

# Chapter 1 - HIV/AIDS 101



HIV is the virus that causes AIDS. HIV attacks the immune system which gives our bodies the ability to fight infection. HIV finds and destroys white blood cells (T cells or CD4 cells) that the immune system must have to fight disease. AIDS is when the HIV virus has weakened the immune system to the point that the body has difficulty warding off infections. This makes you more susceptible to certain types of cancers and to opportunistic infections your body would normally resist, such as pneumonia and meningitis.

HIV/AIDS was first identified in the United States in 1981 after a number of gay men became sick with a rare type of cancer. Since then, the disease has spread to thousands of people across the United States and become a major worldwide epidemic. People in countries from Africa to Europe to Australia have become infected with the disease. As some countries continue to ignore the necessity of providing people with a basic understanding of the disease and how it is transmitted, more people become infected every day. The term AIDS was not coined until 1982, the same year researchers at the Centers for Disease Control and Prevention (CDC) linked the HIV virus to blood and bodily fluids. In 1985, over 5,636 deaths were reported due to AIDS.

During the next few years, the United States government finally began to acknowledge the AIDS crisis. During this time, researchers were also developing the first antibody tests to determine the presence of the virus. These tests were put to valuable use testing blood supplies and at-risk patients. Researchers also worked to develop the first anti-HIV medication,

called AZT. Today, more people than ever are living with HIV/AIDS. The U.S. Centers for Disease Control and Prevention (CDC) estimates that about 1 million people in the United States are living with HIV or AIDS. About one-fourth of these individuals do not know that they are infected which puts them and others at risk.

HIV cannot live for very long outside the body. The virus is not transmitted through day-to-day activities such as shaking hands, hugging, or kissing. You cannot become infected from a toilet seat, drinking fountain, sharing kitchen utensils, from pets, mosquitoes or swimming pools. HIV is transmitted through blood, semen, vaginal fluid, or the breast milk of an infected person.

### **HIV is transmitted in 3 main ways:**

- Having anal, vaginal or oral sex with an HIV-infected person
- Sharing needles and syringes with someone infected with HIV
- During pregnancy, birth, or postpartum through breastfeeding

Since 1985, all donated blood in the United States has been tested for HIV; therefore, the risk for HIV infection through transfusion of blood or blood products is extremely low. The U.S. blood supply is considered among the safest in the world.

### **Things that put you at an increased risk for HIV include:**

- Sharing needles
- Unprotected sex with multiple partners or anonymous partners
- Working as a sex worker or exchanging sex for money or drugs
- Having a Sexually Transmitted Disease (STD) such as syphilis, gonorrhea, chlamydia, herpes, genital warts (human papilloma virus or HPV) which can increase one's risk for HIV transmission
- If you have received a blood transfusion before 1985
- Have had unprotected sex
- The use of birth control methods such as the pill, Depo-Provera shot, diaphragm, patch, intra-uterine device or vaginal ring

## How is HIV diagnosed?

Once HIV enters the body, the body starts to produce antibodies that the immune system creates after being infected. A blood test is used to look for HIV antibodies which would indicate whether a person has been infected with HIV. There are many different types of HIV tests which include serum blood test, rapid tests and home testing kits. Since the only way an individual can know if he/she is infected is through testing, regular and routine testing is essential. The CDC recommends annual testing for all persons aged 13 to 64.

It is also important for women who are or plan to become pregnant to get tested. If a woman is HIV-positive, pregnant, or becomes pregnant, she can receive the necessary medical treatment that can lower the chances of passing HIV to her baby to less than 1-2%! Anyone who has engaged in any risky behavior such as sharing needles, having unprotected sexual contact with an infected person or with someone whose HIV status is unknown should consider being tested.

## What is AIDS?

AIDS is when the HIV virus has progressed and caused a significant loss of T cells or CD4 cells, thus weakening the immune system and putting the body at risk for opportunistic infections. A positive HIV test does not mean that a person has AIDS. An HIV-infected person receives a diagnosis of AIDS after the development of an AIDS-related illness (opportunistic infection) and/or low T cell or CD4 count. **Opportunistic infections** include, but are not limited to:

- Candidiasis of the mouth, vagina, trachea, lungs or esophagus
- Invasive anal and cervical cancer
- Kaposi's Sarcoma
- PCP pneumonia
- Tuberculosis

## **Treatment**

Currently, there is no cure for HIV or AIDS. There is no conclusive treatment to eliminate HIV from the body; however, timely treatment of opportunistic infections can keep one healthy for many years. The FDA has approved a number of drugs to treat HIV. There is a combination of drugs called “highly active antiretroviral therapy” or HAART (cocktail or combination therapy).

When taken properly, HAART treatment helps people with HIV live longer and have fewer infections or other problems related to their HIV infection. The drugs work by preventing HIV from replicating and improving your body’s ability to fight infections by increasing your T cell count. It is important to remember these medications do not cure HIV, but they can slow down progression of the disease and improve the quality of life for the infected individual. There are some side effects from HIV/AIDS medications. Some side effects include, but are not limited to: nausea, vomiting, diarrhea, weakness, dizziness, weight loss, liver problems, and decrease in bone density. Staying on HIV medications can be difficult because of the side effects. It is important to talk to a health care provider about what can be done to minimize the side effects.

## Test Your Knowledge

**In this section you will answer True/False questions, Fill in the Blank and short answer. Answers will be located at the end of this section**

1. **True or False.** HIV can be spread if someone sneezes in the room.
2. **True or False.** People who are known to have HIV or AIDS should have separate eating utensils and their own bathroom to avoid further transmission.
3. Name several ways in which HIV can be transmitted.
  - A.
  - B.
  - C.
4. **True of False.** Oftentimes, people with HIV are very skinny and, therefore, you CAN tell if someone is HIV positive by looking at them.
5. HIV stands for \_\_\_\_\_  
\_\_\_\_\_.
6. List several ways in which people can protect themselves from the spread of HIV.
  - A.
  - B.
  - C.
7. **True or False.** You cannot determine whether you have HIV by symptoms alone, but rather the only way to be 100% sure of what your status is to have a test that test for the presence of antibodies.
8. **True or False.** AIDS does not have an economic impact on various countries around the globe.

## Answers to Test Your Knowledge Quiz

1. **False.** HIV cannot be spread by someone sneezing.
2. **False.** HIV cannot be spread by sharing utensils or a restroom and isolation is not necessary.
3. Possible ways of HIV transmission include: **unprotected sex with someone who is HIV positive, intravenous drug use, mother to child.**
4. **False.** In fact, people with HIV feel well and look just as healthy as anyone else.
5. HIV stands for **Human Immunodeficiency Virus.**
6. People can protect themselves through **abstinence, correctly using a condom each and every time they have sex and not sharing needles.**
7. **False.** A person would not be able to know their HIV status based on symptoms alone. Symptoms may not show up for months and even years in some individuals. Symptoms of HIV also overlap the symptoms of other illness. If a person feels they are at risk for contracting HIV or have been exposed to the virus, the only way to be 100% sure is to be tested.
8. **False.** AIDS has an economic strain on society, especially in countries that are largely impacted.