

BOOKLET #1

WHAT IS HIV ?

HIV is short for HUMAN IMMUNODEFICIENCY VIRUS.

HIV is a virus that infects and destroys certain white blood cells called "T-cells", also known as CD-4, thereby undermining the body's ability to combat infection. One can be infected with HIV for years without ever showing signs of infection. However, infected persons can transmit the virus even though they may not have symptoms. The National Academy of Science estimates that 25 to 50 percent of HIV infected persons will develop AIDS within 5 to 10 years of infection.

In an AIDS survey which was released by the United Nations in 1996, it said, "21 million adults across the world are infected with HIV, women make up about 42 percent of the reported cases, and the percentage is rising." It did not release figures on the number of children infected, and experts disagree on how many there are.

In the United States, the number of people infected each year with HIV is about 40,000 new cases. An estimated 650,000 to 900,000 people are infected with the virus in the United States, one in every 300 people over the age of 13, according to epidemiologist John M. Karon of the Center for Disease Control and Prevention (CDC). "An estimated 50,000 Americans died of AIDS related infections in 1994, the most recent year for which data is available, bringing the total to more than 325,000", Karon said.

About 3/4 of the victims were 25 to 44 years old, and AIDS remains the leading killer for that age group, the CDC said. More than 90 percent of Americans who are now infected with

the HIV virus don't know they have the disease.

It won't be long before everyone will know of someone who has been killed by this disease. But HIV/AIDS is 100 percent preventable if certain behaviors are stopped. In this program you will learn how the HIV virus is spread, how it acts on the body, and how you can keep from getting this deadly disease. Carefully reading this program and learning its material may save your life.

STUDY QUESTIONS

1. HIV is a virus that _____ and _____ certain white blood cells called T-Cells.
2. A T-Cell is also know as _____?
3. An infected person _____ give you the virus if they do not show signs of infection.
4. How many new cases of HIV/AIDS are reported each year?
5. What age group is HIV/AIDS the number one killer of?
6. What is HIV short for?
7. More than _____ of Americans who are now infected with the HIV virus don't know they have the disease.
8. About 3/4 of the victims were _____ years old.
9. The United Nations said _____ adults were infected across the world.
10. What is the percentage of reported cases that are women?

11. HIV/AIDS is _____ preventable if certain behaviors are stopped.

HOW DOES HIV WORK ?

HIV attacks the cells of the body that are needed to fight off infection. HIV must link with specific proteins on the surface of cells before it can infect the cell. These surface proteins are called receptors.

One of the receptors is call CD-4 which has long been known about, but with advances in research scientists at the Naval Medical Research Institute, in Bethesda, Md., have announced that the virus must link with one of two other cell receptors, CCR-5 or CXCR-4.

Generally the virus uses the CCR-5 receptor to invade the cells early in the infection. After the virus mutates, it also uses CXCR-4.

As the virus multiplies and the person becomes sicker, certain symptoms occur. Some of the symptoms of this stage are:

- Being tired all the time
- Diarrhea for many days
- Unexplained weight loss without dieting
- Swollen glands in the groin, neck, or armpit
- Unexplained fever that lasts more than a week
- Drenching sweats at night/night sweats
- Pounding headaches/dizziness
- White patchy coating on the tongue and in the mouth
- Purplish or pink blotches on the skin

Because women's bodies are different, women have some special

signs such as:

Vaginal infections that won't go away
Open sores or bumps inside or outside the vagina or
anus
Pain when they have sex, or pain inside the belly when
they don't have their period

Diseases that get passed on when they have sex
(Sexually transmitted diseases) like herpes, PID
(pelvic inflammatory disease), vaginal warts,
syphilis, and gonorrhea.

***** IMPORTANT NOTICE *****

ANY OF THESE SYMPTOMS MAY BE CAUSED BY OTHER ILLNESSES, BUT IF THEY
SHOW UP AND WON'T GO AWAY, YOU SHOULD SEE A DOCTOR, NURSE, OR
PHYSICIANS ASSISTANT (PA).

STAGES OF THE HIV DISEASE

The three stages of HIV are:

1. If you're HIV positive and don't show any outward signs, you are known as **asymptomatic**.
2. If you are showing signs of disease progression, you are known as **symptomatic**.
3. **Full blown AIDS** is the last and most serious stage of HIV infection.

AIDS, ACQUIRED IMMUNE DEFICIENCY SYNDROME

ACQUIRED- Indicates that the disease is not inherited

IMMUNE - Refers to the immune system, which normally defends the body against disease

DEFICIENCY - Indicates that something is missing, people with the disease have weakened immune systems that cannot fight off disease and infection.

SYNDROME - Refers to a specific group of infections and health conditions related to the disease.

To date there is no cure for HIV or AIDS. A person who has progressed to the AIDS stage becomes very ill and dies from diseases which the immune system could normally fight off.

These common diseases have a special opportunity to kill because the body's immune system has been damaged by HIV. This is what is meant when people talk about opportunistic infections.

The most common life threatening opportunistic infections that people with AIDS get is:

PNEUMOCYSTIS CARINII PNEUMONIA (AIDS RELATED PNEUMONIA)

This is called PCP for short. An infection of the lungs. If you have PCP, you feel weak, short of breath, and you may have a cough and find it hard to breath.

The second most common infection people with AIDS get is **CANDIDIASIS**, sometimes called thrush, which is a yeast infection and is most commonly seen as white patches in the mouth and throat which make it difficult to swallow and digest food. In women it can also occur as a white discharge from the vagina.

Many people also get **CRYPTOCOCCAL MENINGITIS**. It is a fungal

infection of the brain and spinal cord. Common symptoms include headache with or without inflammation, dizziness, blurred vision, confusion, nausea, anorexia, depression, agitation, slurred speech, and mental deterioration.

Another opportunistic infection associated with AID is **Tuberculosis (TB)**, an infection usually in the lungs. Treatment consist of the combination of bacterial drugs for a long period of time. TB has become more common in prisons and jails.

A new form of tuberculosis is now being seen in prisons and jails, called **Multi Drug Resistant Tuberculosis (MDR-TB)**. It is dangerous because it cannot be treated with the usual medications for TB. People with AIDS are at very high risk for MDR-TB. Some people who have AIDS may have problems with their nervous systems, which can make it harder for them to see, hear, smell, taste, and touch.

AIDS RELATED DENTIA is a chronic intellectual impairment (loss of mental capacity) that affects a person's ability to function in social or occupational (job) setting. It makes it hard for a person to think clearly, and may cause loss of memory.

Another AIDS related infection is **WASTING SYNDROME**, which is a loss of appetite and involuntary extreme loss of weight, where people waste away until they look like skeletons.

MYCOBACTERIUM AVIUM COMPLEX (MAC) is a disease caused by an organism found in soil and dust particles. In people with AIDS it can spread through the bloodstream to infect many parts of the body. Symptoms of MAC include prolonged wasting, fever, fatigue, and an enlarged spleen.

MALABSORPTION SYNDROME is a decreased intestinal absorption resulting in loss of appetite, muscle pain, and weight loss.

KAPOSI'S SARCOMA (KS) are tumors on the walls of blood vessels. These usually appear as pink or purple painless spots on the skin surface, but may also occur internally in addition to or independent of the lesions.

HAIRY LEUKOPLAKIA is a whitish slightly raised lesion that appears on the sides of the tongue.

HERPES SIMPLEX VIRUS I (HSV-1) is a virus that causes cold sores or blisters on the mouth or around the eyes and can be transmitted to the genital region. This latent virus can be reactivated by stress, trauma, other infections, or suppression of the immune system.

HERPES SIMPLEX VIRUS II (HSV-II) is a virus causing painful sores of the anus or genitals that may lie dormant in the nerve tissue. HSV-II can be transmitted to a baby during birth.

HERPES ZOSTERS (SHINGLES). Shingles consists of painful blisters on the skin that follow nerve pathways.

CYTOMEGALOVIRUS (CMV) is a herpes infection that is the third leading cause of death in people with AIDS. It can manifest in the eye (CMV Retinitis), the lungs (CMV Pneumonia), the brain (CMV Encephalopathy), the colon (CMV Colitis), or other parts of the body.

HEPATITIS is a viral liver disease that can be acute or chronic and even life-threatening, particularly in people with poor immune systems. Several different viruses cause hepatitis. These include Hepatitis A, B, or C. Hepatitis A is easily transmitted through food and casual contact. Hepatitis B is sexually transmitted. It

is less clear how Hepatitis C is transmitted, but it is common among injection-drug users.

Many of these opportunistic infections can be treated with drugs or other treatments. If you are worried about your health and feel you may be showing signs of AIDS, be sure to sign up for sick call and see the nurse, P.A., or doctor.

STUDY QUESTIONS

1. HIV must link with specific proteins on the surface of the cells. WHAT ARE THESE PROTEINS CALLED?
2. CD-4, CXCR-4 AND CCR-5 are all receptors. Which receptor does the virus use after it mutates?
3. At what stage does one begin to show signs of progression?
4. What is the most common life threatening opportunistic infection that people with AIDS get?
5. PCP pneumonia and tuberculosis (TB) are both infections that attack the _____?
6. If there are pink or purple spots on the skin that are painless, what infection is this associated with?
7. Cytomegalovirus (CMV), the herpes infection, is the _____ cause of death among people with AIDS.

8. Which hepatitis virus is spread easily through food?
9. What do the letters AIDS stand for?
10. How many stages are there for the HIV infection?
11. As the virus multiplies and the person becomes sicker, certain symptoms occur. Some of the symptoms of this stage are?
12. If a person with AIDS has lost their appetite and suffers extreme loss of weight and looks like a skeleton, these are symptoms of?
13. _____ is a viral liver disease that can be acute or chronic and even life-threatening, particularly in people with poor immune systems.
14. HIV attacks the cells of the body that are needed to _____?
15. What is the second most common infection people with AIDS get?
16. Which Herpes virus consists of painful blisters on the skin that follow nerve pathways?

