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Bellringer

- List three reasons you think the number of HIV cases in teens is rising.



Key Ideas

- **Distinguish** between an HIV infection and AIDS.
- **Name** the three areas in the world that have the greatest number of people living with HIV/AIDS.
- **Compare** the number of people in the United States living with HIV infection to the number of people in the United States living with AIDS.
- **Summarize** why teens are one of the fastest-growing groups infected with HIV.



What Are HIV and AIDS? ▼

- **Human immunodeficiency virus (HIV)** is the virus that primarily affects cells of the immune system and that causes AIDS. ▼
- **Acquired immune deficiency syndrome (AIDS)** is the disease that is caused by the HIV virus, which weakens the immune system.



What Are HIV and AIDS? ▼

- People with AIDS cannot fight off illnesses that a healthy immune system could normally defeat. ▼
- It usually takes 5 to 10 years before a person infected with HIV develops AIDS.



HIV Around the World ▼

- AIDS is a **pandemic**, a disease that spreads quickly through human populations all over the world. ▼
- More than 20 million people have died from AIDS since HIV was first discovered around 20 years ago.



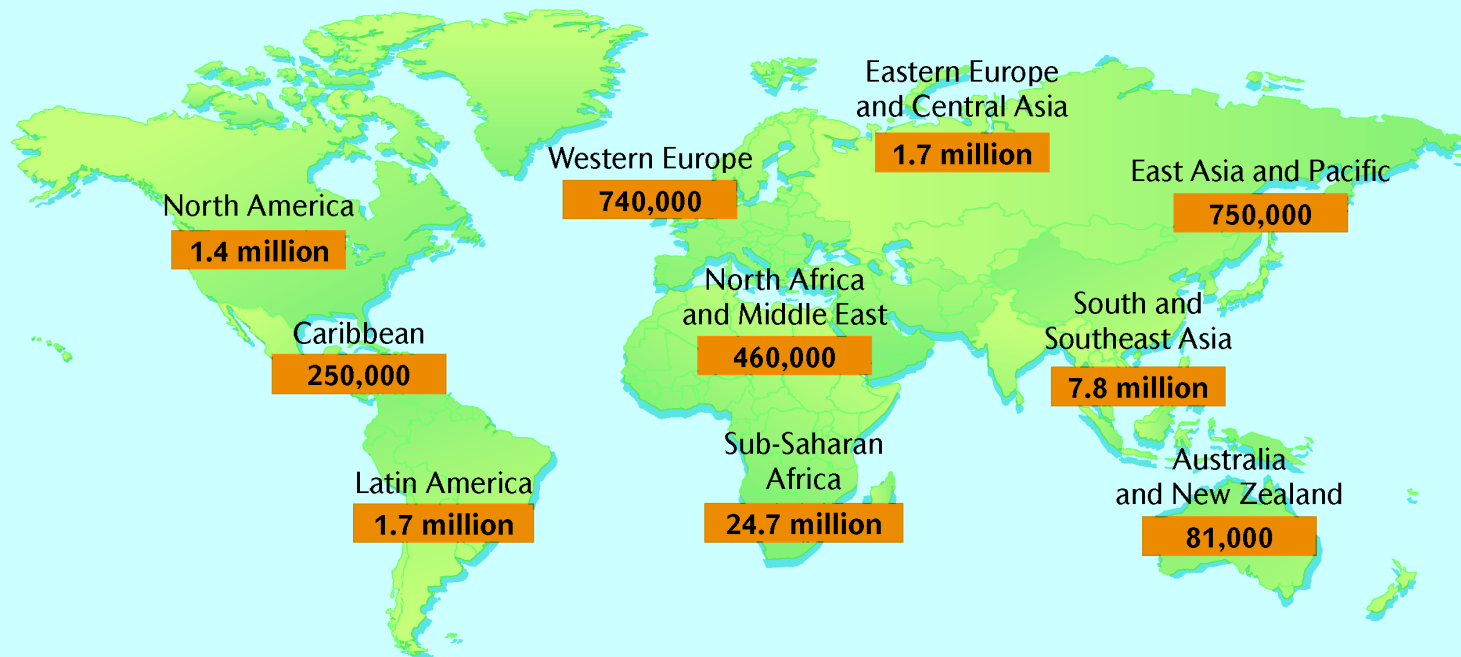
HIV Around the World ▼

- Most scientists think HIV originally came from Africa. ▼
- AIDS is the leading cause of death in sub-Saharan Africa. ▼
- HIV is still spreading throughout the world, especially in Asia and Eastern Europe.



Worldwide HIV/AIDS

Estimated Number of People Living with HIV/AIDS



Source: Joint United Nations Program on HIV/AIDS.

HIV Around the World ▼

- 850,000 to 950,000 people are currently living with HIV infection in the United States. ▼
- More than 400,000 people are currently living with AIDS in the United States. ▼
- Each year, 40,000 more people are infected with HIV in the United States.



Teens and HIV ▼

- Teens are one of the fastest-growing groups to become infected with HIV. ▼
- Over 10,000 teens have been diagnosed with HIV in the United States. More than 4,000 of these have developed AIDS. ▼
- HIV is rising in teens because many teens do not take the risks of HIV and AIDS seriously, and engage in high-risk behaviors.



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Bellringer

- List 5 facts about how HIV infects the body.



Key Ideas

- **Describe** how HIV infects the body's immune system.
- **Summarize** the symptoms in each of the phases of HIV infection.
- **Identify** three ways that HIV is spread.
- **List** four ways that HIV is not spread.
- **State** how a teen can know if he or she is at risk for HIV infection.



HIV Infects the Body ▼

- **Helper T cells (CD4+ cells)** are the white blood cells that activate the immune response and that are the primary target cells of HIV infection. ▼
- HIV uses helper T cells to make copies of itself, killing the helper T cells in the process.



HIV Infects the Body ▼

- As helper T cell counts drop, the body loses its ability to fight off other infections and certain cancers. ▼
- An **opportunistic infection (OI)** is an illness due to an organism that causes disease in people with weakened immune systems.



Stages and Symptoms of HIV Infection ▼

- **Acute Illness** is the stage when the virus has entered the body and the person is said to be infected. Most, but not all people, will have a flu-like illness within one to two months of first becoming infected. Symptoms will disappear within two to three weeks. ▼
- **Asymptomatic Infection** is when HIV is present and is attacking the immune system. This stage lasts an average of 10 years.



Stages and Symptoms of HIV Infection ▼

- **Early Symptoms** are present when the immune system starts to fail. A person may also have swollen lymph glands, be fatigued, lose weight, and are more likely to get infections than other people. ▼
- **AIDS** is the last stage of HIV infection. A person's immune system is severely damaged and have a low help T cell count. They may have severe weight loss and begin to get cancers or other infections healthy people rarely get.



AIDS (Acquired Immune Deficiency Syndrome)

Click below to watch the Visual Concept.

[Visual Concept](#)

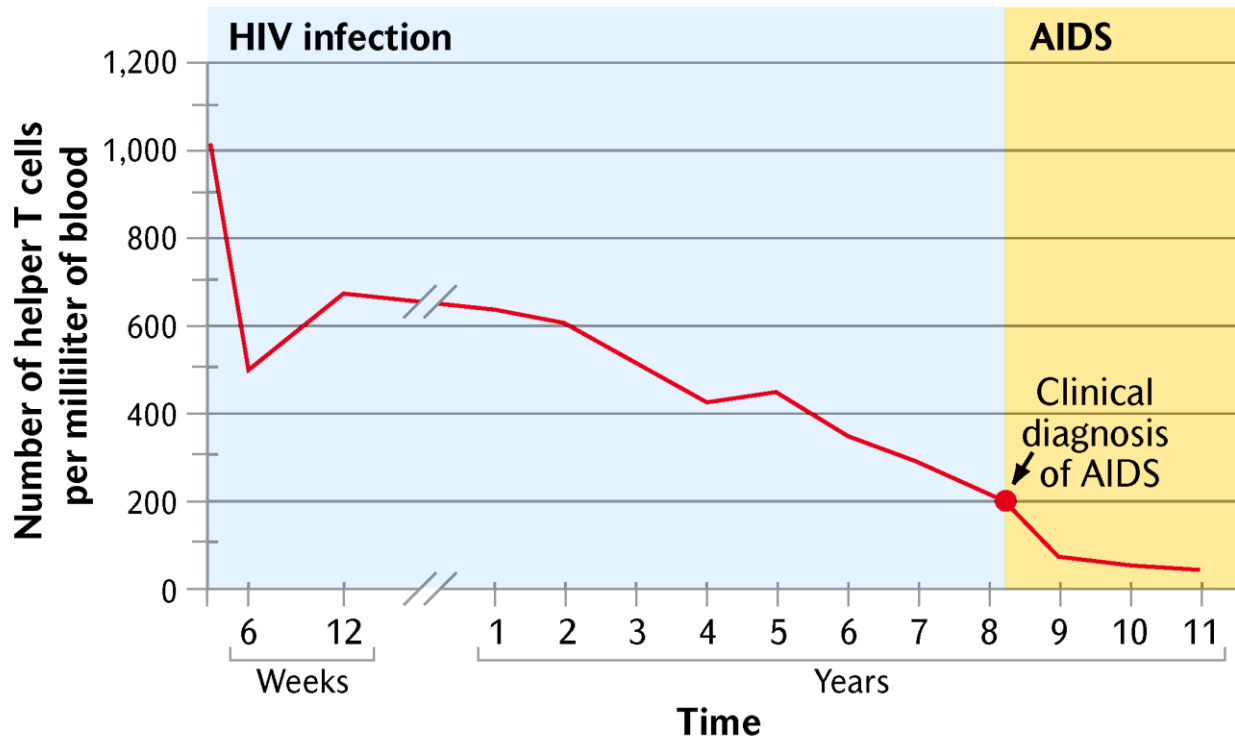


Stages and Symptoms of HIV Infection ▾

- **Diagnosis and Treatment** While the infections that characterize AIDS can often be treated, a person who reaches the AIDS stage has a limited life expectancy.

The Onset of AIDS

The Onset of AIDS as Indicated by T Cell Count



Source: *Annals of Internal Medicine*.

Ways That HIV Is Spread ▼

- There are 3 main ways that HIV is spread. ▼
 1. during sexual activity, which includes vaginal, oral, and anal sex, with an infected person ▼
 2. through sharing needles or other intravenous injection equipment with an infected person ▼
 3. from an infected mother to her infant before or during the birth process or by breast-feeding.



Ways That HIV Is Spread ▼

- HIV is NOT spread by the following: ▼
 - casual contact, including shaking hands, holding hands, kissing, hugging, or playing sports with an infected person ▼
 - sharing bathroom facilities, drinking glasses, or eating utensils



Beliefs Vs. Reality

“HIV is spread by coughing or sneezing.”

HIV is not spread through the air. The amount of HIV in mucus or saliva is not enough to spread HIV.

“A person can't get an HIV infection from sharing needles or other injection equipment.”

People who share injection equipment used for legal and illegal drugs, tattooing, and body piercing are at risk of becoming infected.

“HIV is spread by mosquito and tick bites.”

Mosquitoes and other biting animals such as ticks, bed bugs, and fleas do not spread HIV.

“Sharing toilet seats can spread HIV.”

HIV is not spread by sharing bathroom facilities because HIV does not live long outside the body.

“Teenagers seldom get HIV infection.”

HIV does not discriminate by age. Teens who practice risky behaviors are at risk of becoming infected.

Teens at Risk for HIV ▼

- Almost a third of the 40 million people living with HIV/AIDS are teens or young adults. ▼
- HIV is the tenth leading cause of death in the United States for people between 15 and 24.



Teens at Risk for HIV ▼

- How do you know if you are at risk of HIV? If you take part in any behavior that could put you at risk, then you are at risk. ▼
- The only sure way to know if you are infected with HIV is an HIV test. If you think you are at risk, **GET TESTED.**



Chapter 21

Section 3 Protecting Yourself from HIV and AIDS

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Preview 

Main 

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- Write down the benefits of sexual abstinence at this point in your life.



Key Ideas

- **List** four ways to protect yourself from HIV and AIDS.
- **Describe** the process of getting tested for HIV.
- **Summarize** the treatment for HIV infection and AIDS.
- **State** three ways a person living with HIV infection can delay the progression from HIV infection to AIDS.
- **Identify** four ways you can help and HIV/AIDS program in your community.



Preventing HIV and AIDS ▼

- The first step in preventing AIDS is to be educated about HIV and AIDS. ▼
- The only way to eliminate the risks of HIV and AIDS is to avoid risky behaviors. ▼
 - Practice abstinence ▼
 - Avoid multiple partners ▼
 - Don't share needles or other injection equipment ▼
 - Avoid alcohol and illegal drugs



Preventing HIV and AIDS

- **Universal precautions** are a set of procedures used to avoid contact with bodily fluids and reduce the risk of spreading HIV and other diseases.



Table 1 Universal Precautions for Health Professionals

Procedures of universal precautions

- ▶ Wear latex or vinyl gloves when touching the patient or handling potentially infected fluids.
- ▶ Wear protective clothing such as laboratory coats, goggles, face masks, and hats during activities that may cause exposure to the patient's body fluids.
- ▶ Handle and dispose of all bodily fluids or tissues in a safe manner.
- ▶ Handle safely and dispose of properly all supplies and equipment that have been contaminated with body fluids.
- ▶ Use single-use supplies or equipment when practical.
- ▶ Clean and sterilize equipment that will be used on more than one patient.

Testing for HIV ▼

- An **HIV-antibody test** is a test that detects antibodies to determine if a person has been infected with HIV. If the test is positive, a second test is done. ▼
- A person is **HIV positive** if they test positive for HIV in two different tests.



Testing for HIV ▼

- A negative test result can be misleading because antibodies may not be found for 6 months after an infection. You should get retested after 6 months. ▼
- T cell counts and viral loads are tests for monitoring HIV in people known to be infected.



Treating HIV and AIDS ▼

- No cure exists for HIV and AIDS. Treatment can help an infected person survive longer. ▼
- **Drug combination therapy** is an AIDS treatment program in which patients take more than one drug. ▼
- Drugs for treating HIV can have severe side effects, can lose their effectiveness over time, are expensive, and require diligence and commitment.



Living with HIV Infection ▼

- Most HIV-infected people in the early phases can do almost everything they did before they got infected. ▼
- People infected with HIV must avoid participating in activities that could expose others to HIV.



Living with HIV Infection ▼

- Maintaining good health through treatment, diet, exercise, and rest help delay the progression of HIV to AIDS. ▼
- Many HIV-infected people become activists for HIV/AIDS prevention or help other infected people.

