HIV/AIDS
(1 Hour)

What is HIV?

HIV is the human immunodeficiency virus that causes AIDS. A member of a group of viruses called retroviruses, HIV infects human cells and uses the energy and nutrients provided by those cells to grow and reproduce.

What is AIDS?

AIDS (acquired immunodeficiency syndrome) is a disease in which the body's immune system breaks down and is unable to fight off certain infections, known as "opportunistic infections," and other illnesses that take advantage of a weakened immune system. When a person is infected with HIV, the virus enters the body and lives and multiplies primarily in the white blood cells. These are the immune cells that normally protect us from disease. The hallmark of HIV infection is the progressive loss of a specific type of immune cell called T-helper or CD4 cells. As the virus grows, it damages or kills these and other cells, weakening the immune system and leaving the individual vulnerable to various opportunistic infections and other illnesses, ranging from pneumonia to cancer. The U.S. Centers for Disease Control and Prevention (CDC) defines someone as having a clinical diagnosis of AIDS if they have tested positive for HIV and meet one or both of these conditions: They have experienced one or more AIDS-related infections or illnesses; the number of CD4 cells has reached or fallen below 200 per cubic microliter of blood (a measurement known as T-cell count). In healthy individuals, the CD4 count normally ranges from 450 to 1200.

How quickly do people infected with HIV develop AIDS?

In some people, the T-cell decline and opportunistic infections that signal AIDS develop soon after infection with HIV. Most people remain asymptomatic for 10 to 12 years, a few for much longer. As with most diseases, early medical care can help prolong a person's life.

How many people are affected by HIV/AIDS?

In June 1981, CDC developed an investigative team to identify risk factors and to develop a case definition for national surveillance and prepared reports that identified all of the major risk factors for acquired immunodeficiency syndrome (AIDS). The first recognized case of AIDS in the United States was reported in 1981.

In 1985, HIV antibody testing became available for the first time. The original purpose of this blood test was to screen the nation's blood supply so individuals would not become infected with HIV from a transfusion.

The Joint United Nations Programs on HIV/AIDS (UNAIDS) estimates that there are now over 40 million people living with HIV or AIDS worldwide. Most of them do not know they carry HIV and may be spreading the virus to others. Here in the U.S., over one million people have HIV

infection or AIDS, or roughly one out of every 250 people. At least 40,000 Americans become newly infected with HIV each year, and it is estimated that half of all people with HIV in the US have not been tested and do not know they are carrying the virus.

Since the beginning of the epidemic, AIDS has killed more than 30 million people worldwide, including more than 500,000 Americans. AIDS has replaced malaria and tuberculosis as the world's deadliest infectious disease among adults and is the fourth leading cause of death worldwide. Over 13 million children have been orphaned by the epidemic.

How is HIV transmitted?

A person who is infected carries the virus in certain body fluids, including blood, semen, vaginal secretions, and mother-to-child transmission during pregnancy, child birth or breastfeeding. The virus can be transmitted only if such HIV-infected fluids enter the bloodstream of another person. This kind of direct entry can occur (1) through the linings of the vagina, rectum, mouth, and the opening at the tip of the penis; (2) through intravenous injection with a syringe; or (3) through a break in the skin, such as a cut or sore. Usually, HIV is transmitted through unprotected sexual intercourse (either vaginal or anal) with someone who is HIV infected. Women are at greater risk of HIV infection through vaginal sex than men, although the virus can also be transmitted from women to men. Anal sex (whether male-male or male-female) poses a high risk mainly to the receptive partner, because the lining of the anus and rectum are extremely thin and filled with small blood vessels that can be easily injured during intercourse. In the U.S., HIV is spread mainly by having sex or sharing injection drug equipment, such as needles, with someone who has HIV.

Unprotected oral sex with someone who is HIV infected.

There are far fewer cases of HIV transmission attributed to oral sex than to either vaginal or anal intercourse, but oral-genital contact poses a clear risk of HIV infection, particularly when ejaculation occurs in the mouth. This risk is increased when either partner has cuts or sores, such as those caused by sexually transmitted-diseases (STDs), recent tooth-brushing, or canker sores, which can allow the virus to enter the bloodstream. Sharing needles or syringes with someone who is HIV infected. Laboratory studies show that infectious HIV can survive in used needles for a month or more. That is why people who inject drugs should never reuse or share syringes; water, or drug preparation equipment. This includes needles or syringes used to inject illegal drugs such as heroin, as well as steroids.

Other types of needles, such as those used for body piercing and tattoos, can also carry HIV infection. Also during pregnancy, childbirth, or breast-feeding (mother-to-infant transmission), any woman who is pregnant or considering becoming pregnant and thinks she may have been exposed to HIV even if the exposure occurred years ago should seek testing and counseling. Mother-to-infant transmission has been reduced to just a few cases each year in the U.S. Women are tested for HIV, and those who test positive are provided with drugs to prevent transmission and counseled not to breast-feed.

How is HIV not transmitted?

HIV is not an easy virus to pass from one person to another. It is not transmitted through food or air (for instance by coughing or sneezing). There has never been a case where a person was infected by a household member, relative, co-worker, or friend through casual or everyday contact such as sharing eating utensils and bathroom facilities, or hugging and kissing. (Most scientists agree that while HIV transmission through deep or prolonged "French" kissing may be possible, it would be extremely unlikely.) Here in the U.S., screening the blood supply for HIV has virtually eliminated the risk of infection through blood transfusions (and you cannot get HIV from giving blood at a blood bank or other established blood collection center). Sweat, tears, vomit, feces, and urine do contain HIV, but have not been reported to transmit the disease (apart from two cases involving transmission from feces via cut skin). Mosquitoes, fleas, and other insects do not transmit HIV.

How can I reduce HIV risk of becoming infected with HIV through sexual contact?

If you are sexually active, protect yourself from HIV infection by practicing safer sex. Whenever you have sex, use a condom or "dental dam" (a square of latex recommended for use during oral-genital and oral anal sex). When used properly and consistently, condoms are extremely effective. But remember, use only latex condoms (or dental dams). Lambskin products provide little protection against HIV. Use only water based lubricants. Latex condoms are virtually useless when combined with oil- or petroleum-based lubricants such as Vaseline or hand lotion. (People with latex allergies can use polyethylene condoms with oil based lubricants.) Use protection each and every time you have sex. If needed, consult a nurse, doctor, or health educator for guidance on the proper use of latex barriers.

How can I avoid acquiring HIV from a contaminated needle?

If you are injecting drugs of any type, including steroids, do not share syringes or other injection equipment with anyone else. (Disinfecting previously-used needles and syringes with bleach can reduce the risk of HIV transmission.) If you are planning to have any part of your body pierced or getting a tattoo, be sure to see a qualified professional who uses sterile equipment. Detailed HIV prevention information for drug users who continue to inject is available from the CDC's National Prevention Information Network at 1-800-458-5231 or online.

Is there a link between HIV and other STIs?

Having a sexually transmitted infection can increase your risk of acquiring and transmitting HIV. This is true whether you have open sores or breaks in the skin (as with syphilis, herpes and chancroid) or not (as with chlamydia and gonorrhea). Where there are breaks in the skin, HIV can enter and exit the body more easily. Even when there are no breaks in the skin, STIs can cause biological changes that may make HIV transmission more likely. Studies show that HIV-infected individuals who are infected with another STI are three to five times more likely to contract or transmit the virus through sexual contact. Are there other ways to avoid getting HIV through sex? The male condom is the only widely available barrier against sexual transmission of HIV.

Female condoms are fairly unpopular in the U.S. and still relatively expensive, but they are gaining acceptance in some developing countries. Efforts are also under way to develop topical creams or gels called "microbicides" which can be applied prior to sexual intercourse to kill HIV and block

other STIs that facilitate HIV infection. Are some people at greater risk of HIV infection than others? HIV does not discriminate. It is not who you are, but what you do that determines whether you can become infected with HIV. Worldwide, sexual intercourse is by far the most common mode of HIV transmission, but in the U.S., as many as half of all new HIV infections are now associated either directly or indirectly with injection drug use, i.e., using HIV-contaminated needles to inject drugs or having sexual contact with an HIV-infected drug user.

Women are four times more likely to contract HIV through vaginal sex with infected males than vice versa. This biological vulnerability is worsened by social and cultural factors that often undermine women's ability to avoid sex with partners who are HIV infected or to insist on condom use. In the U.S., the proportion of AIDS cases among women more than tripled from 7% in 1985 to 25% in 1999. African American and Hispanic women, who represent less than one-quarter of U.S. women, represent nearly 80% of AIDS cases reported among American women to date. Are young people at a significant risk of HIV infection? Nearly half of the roughly 40,000 Americans newly infected with HIV each year are under the age of 25, approximately two young Americans become infected with HIV every hour of every day, and about 25% of the people now living with HIV in this country became infected when they were teenagers. Statistics show that by the age of 19, at least half of females and 60% of males in this country have engaged in sexual intercourse and two thirds of STDs affect people under age 25. Many young people also use drugs and alcohol, which can increase the likelihood that they will engage in high-risk sexual behavior. Are there treatments for HIV/AIDS? For many years, there were no effective treatments for AIDS. Today, people in the United States and other developed countries can use a number of drugs to treat HIV infection and AIDS. Some of these are designed to treat the opportunistic infections and illnesses that affect people with HIV/AIDS. In addition, several types of drugs seek to prevent HIV from reproducing and destroying the body's immune system.

Can you tell whether someone else has HIV or AIDS?

You cannot tell by looking at someone whether he or she is infected with HIV or has AIDS. An infected person can appear completely healthy. But anyone infected with HIV can infect other people, even if no symptoms are present.

How do I know if I'm infected?

Immediately after infection, some people may develop mild, temporary flu-like symptoms or persistently swollen glands. Even if you look and feel healthy, you may be infected. The only way to know your HIV status for sure is to be tested for HIV antibodies, that is, proteins the body produces in an effort to fight off infection. This usually requires a blood sample. If your blood has HIV antibodies, that means you are infected.

Should I get tested?

If you think you might have been exposed to HIV, you should get tested as soon as possible. Here's why: Even in the early stages of infection, you can take concrete steps to protect your long-term health. Many physicians still recommend a "hit early and hit hard" approach to anti-HIV therapy. But even if you don't begin taking medications right away, regular check-ups with a doctor who has experience with HIV/AIDS will enable you (and your family members or loved ones) to make the best decisions about how and when to begin treatment, without waiting until you get sick. Taking an active approach to managing HIV may give you many more years of healthy life than you would otherwise have. If you are HIV positive, you will be able to take the precautions necessary to protect others from becoming infected.