



# HIV for CNAs

**This course has been awarded  
one (1.0) contact hours**

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Note: All dosages given are for adults unless otherwise stated. The information on medications contained in this course is not meant to be prescriptive or all-encompassing. You are encouraged to consult with physicians and pharmacists about all medication issues for your patients.

## **Purpose and Objectives**

The purpose of this course is to inform you about human immunodeficiency virus (HIV). This course prepares you to care for HIV patients while protecting yourself from exposure. The course includes specific information about Florida law.

### ***After successful completion of this course, you will be able to:***

1. Delineate stages of HIV
2. Describe HIV prevention
3. Discuss HIV medications
4. Identify populations at risk for HIV
5. Delineate HIV exposure prevention methods
6. Discuss Florida regulations regarding HIV identification and reporting

## **Overview**

HIV infections are NOT new. HIV is attributed to a type of chimpanzee in central Africa; which, had a virus known as simian immunodeficiency virus or SIV. The virus was most likely transmitted to the hunters of these chimpanzees when they came in contact with the chimpanzee blood. SIV then mutated and became HIV. Studies show that HIV occurred as early as the 1800s. AIDS was first identified in 1981 in the United States (U.S.) and since that time policies, processes, medications, and standardized requirements for prevention have been put in place resulting in a significant and continual decline in the number of new cases (National Prevention Information Network, 2017).

Each state has regulations surrounding HIV and AIDS testing and reporting. You should be aware of where to find this information in your facility.

### **Definitions:**

**HIV:** The human immunodeficiency virus (HIV) damages cells in the immune system decreasing the body's ability to fight infections and certain cancers (Centers for Disease Control and Prevention (CDC), 2017).

**Autoimmune deficiency syndrome (AIDS):** The most severe phase of HIV infection. AIDS patients have such badly damaged immune systems that they are at highest risk to get opportunistic infections (HIV.gov, (2017)).

**Opportunistic Infections:** Infections which occur more frequently and are more severe in individuals with weakened immune systems (CDC, 2017b).

### **Statistics:**

The Centers for Disease Control and Prevention collects and analyzes surveillance HIV and AIDS data from annual surveys. The latest data includes:

Rate of HIV diagnosis: 12.3/1000

Rate of AIDS diagnoses: 5.6/1000

Rate of death with HIV infection present: 4.8/1000

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Rate of death by AIDS present: 3.9/1000

- Approximately 522,283 people are living with AIDS
- Approximately 1.1 million people are living with HIV
  - 15% or 1 in 7 did not they were infected
  - HIV diagnoses have decreased by 5% since 2011
  - 39,872 new diagnoses were reported in 2016
  - Diagnoses per age group:
    - Age group: 25-29 have increased (rate: 34.8/1000)
    - Age group: 20-24 have remained stable (rate: 30.3/1000)
    - All other age groups have remained stable or decreased
  - Diagnoses per race/ethnicity:
    - Blacks/African Americans decreased (rate: 43.6/1000)
    - Hispanic /Latinos remained stable (rate: 17/1000)
    - Mixed heritage: have decreased (rate: 12.9/1000)
    - American Indians/Alaska Natives have increased (rate: 10.2/1000)
    - Native Hawaiians/pacific Islanders have increased (rate: 8.5/1000)
    - Asians have increased (rate: 5.5/1000)
    - Whites have decreased (rate: 5.2/1000)
  - Diagnoses by gender:
    - Diagnoses have decreased for both genders
    - Males: 81% of diagnoses (rate: 24.3/1000)
    - Female: 19 % of diagnoses (rate: 5.4/1000)
  - Diagnoses by region:
    - South: decreased (rate: 16.8/1000)
    - Northeast: decreased (rate: 11.2/1000)
    - West: remained stable (rate: 10.2/1000)
    - Midwest: remained stable (rate: 7.5/1000)
  - Transmission:
    - The annual number of diagnosed HIV infections attributed to injection drug use, to male-to-male sexual contact and injection drug use, or to heterosexual contact decreased.
    - Male-to-male sexual contact and injection drug use (70%) and heterosexual contact (24%) attributed to 94% of all HIV diagnoses

(CDC, 2017c)

To see the full surveillance report go to:

<https://www.cdc.gov/hiv/pdf/library/reports/surveillance/cdc-hiv-surveillance-report-2016-vol-28.pdf>

### **Fiscal Implications:**

The cost to treat a person with a HIV infection across all stages is \$23,000 annually or approximately half a million dollars during a life time (CDC, 2017d).

### **Test Your Knowledge**

The rate of new HIV diagnoses is decreasing across the nation; however, 94% of HIV infections are attributed to which group(s) and behaviors (select all that apply).

- A. Heterosexuals
- B. Homosexuals**
- C. Injection drug use
- D. Prescription drug use

Rationale: Transmission:

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- The annual number of diagnosed HIV infections attributed to injection drug use, to male-to-male sexual contact and injection drug use, or to heterosexual contact decreased.
- Male-to-male sexual contact and injection drug use (70%) and heterosexual contact (24%) attributed to 94% of all HIV diagnoses

## Risk Factors

Risk factors for contracting HIV include:

- Same gender sexual contact
- Infants born to untreated HIV infected women
- Intravenous drug use and/or share needles
- Unprotected sexual contact

(CDC, 2017)

## Did You Know?

Where you live may increase the risk for contracting HIV? Living in an area with a high prevalence of HIV infection, increases your risk!! For more information regarding HIV prevalence in US communities, go to <https://www.cdc.gov/hiv/programresources/guidance/costeffectiveness/index.html>

## Disease Transmission

Myth: HIV is transmitted by:

- Air/water
- Saliva, sweat, tears, closed-mouth kissing
- Insects or pets
- Sharing toilets, food or drinks

Fact: HIV is transmitted through certain body fluids:

- Blood, semen, pre-seminal fluid, rectal fluids, vaginal fluids, and breast milk—**from a person who has HIV**
- These fluids must contact mucous membranes or damaged tissues or be directly injected into the bloodstream for transmission to occur
- Most commonly, people get or transmit HIV through sexual behaviors and needle or syringe use.

(CDC, 2017)

In the U.S., HIV is most commonly spread by:

- Having anal or vaginal intercourse with someone who has HIV without the use of a condom
- Not taking medications for prevention or treatment of HIV
- Sharing needles or syringes
- Sharing rinse water and other equipment used to prepare drugs for injection

(CDC,2017)

## Did You Know?

HIV can live in a used needle up to 42 days depending on temperature and other factors (CDC, 2017).

## Test Your Knowledge

HIV is transmitted through:

- A. Sitting on toilet seats
- B. Air/water
- C. Sharing needles or syringes**
- D. Insects

**Rationale:** Myth: HIV is transmitted by:

- Air/water
- Saliva, sweat, tears, closed-mouth kissing
- Insects or pets
- Sharing toilets, food or drinks

Fact: HIV is transmitted through certain body fluids:

- Blood, semen, pre-seminal fluid, rectal fluids, vaginal fluids, and breast milk—**from a person who has HIV**
- These fluids must contact mucous membranes or damaged tissues or be directly injected into the bloodstream for transmission to occur
- Most commonly, people get or transmit HIV through sexual behaviors and needle or syringe use.

## HIV Disease

**The HIV virus causes a life-long infection that has NO cure** (National Institutes of Health (NIH), 2017). This virus attacks the body's immune system, specifically the CD4 cells, often called T cells. These cells enable the immune system to resist infection and disease. Untreated, HIV reduces the number of CD4/T cells, weakening the immune system. Opportunistic infections or cancers can take advantage of this weak immune system. Taking antiretroviral therapy (ART), may slow the progression and will dramatically lessen the risk of transmitting the disease to others. However, the medication **MUST** be taken correctly to have these results. (CDC,2017).

### Stages of HIV Infection

HIV is progressive, the disease process moves through three stages.

- **Acute HIV Infection:** In the first 2 to 4-week period after exposure to the HIV virus the person may have flu-like symptoms; this is the body's natural defense to an infection. However, many people may not feel sick at all, so they do not suspect that they have HIV. During this phase the HIV virus multiplies rapidly and the person is very contagious. A fourth-generation antibody/antigen test or a nucleic acid test (NAT) is necessary to diagnosis the acute HIV infection (CDC, 2017 & NIH, 2017).
- **Chronic Infection (Clinical Latency-HIV inactivity or dormancy)**  
Chronic infection or asymptomatic HIV infection is the second phase. During this phase, the HIV virus is active, but reproducing at a much slower rate. This means that there are lower levels of the virus in the blood. This phase may last 10 years or longer. Although, patients usually remain free of symptoms during this stage, they are still contagious and can transmit the disease to others. At the end of this phase, the viral count begins to rise, the CD4 (T cell) count begins to

decrease, and the patient becomes symptomatic. At this time, the patient moves to the final stage (CDC, 2017 & NIH, 2017).

- **Acquired Immunodeficiency Syndrome (AIDS)**

AIDS is the final and most severe stage of HIV infection. Because HIV has badly damaged the immune system, the body can't fight off infections or cancers. People with AIDS have a very high viral load and are extremely contagious. During this phase the patient may exhibit the following symptoms:

- Fever
- Chills
- Sweats
- Swollen lymph glands
- Weakness
- Weight loss

AIDS is diagnosed when a person with HIV has a CD4 (T cell) count of less than 200 cells/mm<sup>3</sup> and/or one or more opportunistic infections. Some common opportunistic infections include pneumonia and tuberculosis (CDC, 2017 & NIH, 2017).

For a more inclusive list of opportunistic infections, go to <https://www.cdc.gov/hiv/basics/livingwithhiv/opportunisticinfections.html>

## **Did You Know?**

Without treatment, people with AIDS typically survive about 3 years

With treatment starting in the early stages, people can live nearly as long as someone who does not have HIV (CDC, 2017 & NIH, 2017).

## **Test Your Knowledge**

HIV is:

- A. A curable disease process when medications are taken
- B. An incurable disease process**
- C. AIDS
- D. Not contagious

Rationale: **The HIV virus causes a life-long infection that has NO cure** (National Institutes of Health (NIH), 2017). This virus attacks the body's immune system, specifically the CD4 cells, often called T cells. These cells enable the immune system to resist infection and disease. Untreated, HIV reduces the number of CD4/T cells, weakening the immune system. Opportunistic infections or cancers can take advantage of this weak immune system. Taking antiretroviral therapy (ART), may slow the progression and will dramatically lessen the risk of transmitting the disease to others. However, the medication **MUST** be taken correctly to have these results. (CDC,2017).

## **HIV Medications**

No effective cure currently exists for HIV. But with proper medical care, HIV can be controlled.

Treatment for HIV is called antiretroviral therapy or ART. If taken the right way, every day, ART can dramatically prolong the lives of many people infected with HIV, keep them healthy, and greatly lower their chance of infecting others

## **Antiretroviral Therapy (ART)**

Antiretroviral therapy is recommended for everyone infected with the HIV virus.

- ART should be started as soon as possible after exposure to the HIV virus
  - In the following populations, it is essential that ART is started immediately
    - Pregnancy
    - AIDS
    - Opportunistic Infections
- HIV medications **MUST** be taken every day and exactly as prescribed

ART is a life-long treatment! Adherence to an HIV regimen prevents HIV from multiplying and destroying the immune system.

## **Food and Drug Administration (FDA) Approved HIV Medications**

Currently the FDA has approved more than 25 HIV medications. These drugs are divided into six categories according to how they fight HIV. The medical provider, after a discussion with the patient and taking an extensive medical history, will decide which medications to use. The first regime consists of three medications from at least 2 different categories (NIH, 2017b).

Want to know about HIV medications? Go to <https://aidsinfo.nih.gov/understanding-hiv-aids/fact-sheets/21/58/fda-approved-hiv-medicines>

## **Side Effects of HIV Medications**

HIV patients can be sick from the side effects of their medicine. In addition to the HIV medications, many patients may be taking other medicines. Problems HIV patients have include:

- Bleeding
- Nerve pain
- Loss of appetite
- Nausea + vomiting
- Shortness of breath
- Fevers + sore throat
- Fatigue + weakness
- Confusion + agitation
- Headaches + dizziness
- Insomnia or drowsiness
- Stomach + abdominal pain
- Unusual body fat distribution

## **Compliance Issues**

It is not easy to treat people with HIV. The medicine must be changed frequently. Patients need to have their blood tested regularly. Most importantly, patients must always take their medicines as prescribed to keep HIV from progressing. Getting patients to do this can be a big challenge. Some patients have trouble fitting HIV treatment into their lifestyle, and they need professional encouragement and counseling.

## **Test Your Knowledge**

Medications for HIV should be:

- A. Taken exactly as prescribed**
- B. Taken until symptoms disappear



- C. Taken only when symptoms are present
- D. Taken for AIDS only

Rationale: Antiretroviral therapy is recommended for everyone infected with the HIV virus.

- ART should be started as soon as possible after exposure to the HIV virus
  - In the following populations, it is essential that ART is started immediately
    - Pregnancy
    - AIDS
    - Opportunistic Infections
- HIV medications MUST be taken every day and exactly as prescribed

ART is a life-long treatment! Adherence to an HIV regimen prevents HIV from multiplying and destroying the immune system.

## HIV and AIDS Prevention

Many tools are available to prevent HIV exposure and transmission. The most important tools are knowledge and conscientiousness. A person who has HIV or AIDS is responsible to acknowledge that they have the disease and take measures to prevent the transmission of the disease.

Prevention strategies include:

- Abstinence/not having sexual relations
- Limiting the number of sexual partners
- Using condoms every time you have sex
- Never sharing needles
- Taking HIV/AIDS medications as directed

Today, medications for the prevention of HIV/AIDS called pre-exposure prophylaxis (PrEP) can be taken by individuals who are at very high risk for HIV. These HIV medications when taken as directed are very effective in lowering the chances of getting HIV (CDC, 2017).

## Healthcare Providers

The risk of health care workers being exposed to HIV on the job (occupational exposure) is very low, especially if they use protective practices and personal protective equipment to prevent HIV and other blood-borne infections. For health care workers on the job, the main risk of HIV transmission is from being stuck with an HIV-contaminated needle or other sharp object. However, even this risk is small.

***Scientists estimate that the risk of HIV infection from being stuck with a needle used on an HIV-infected person is less than 1% (CDC, 2017).***

## Isolation Techniques

HIV transmission is greatly reduced by following established isolation techniques.

### Note:

Follow your hospital's policies and procedures for universal precautions and isolation. Use the gloves, goggles, gowns, and other protective equipment that are provided for you when you may encounter:

- Blood

- Semen
- Body tissue
- Vaginal secretions
- Body fluids

## Hand Hygiene

**Gloves are the most important barrier.** ALWAYS wear them for EVERY patient and change gloves between patients. Wash your hands immediately before and after donning gloves (CDC, 2017b).

## Work Related Exposure

If you experience a needle stick injury or other blood or bodily fluid exposure, the CDC recommends that the following steps be followed immediately:

- Wash needlesticks and cuts with soap and water
- Flush splashes to the nose, mouth, or skin with water
- Irrigate eyes with clean water, saline, or sterile irrigation fluids
- Report the incident to your supervisor
- Immediately seek medical treatment

(The National Institute for Occupational Safety and Health (NIOSH), 2016)

Follow your hospital's policy for testing and treatment. Do not wait until the end of your shift.

You can expect to be tested for HIV immediately after exposure and then routinely for the next 4-6 months. The patient will also be contacted to have blood drawn to test for the presence of HIV or other bloodborne diseases. The risk for bloodborne disease is low, you may not receive medications; however, if the patient is known to have HIV or at a high risk for HIV you will be given a HIV medication regime until your HIV testing is concluded and you are determined not to have contracted the disease (NIOSH, 2016).

## Taking Care of Yourself

Caring for HIV-infected patients is challenging, both physically and emotionally. Over time, you may feel close to your patients and their families. They may treasure you as someone they can depend on and trust. The boundaries that separate job duty and personal friendship can easily blur. This increases your emotional stress.

Remember to attend to your own needs and manage your stress. Use healthy habits in your lifestyle:

- Get enough rest
- Drink less alcohol
- Exercise regularly
- Don't use recreational drugs
- Eat well and don't skip meals or eat while working

Remember to take a break:

- Avoid working overtime
- Don't talk about work at lunch
- Leave your work area for lunch
- Use your vacation time for fun only
- Ask to temporarily work in another area

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- Consider reducing your scheduled work hours

Nurture your life away from work:

- Get a pet
- Explore a new hobby
- Spend more time with your family
- Avoid volunteering for HIV-related events
- Let other people take care of you when you need it
- Read a good book about something other than healthcare
- Make friends with people with completely different interests

## **Florida Testing and Reporting Requirements**

Florida regulations require that all healthcare workers complete a one-time educational course on HIV and AIDS. This course fulfills that requirement. It is important to maintain confidentiality when testing and reporting test results as this diagnosis may have many implications both personal and financial for the patient.

Considerations:

- HIV testing is available to anyone who wants to be tested upon signing an informed consent
  - Minors do not have to have parental consent to be tested
  - Partners do not have to be told
  - Exposed people will be contacted for testing but do not have to consent to being tested
  - Patients who have signed a general consent on admissions does not have to sign a second consent
  - Anonymous testing will be available
  - Patients will be advised regarding available counselling resources

All healthcare practitioners are legally required to report sexually transmitted diseases, including HIV. The county health department notifies the patient of results. (HIV Law and Prolicy.org, 2017)

In Florida, people convicted of crimes involving body fluids are ordered to have HIV testing. They can be convicted of a felony if they knowingly infect others with HIV (Florida Statute title XXIX, ch.381.0041).

## **Conclusion**

Knowing about HIV is critical for you and your patients. The number of people with HIV is decreasing. However, HIV still represents a significant health risk. This means that you must protect yourself from becoming infected on the job and with your personal choices. You can give compassionate and yet safe care.

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