

# HIV/AIDS: The Basics

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# HIV/AIDS: The Basics

## **What is AIDS? What is HIV?**

AIDS stands for Acquired Immune Deficiency Syndrome. AIDS is caused by a virus known as the Human Immunodeficiency Virus, or HIV.

## **How does HIV infection lead to AIDS?**

HIV attacks the body's immune system, our defense against infection and disease, and weakens it over time. A person who has HIV gradually loses the protection of his or her immune system and begins to experience health problems. These may be fairly small problems at first – skin problems or yeast infections – but over time the illnesses become more serious. The amount of time that it takes HIV to begin to affect a person's health varies widely from one individual to another. When a person is diagnosed with one of the serious illnesses or cancers which are “AIDS-defining,” the person is then said to have AIDS.

HIV attacks the immune system mainly by damaging the CD4 (also known as T4 or T-helper) cells which help the body fight off diseases. HIV can also have direct effects upon the body. For example, the virus can attack cells in the brain and impair the brain's function.

## **How could I become infected with HIV?**

HIV is a fragile virus that cannot survive outside of the body, except in a syringe with blood from a person living with HIV. That is why you can't get HIV from toilet seats or sharing dishes, but can get it when sharing needles.

HIV-infected body fluids must reach the HIV-susceptible cells in the blood, usually through a break in the skin, absorption through mucosal membranes (mucosa) or through some disruption to the mucosa. Mucosa are the moist surfaces of the body which line most of the body cavities and

hollow internal organs such as the vagina, rectum, mouth, urethra and nose.

HIV does not get passed from one person to another through deep kissing, mutual masturbation or inserting fingers into the vagina or anus (“ass,” “bum” or “butt”). You cannot get HIV from body fluids such as saliva (spit), sweat or urine (pee).

There are five body fluids which have enough HIV in them to infect someone:

- blood
- semen (cum, including pre-cum)
- vaginal fluids (including menstrual fluids)
- rectal fluids
- breast milk

## SEX

The most likely way that enough HIV gets into a person’s bloodstream is through the interior linings – the mucous membranes – of the vagina, the cervix (which is inside the vagina), the rectum (“ass,” “bum” or “butt”), or the urethra (this is what we pee through – it’s the tube inside the penis or in front of the vagina). HIV can be transmitted if you have anal or vaginal sex without a condom or if you share sex toys or other objects that go into the vagina or anus – such as a dildo, vibrator, butt plug or dilator – that have not been cleaned and had a fresh condom placed over them every time a different person uses them.

Having anal or vaginal sex without washing them carefully (and using a fresh condom over them between partners) are high-risk activities.

HIV can get into the bloodstream through the mouth and throat. This is rare. Some people have gotten HIV when they have performed oral sex (given a man a ‘blow job’ or ‘gone down’ on a woman) but it is rare. No one gets HIV from someone going down on them. When a person has a sexually transmitted

infection (STI) like syphilis, gonorrhea, warts, or herpes, his or her risk for getting HIV increases a lot. Regular check-ups are important as one way of preventing HIV transmission.

Most people get infected with HIV when they have anal or vaginal sex without a condom or when they share a needle/syringe/cooker to inject drugs.

## NEEDLES

Another common way that HIV gets into the blood is through a puncture from a needle that has already been used by someone else and has not been cleaned. When people who are injecting drugs share their 'works' (needle, cooker, etc) it is easy to get HIV. It is also easy to get other infections, such as hepatitis C, from sharing your works.

## PREGNANCY

HIV can be transmitted from mother to child during pregnancy, labour or delivery. Without anti-HIV drug treatment there is about a 20% chance the child will be infected. With treatment the rate drops to about 3%. However, the long term effects of the drugs on the child are not yet known. HIV can also be passed to a child through breast feeding if the mother has HIV.

## BLOOD TRANSFUSIONS AND BLOOD PRODUCTS

In the past, some people were infected with HIV through blood transfusions and blood products used to treat illnesses like hemophilia. However, since 1985 all donate d blood in Canada is tested for HIV. You will not become infected when you donate blood.

## **How do I know if I have HIV?**

You can't tell if you have HIV by how you look or feel. You can't tell whether another person

has HIV by looking at him or her. People with HIV can look and feel healthy for many years. The only way to know if you have HIV is by having a blood test. This test is known as an “HIV antibody test.” You may have heard it referred to as an “AIDS test” but the test does not tell you if you have or will get AIDS; it tells you only whether you have been infected with HIV. If antibodies to HIV are found, the test result is referred to as “reactive” and the person has more testing to determine if they are HIV antibody positive (or “HIV-positive,” or “HIV+”).

If antibodies are not found, the test result is referred to as “non-reactive” and the person is HIV antibody negative (or “HIV-negative,” or “HIV-”). This means that the person has not been infected with HIV.

There is a gap between the time a person is infected with HIV and the time when the antibodies are formed. This period can be from 3 - 12 weeks. It is called the “window period.” For this reason, you can only be certain of the result of your test if it is taken 12 weeks after engaging in activities that may have caused HIV infection.

### **What happens after someone is infected with HIV?**

Soon after infection, some people experience a brief, flu-like “seroconversion illness” at the time when antibodies to HIV are being created. But most feel completely well and have no symptoms. During this period, the person is said to be “asymptomatic.” They may not even know they have been infected. They may continue to feel well for a long time.

In fact, some people who were infected with HIV over 10 or 15 years ago continue to feel completely well today. During the period when the person with HIV is feeling healthy, their CD4 cells are defending the body against HIV. Lab results would likely show the person’s CD4 count to be fairly high and their viral load (which measures the amount of HIV in the blood) to be fairly low.

Although researchers are working to try to produce treatments that will remove all traces of HIV from an infected person's body, at this point in time we understand that once a person is infected with HIV, the virus cannot be completely destroyed or eradicated. It continues to reproduce and to attack the immune system. At a certain point, the CD4 cells are overpowered and can no longer keep HIV under control. The person's CD4 count then declines and their viral load rises.

As their CD4 cells decline, a person with HIV becomes vulnerable to various infections and illnesses. This period of declining health is sometimes referred to as the "symptomatic period." The organisms which cause these infections are quite common and present in most people's bodies, but are kept under control by a healthy immune system. As HIV weakens the person's immune system, these organisms can no longer be controlled, and illness occurs. These illnesses are known as "opportunistic infections" and include such diseases as pneumocystis carinii pneumonia ("PCP") and toxoplasmosis ("toxoplasmosis").

Early in the epidemic, the US Centers for Disease Control compiled a list of opportunistic infections which result from the weakening of the immune system in people with HIV. This list has grown over time. Today, Health Canada has defined AIDS as the presence of one or more of the opportunistic infections on its compiled list in a person who has tested positive for HIV antibodies.

A person with AIDS typically has periods of relatively good health in between serious illnesses. People have lived for years with an AIDS diagnosis. There are drugs which can prevent certain AIDS-defining illnesses, such as Septra for PCP, and there are drugs which can control and treat other AIDS-defining illnesses.

### **Are there treatments for HIV infection?**

In addition to drugs and other treatments which can treat, control or prevent opportunistic infections, progress has been made in producing

effective drugs which combat HIV directly. These drugs, often known as “combination therapies” or “the cocktail,” slow down the effect of HIV on the immune system by interfering with the replication of HIV.

This form of therapy usually consists of a number of drugs taken on a regular timetable. Although these drugs are not easy to take and have side effects, when combination therapy is successful it can improve the health of people with HIV, sometimes causing remission of their symptoms in addition to reduced viral load (that is to say, reduced amount of HIV in their body), increased number of CD4 cells, and reduced likelihood of progressing to AIDS.

Combination therapy does not work in everyone. The length of time that the drugs are effective against the virus varies, and drug resistance can set in, making the drugs ineffective.

Additionally, some people with HIV use complementary therapies such as acupuncture, vitamin supplementation, and massage, in addition to drug therapies to alleviate side effects, reduce stress and improve immune function.

As people with HIV are living longer than ever before thanks to new treatments, we are constantly learning about new challenges that face long-term survivors living with the virus. Once thought to be an invariably fatal illness, we can no longer say that every person with HIV will become ill or die of AIDS. However, there is still no cure and no vaccine for HIV infection or AIDS. And the side effects of medication and the increased risk of co-infection with other illnesses can cause other health problems for people living with HIV/AIDS.

## Living with HIV/AIDS

Living with a serious, stigmatized and potentially life-threatening illness can be extremely stressful and difficult. Although someone with HIV may remain in good health for many years, there is a lot of fear, prejudice and misunderstanding in society about HIV/AIDS and the people who have this disease. People with HIV/AIDS may encounter isolation and rejection even from the people closest to them. They may find that assumptions and ignorance about HIV/AIDS are a barrier to seeking intimacy, having children or pursuing a career.

Because of the stigma attached to HIV/AIDS and the increasing trend of criminalizing HIV exposure in Canada, people may find it difficult to tell others about their diagnosis and may tell only a few close friends. The burden of secrecy can be hard to bear.

Expressing your sexuality when you know that you could pass a serious infection on to someone else can also be extremely difficult. Many people find support through counselling or by participating in support groups for people with HIV/AIDS.

People with HIV/AIDS may also choose to make some adjustments in their lives to help them cope with their diagnosis. They may try to stay healthy by eating good food, exercising or using complementary therapies. They may read lots of information about HIV and HIV therapies.

Although living with HIV/AIDS can be a difficult and challenging experience, many people with HIV/AIDS live meaningful, satisfying and happy lives and contribute in important ways to their communities.



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January 2011