

HIV/AIDS

HIV/AIDS in the Workplace

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What is HIV and AIDS?

The Human Immunodeficiency Virus (HIV) is a virus that infects the immune system. While HIV infection is a medically manageable chronic condition, if left untreated, it can cause a weakened immune system or acquired immune deficiency syndrome (AIDS). AIDS is the most advanced stage of the HIV infection and causes the immune system to become vulnerable to other infections. HIV can also be known as "the AIDS virus."

The full name for AIDS describes several of the characteristics of the disease.

Acquired indicates that it is not an inherited condition.

Immune Deficiency indicates that the body's immune system breaks down.

Syndrome indicates that the disease results in a variety of health problems.

Some individuals may not develop any symptoms after being infected with the HIV virus and may not show symptoms until the symptoms of AIDS appear. It may take 10 years for the initial HIV infection to progress to AIDS if not treated. While there is presently no cure or vaccine for HIV, with proper medical care, HIV can be managed, and a near-normal lifespan can be expected with early treatment.

How does HIV affect the body?

The human immune system involves many types of cells which guard against germs responsible for most diseases. The immune system's most important guard cells are B-cells and T-cells, which are special white blood cells. B-cells and T-cells cooperate to fight any germ that attacks the human body.

B-cells produce particular proteins, called antibodies, that try to neutralize the invading germ. After a person recovers from an infection, these antibodies continue to circulate in the bloodstream, acting as part of the immune system's "memory." Immune system memory explains why a person rarely suffers a second attack from an infectious disease such as measles. If the same germ is encountered again, the antibodies will recognize and neutralize it. T-cells attack the germ directly and try to kill it.

Special white blood cells, called T-helper cells, activate B-cells and T-cells to fight infection. When a virus gets into the bloodstream, T-helper cells activate B-cells and T-cells. These then start communicating with each other to develop the proper strategy to fight the virus. But when the body is infected with HIV, this defence does not happen. HIV penetrates T-helper cells and, over time, multiplies. This action eventually kills T-helper cells. Without T-helper cells, activation of B-cells and T-cells does not occur. Without the activation of B-cells and T-cells, the body's immune system cannot function properly. When T-cell counts reach a certain level, and there are HIV antibodies present in the bloodstream, a person is considered to have AIDS.

How is HIV transmitted?

HIV is transmitted from an infected person by body fluids such as blood, semen, breast milk, rectal fluids, vaginal fluids or other blood-containing secretions. Transmission occurs when these fluids come in contact with the various mucous membranes of another body, through cuts or openings of the skin, or directly injected into the bloodstream. As a result, anyone who is occupationally (or otherwise) exposed to these body fluids risks contracting the disease. Preventive measures include wearing protective clothing, gowns, gloves, masks and goggles to control the spread of HIV among workers who may be at risk.

Unprotected sexual intercourse with infected people poses the single most important risk of infection. HIV can also be passed from one partner into the bloodstream of the other through tiny cuts or scratches.

If an individual is struck with an HIV-contaminated needle or sharp object, this contact can also be an opportunity for transmission. Healthcare workers are at high risk for this type of exposure.

HIV can be transmitted from an infected mother to her unborn child before or during birth, or through breastfeeding. Studies indicate infection takes place across the placenta.

The virus does not spread by hugging, kissing, dancing, or shaking hands. HIV does not spread through the air, water, or insect bites. Casual contact with a person who has HIV does not pose a risk. HIV does not pass through healthy, unbroken skin.

How long does it take to develop the disease?

When HIV is untreated, individuals typically progress through three stages:

Stage 1: Acute HIV Infection

- Have a large amount of HIV in the blood
- May have flu-like symptoms

Stage 2: Chronic HIV Infection

- Also known as asymptomatic HIV infection or clinical latency
- HIV is still active and continues to reproduce in the body
- Symptoms may not be present, but transmission is possible
- Stage 2 may last 10 or more years without treatment, but some individuals develop illnesses faster

Stage 3: Acquired Immunodeficiency Syndrome (AIDS)

- Individuals have a high viral load and may transmit HIV to others easily
 - Immune system is damaged, and other infections or illnesses may be present
 - With no HIV treatment, individuals with AIDS survive about three years
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How is HIV recognized?

Doctors use laboratory tests, such as using blood or saliva antigen/antibody tests to confirm HIV infection. These tests determine if particular antibodies are present that result from contact with the virus. The presence of antibodies or HIV markers means the person has been infected with HIV, but no one can predict when and if they will get AIDS-related symptoms. Other types of tests include nucleic acid tests (NATS) that can detect the actual virus in the blood.

Can HIV or AIDS be treated?

As yet, there is no cure for HIV or AIDS. Individuals infected with HIV are prescribed medications known as antiretroviral therapy (ART). Treatment involves using a combination of drugs that affect the virus in different ways, such as preventing the protein needed by HIV to make copies of itself, creating faulty versions of the building blocks HIV needs to make copies of itself, etc.

What if there is an actual or suspected exposure to HIV?

Post-exposure prophylaxis uses antiretroviral medications to lower the risk of HIV infection after a high-risk exposure. The post-exposure prophylaxis should begin as soon as possible, as it may be less effective if started more than 72 hours after exposure. Health professionals, including an infectious disease specialist, can conduct a clinical assessment and determine if post-exposure prophylaxis is required.

Is HIV and AIDS an occupational concern?

Wherever there is the possibility of contact with blood in the workplace, workers should take precautions to prevent contact with the skin, eyes or mucous membranes (e.g. mouth).

[Routine Practices](#) are recommended to prevent the spread of HIV in the workplace. Routine practices are based on the principle that all blood, body fluids, secretions, and excretions (except sweat, non-intact skin, and mucous membranes, unless they contain blood), may contain transmissible infectious agents. Contact prevention includes using protective clothing such as gloves, gowns or aprons, masks, and protective eyewear when dealing with people's blood and other blood-contaminated body fluids such as semen and vaginal secretions.

Except in dentistry (where saliva is likely to be contaminated with blood), routine practices are not necessary for HIV prevention where there is only a possible exposure to saliva.

Hand washing after contact with blood, blood-contaminated body fluids and soiled items is also recommended to reduce the risk of infection.

What occupations are at higher risk of exposure to HIV?

The occupational groups listed below may have a risk of exposure to HIV in the workplace. The table that follows suggests preventive measures for these groups. For many situations, using all protective barriers listed in the table is not necessary, but workplaces should make them available in case of emergency response scenarios.

Preventive measures for reducing occupational exposure to HIV

Occupation	Preventive Measures
Healthcare workers (including paramedics, laboratory workers, post-mortem attendants, etc.)	<ul style="list-style-type: none"> • Wash hands. • Use gloves. • Wear goggles, gowns and masks if splashing of body fluids is expected. • Use disposable needles, syringes and devices to reduce contact. • Bag and label contaminated linen. • Disinfect work surfaces and equipment.
Dentists and other dental workers	<ul style="list-style-type: none"> • Wash hands. • Use gloves. • Use disposable needles and syringes. • Use goggles, gowns, and masks if the creation of blood is expected.
Embalmers	<ul style="list-style-type: none"> • Wash hands. • Use gloves, gowns, goggles, and masks. • Use disposable surgical instruments. • Sterilize reusable equipment. Disinfect work surfaces with sodium hypochlorite solution.
Police, firefighters, mental health institution workers, and correctional service workers	<ul style="list-style-type: none"> • Wash hands. • Use gloves. • Keep cleaning equipment in restricted areas. • Use disposable devices for mouth-to-mouth resuscitation.
Cleaners	<ul style="list-style-type: none"> • Wash hands. • Use gloves.

Preventive measures for reducing occupational exposure to HIV	
Occupation	Preventive Measures
	<ul style="list-style-type: none"> • Keep cleaning equipment in restricted areas.
Laundry workers	<ul style="list-style-type: none"> • Wash hands. • Use gloves.
Incinerator attendants	<ul style="list-style-type: none"> • Wash hands. • Use gloves.

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