Overview of HIV and AIDS

Human immunodeficiency virus (HIV) weakens the immune system, making it difficult for the body to protect itself and fight against illness. Over time, the immune system can clear most viruses, but it cannot rid itself of HIV. When HIV destroys the immune system by attacking T cells and CD4 cells in the body, the virus can develop into acquired immunodeficiency syndrome (AIDS).

More than 1.1 million people in the U.S. are living with HIV infection, and about 1 in 6 people are unaware they are infected. There is no cure for HIV/AIDS, but medication and lifestyle changes can dramatically slow the progression of the disease.

How does HIV spread?

HIV enters the body through the transfer of certain bodily fluids from one person to another, including:

- Blood
- Semen
- Breast milk
- Vaginal fluid
- Rectal/anal mucous

It is important to note that other bodily fluids, including feces, nasal fluid, saliva, sweat, tears, urine, and vomit, do not contain enough HIV to infect another person.

How do I know if I'm at risk?

Anyone of any age, race, sex, or sexual orientation can be infected with HIV/AIDS. The risk increases if you:

- **Have unprotected sex,** meaning if you have sex without a latex or polyurethane condom. Anal sex is riskier than vaginal sex, and the risk increases if you have multiple sexual partners.
- **Have another sexually transmitted infection,** particularly one that produces open sores on the genitals. These sores act as doorways for HIV to enter your body.
- **Use intravenous (IV) drugs** and share needles and syringes.
- **Are an uncircumcised man,** according to studies, which indicate an increase in the heterosexual transmission of HIV.
- **Are a health care worker** and exposed to amniotic fluid, cerebrospinal fluid, or synovial fluid.

What are the symptoms?

As early as 2 to 4 weeks after infection, and up to 3 months later, many (but not all) people experience flulike symptoms. This is called *acute retroviral syndrome* or *primary HIV infection*, and symptoms include:

- Fever/chills
- Rash
- Night sweats
- Muscle aches
- Sore throat
- Fatigue
- Swollen lymph nodes
- Mouth ulcers

People infected with HIV may go through periods of feeling sick followed by feeling fine. This is called the *chronic phase* or *clinical latency* and can last up to 10 years or longer. During this phase, people with HIV may experience no symptoms at all, even though the virus is still active in the body.

Symptoms may further develop as HIV progresses toward AIDS and the body loses its ability to fight infection. Symptoms of AIDS include:

- Fatigue
- Diarrhea
- Nausea
- Vomiting
- Fever/chills
- Night sweats
- Wasting syndrome (10% or more loss in body weight)
- Opportunistic infections (development of certain diseases that are uncommon in healthy people)

TEAR OFF HERE

How can I avoid the problem?

Although there is no vaccine or cure, it is possible to protect yourself and others from HIV infection. The spread of HIV can be prevented if you:

- **Use a condom every time you have sex,** even oral sex. Lubricants should be water-based.
- **Tell your sexual partners if you have HIV** so that they can be tested.
- **Use a clean needle** and do not share it. Take advantage of needle-exchange programs in your community and seek help for your drug use.
- **Get medical care if you're pregnant.** You can cut the risk of passing HIV infection to your baby by as much as two-thirds.
- **Consider male circumcision.** Evidence shows that a man has a lower risk of acquiring HIV if he is circumcised.

When do I need medical attention?

You should see a doctor right away if you suspect you may have been infected with HIV. Your doctor will ask you about your health and lifestyle and will conduct a physical exam, checking for swollen lymph nodes, skin or mouth lesions, neurologic problems, abnormal sounds in your lungs, and enlarged organs in your abdomen.

What tests will I need?

Your doctor may give you a blood or saliva test to check for specific antibodies, which is accurate about 12 weeks after infection and sometimes may take as long as up to 6 months after infection. A newer test that checks for the HIV antigen, a protein produced by the virus immediately after infection, can confirm a diagnosis within days of infection.

If the test comes back positive for HIV infection, your doctor will perform more tests to figure out what stage of the disease is present. Tests include:

- **CD4 count.** This test measures the amount of these white blood cells in your blood. A healthy person has a CD4 count of 500 to 1,000. HIV progresses to AIDS when the CD4 count is less than 200.
- **Viral load.** This test measures the amount of HIV in the blood.
- **Drug resistance.** This blood test determines what strain of HIV is present and how well the body will respond to certain medications.

How is HIV/AIDS treated?

Each class of anti-HIV drugs blocks the virus in different ways. Your doctor will generally combine 3 drugs from 2 different classes. These classes include:

- **Nucleoside (new-clee-oh-side) reverse transcriptase inhibitors (NRTIs).** NRTIs are faulty building blocks that HIV needs to make copies of itself.
- **Nonnucleoside (non-new-clee-oh-side) reverse transcriptase (tran-skript-ace) inhibitors (NNRTIs).** NNRTIs disable an enzyme needed by HIV to make copies of itself.
- **Protease (proh-tee-ace) inhibitors (PIs).** PIs block protease, a protein that HIV needs to make copies of itself.
- **Entry or fusion inhibitors.** These drugs block HIV's entry into CD4 cells.
- **Integrase inhibitors.** This class of drugs works by blocking integrase, a protein that HIV uses to insert its genetic material into CD4 cells.

Your doctor may also recommend that you make certain lifestyle changes, including eating healthful foods (fresh fruits, vegetables, whole grains, and lean protein), avoiding foods that promote foodborne illnesses (unpasteurized dairy products, raw eggs, raw seafood, undercooked meat), getting immunizations (for the flu and pneumonia), and taking care with animals that may carry parasites (cat feces and reptiles).

Although there is no cure for HIV/AIDS, with proper management it is possible to lead a productive life. Visit http://www.aids.gov for more information.

FEDERAL PRACTITIONER
A PEER-REVIEWED JOURNAL FOR HEALTH CARE PROFESSIONALS OF THE VA, DoD, AND PHS