option applies to your situation.

2.9.1 Found Syringes in Public Locations

Syringes that are found in parks, along roadsides, in laundromats, or in other public locations present potential risk for accidental needlesticks. Risks for infection from a found syringe depends on a variety of factors, including the amount of time the syringe was left out, the presence of blood, and the type of injury (scratch versus puncture). The risk of HIV infection to a healthcare worker from a needlestick containing HIV-positive blood is about 1 in 300, according to CDC data.

Anyone with an accidental needlestick requires an assessment by a medical professional. Clinicians should make certain that the injured person had been vaccinated against hepatitis B and tetanus and may also recommend testing for HIV, HCV, and HBV. If a found syringe is handled, but no needlestick occurred, testing for HIV is not necessary.

2.9.2 Safe Disposal of Found Syringes

Found used syringes or needles present a risk for HIV, HBV, HCV, and other pathogens. Parents and other caregivers should make sure children understand they should never touch a found needle or syringe, but instead should immediately ask a responsible adult for help. Your local health department can provide a list of what disposal sites are available to you.

For safe disposal of found syringes:

- If you find a syringe or needle, do not pick it up with your bare hands. Wear gloves and use tongs, a shovel, or a broom and dustpan to pick it up. Hold the needle away from your body.
- Do not break the needle off from the syringe.
- Do not flush needles or syringes down the toilet!
- Place used sharps and syringes in a safe container: one with at least a 1-inch opening and a lid that will seal tightly. An empty plastic laundry detergent, shampoo, pickle, oil, or similar bottle or jar will work. If a glass jar is used, place it into a larger plastic bucket or container that has a tight-fitting lid. Soda cans are not good containers to use because people often try to recycle discarded cans.
- Carefully place the needle or syringe into the bottle or jar and seal the lid tightly. Tape it shut for added safety, and label it with the warning: Sharps, Do Not Recycle. The sealed container should not be placed where children might open it.

3. Testing

Everyone between the ages of 13 and 64 should get tested for HIV at least once as part of routine health care. Patients with ongoing risk factors should be screened annually. The CDC recommends using an “opt-out” approach to remove the stigma associated with HIV testing and facilitate earlier diagnosis and treatment (CDC, 2024e). Risk factors requiring more frequent screening include:

- A man who has had sex with another man.
- Having anal or vaginal sex with someone who has HIV.
- Having more than one sex partner since your last HIV test.
- Sharing needles, syringes, or other drug injection equipment (for example, cookers).
- Exchanging sex for drugs or money.
- Being diagnosed with or treated for another sexually transmitted infection, hepatitis, or tuberculosis (TB).
- Having sex with someone who has done anything listed above or who has an unknown sexual history.

Testing is the only way to know HIV status and data suggests that currently about 15% of people who are HIV positive do not even know they are infected. Knowing your status allows you to get treatment and protect yourself and others if you are infected, and if you are not infected, you can take actions to prevent HIV (CDC, 2024f). Most insurers will cover the cost of testing at least once (WA DOH, n.d.-a)

Some people do not know they are infected with HIV until they get sick, show symptoms, or get tested for HIV. Since most people don’t have symptoms for years, they do not find out their status until later in the disease progression. By the time they find out they are infected, they have missed opportunities to get treatment, take medicines to treat HIV, and live a healthy life. They also miss the chance to avoid passing the infection on to others.

4. Impact of New Drugs

Did You Know. . .

People with HIV who take HIV medicine as prescribed and get and keep an undetectable viral load (or stay virally suppressed) won't transmit HIV to their sexual partners.

Before 1996 there were three medications available to treat HIV. These drugs were used singly and were of limited benefit. Researchers in 1996 discovered that taking combinations of these and newer medications dramatically reduced the amount of HIV (viral load) in the bloodstream of a person infected with HIV. Two or three different medications were used in combination, each one targeting a separate part of the virus and its replication.

The reduction of deaths from AIDS in the United States has been primarily attributed to this combination therapy. Originally known as highly active antiretroviral therapy or HAART, this treatment is simply referred to now as **ART** (**antiretroviral therapy**).

4.1 ART (Antiretroviral therapy)

Antiretroviral therapy (ART) is recommended for all people with HIV, regardless of CD4 cell count. It should be started as soon as possible after diagnosis and should be accompanied by patient education regarding the benefits and risks of ART and the importance of adhering to ART. People with HIV who are aware of their status should be prescribed ART and, by achieving and maintaining an undetectable (<200 copies/mL) viral load, can remain healthy for many years.

ART is available globally and the number of people with access to it is increasing every year. In 2023, of the nearly 40 million people with HIV, 30.7 million of them were on ART (Benisek, 2024).

ART reduces HIV-related morbidity and mortality at all stages of HIV infection and reduces HIV transmission. ART is known to reduce levels of multiple markers of immune activation and inflammation. Mortality associated with uncontrolled HIV replication at higher CD4 counts is believed to be due to immune activation and an inflammatory milieu that promotes progression of end-organ disease.

ART reduces the chances of transmitting HIV to others. Three landmark studies have shown that treatment prevents sexual transmission of HIV. Evidence shows that taking ART as prescribed can help achieve an undetectable viral load. When maintained, an undetectable viral load prevents transmission of HIV through sex. This is known as treatment as prevention.

4.1.1 Treatment Types

All people with HIV should take HIV treatment, no matter how long they've had HIV or how healthy they are. If you delay treatment, HIV will continue to harm your immune system and increase your chances of transmitting HIV to others, getting sick, and developing AIDS.

There are two types of HIV treatment: pills and shots.

Pills are recommended for people just starting HIV treatment. There are many FDA-approved single pill and combination medicines available.

HIV treatment shots are long-acting injections given once a month or once every other month, depending on your treatment plan.

Shots may be right for you if you are an adult with HIV who

- has had an undetectable viral load (or has achieved viral suppression) for at least three months,
- has no history of treatment failure, and
- has no known allergy to the medicines in the shot.

You'll need to visit your provider regularly to receive your shots. Tell your health care provider as soon as possible if you've missed or plan to miss an appointment for your shot.

4.2 HIV Drug Resistance

Did You Know. . .

Viral load suppression—the goal of HIV treatment—significantly contributes to preventing the emergence of HIV drug resistance. When viral load suppression is achieved and maintained, drug-resistant HIV is less likely to emerge (WHO, 2024).

With so many people on HIV medications, **drug resistance** has been increasing. HIV drug resistance can be either **acquired** or **transmitted**. Transmitted drug resistance means that the virus that originally infected the person was already drug resistant. The prevalence of this type is 9.3%.

Acquired drug resistance can happen for several reasons. One is if a person does not take their medications consistently according to instructions, allowing the virus to replicate at the same time. Another is when a person's body does not absorb the drugs properly or other drugs the person is taking interfere with the HIV medications.

There is a third type of resistance known as **pretreatment HIV drug resistance**. This is not common but can happen as a result of a baby being given drugs to prevent perinatal transmission who becomes infected anyway, or when a patient was taking pre-exposure prophylaxis (PrEP) to prevent HIV but still became infected. If a patient is drug resistant, testing can be done to gather information to determine adjustments to be made (Benisek, 2024; WHO 2024).

4.3 Prevention Strategies

There are more options than ever before to reduce the risk of acquiring or transmitting HIV. Using medicines to prevent and to treat HIV, condoms, low-risk sex, only having partners with the same HIV status, and not having sex can all effectively reduce risk. Combining prevention strategies may be even more effective. But in order for any option to work, it must be used correctly and consistently (CDC, 2022).

Elements of HIV prevention include:

1. Antiretroviral Therapy (ART)
2. Pre-Exposure Prophylaxis (PrEP)
3. Post-Exposure Prophylaxis (PEP)
4. Treatment as Prevention
5. Condoms
6. Medical Male Circumcision

The 6 prevention strategies above have undergone significant study and their effectiveness in some or many situations has been demonstrated, and details are available on the CDC website (CDC, 2022). All of the following have a role in HIV prevention.

- HIV Testing/Counseling
- Education/Behavior Modification
- STI Treatment
- Blood Supply Screening
- Microbicides
- Treatment/Prevention of Drug/Alcohol Abuse
- Clean Syringes

No one prevention option works all the time with every target group, but each one has shown, and continues to show, frequent measurable success with many groups. Used together, they have made significant headway against HIV.

As a concept and a strategy, treating HIV-infected people to improve their health and to reduce the risk of onward transmission—sometimes called **treatment as prevention**—refers to the personal and public health benefits of using ART to continuously suppress HIV viral load in the blood and genital fluids, which decreases the risk of transmitting the virus to others. The practice has been used since the mid-1990s to prevent mother-to-child, or perinatal, transmission of the virus.

Treatment is an important element of a multi-pronged attack that includes prevention efforts, investment of resources, access to screening and medical care, and involvement by local, state, and federal government, faith-based communities, and private groups and individuals. The first priority is providing treatment and, in order to get treatment, one must be aware of the need. Thus, testing and identification of those with HIV infection becomes the critical entry point into the medical care system for both treatment and prevention.

4.4 Vaccine

There is currently no vaccine available that will prevent HIV infection. However, scientists around the world, with support from the National Institutes of Health (NIH), are working to develop one. Work on an HIV vaccine can be traced back three decades to before the first HIV vaccine clinical trial at the National Institutes of Health in 1987. Discouraging as that timeframe may sound, it takes a great deal of time to do the work needed to create a vaccine, and HIV provides some unique challenges (NIAID, 2024, 2014; HIV.gov, 2024a).

HIV is a very complex, highly changeable virus, and it is different from other viruses because the human immune system never fully gets rid of it. Most people who are infected with a virus, even a deadly one, recover from the infection, and their immune systems clear the virus from their bodies. Once cleared, an immunity to the virus often develops. But humans do not seem to be able to fully clear HIV and develop immunity to it. The body cannot make effective antibodies and HIV actually targets, invades, and then destroys important cells that the human body needs to fight disease. So far, no person with an established HIV infection has cleared the virus naturally, and this has made it more difficult to develop a preventive HIV vaccine.

4.5 Pre-Exposure Prophylaxis (PrEP)

Pre-exposure prophylaxis (or PrEP) is medicine taken to prevent getting HIV and it is highly effective for preventing HIV when taken as prescribed.

- PrEP reduces the risk of getting HIV from sex by about 99%.
- PrEP reduces the risk of getting HIV from injection drug use by at least 74%.

PrEP is less effective when not taken as prescribed. Since PrEP only protects against HIV, condom use is still important for protection against other STDs. Condom use is also important to help prevent HIV if PrEP is not taken as prescribed.

PrEP is for adults and adolescents without HIV who may be exposed to HIV through sex or injection drug use. PrEP may be an option to help protect pregnant people and their babies from getting HIV while trying to get pregnant, during pregnancy, or while breastfeeding.

PrEP can help protect you if you don't have HIV and any of the following apply to you:

You have had anal or vaginal sex in the past 6 months and you

- have a sexual partner with HIV (especially if the partner has an unknown or detectable viral load),
- have not consistently used a condom, or
- have been diagnosed with a sexually transmitted disease in the past 6 months.

You inject drugs and you

- have an injection partner with HIV, or
- share needles, syringes, or other drug injection equipment (for example, cookers).

You have been prescribed PEP (post-exposure prophylaxis) and you

- report continued risk behavior, or
- have used multiple courses of PEP.

You may choose to take PrEP, even if the behaviors listed above don't apply to you.

5. Legal and Ethical Issues

Did You Know. . .

In the case of HIV or AIDS, **reportable** means that providers who diagnose a person must submit a confidential case report to the local health jurisdiction within 3 days.

5.1 Reporting

5.1.1 HIV and AIDS Are Reportable Conditions

Reporting of HIV and AIDS cases assists local and state officials in tracking the epidemic. It also allows for effective planning and intervention to be provided in the effort to reduce the transmission of HIV to other people.

AIDS and HIV are reportable conditions in Washington State, by statute WAC 246-101. AIDS (medically diagnosed) and symptomatic HIV infection have been reportable conditions in Washington since 1984 and 1993 respectively. In 1999 asymptomatic HIV infection also became reportable.

5.1.2 Anonymous Tests and Reporting

Positive HIV results obtained through anonymous testing are not reportable. However, once a patient with positive results seeks medical care for conditions related to HIV or AIDS, the provider is required to report the case to the local health department.

Spousal Notification

Federal Public Law 104-146 (1996) requires that states take action to require that a "good faith effort" be made to notify all spouses of HIV-infected people. A **spouse** is defined as anyone who is or has been the marriage partner of an HIV-infected individual within 10 years prior to the HIV diagnosis.

Notification means that individuals testing positive will be counseled about the importance of notifying spouses and partners and will be given the choice to notify, to allow the healthcare provider to notify, or to refer to the local health jurisdiction for assistance in notifying the spouse.

Confidentiality

All medical records are confidential and must be maintained in a manner that protects that confidentiality. **Confidentiality** of medical information means that a person's medical information (including HIV testing and HIV results) may not be disclosed to anyone unless the individual signs a release-of-information form. However, there are exceptions to this. Medical information can be disclosed under certain circumstances, including:

- When it is given from one healthcare provider to another healthcare provider for related ongoing medical care of the patient
- In a life-or-death emergency
- To a third-party payer (insurance provider)
- In reporting notifiable conditions to the local health jurisdiction or the Department of Health (DOH)

Violation of the above-mentioned laws is a misdemeanor and may result in civil liability actions for reckless or intentional disclosure up to $10,000 or actual damages, whichever is greater. It is the responsibility of the county's health officer to investigate potential breaches of confidentiality of HIV identifying information and report them to the DOH.

5.1.3 Additional Confidentiality Protections

Some areas of the medical record have additional confidentiality requirements because disclosure of the information to the wrong person or agency could mean additional harm to the patient. It has been determined that there exists a level of prejudice, fear, and discrimination directed at people with these medical conditions. Therefore, there is a legal balance between civil protection and information access.

5.2 Discrimination

5.2.1 Disability and Discrimination

People with AIDS and HIV are also protected by federal law under Title II of the Americans with Disability Act of 1990 (ADA) and Section 504 of the Federal Rehabilitation Act of 1973, as amended. People with HIV infection and/or AIDS who feel discriminated against on the basis of their disease may file a complaint with the Office for Civil Rights (OCR) of the U.S. Department of Health and Human Services, or their own state rights commission.


In Washington State, the Washington Law Against Discrimination (WLAD) regulates "disabled" status and explicitly prohibits discrimination on the basis of HIV and hepatitis C infection. The WLAD is enforced by the Washington State Human Rights Commission (see RCW 49.60.174). The WSHRC does not investigate anonymous complaints and may have to release a complaint under the state's Public Disclosure Act. In certain circumstances, OCR will not disclose a complainant's identity.


HIV infection and AIDS are medical conditions that are considered disabilities under the Washington State Law Against Discrimination (RCW 49.60) and the federal Americans with Disability Act of 1990 (ADA) and Section 504 of the Rehabilitation Act of 1973.

These laws mean that it is illegal to discriminate against people who have AIDS or are HIV-infected, on the basis of their medical condition. It is also illegal to discriminate against someone who is "believed" to have AIDS or HIV infection, even though that person is not, in fact, infected. The areas covered in the law are:

- Employment
- Rental, purchase, or sale of apartment, house, or real estate
- Places of public accommodation (restaurants, theaters)
- Healthcare, 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

Did You Know. . .

Federal and state jurisdictions differ in approaches to disability. State laws must be reviewed for state-specific mandates.

The laws also protect HIV-infected and AIDS-diagnosed people from employment discrimination. Employers may not discriminate against people with HIV infections or AIDS in:

- Employment
- Recruitment and hiring
- Transfers or layoffs
- Terminations
- Rate of pay
- Job assignments
- Leaves of absence, sick leave, any other leave or fringe benefits available by virtue of employment

Did You Know. . .

State and federal laws do not cover all employers. For example, state law does not cover employers with fewer than eight employees, religiously controlled non-profits, and Indian tribes.

5.2.2 Discrimination-Free Environment

Employers are required to provide and maintain a working environment free of discrimination. They must assure that no harassment, intimidation, or adverse action or personnel distinction is made in terms and conditions of employment based on HIV status.

If a worksite situation develops that poses the threat of discrimination, it is best practice for the employer to provide education and supervision to employees in order to end harassment, the use of slurs, or intimidation. An employer should promptly investigate allegations of discrimination, take appropriate action, and not retaliate against the person who complained.

If someone is in a situation in which they feel they are being discriminated against, they should first document the discrimination, speak with their supervisor, and follow the entity's internal process to file a discrimination charge. However, it is not necessary to follow an internal grievance process. If these remedies do not work, a person should contact the Office for Civil Rights within their own state. An aggrieved person can also file directly in state court. A complaint must be filed within 180 days of the alleged discriminatory incident.

5.2.3 Reasonable Accommodation

Employers are responsible for providing reasonable worksite accommodations that will enable a qualified disabled employee or job applicant to perform the essential tasks of the particular job.

Reasonable accommodation means modifications to a worksite or job, in the context of the entire employer's operation, such as:

- Providing special equipment or altering the work environment
- Allowing flex-time
- Providing frequent rest breaks
- Allowing the person to work at home (telecommute)
- Restructuring the job

An employee with a disability must self-identify and request a reasonable accommodation. The employer must engage in an interactive process with the requestor. The reasonable accommodation grant may not be exactly the same one as requested by the employee, but one that is equally effective. The employer does not have to change the essential nature of its work or engage in undue hardship or heavy administrative burdens. The essential functions of the job must be accomplished, with or without reasonable accommodations.

5.2.4 Potentially Prejudicial Information

When a person goes for a job interview or is hired, it is best practice for an employer to refrain from asking questions directed at the perception or presence of HIV infection or AIDS unless the employer has obtained a "bona fide occupational qualification" (BFOQ) from their state.

It is best practice for an employer to refrain from asking "lifestyle" questions, such as inquiring about an applicant's religion, living arrangements, sexual orientation, or gender identity. Exceptions to the above include people applying for U.S. citizenship under federal law, which supersedes state law.


Washington State Human Rights Commission (RCW 49.60.172 and WAC 246-100-204). Chapter 49.60 RCW, the Washington Law Against Discrimination, prohibits discrimination based on age, creed, religion, race, color, national origin, sex, sexual orientation and gender identity, HIV and hepatitis C status, whistleblower retaliation, marital status (housing and employment), families with children (housing), or the presence of any sensory, mental, or physical disability or the use of a trained dog guide or service. Washington State law (RCW 70.24) and rules (WAC 246-100 and 246-101) give state and local health officers the authority and responsibility to carry out certain measures to protect the public health from the spread of STDs, including HIV.

5.3 Behaviors Endangering the Public Health

5.3.1 Health Officers

The local health officer is a physician hired to direct the operations of the local county's health department or district. Included in their responsibilities is the authority to:

- Interview people infected with an STD
- Notify sexual or needle-sharing partners of exposure to disease
- Order people suspected of being infected to receive examination, testing, counseling, or treatment
- Issue orders to cease and desist from specific conduct that endangers the public health of others


Court enforcement of these orders can be sought. State law delineates the standards that must be met before action by the health officer may be taken. For HIV, WA State law permits an additional step—the detention of an HIV-infected person who continues to endanger the health of others. After all less-restrictive measures have been exhausted, the law allows for a person to be detained for periods up to 90 days after appropriate hearings and rulings by a court. This detention must include counseling.

5.3.2 Reporting Non-Compliance


By state law and rule, healthcare providers are required to provide instruction on infection control measures to patients diagnosed with a communicable disease. They are also required to report certain information to the local health officer where there are either impediments to or refusal to comply with prescribed infection control measures.

When a provider has knowledge that a patient is failing to comply with prescribed infection control measures (acquisition of a new STD, sex without disclosure of HIV status, failure to disclose HIV status to needle-sharing partners, donating or selling HIV-infected blood), they should contact the local public health officer to discuss the case and to determine whether the name of the person should be reported for investigation and follow-up.

5.3.3 Case Investigation


The health officer or other authorized representative will investigate the case if credible evidence exists that an HIV-infected person is engaging in conduct endangering the public health. Other laws and regulations concern endangering behaviors as well as occupational exposures, which may be specific to professions and jurisdictions of public health officers.

You can phone WA State DOH at 800 272 2437 or ask a knowledgeable person to provide the information for your group. HIV infected people can be detained by a health officer if they engage in activities that endanger the health of others.

6. Psychosocial Issues and Special Populations

6.1 Difficult Realities

People with HIV and their families and friends face a multitude of difficult realities. Even with the advent of antiretroviral (ARV) drugs, people with AIDS still die prematurely. Men who have sex with men and injecting drug users—who may already be stigmatized and subjected to social and job-related discrimination—may encounter even more societal pressure and stress with a diagnosis of HIV or AIDS.

Ninety percent of all adults with AIDS are in the prime of life and may not be prepared to deal with death and dying. The infections and malignancies that accompany AIDS—along with certain medications—can diminish and disfigure the body. People who are living with HIV face the need to practice “safer sex” and take medications for the remainder of their lives.

One thing that characterizes the grief around AIDS is the repetition of deaths that one person may experience. Many people working with or living with AIDS for years have gone to countless funerals and have seen a succession of their friends pass away. This is sometimes termed **chronic grief**. Chronic grief intensifies when an individual realizes that before the grieving process for one death is complete many more people may have died, compounding the grieving process.

The idea of cumulative multiple loss or grief saturation is not new. The emotions felt by long-term survivors of HIV and their HIV-negative friends and families are similar to the emotions of the survivors of the Holocaust, survivors of natural disasters (earthquakes, tornadoes), and to battle fatigue described by soldiers.


Washington State has a system to link people with HIV infection and AIDS to care and support services. Case managers in the HIV/AIDS programs are the primary contact people for services. They can usually be found by contacting the local health department or health district. HIV-infected or -affected people can be linked with medical care, insurance programs, volunteer groups, hospice, and other types of care and support services that may be needed during the course of living with HIV. To find a case manager, contact the HIV/AIDS program in your county’s health department or district, or call Washington State DOH HIV Client Services at 877 376 9316.

6.2 Losses

HIV produces many losses, including loss of physical strength and abilities, in some cases, loss of emotional support from family, friends, co-workers, and religious and social institutions, affecting self-esteem. Income and savings, health insurance, and employment are often negatively impacted.

Self-sufficiency and privacy, social contacts and personal possessions and housing (including pets) can be lost. Add to these losses, people with HIV can experience changes in their mental abilities.

People experiencing multiple losses may feel:

- Guilt
- Grief
- Helplessness
- Rage
- Numbness

6.3 Psychological Suffering

Infection with HIV causes distress for those who have HIV and for their caregivers, family, lovers, and friends. Grief can manifest itself in physical symptoms, including clinical depression, hypochondria, anxiety, insomnia, and the inability to get pleasure from normal daily activities. Dealing with these issues may lead to self-destructive behaviors such as alcohol or drug abuse.

Disbelief, numbness, and inability to face facts occur for some. The fear of the unknown, the onset of infections, swollen lymph nodes, and loss of weight (or unusual weight gain) can be accompanied by fear of developing AIDS, or of getting sicker. People infected with HIV/AIDS are often rejected by family, friends, or co-workers. In some cases, guilt develops about the disease, about past behaviors, or about the possibility of having unwittingly infected someone else.

People living with HIV may feel as though their “normal” lives have completely ended as they must plan detailed medication schedules and medical appointments. The cost of the medications for HIV may result in financial hardship, even if the person has medical coverage.

Sadness, hopelessness, helplessness, withdrawal, and isolation are often present. Anger is common: at the virus, at the effects of the medications or the failure of some of the medications, at the prospect of illness or death, and at the discrimination often encountered. Some people with HIV consider suicide or attempt suicide, and some may actually kill themselves. Call the crisis hotline for your local area or call the 988 Suicide & Crisis Lifeline by calling 988 (text, chat, and videophone are also available), or call the National Hopeline Network at 800 784 2433 (800 SUICIDE).


Call Washington State DOH HIV Client Services at 877 376 9316 if you or someone you know needs help paying for HIV care and medications.

6.4 Stages of Grief

Grief has been described in a variety of forms. It may be best understood as a process that doesn't follow a straight line. People do not move predictably step-by-step through the various stages of their grieving, but progress at their own speed. There seem to be discreet phases of grief, including:

- Shock and numbing
- Yearning and searching
- Disorganization and despair
- Some degree of reorganization

The length of time it takes to move between these stages is determined by individuals and their values and cultural norms. In uncomplicated grief, an individual is able to move through these stages and come out of the grieving process.

Complicated grief is described as an exaggeration or distortion of the normal process of grieving. People experiencing multiple losses are more at risk for complications. If an individual has been impacted by multiple deaths, it may be difficult to reorganize and move on with the process.

6.5 Caregiver Issues

Often feelings experienced by the caregiver will mirror those of the patient; these can include a sense of vulnerability and helplessness. 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 disease. Support from co-workers can be especially important.

Caregivers may find it necessary to acknowledge their own experiences and feelings when dealing with all aspects of this disease. Good self-care for the caregiver is important. There are other issues for people who share a home with, or provide home care for, people with HIV or AIDS.

Things to Do

- Do meet with a support person, group, or counselor on a regular basis to discuss your experiences and feelings.
- Do set limits in caregiving time and responsibility, and stick to those limits.
- Do allow yourself to have questions. Let "not knowing" be OK.
- Do get the information and support you deserve and need.
- Do discuss with your employer ways to reduce stress and burnout.
- Do remember that Standard Precautions are for the patient's health and welfare, as well as your own.

Things to Avoid

- Don't isolate yourself.
- Don't try to be all things to all people.
- Don't expect to have all the answers.
- Don't deny your own fears about AIDS or dying.
- Don't continue to work in an area where you can't cope.
- Don't dismiss Standard Precautions because you know the patient.

6.6 Special Populations

Although HIV infection affects people from all ethnic groups, genders, ages, and income levels, some groups have been significantly affected by the AIDS epidemic. These groups include men who have sex with men, injecting drug users, people with hemophilia, women, transgender people, and people of color. The following information details how these different populations may be uniquely affected by the AIDS epidemic.

All persons with HIV, and perhaps these special populations even more so, are potentially negatively affected by **HIV stigma**—negative attitudes and beliefs about people living with HIV. These negative attitudes are often expressed as fear, judgment, and rejection, and can come from many areas including neighbors, coworkers, fellow members of church or social groups, housing providers, and even medical professionals. In Washington State 28% of people living with HIV reported discrimination in a healthcare setting (WA DOH, 2019).

6.6.1 Men Who Have Sex with Men

American society has issues with homosexuality. Grief may not be validated when relationships are viewed through prejudice and considered unacceptable. An example of this may be the reaction of churches to those who are living with, or have families living with, AIDS. Many congregants report that they do not get the support they need from their church families because of the stigma attached to HIV, AIDS, and homosexuality. Self-esteem issues and psychological issues, including depression, anxiety, diagnosed mental illness and risk-taking behaviors, may also complicate the lives of these men.

Additionally, there are the issues with HIV-negative men who have sex with men. Most of the attention, resources, and services are focused on HIV-positive gay men. As with any behavior change, people can become "tired" of safer sex messages and may make choices that place them at risk. Some may feel that HIV infection is inevitable (although it is not) and purposely engage in unprotected sex.

Men who have sex with both men and women (who do not exclusively self-identify as gay) face additional challenges. It is more difficult to reach men who do not identify as being gay with HIV prevention efforts and activities. Bisexual men face the same challenges as gay men do but may not have the social and community resources they need.

6.6.2 Women Who Have Sex with Women

Women who have sex with women, regardless of whether they self-identify as lesbian or bisexual, are at potentially greater risk than monogamous heterosexual women through their possible use of fingering, oral sex, and sex toys. The risk is lower than women who have sex with infected men because less bodily fluid is exchanged between women. Safer sex guidelines still apply, including avoiding any body fluid exchange through vaginal secretions, breast milk, or blood. It is important to avoid oral sex if either partner has mouth sores or cuts.

6.6.3 Heterosexual Transgender Women

These women have very specific risks because society at large is only now becoming aware of them. When their declaration of transgender is made, they often lose their family support system. Transgender women often face employment and insurance discrimination, and the cascade of rejections can lead to a higher likelihood of doing sex work (Operario, 2008). Until now there was a tendency to include these women in the category of “men who have sex with men,” which is not only inaccurate but also hides the particular reasons they are at higher risk.

6.6.4 Injecting Drug Users

American society also has issues with illegal drug use and with marginalized individuals such as those in poverty and the homeless. People who continue to use injecting drugs, despite warnings and information about risks, may incur additional problems by being viewed by some as “deserving” their infection.

Harm reduction measures such as syringe exchange programs, have been proven to reduce the transmission of bloodborne pathogens like HIV, HBV, and HCV. These programs are controversial because some people believe that providing clean needles and a place to exchange used needles constitutes “approval” of injection drug use.

In addition, poverty, self-esteem issues, and psychological issues (including depression, anxiety, diagnosed mental illness, and risk-taking behaviors) may also complicate the lives of injecting drug users. The desire to stop using illegal drugs and the ability to stop may be very far apart. The reality about inpatient treatment facilities is that while there is a large demand for spaces very few are available. Many substance abusers are placed on waiting lists when they want treatment, and by the time there is a place for them their contact information may be lost, preventing follow-up.

6.6.5 People with Hemophilia

Hemophiliacs lack the ability to produce certain blood clotting factors. Before the advent of anti-hemophilic factor concentrates (“factor VIII” or “factor IX”—clotting material pooled out of donated blood plasma), hemophiliacs could bleed to death. These concentrates allowed hemophiliacs to receive injections of the clotting factors that they lacked, which in turn allowed them to lead relatively normal lives.

Because the raw materials for these concentrates came from donated blood, many hemophiliacs were infected with HIV prior to the advent of blood testing. During the 1980s, 90% of severe hemophiliacs contracted HIV or HCV through use of these products. There is anger within this community because evidence shows that the companies manufacturing the concentrates knew their products might be contaminated but distributed them anyway.

Some people considered hemophiliacs to be innocent victims of HIV, but there has been discrimination against them. The Ryan White Care Act, funding HIV services, and the Ricky Ray Act, which provides compensation to hemophiliacs infected with HIV, were both named after HIV-positive hemophiliacs who suffered significant discrimination such as arson and refusal of admittance to grade school in their hometowns.

6.6.6 Women with HIV

In the United States, 1 in 4 people living with HIV are women, with highest prevalence 61% among Black/African American women and 17% Hispanic/Latina women. Eighty-seven percent of these women were infected through heterosexual sex and 13% through injection drug use. Women in the United States and worldwide are becoming infected with HIV at higher rates than any other group of people. This is particularly true of women of color. Women who are infected with HIV, or who have family members who have HIV, face some unique challenges.

HIV diagnoses decreased 6% among women overall from 2015 to 2019. Although trends varied for different groups of women, HIV diagnoses declined for groups most affected by HIV, including Black/African American women and young women aged 13 to 24.

Women may become infected with HIV from a partner who either used injecting drugs or had other sexual partners. These women may have assumed that the relationship was monogamous, or that they “knew” their partner’s history. Many others are unable to discuss or implement safer sex practices because they lack the skills or because domestic violence is present in their relationship.

Women may postpone taking medication, or going to medical appointments, in order to care for their children or other family members. Women (and also men) may hesitate to disclose their HIV status to others, fearing loss of their jobs, or housing, or other forms of discrimination. Single parents with HIV may be particularly fearful because of their lack of support.

Many women have problems with lack of transportation, lack of health insurance, limited education, and low income. They may have childcare problems that prevent them from going to medical appointments.

Many women who are infected with HIV do not consider this to be their worst problem. Their symptoms may be mild and manageable for many years. Meanwhile, they may have more pressing concerns, such as their lack of income, housing, access to medical care, possible abusive relationships, and concerns about their children. State and CDC efforts are working toward state allocated funds, community-based organizations to serve as local resources, and campaigns to promote awareness and prevention behaviors.

6.6.7 People of Color

African Americans and Hispanics have disproportionately higher rates of HIV in the U.S., despite the fact that there are no biological reasons for the disparities, Black and Hispanic women make up less than 25% of the total U.S. population, but account for 77% of all reported HIV cases in women. Black people make up about 12% of the population, but account for 37% of new HIV infections in the U.S. in 2022. Hispanics make up about 13% of the population, but account for 33% of the new HIV infections in the United States.

In some areas, disparities also exist in the number of HIV cases among Native Americans. Between 2018 and 2022 HIV diagnoses decreased among Black/African Americans but increased among Native Americans and Hispanic/Latinos.

There is no single reason that stands out as to why the disparities exist. One factor is health disparities, which are linked to socioeconomic conditions. Another factor is distrust of the healthcare system based on low educational level and cultural prejudices. Current issues of race mean that many people of color do not trust “the system” for a variety of reasons. Thus, even when income is not a barrier, access to early intervention and treatment may be limited. HIV may be only one of a list of problems that also includes adequate housing, food, and employment.

Another factor may be the diversities within these populations. Diversity is evident in immigrant status, religion, languages, and geographic locations, as well as socioeconomic conditions. Providing targeted information to these diverse populations is challenging.

A significant amount of denial about HIV risk continues to exist in these communities. As with other groups, there may also be fear and stigmatization of those who have HIV. Prevention messages must be tailored and presented in a culturally and linguistically appropriate manner. The messages must be carried through channels that are appropriate for the individual community. These channels may include religious institutions or respected leaders in the community. Ironically, it may be these institutions or leaders who, in the past, have contributed to the misinformation and stigma associated with HIV.

Disparities may also be linked to the effects of racism, HIV stigma, discrimination, homophobia, and poverty and other barriers to health care. Within some groups, migration patterns and language barriers may also play a role.

Many HIV prevention programs are recognizing the importance of working with diverse communities. Input from these communities must be included in planning, delivering, and evaluating HIV prevention activities.

[Continue to next page for references]

7. References

Akahome P. (2024). HIV-1 subtypes. Retrieved November 1, 2024, from https://www.aidsmap.com/about-hiv/hiv-1-subtypes.

Benisek A. (2024). HIV Drug Resistance: What to Know. Retrieved November 11, 2024, from https://www.webmd.com/hiv-aids/hiv-drug-resistance.

Centers for Disease Control and Prevention (**CDC**). (2024a). Estimated HIV incidence and prevalence in the United States, 2018–2022. *HIV Surveillance Supplemental Report*, 2024; 29 (No.1). Retrieved September 10, 2024, from https://www.cdc.gov/hiv-data/nhss/estimated-hiv-incidence-and-prevalence.html.

Centers for Disease Control and Prevention (**CDC**). (2024b). Fast Facts: HIV in the United States. Retrieved September 10, 2024, from https://www.cdc.gov/hiv/data-research/facts-stats/index.html.

Centers for Disease Control and Prevention (**CDC**). (2024c). HIV Diagnoses, Deaths, and Prevalence. Retrieved September 10, 2024, from https://www.cdc.gov/hiv-data/nhss/hiv-diagnoses-deaths-prevalence.html.

Centers for Disease Control and Prevention (**CDC**). (2024d). Preventing HIV with PEP. Retrieved November 9, 2024, from https://www.cdc.gov/hiv/prevention/pep.html?CDC_AAref_Val=https://www.cdc.gov/hiv/basics/pep.html.

Centers for Disease Control and Prevention (**CDC**). (2024e). Clinical Testing Guidance for HIV. Retrieved November 1, 2024, from https://www.cdc.gov/hivnexus/hcp/diagnosis-testing/index.html.

Centers for Disease Control and Prevention (**CDC**). (2024f). Getting Tested for HIV. Retrieved November 1, 2024, from https://www.cdc.gov/hiv/testing/index.html.

Centers for Disease Control and Prevention (**CDC**). (2024g). Clinical Care of HIV. Retrieved November 9, 2024, from https://www.cdc.gov/hivnexus/hcp/clinical-care/index.html.

Ellis RR. (2022). Types and Strains of HIV. Retrieved November 1, 2024, from https://www.webmd.com/hiv-aids/types-strains-hiv.

HIV.gov. (2024). The Global HIV and AIDS Epidemic, Global Statistics. Retrieved October 15, 2024, from https://www.hiv.gov/hiv-basics/overview/data-and-trends/global-statistics.

HIV.gov. (2024a). HIV Vaccines. Retrieved November 11, 2024, from https://www.hiv.gov/hiv-basics/hiv-prevention/potential-future-options/hiv-vaccines.

HIVinfo.NIH.gov. (2024, 2021). Understanding HIV, Fact Sheets. Retrieved October 10, 2024, from https://hivinfo.nih.gov/understanding-hiv/fact-sheets/. Site includes HIV Overview, HIV Prevention, HIV Treatment, and Side Effects of HIV Medicines each with multiple detailed “fact sheets” on all aspects of HIV/AIDS, most updated in 2024.

HIVinfo.NIH.gov. (2024). HIV Medicines and Side Effects. Retrieved November 11, 2024, from https://hivinfo.nih.gov/understanding-hiv/fact-sheets/hiv-medicines-and-side-effects.

Joint United Nations Programme on HIV/AIDS (**UNAIDS**). (2024). The Urgency of Now: AIDS at a Crossroads, 2024 Global AIDS Update. Retrieved October 29, 2024, from https://crossroads.unaids.org/wp-content/uploads/2024/09/GAU-2024-Full-report_En.pdf. Executive summary here: https://crossroads.unaids.org/wp-content/uploads/2024/09/Executive-summary_En.pdf.

Joint United Nations Programme on HIV/AIDS (**UNAIDS**). (2024a). Fact Sheet 2024. Global HIV statistics. Retrieved September 18, 2024, from https://www.unaids.org/en/resources/fact-sheet.

National Institute of Allergy and Infectious Diseases (**NIAID**). (2024). HIVR4P 2024 Research Highlights: Reproductive Health While on PrEP and Signals to Guide HIV Vaccines and Cure. NIAID Now Blog. Retrieved November 11, 2024, from https://www.niaid.nih.gov/news-events/hivr4p-2024-research-highlights.

National Institute of Allergy and Infectious Diseases (**NIAID**). (2014). HIV Vaccine Awareness Day 2014. Statement by Anthony Fauci, Director of NIAID. Retrieved November 11, 2024, from https://www.youtube.com/watch?v=yNcGONBkRPI.

Operario D, Soma T, Underhill K. (2008). Sex Work and HIV Status Among Transgender Women. Systematic Review and Meta-Analysis. J Acquir Immune Defic Syndr 48(1). Retrieved November 9, 2024, from https://journals.lww.com/jaids/abstract/2008/05010/sex_work_and_hiv_status_among_transgender_women_.13.aspx.

Seladi-Schulman J. (2021). How Many HIV Strains, Types, and Subtypes Are There? Retrieved November 1, 2024, from https://www.healthline.com/health/hiv/hiv-strains.

Sucher, Gunderson, and Sucher. (2014). *Management of Occupation Exposure to HIV*. Retrieved November 9, 2024, from https://www.uspharmacist.com/article/management-of-occupational-exposure-to-hiv.

thebody.com. (2024). *Post-Exposure Prophylaxis (PEP) Fact Sheet*. Retrieved November 9, 2024, from https://www.thebody.com/article/post-exposure-prophylaxis-pep-fact-sheet.

Washington State Department of Health (**WA DOH**). (n.d.). Syringe Service Programs. Retrieved November 10, 2024, from https://doh.wa.gov/you-and-your-family/drug-user-health/syringe-service-programs. Directory here: https://doh.wa.gov/sspdirectory.

Washington State Department of Health (**WA DOH**). (n.d.-a). HIV Testing. Retrieved November 1, 2024, from https://doh.wa.gov/you-and-your-family/illness-and-disease-z/hiv/hiv-testing.

Washington State Department of Health (**WA DOH**). (2024). HIV Data, HIV in Washington State. Retrieved November 7, 2024, from https://doh.wa.gov/data-and-statistical-reports/washington-tracking-network-wtn/hiv.

Washington State Department of Health (**WA DOH**). (2023). Washington State HIV Surveillance Report 2023 Edition. Retrieved November 1, 2024, from https://doh.wa.gov/sites/default/files/2024-01/160-246-HIVSurveillanceReport2023.pdf.

Washington State Department of Health (**WA DOH**). (2022). HIV Infection/AIDS. Legal Reporting Requirements. Retrieved November 8, 2024, from https://doh.wa.gov/public-health-provider-resources/notifiable-conditions/hivaids. Guidelines PDF here: https://doh.wa.gov/sites/default/files/2022-11/150157-HIVAIDSReportingGuidelines.pdf.

Washington State Department of Health (**WA DOH**). (2020). HIV Among Washington State's Black Community. Retrieved November 5, 2024, from https://doh.wa.gov/sites/default/files/legacy/Documents/Pubs/150-046-HIVAmongBlackCommunity.pdf.

Washington State Department of Health (**WA DOH**). (2020a). HIV Among Washington State's Hispanic/Latinx Community. Retrieved November 5, 2024, from https://doh.wa.gov/sites/default/files/legacy/Documents/Pubs/150-023-HIVAmongWAStateHispanicLatinxCommunity.pdf.

Washington State Department of Health (**WA DOH**). (2019). Reducing HIV Stigma and Discrimination in Washington State. The Medical Monitoring Project. Retrieved November 5, 2024, from https://doh.wa.gov/sites/default/files/legacy/Documents/Pubs/430-072-MMP-ReducingHIVStigma.pdf.

Washington State Legislature. (2020). Chapter 296-823 WAC. Occupational Exposure to Bloodborne Pathogens. Retrieved November 11, 2024, from https://app.leg.wa.gov/wac/default.aspx?cite=296-823.

World Health Organization (**WHO**). (2024). HIV Drug Resistance. Retrieved November 8, 2024, from https://www.who.int/news-room/fact-sheets/detail/hiv-drug-resistance.

[Continue to next page for quiz]

8. Quiz: Washington: HIV/AIDS, 4 units (358)

1. Primary HIV infection is:

a. The first weeks after infection when the body has not yet produced antibodies, and the person is not yet contagious.

b. The time when antibodies are first detected.

c. Referred to as the window period.

d. The first weeks after infection when the body has not yet produced antibodies, but the person is highly contagious.

2. The window period:

a. Is the time between infection with HIV and the body's production of detectable markers.

b. Typically lasts only a week or two.

c. Refers to the stage of disease when the newly infected person is not yet contagious.

d. Is the first stage of HIV disease.

3. In Washington State, healthcare providers, healthcare facilities, laboratories, and local health jurisdictions are required to report HIV and AIDS cases to authorities.

a. True

b. False

4. Conditions for the transmission of HIV include:

a. Dispersal of droplets from an infected person with a cough.

b. Access to the bloodstream of another person, sufficient dose of virus, and an HIV source.

c. A genetic predisposition to HIV and a compromised immune system.

d. Casual contact with an infected person.

5. The behavior associated with the highest risk of HIV transmission is:

a. Unprotected vaginal intercourse.

b. Breastfeeding.

c. Unprotected anal intercourse.

d. Direct sharing of drug paraphernalia.

6. An HIV-infected woman may transmit the virus to her baby during pregnancy, during the birth process, or following pregnancy by breastfeeding.

a. True

b. False

7. The presence of other sexually transmitted diseases (STDs) increases the risk for HIV transmission.

a. True

b. False

8. There are many effective methods for reducing the risk of sexual and drug-related transmission of HIV. These can include:

a. Sexual abstinence, monogamous relationships, or limiting partners.

b. Safer sexual practices.

c. Syringe exchange programs.

d. All of the above.

9. Occupational exposure means:

a. Exposure to food served by an HIV-infected employee.

b. Being infected by an occupational worker.

c. Caring for a patient who has HIV.

d. Reasonably anticipated skin, eye, mucous membrane, or parenteral contact with blood or OPIM that may result from the performance of an employee's duties.

10. All new employees or employees transferred into jobs involving tasks or activities with potential exposure to blood/OPIM shall receive training in accordance with WAC 296-823-120 prior to assignment to tasks where occupational exposure may occur.

a. True

b. False

11. Hand hygiene:

a. Is required after removal of gloves or other PPEs and upon leaving the work area.

b. Is not required after removing gloves.

c. Is required only after contact with blood or other infectious materials.

d. Includes the use of lotion to prevent dry skin.

12. Post exposure prophylaxis (PEP) provides anti-HIV medications to someone who has had a substantial exposure, usually to blood. It has been the standard of care for occupationally exposed healthcare workers with substantial exposures since 1996.

a. True

b. False

13. HIV transmission risk to healthcare workers is:

a. Highest with a blood splash to the eyes, nose, or mouth.

b. Less than 1% from a needlestick.

c. Exactly the same as that of HCV.

d. Not affected by the amount of virus present in the exposure.

14. Everyone between the ages of 13 and 64 should get tested for HIV at least once as part of routine health care.

a. True

b. False

15. Testing is the only way to know HIV status and data suggests that currently about 15% of people who are HIV positive do not even know they are infected.

a. True

b. False

16. ART (antiretroviral therapy):

a. Is a newly discovered antiretroviral drug.

b. Is a cure for HIV/AIDS.

c. Is only recommended for certain people.

d. Can decrease viral load to a point where patients are no longer contagious.

17. Pre-exposure prophylaxis (or PrEP) is medicine taken to prevent getting HIV and it is highly effective for preventing HIV when taken as prescribed.

a. True

b. False

18. It is illegal to discriminate against people who have AIDS or are HIV-infected, on the basis of their medical condition.

a. True

b. False

19. Employers are responsible for providing reasonable worksite accommodations that will enable a qualified disabled employee or job applicant to perform the essential tasks of the particular job.

a. True

b. False

20. Positive HIV test results obtained through anonymous testing are not reportable to the local health department until the infected person seeks healthcare for conditions related to HIV or AIDS.:

a. True

b. False

21. HIV testing and results may be disclosed:

a. In reporting notifiable conditions to the local health jurisdiction or the DOH.

b. Using "a good faith effort" to notify all spouses with or without the consent of the infected person.

c. Only to the manager of an HIV-infected person in the workplace.

d. When positive HIV results are obtained through anonymous testing.

22. Chronic grief refers to:

a. The fear of the unknown that many HIV sufferers encounter.

b. The process of moving through the stages of grief.

c. The effect of cumulative multiple loss, or grief saturation.

d. The psychological symptom of AIDS-related brain infection.

23. 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 disease.

a. True

b. False

24. Harm reduction measures such as syringe exchange programs, have been proven to reduce the transmission of bloodborne pathogens like HIV, HBV, and HCV.

a. True

b. False

25. The group with the highest rate of new HIV infection in the United States and worldwide is:

a. Hispanic children

b. Gay men

c. American Indians

d. Women

[Continue to next page for answer sheet]

Answer Sheet: Washington: HIV/AIDS, 4 units (358)

Name (Please print) _____

Date _____

Passing score is 80%

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____
11. _____
12. _____
13. _____
14. _____
15. _____
16. _____
17. _____
18. _____
19. _____
20. _____
21. _____
22. _____
23. _____
24. _____
25. _____

[Continue to next page for course evaluation]

Evaluation: Washington: HIV/AIDS, 4 units (358)

Please use this scale for your course evaluation. Items with asterisks * are required.

1 = Strongly agree 2 = Agree 3 = Neutral 4 = Disagree 5 = Strongly disagree

*Upon completion of the course, I was able to:

1. Discuss the etiology and epidemiology of HIV in the United States. 1 2 3 4 5
2. Describe transmission, infection control, and prevention of HIV. 1 2 3 4 5
3. Understand CDC recommendations for HIV testing. 1 2 3 4 5
4. Understand the 6 elements of HIV prevention. 1 2 3 4 5
5. Identify 5 legal and ethical issues associated with HIV. 1 2 3 4 5
6. Discuss the main psychosocial issues facing HIV-infected people and their caregivers. 1 2 3 4 5
7. Identify global and national resources for healthcare professionals and clients with HIV. 1 2 3 4 5

*The author(s) are knowledgeable about the subject matter. 1 2 3 4 5

*The author(s) cited evidence that supported the material presented. 1 2 3 4 5

*Did this course contain discriminatory or prejudicial language? Yes No

*Was this course free of commercial bias and product promotion? Yes No

*As a result of what you have learned, will make any changes in your practice? Yes No

If you answered Yes above, what changes do you intend to make? If you answered No, please explain why.

*Do you intend to return to ATrain for your ongoing CE needs?

_____Yes, within the next 30 days. _____Yes, during my next renewal cycle.

____Maybe, not sure. _____No, I only needed this one course.

*Would you recommend ATrain Education to a friend, co-worker, or colleague?

_____Yes, definitely. _____Possibly. _____No, not at this time.

*What is your overall satisfaction with this learning activity? 1 2 3 4 5

*Navigating the ATrain Education website was:

_____Easy. _____Somewhat easy. _____Not at all easy.

*How long did it take you to complete this course, posttest, and course evaluation?

_____60 minutes (or more) per contact hour _____59 minutes per contact hour

_____40-49 minutes per contact hour _____30-39 minutes per contact hour

_____Less than 30 minutes per contact hour

I heard about ATrain Education from:

_____Government or Department of Health website. _____State board or professional association.

_____Searching the Internet. _____A friend.

_____An advertisement. _____I am a returning customer.

_____My employer. _____Social Media

_____Other _____

Please let us know your age group to help us meet your professional needs.

_____18 to 30 _____31 to 45 _____46+

I completed this course on:

_____My own or a friend's computer. _____A computer at work.

_____A library computer. _____A tablet.

_____A cellphone. _____A paper copy of the course.

Please enter your comments or suggestions here:

[Continue to next page for registration and payment]

Registration and Payment: WA: HIV/AIDS, 4 units (358)

Please answer all the following questions (* required).

*Name: _____
*Email: _____
*Address: _____
*City and State: _____
*Zip: _____
*Country: _____
*Phone: _____
*Professional Credentials/Designations:

_____
*License Number and State: _____

Payment options

You may pay by credit card, check, or money order.
Fill out this section only if you are paying by credit card.
4 contact hours: $29

Credit card information

*Name: _____
Address (if different from above):
*City and State: _____
*Zip: _____
*Card type: Visa Master Card American Express Discover
*Card number: _____
*CVS#: _____ *Expiration date: _____