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FLORIDA INITIAL LICENSURE PACKAGE
Course Code: FI023

This Course Will Be Retired On: June 30, 2025

Level - Basic

FOR FLORIDA LICENSEES ONLY!

Course Titles:

Section	Title	Category	Contact Hrs
1	Update on HIV/AIDS	HIV Update	1
		TOTAL HOURS	1

*** This course meets the requirements for initial licensure in Florida ***

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The Florida First Renewal Package is divided into two SECTIONS (or chapters). The page numbers within each individual section will be successive, so any reference to a particular page number will be in reference to that section only.

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FINAL QUIZ: FLORIDA INITIAL LICENSURE PACKAGE
CE Broker Provider #: 50-2256 | **CE Broker Course ID:** 20-655343 | **Contact Hours:** 1

1.) According to Figure 2, 1 in _____ living with HIV are unaware of their infection. (Review Pg. 2)
- **A.** 2
- **B.** 8
- **C.** 25

2.) HIV belongs to a class of viruses known as a _____. (Review Pg. 3)
- **A.** flavivirus
- **B.** retrovirus
- **C.** herpes virus

3.) There are _____ stages of the HIV life cycle. (Review Pg. 5)
- **A.** four
- **B.** six
- **C.** seven

4.) Stage 3 of the HIV infection is diagnosed when the CD4 count is _____. (Review Pg. 7)
- **A.** <200 cells/mm^3
- **B.** <500 cells/mm^3
- **C.** >1000 cells/mm^3

5.) In the first stages of HIV infection, approximately 40-90% of those infected will have flu-like symptoms within a _____ after infection. (Review Pg. 10)
- **A.** 1-2 days
- **B.** 2-4 weeks
- **C.** 2 months

6.) A Nucleic Acid Test (NAT) is a quantitative test that measures the 'viral load' of the patient. (Review Pg. 13)
- **A.** True
- **B.** False

7.) The antiretroviral drug class _____ interfere with the virus' ability to bind to receptors on the outer surface of the cell it tries to enter. (Review Pg. 14)

- **A.** Fusion Inhibitors
- **B.** Integrase Inhibitors
- **C.** Entry Inhibitors

8.) Post-Exposure Prophylaxis (PEP) must be started within _____ after a recent possible exposure to HIV. (Review Pg. 16)

- **A.** 24 hours
- **B.** 72 hours
- **C.** 30 days

******END OF QUIZ******

CEB Provider #50-2256

1 Hour HIV-AIDS Update

AUTHORED BY: Deborah Buckley, MBA, MT(ASCP)

CONTACT HOURS: 1
COURSE LEVEL: Basic
CE BROKER #: Automatically Reported

- - COURSES ARE REVIEWED EVERY 2 YEARS - -

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COURSE OBJECTIVES

At the end of this course you will be able to:

1. Define HIV and AIDS.
2. List the stages of HIV infection and discuss how it's transmitted.
3. Recall the symptoms of HIV/AIDS.
4. List the types of HIV tests that are available.
5. List the classes of drugs available for treatment.
6. Briefly discuss the prevention of HIV infection.

RIGHTSHOLDER:

Authors: Deborah L. Buckley, MBA, MT(ASCP)

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BACKGROUND

On June 5, 1981, federal health officials reported the first cases of a new and then fatal disease which became known as human immunodeficiency virus (HIV) and it's end stage, acquired immunodeficiency syndrome (AIDS). Since then HIV/AIDS has become one of the deadliest pandemics in history. Today, more than 1.1 million people in the United States are living with HIV/AIDS and 1 in 8 are unaware they are infected by the virus.

NIH continues a vigorous HIV/AIDS research program to study the basic biology of HIV and related complications, as well as to develop and test new drugs and prevention approaches.

HIV/AIDS STATISTICS

GLOBAL QUICK FACTS

- 37.7 million people were living with HIV worldwide at the end of 2020.
- 1.5 million people were newly infected with HIV in 2020, with ~5,000 new infections per day worldwide, including 180,000 children <15 years old.
- 1 in 10 people with active TB are also living with HIV.
- 680,000 died of AIDS-related illnesses worldwide in 2020, which is much lower than previous years.
- As of 2020, Eastern and Southern Africa is the region most affected by HIV worldwide, accounting for about 45% of all new HIV infections.
- The vast majority of people living with HIV are in low- and middle-income countries.

NOTE: Due to COVID, statistics for 2021 and 2022 are delayed.

UNITED STATES QUICK FACTS

- At the end of 2019, an estimated 1,189,700 people aged 13 and older had HIV in the U.S.
- 30,635 people were diagnosed with HIV in 2020 in the U.S.
- HIV diagnoses are not evenly distributed across states and regions. People California (3,924), Texas (3,548), and Florida (3,408) make up the top states where new HIV cases were diagnosed. [6]

SOURCE: CDC

UNITED STATES STATISTICS

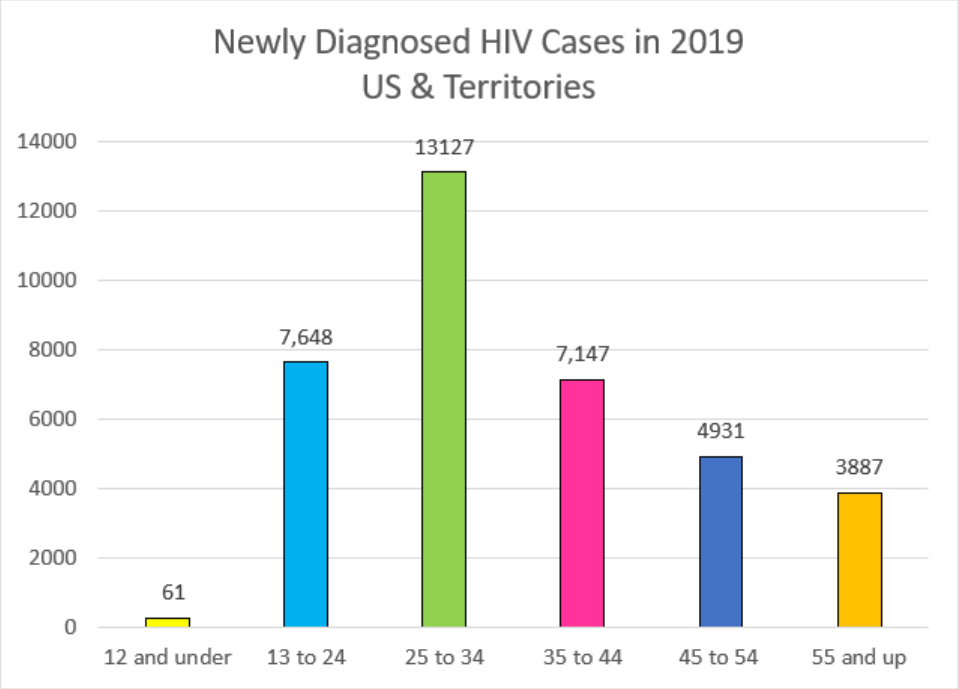
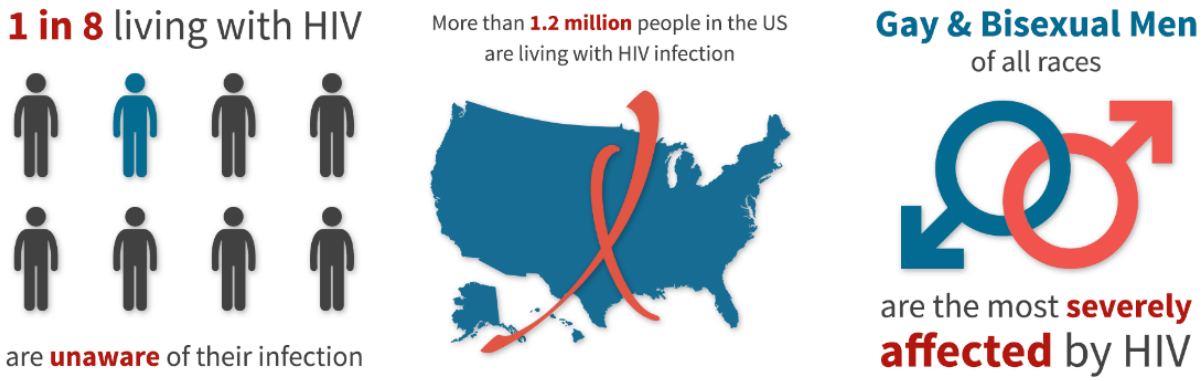


FIGURE 1: New HIV Diagnosed in the US and its Territories by Age, 2019.

NOTE: Statistics after 2019 are delayed due to COVID.

SOURCE: CDC

FIGURE 2: U.S. Quick Facts about HIV



HIV/AIDS AT A GLANCE

HIV stands for human immunodeficiency virus, which is the virus that causes the HIV infection. The abbreviation "HIV" can refer to the virus or to an HIV infection.

AIDS stands for acquired immunodeficiency syndrome and is the most advanced and final stage of the HIV infection.

HIV attacks and destroys the infection-fighting CD4+ T-cells of the immune system. The loss of CD4 cells makes it difficult for the body to fight infections and certain cancers. Without treatment, HIV will gradually destroy the immune system and advance to AIDS.

A person infected with HIV is diagnosed with AIDS when:

- They have one or more opportunistic infections, such as pneumonia or tuberculosis
- They have a CD4+ cell count of < 200 cells per cubic millimeter (<200/mm^3), rendering them no longer able to adequately fight infections.

HIV BIOLOGY, STRUCTURE, AND LIFE CYCLE

HIV BIOLOGY

HIV belongs to a class of viruses known as a retrovirus. Retroviruses contain RNA (ribonucleic acid) as their genetic material. After infecting a cell, HIV uses an enzyme called reverse transcriptase to convert its RNA into DNA (deoxyribonucleic acid) and then proceeds to replicate itself using the cell's own machinery.

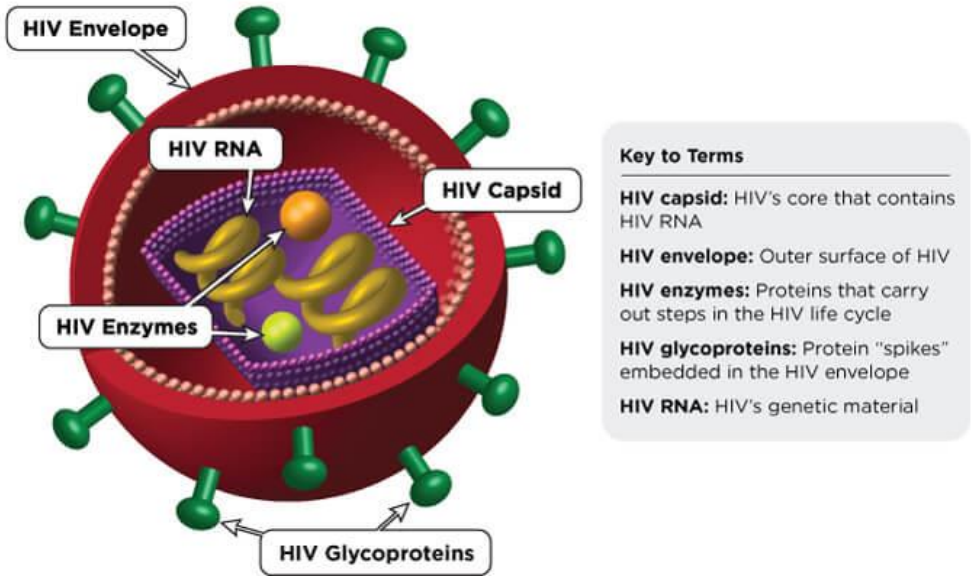
Within the retrovirus family, HIV belongs to a subgroup known as a lentivirus, or "slow" virus. Lentiviruses are known for having a long time-period between the initial infection and the beginning of serious, noticeable symptoms. For this reason, many people are unaware of their HIV positive status, and unfortunately can spread the virus to others during this time.

HIV STRUCTURE

HIV is spherical in shape and has a diameter of 1/10,000 of a millimeter. The outer coating of the virus, known as the viral envelope, is composed of two layers of fatty molecules called lipids, which are taken from the membrane of a human cell when a newly formed virus particle buds

from the cell. Embedded throughout the viral envelope are proteins from the host cell, as well as 72 copies (on average) of a complex HIV protein known as Env. These Env copies protrude or spike through the surface of the virus particle, called a "virion". Env consists of a cap made of three molecules called glycoprotein 120 (gp120), and a stem consisting of three molecules called glycoprotein 41 (gp41) that anchor the structure in the viral envelope. Much of the research to develop a vaccine to prevent HIV infection has focused on these envelope proteins.

FIGURE 3: HIV Structure

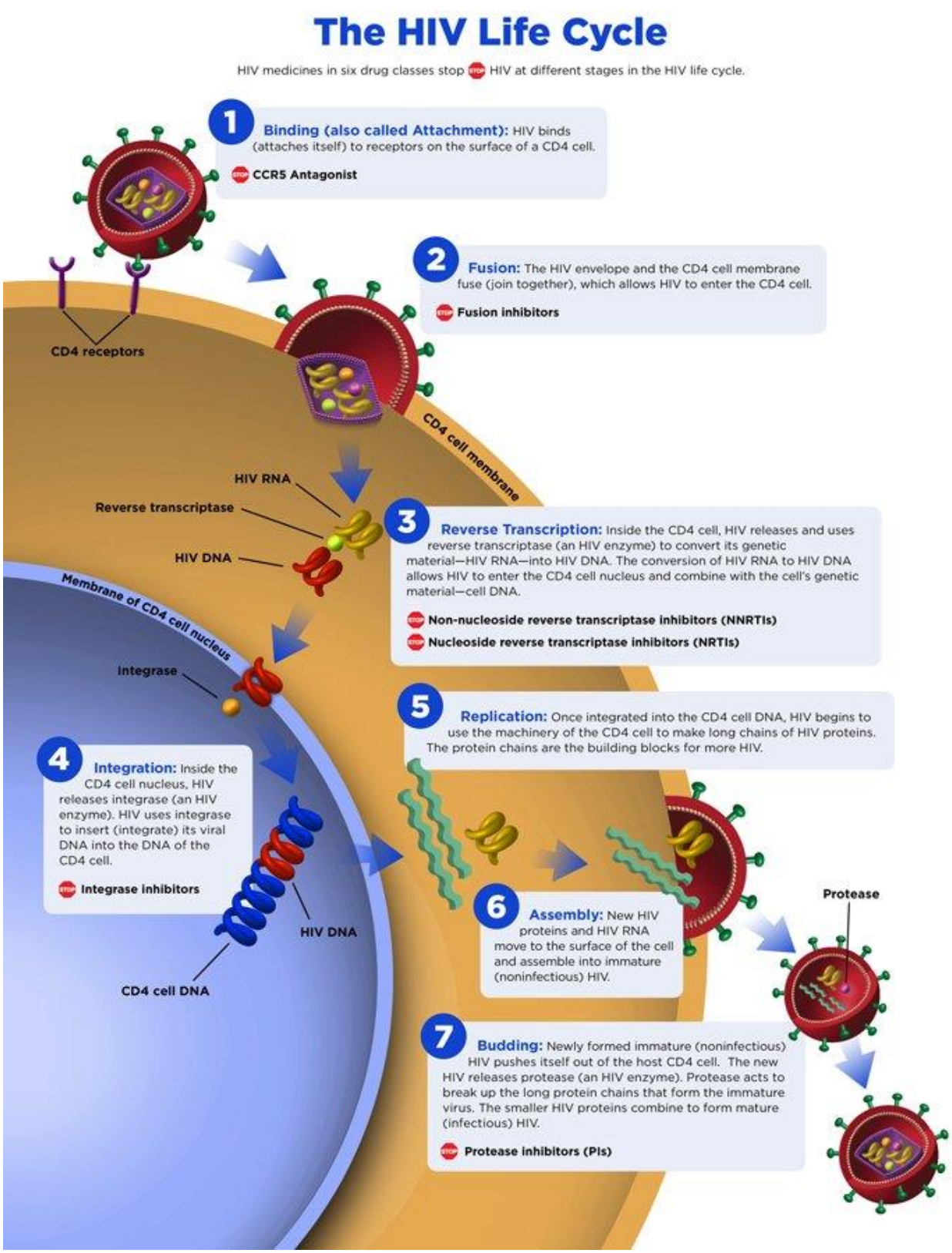


VIRAL CORE

Within the viral envelope is a bullet-shaped core or capsid, made up of 2,000 copies of the viral protein, p24. The capsid surrounds two single strands of HIV RNA, each of which has a complete copy of the virus's genes. HIV has three structural genes (gag, pol, and env) that contain information needed to make structural proteins for new virus particles. The env gene, for example, codes for a protein called gp160 that is broken down by a viral enzyme to form gp120 and gp41, the components of the env protein.

HIV has six regulatory genes (tat, rev, nef, vif, vpr, and vpu) that contain information needed to produce proteins that control the ability of HIV to infect a cell, produce new copies of virus, or cause disease. HIV's core also includes a protein called p7, the HIV nucleocapsid protein. Three enzymes carry out later steps in the virus's life cycle: reverse transcriptase, integrase, and protease. Another HIV protein called p17, or the HIV matrix protein, lies between the viral core and the viral envelope.

HIV LIFE CYCLE STAGES (FIGURE 4)

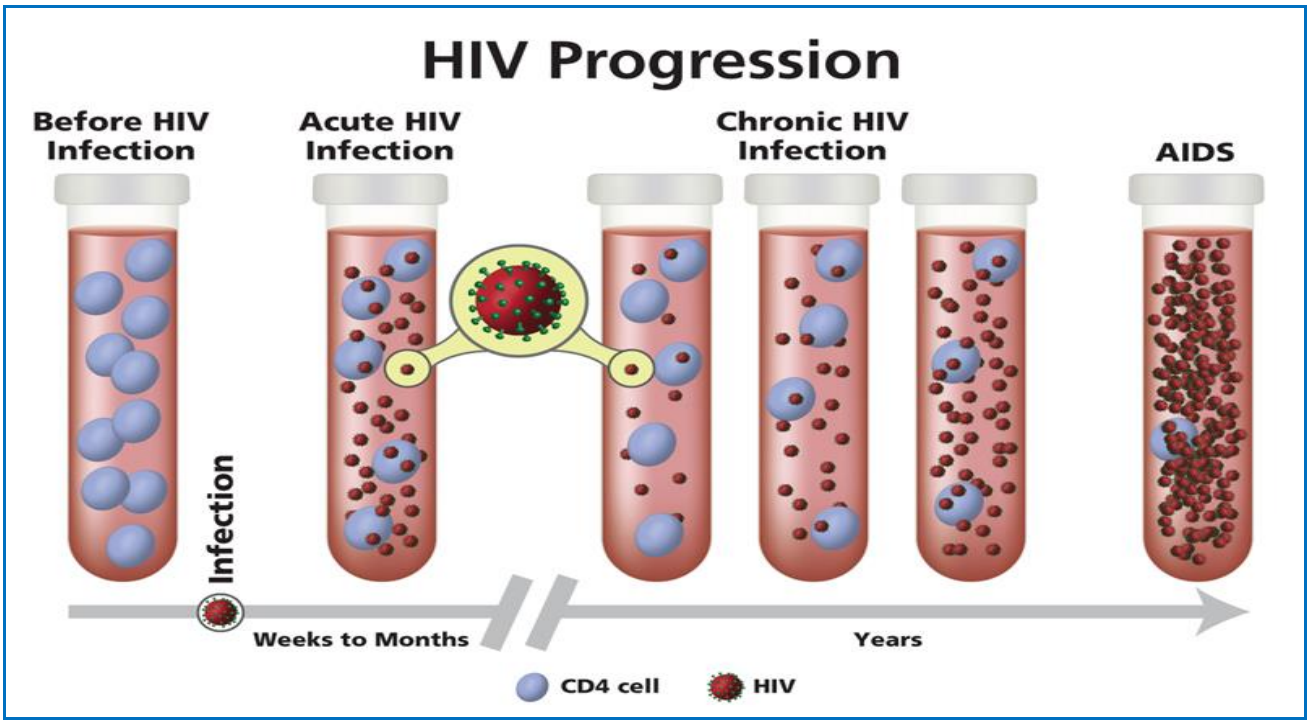


STAGES OF HIV INFECTION

Without treatment, HIV infection advances in stages, getting worse over time. HIV gradually destroys the immune system and eventually causes acquired immunodeficiency syndrome (AIDS).

There is no cure for HIV infection, but HIV medications, called antiretrovirals or ARVs, can prevent HIV from advancing to AIDS. HIV medications help people with HIV live longer, healthier lives. HIV medications also reduce the risk of HIV transmission.

FIGURE 5: Relationship Between CD4 Cells & the HIV Virus in the Progression of HIV Infection



There are three stages of HIV infection:

STAGE 1: ACUTE HIV INFECTION

Acute HIV infection is the earliest stage of the HIV infection, generally developing within 2 to 4 weeks after a person is infected with HIV. During this time, some people have flu-like symptoms, such as fever, headache, and rash. In the acute stage of infection, HIV multiplies rapidly and spreads throughout the body. The virus attacks and destroys the infection fighting CD4 cells of the immune system. During the acute HIV infection stage, the level of HIV in the blood is very high, which greatly increases the risk of HIV transmission.

STAGE 2: CHRONIC HIV INFECTION

The second stage of the HIV infection is chronic HIV, also called asymptomatic HIV or clinical latency. During this stage of the disease, HIV continues to multiply in the body but at very low levels. People with chronic HIV infection may not have any HIV-related symptoms, but they can still spread HIV to others. Without treatment with HIV medication, chronic HIV infection usually advances to AIDS approximately in 10+ years, although it may take less time for some patients.

STAGE 3: AIDS

AIDS is the final, most severe stage of HIV infection. Because HIV has severely damaged the immune system, the body can't fight off opportunistic infections. (Opportunistic infections are infections and infection-related cancers that occur more frequently or are more severe in people with weakened immune systems than in people with healthy immune systems.) People with HIV are diagnosed with AIDS if they have a CD4 count of < 200 cells/mm^3 or if they have certain opportunistic infections. Without treatment, people who have transitioned to stage 3 - AIDS typically survive about 3 years.

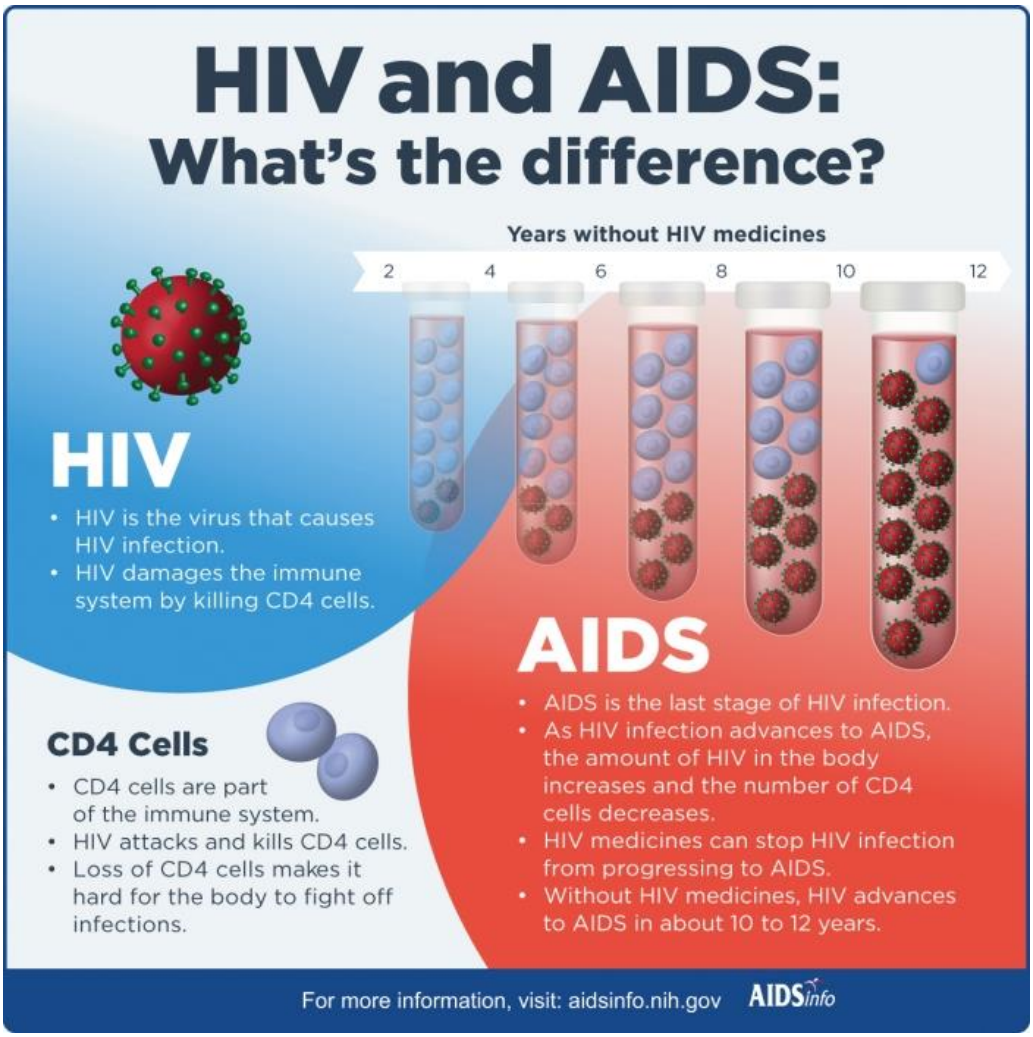


FIGURE 6:
HIV vs. AIDS

CLINICAL LATENCY

During this phase, a person infected with HIV may remain free of HIV-related symptoms for months to years, even though they have an HIV positive status. In clinical latency HIV infected cells can go into a resting state and stop producing HIV. A latent HIV reservoir is a group of immune cells in the body that are infected with HIV but are not actively producing new virus. At any time, these cells in the latent reservoir can become active again and start making more HIV.

TRANSMISSION

HOW IS HIV TRANSMITTED?

HIV is spread through contact with certain body fluids from a person with HIV including:

- Blood
- Semen
- Pre-seminal fluid
- Vaginal fluids
- Rectal fluids
- Breast milk

For transmission to occur, these fluids must come in contact with a mucous membrane, damaged tissue, or be injected directly into the bloodstream via a needle or syringe. Mucous membranes are found inside the rectum, vagina, penis, and mouth. Mucous membranes are also located in the eye and nasal passages, although less likely to be exposed to the HIV virus. The spread of HIV from person to person is called HIV transmission.

MOTHER TO CHILD

Mother-to-child transmission is the most common way that children become infected with HIV. HIV medicines, given to women with HIV during pregnancy and childbirth and to their babies after birth, reduce the risk of mother-to-child transmission of HIV.

SEXUAL CONTACT

In the United States, HIV is spread mainly by having unprotected sex with or sharing needles or drug injection equipment with someone who is HIV positive. This risk can be reduced by using condoms correctly and consistently during sex, limiting the number of sexual partners, and never sharing drug injection equipment.

SHARING NEEDLES

Sharing needles is a risky behavior since many infectious diseases, including HIV, can be transmitted by the contaminated blood or body fluid that remains on the needle or syringe.

There have been studies that show HIV can survive in contaminated syringes for up to 4 weeks. Survival time is dependent on various factors, however.

TRANSFUSION

Blood and blood products have been tested for HIV since 1985, so the risk of contracting HIV through a blood transfusion after that date is about 1 in 2 million. The reason the risk isn't 0 is because it is possible, although highly unlikely, that a donor may be in the window period when testing would not pick up the virus.

There were patients prior to 1985 that contracted HIV through blood or blood products.

OTHER ROUTES OF TRANSMISSION

Although less likely to occur, there are other unconventional risk factors for transmission when exposed to blood or body fluids, including caretakers, healthcare workers, etc.

HIV TRANSMISSION QUICK FACTS

- HIV cannot survive for very long outside of the body on most surfaces, however, it has been shown that it can survive for up to a week or longer in dried blood
- HIV cannot be transmitted through routine daily activities such as contact with dishes, toilet seats, or doorknobs used by a person with HIV.
- You cannot get HIV by shaking hands or hugging a person who has HIV.
- The virus can only be transmitted from person to person, not through animals, or insect bites.
- People infected with HIV who are taking antiretroviral therapy can still infect others through unprotected sex, needle-sharing, and other risky behaviors.

RISK FACTORS FOR TRANSMISSION

Risk factors for contracting HIV include:

- Engaging in anal, vaginal, or oral sex with men who have sex with men, having multiple partners, or anonymous partners without using a condom
- Sharing needles/syringes for Injecting drugs or other activities
- Having a sexually transmitted infection, such as syphilis, genital herpes, chlamydia, gonorrhea, bacterial vaginosis, or trichomoniasis
- Having been diagnosed with hepatitis, tuberculosis, or malaria
- Exchanging sex for drugs or money
- Exposure to the virus as a fetus before or during birth or through breastfeeding as an infant from an HIV infected mother
- Received a blood transfusion or clotting factor in the U.S. anytime between 1978 to 1985
- Engaged in unprotected sex with someone who has any of the risk factors listed above

HIV transmission is possible at any stage of HIV infection, even when a person with HIV has no symptoms of HIV.

SYMPTOMS

EARLY STAGE SYMPTOMS

In the first stages of HIV infection, approximately 40-90% of those infected will have flu-like symptoms within a 2-4 weeks after infection. Those non-specific symptoms may include:

- Fever
- Chills
- Headache & muscle aches
- Tiredness
- Rash
- Sore throat
- Mouth ulcers
- Enlarged lymph nodes in the neck and groin area

These symptoms usually only last for a few weeks and are often mistaken for another viral infection, such as flu. During this period, although the infection won't show up on a blood test, people are highly infectious because HIV is present in large quantities in genital fluids and blood. Some people infected with HIV may have more severe symptoms at first or symptoms that last a longer time, while others may have no symptoms at all for many years.

After this earliest stage of HIV infection, HIV continues to multiply but at lower levels.

CLINICAL LATENCY SYMPTOMS

During this stage, HIV is still active but reproduces at very low levels and tends to hide within cells. People with chronic HIV infection may have only mild symptoms or may not have any HIV-related symptoms at all if their disease is controlled by medication.

LATE STAGE SYMPTOMS AND PROGRESSION TO AIDS

During the late stages of HIV infection, the virus severely weakens the immune system, and people infected with the virus may have the following symptoms:

- Rapid weight loss
- Recurring fever or profuse night sweats
- Extreme and unexplained fatigue
- Pneumonia
- Memory loss, depression, and other neurologic disorders.
- Prolonged swelling of the lymph glands
- Diarrhea that lasts for > 1 week
- Sores of the mouth, anus, or genitals
- Red, brown, pink, or purple blotches on or under the skin

As the infection progresses to AIDS with a CD4+ count less than 200/mm^3, additional diseases occur, including AIDS related cancers, aggressive opportunistic infections, and other chronic illnesses.

TESTING AND DIAGNOSIS

WHO SHOULD GET TESTED

The Centers for Disease Control and Prevention (CDC) recommends that everyone between the ages of 13 to 64 years old be tested at least once as part of their routine medical care.[2] Regular HIV screenings allow healthcare providers to identify people who are not aware that they are infected with HIV, so that they can be counseled on the need to avoid high-risk behaviors, instructed on safe-sex practices, and given information about starting antiretroviral therapy. HIV testing can also be performed anonymously if a person is concerned about confidentiality.

THOSE WITH HIGH RISK BEHAVIORS

As a general rule, people with high risk behaviors should get tested at least annually and some may benefit from testing every 3 to 6 months. [2]

PREGNANT WOMEN

The CDC recommends that all pregnant women get tested for HIV so that they can begin taking HIV medication if they are HIV Positive. Women who are positive for HIV should take prescribed medication during pregnancy and childbirth to reduce the risk of mother-to-child transmission of HIV and to protect their own health.

NEWBORNS AND INFANTS

It is difficult to determine if a baby born to a mother infected with HIV is actually HIV positive because babies carry their mothers' HIV antibodies for several months after birth. Today, healthcare providers can conduct an HIV test for infants between ages 3 months and 15 months. Researchers are now evaluating several blood tests to determine which ones are suitable for testing babies younger than 3 months.

TYPES OF HIV TESTS

HIV testing first became available in 1985 and over the years has evolved with new testing methods being developed, each of which is approved by the FDA.

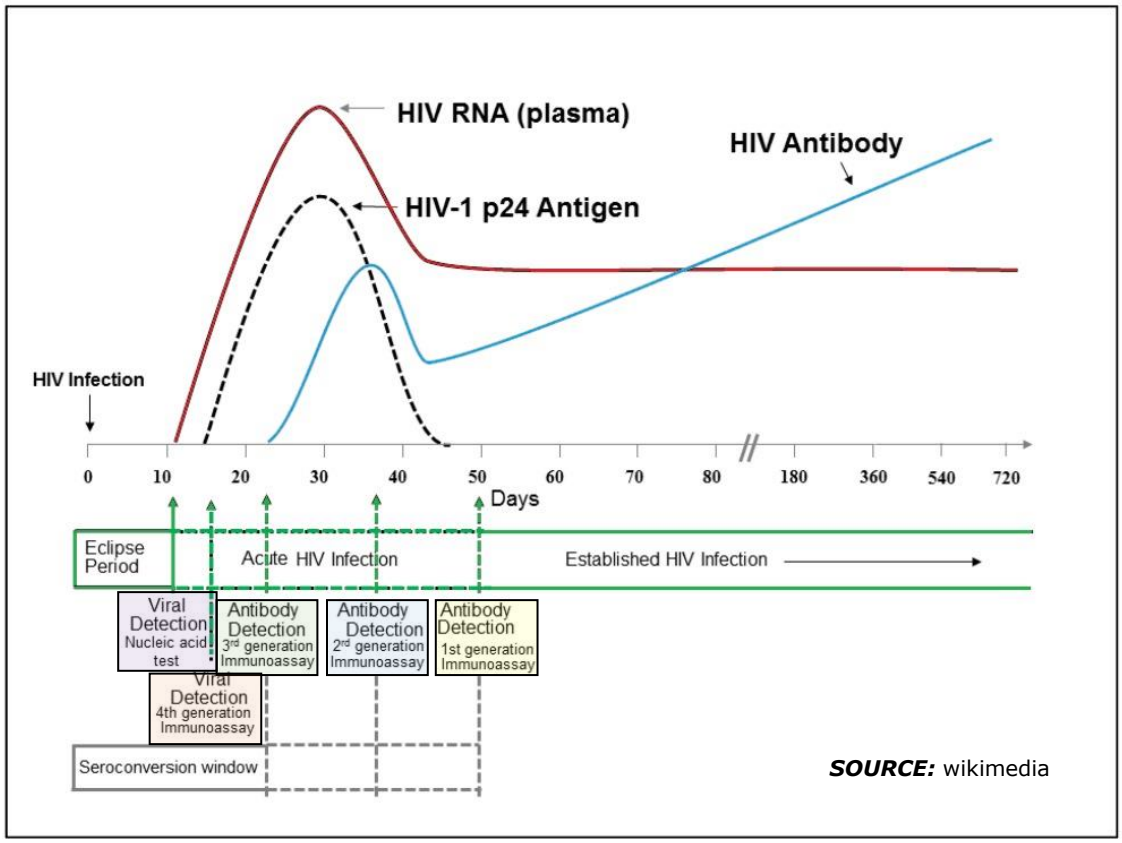
The three types of testing currently in use are:

- HIV Antibody Tests

- Combination or 4th Generation Tests: HIV Antigen / Antibody (p24)
- Nucleic Acid Testing (NAT)

Regardless of whether the test is looking for HIV Antigen, HIV Antibodies or viral load, there is a **Window Period** where the patient will test HIV negative even though they have been exposed to the virus. Regardless of the test, the window period varies from person to person and from test to test. If a possible exposure occurred and the test is negative, the patient should be retested, usually at 3 months.

FIGURE 7: HIV Testing and Associated Window Periods For Detection



HIV ANTIBODY TESTS

Also Known As: HIV Screening Test, Rapid Screening

What Is Being Tested: This test is used for screening to see if the body is producing antibodies to the HIV virus, it does not test for the HIV virus itself. All HIV antibody tests used in the U.S. detect HIV-1 and some tests have been developed that can also screen for HIV-2.

Tests for antibody screening alone can be performed on blood or oral fluid and can be performed in a laboratory setting, non-laboratory setting, or at home as most are waived by CLIA. These tests can detect HIV infections in most people 3-12 weeks after exposure.

How Is It Used: HIV antibody testing is used to screen for HIV infection.

Results: If the result is negative the patient does not have HIV Antibody in their blood at that time. If they think they may have been exposed or participate in risky behaviors, they will be prompted to repeat the test in 3 months to confirm.

If the result is positive, a second test known as **confirmatory testing** will need to be completed. Confirmatory testing confirms whether the test result is a true positive.

HIV ANTIBODY / HIV ANTIGEN (p24)

Also Known As: HIV Screening Test, HIV Serology, p24 Antigen, 4th Generation Testing, Combination Testing

What Is Being Tested: This test is a combination test which can test for both HIV-1 & HIV-2 Antibodies that the person's body is making against the HIV virus. It also tests for the HIV Antigen p24, which is part of the viral core. These tests can detect HIV infections in most people by 2-6 weeks after exposure.

How Is It Used: HIV antibody and HIV antigen (p24) testing is used to screen for and diagnose an HIV infection.

Results: If the result is negative the patient does not have HIV Antigen or Antibody in their blood at that time. If they think they may have been exposed or participate in risky behaviors, they will be prompted to repeat the test in 3 months to confirm.

If the result is positive, a second test known as **confirmatory testing** will need to be completed. Confirmatory testing confirms whether the test result is a true positive.

NUCLEIC ACID TEST (NAT)

Also Known As: HIV by PCR, HIV RNA Test, HIV Viral Load, Nucleic Acid Amplification Test (NAAT), or Nucleic Acid Test (NAT)

What Is Being Tested: This quantitative test measures the "viral load" of the patient by measuring the amount of HIV genetic material, or RNA, present in the blood. As the virus replicates within the body it makes additional "copies" of itself and this test reports how many "copies of the virus" are present. Most people infected with HIV will have enough virus in their blood within 1 to 4 weeks of infection for the nucleic acid testing.

If a person is untreated, treated inadequately, or is moving into the later stages of the disease, the results of the NAT will show a rising number of HIV copies in the body.

How Is It Used:

- This test is used along with the CD4 count to determine the status of an HIV infection in a person initially diagnosed with the disease.
- To monitor the effectiveness of antiretroviral treatment (ART) over time.
    - If a patient is not positively responding to ART or combination of drugs their viral load will increase or rise
    - If the viral strain is resistant to the medication given, their viral load will increase

TREATMENT OF HIV

Today there are a host of HIV medications known as antiretroviral therapy, or ART, that are approved by the FDA for treatment. People on ART take a combination of HIV medications, known as an HIV regimen, every day. A person's initial HIV regimen generally includes three HIV medications from at least two different drug classes that each affect a different part of the viral replication process.

These treatments do not cure people of HIV or AIDS. Rather, they suppress the virus, even to undetectable levels, but they do not completely eliminate HIV from the body.

CLASSES OF HIV/AIDS ANTIRETROVIRAL DRUG CLASSES

There are major drug classes used to treat HIV/AIDS called antiretrovirals because they act against the retrovirus HIV, these drugs are grouped by how they interfere with steps in HIV replication:

Entry Inhibitors interfere with the virus' ability to bind to receptors on the outer surface of the cell it tries to enter. When receptor binding fails, HIV cannot infect the cell.

Fusion Inhibitors interfere with the virus's ability to fuse with a cellular membrane, preventing HIV from entering a cell.

Reverse Transcriptase Inhibitors prevent the HIV enzyme reverse transcriptase (RT) from converting single-stranded HIV RNA into double-stranded HIV DNA—a process called reverse transcription. There are two types of RT inhibitors:

1. Nucleoside/nucleotide RT inhibitors (NRTIs) affect faulty DNA building blocks. When one of these faulty building blocks is added to a growing HIV DNA chain, no further correct DNA building blocks can be added on, halting HIV DNA synthesis.
2. Non-nucleoside RT inhibitors (NNRTIs) bind to RT, interfering with its ability to convert HIV RNA into HIV DNA.

Integrase Inhibitors block the HIV enzyme integrase, which the virus uses to integrate its genetic material into the DNA of the cell it has infected.

Protease Inhibitors interfere with the HIV enzyme called protease, which normally cuts long chains of HIV proteins into smaller individual proteins. When protease does not work properly, new virus particles cannot be assembled.

Multi-class Combination Products combine HIV drugs from two or more classes, or types, into a single product.

Chemokine Receptor (CCR5) Antagonists block CCR5 corecptors on the surface of certain immune cells that HIV needs to enter the cells.

Post-Attachment Inhibitors block CD4 receptors on the surface of certain immune cells that HIV needs to enter into the cells.

Pharmacokinetic Enhancers are used in HIV treatment to increase the effectiveness of an HIV medicine included in an HIV regimen.

PREVENTION

Preventing new HIV infections is the key step toward ending the HIV pandemic as we know it. NIAID-supported researchers have worked since the early days of AIDS in the 1980s to identify prevention tools to keep people healthy. Today, an array of prevention methods are available for use in combination or on their own, and scientists continue to work to develop and improve cutting-edge tools and techniques that can work to prevent HIV in diverse populations around the world.

To reduce your risk of becoming infected with HIV or transmitting the virus to others:

- Get tested regularly for HIV
- Practice abstinence
- Remain faithful to your spouse or partner
- Consistently use male latex or female polyurethane condoms
- Do not share needles

PRE-EXPOSURE PROPHYLAXIS (PREP)

"PrEP" stands for Pre-Exposure Prophylaxis. PrEP is a way for those that are high risk, but HIV negative, to take a pill every day to help prevent HIV infection. The pill contains two medications that are also used to treat HIV. If you take PrEP and are exposed to HIV through sex or injection drug use, the medication can help work to keep the virus from infecting your cells.

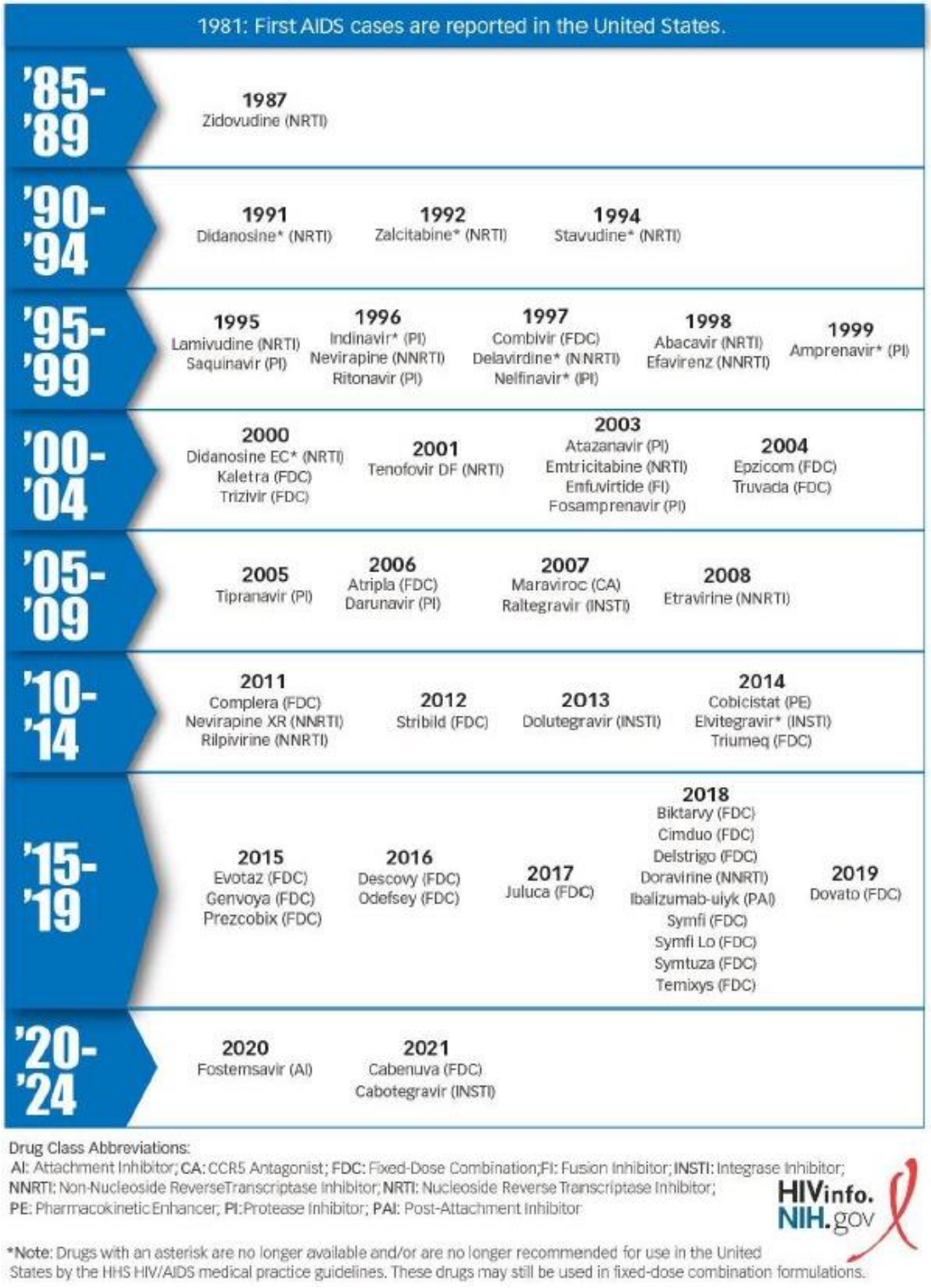
PrEP is a powerful HIV prevention tool and can be combined with condoms and other prevention methods to provide even greater protection than when used alone. But people who use PrEP must commit to taking the drug every day and seeing their health care provider for follow-up every 3 months. As mentioned, PrEP should not be used in place of safe practices as is it not always 100% effective. There have been several documented cases where the medication did not work and people have contracted HIV.

POST-EXPOSURE PROPHYLAXIS (PEP)

PEP stands for post-exposure prophylaxis. It means taking antiretroviral therapy (ART) after being potentially exposed to HIV to prevent becoming infected.

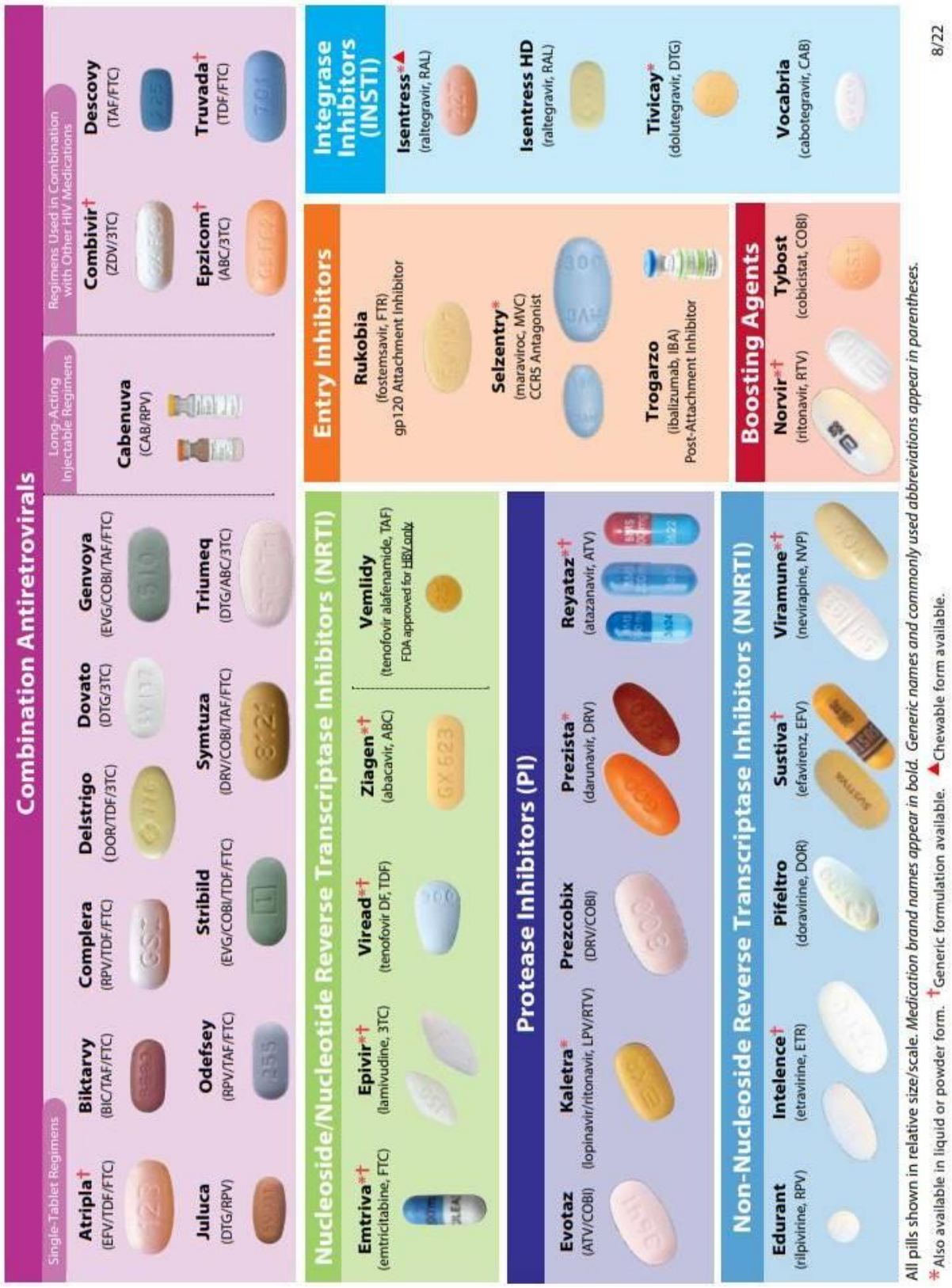
PEP must be started within 72 hours after a recent possible exposure to HIV, but the sooner you start PEP the better, as every hour counts. If you're prescribed PEP, you'll need to take it once or twice daily for 28 days. PEP is effective in preventing HIV when administered correctly but is not a 100% guarantee.

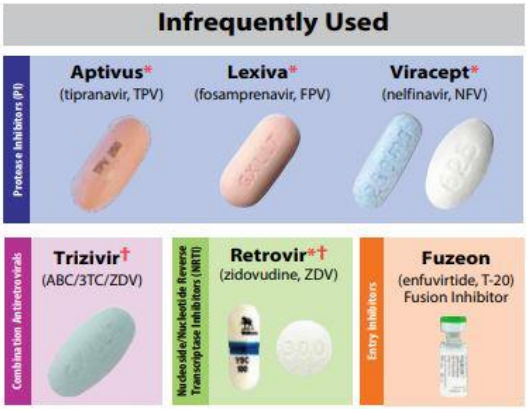
APPENDIX A : FDA APPROVED MEDICATIONS

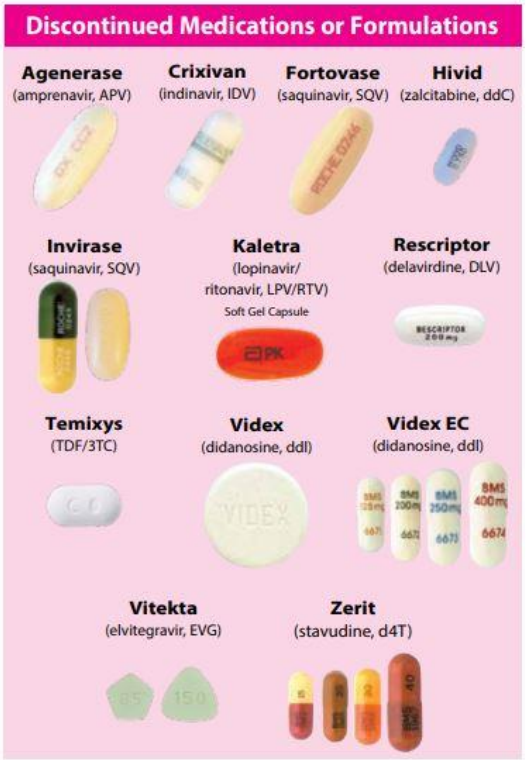


SOURCE: FDA Approved HIV Medications

APPENDIX B: HIV MEDICATION CHART







Helpful Hints:

- Refill prescriptions before you run out. Call for refills when you have at least 3 or 4 days left.
- Use cues as a reminder to take your pills (after a meal or favorite TV show, or before bedtime).
- Use reminder aids such as phone alarms and pillboxes. Ask your pharmacist about these.
- Plan ahead (vacations, travel, count out weekly doses).
- Do not stop taking your medications until you have spoken with your health care provider or pharmacist.
- If you have a severe reaction or in case of emergency, contact your health care provider IMMEDIATELY.

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SOURCE: AIDSETC Colorado AIDS Education and Training Center

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