

# Cloud Nine Beauty School

Course: Initial HIV/AIDS



**Innovations start here,  
Cloud Nine Beauty School**

**746 US Hwy 27 N  
Avon Park, FL 33825  
(863) 873-2527**

Dear Students,

Thank You for choosing Cloud Nine Beauty School Continue Education services to complete your license requirements.

Our program is designed with you in mind. We offer online testing services and secure payment options through Paypal because it is our top priority that your information is safe and secure when using our services.

We strive to keep our course material up-to-date and easy to understand. If you have any questions about course materials please feel free to contact us for further explanation and clarification.

Thank You,

Tung Nguyen, RDH, BS  
Cloud Nine Beauty School, Director

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## How to complete this course

### Option 1: Internet Option (Fastest)

1. Read and study this course materials
2. Complete the Self-assessment HIV/AIDS test with your name, address and email on our website (<http://www.cnbsce.com/hiv>).
3. If you score higher than 75%, you will be allowed to complete the payment using Paypal Secure payment option on the website
4. A Certificate of Completion will be sent to your email and will also be available to download once payment is received.
5. Optional: Complete the online Course Evaluation

### Option 2: Mail-in Option

1. Read and study this course materials (available at <http://www.cnbsce.com/hiv>)
2. Print and Complete the Self-assessment HIV/AIDS test (pg.13)
3. Include a check or money order payment of \$15 payable to Cloud Nine Beauty School
4. Mail both items to :  
Cloud Nine Beauty School  
746 US Hwy 27 N  
Avon Park, FL 33825
5. If you scored a passing grade (75% or higher); The Certificate of Completion will be mail out to you within 15-20 business days.
6. If you score less than 75%; your answers will be returned with a failed grade.
  - a. Fees are nonrefundable with mail-in option.
  - b. Resubmission of answers is acceptable with another payment of \$15.
7. Optional: Print and Complete Course Evaluation (pg.14) and mail in along with other items.

## Contact US

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## What is HIV/AIDS?

The Human Immunodeficiency Virus (HIV) is the virus that if infected can cause any individual to be HIV-positive and even more severely Acquired Immune Deficiency Syndrome (AIDS). These specialized retroviruses are labeled by scientists as Human Immunodeficiency Virus and their main target is the human body's immune cells. There are many types of immune cells in the body however HIV targets the White Blood Cells (WBC). HIV enters the WBC and causes it to malfunction. Since they are unable to perform their main job, of fighting infections, they will decrease in volume by the body's process of elimination. When a test is performed, on a patient, to determine if he or she has HIV or AIDS, the decreased number of WBC is of great significance. This process is referred to as a blood count. It can be said that the WBC count, in a human body, can be related to whether the person may be HIV positive or AIDS. There are several lab procedures used to test for HIV/AIDS, should a person exhibit common symptoms of the disease. The first case, of what is now known as AIDS, was reported in the United States in June of 1981. The virus had since widely spread throughout the country without a cure.

## How is HIV/AIDS detected?

There are two main tests that are used to determine if a person is infected with HIV. They are called ELISA (Enzyme-Linked Immunosorbent Assay) and Western Blot Assay tests. Usually ELISA is performed first and Western Blot Assay is used to confirm the result of ELISA. Tests are more accurate, if administered, 6 months after the initial infection. An infected person can have a false-negative test result, if tested before the incubation period. A false negative means the test shows the patient is not infected, but the test could be wrong because it is too early to be detected. It takes 2-6months before the virus is detectable and shows traces in the body.

A Complete Blood Count (CBC) test for the amount of WBC known as T-Lymphocytes or CD4+ can measure the risk of the opportunistic infections and the strength of the immune system. This complex medical lab procedure produces a count of CD4+ cells, expressed in number of cells per cubic millimeter of blood. It is important to know that a CD4+ count in a normal healthy human is 500-1000. A CD4+ cell count that ranges between 200-500 may indicate a person is infected with HIV. The CD4+ cell count that is less than 200 may indicate a person could be infected with AIDS.

ELISA is a test develops to detect the antibody level in a patient to determine the presence of the virus. If the first ELISA test is positive, another ELISA test is to be performed. After two positive ELISA tests; the Western Blot Assay test is to be performed as a confirmation. We all know there are natural antibodies in humans that will develop and fight off any malicious or malfunctioning cells to keep the body healthy. These antibodies are then stored inside the body for future reoccurrences. ELISA and Western Blot Assay take advantage of this natural behavior to detect the HIV.

In ELISA, patient blood is diluted and applied to HIV antigens. An antigen is an agent that triggers the particular antibody to turn on and start working. If there is any antibody in the patient's blood that attached itself to the HIV antigen, this is a positive indication of infection. Furthermore, an enzyme is added to the process to produce a color change visible to the human eye. The catalysis of the enzyme gives out the result of the test. The test gives result in numbers.

In Western Blot Assay, viral proteins are separated and immobilized beforehand. The proteins are then separated and an electric current is applied through them. Different proteins depend on the sizes will pass through at different velocity. Base on that scientist can selectively select a sample and continue the process much like of ELISA to detect the HIV. As a result, Western Blot Assay is more specific than ELISA and takes more time to perform because of its complexity.

Additionally, if a person having positive results for both ELISA and Western Blot Assay, they are usually accompanied by common symptoms associated with HIV/AIDS to be declared as HIV-positive or AIDS.

Some of the common symptoms that an HIV/AIDS patient display are,

- Diarrhea that lasts for more than a week
- Dry cough
- Memory loss, depression and neurological disorders
- Pneumonia
- Profound, unexplained fatigue
- Rapid weight loss
- Recurring fever or profuse night sweats
- Red, brown, pink or purplish blotches on or under the skin or inside the mouth, nose or eyelids
- Swollen lymph glands in the armpits, groin or neck
- White spots or unusual blemishes on the tongue, in the mouth, or in the throat

It is important to know that only a certified physician with adequate test results and evident can diagnose a patient as having HIV/AIDS. According to the U.S. Preventive Services Task Force doing this will prevent the chance of false-positive as low as 1 in 250,000 cases.

### **Modes of Transmission:**

HIV remains in specific body fluids. These fluids are blood, semen, vaginal secretions and breast milk<sup>1</sup>. They are involved in many different functions of the body therefore HIV is also found in tissues and organs. The biggest organ in the body is the skin. The skin is lined with networks of veins and arteries that can carry infected blood cells. Our exterior body skin is typically thicker containing three layers; the epidermis, dermis and subcutaneous tissue. Our interior body is lined by a specialized skin called mucous membrane. Mucous membranes are

thinner and are easier to rupture and bleed. Some examples are the oral cavity, anus and vaginal walls. It is important to understand these differences because the majority of the HIV transmission deals with the rupture and penetration of the skin. To be infected with HIV, the specific fluids mentioned above containing blood must come in direct contact with an infected person. The most common mode of transmission is direct contact as sexual contact and sharing of needles. Sexual behaviors, anal and vaginal, that resulted in bleeding presents an opportunity for the infected fluid in the HIV positive person to enter the HIV negative partner. Sharing needles with an HIV positive person can also introduce the virus to the non-infected person because the virus is so microscopic that it may remain on the tip of the needle. Therefore it is important for salons that provide body piercings or tattoos services to use sterile and one time use needles.

It is less common for HIV to be transmitted through oral sex or for an HIV-infected woman to pass the virus to her baby before or during childbirth. It is also less common to pass through breastfeeding or by pre-chewing food for her infant. In the United States, it is possible to acquire HIV through exposure during transfusions, should the blood be infected, through infected blood products, or organ transplantation, though this risk is extremely remote due to rigorous testing of the U.S. blood supply and donated organs.<sup>1</sup> There is also no scientific evidence that French kissing (mouth to mouth) transmits HIV/AIDS.

## **Infection Control Procedures**

Since there is no cure for HIV/AIDS at this time it is important to know how to control the infections. To prevent infections, the Center for Disease Control (CDC) recommends safer techniques and keep personal hygiene. Sharps and used needles should be disposed of in a separately designated container. This will prevent accidental sticks. Healthcare providers should wear protective barriers such as gloves, eyes and face protection.

If an exposure occurred, the following steps should be performed immediately:

Wash needle sticks 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 products.

There is no scientific evidence shows that using antiseptics or squeezing the wound will reduce the risk of transmission of a blood borne pathogen. Using a caustic agent such as bleach is not recommended by the CDC. Exposure to blood borne pathogens should be reported to the appropriate department such as occupational health or infection control so they may further recommend post exposure treatments.

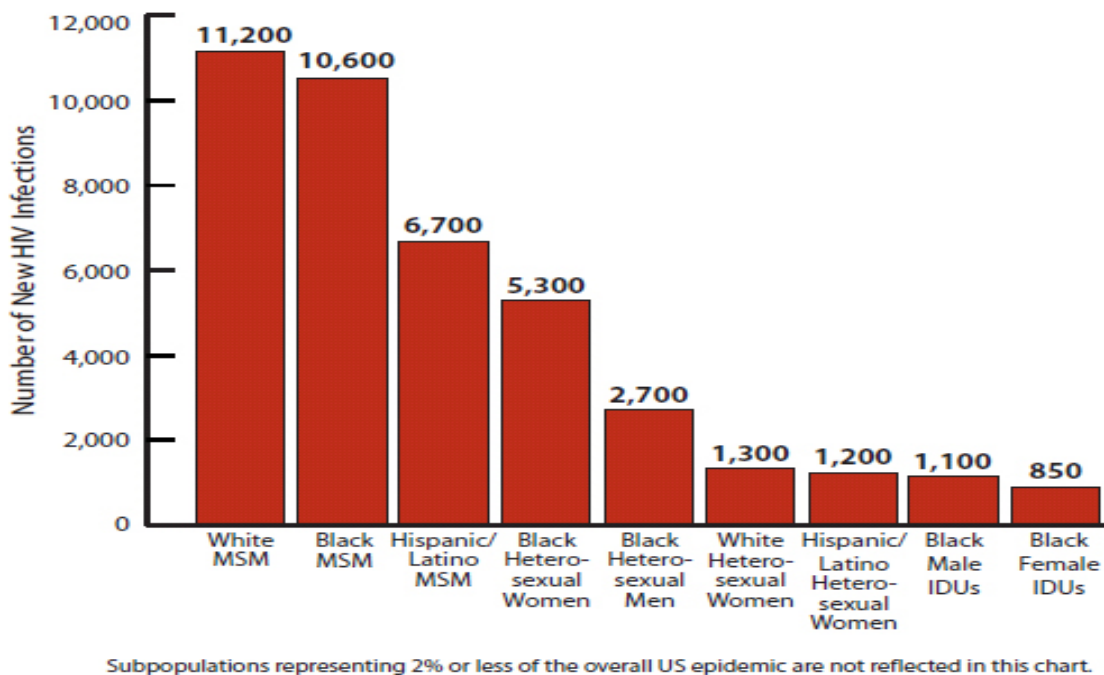
Post exposure treatments for HIV infections consist of a 4-week course of a combination of either two or three antiretroviral drugs. It is a drug that stops or suppresses the activity of retroviruses. The antiretroviral drugs may have different side effects. The physician decides which medications are prescribed. This is done on a case-by-case basis.

For controlling infections, as a result of sexual behavior, the CDC recommends; either abstinence from sexual activity or to be in a long-term mutual monogamous relationship with an uninfected partner. However, sometime an infected person may be unaware of their infections because HIV can be asymptomatic or unrecognized for a long time. In this case latex condoms are recommended. When used consistently and correctly, latex condoms are highly effective in preventing the sexual transmission of HIV and other sexual transmitted diseases. Latex condoms are lab tested to demonstrate an essential impermeable barrier to particles the size of the STD pathogens.

Some of the latest collected statistics of HIV/AIDS in the United States are below, and is good information to know for infection control purposes:

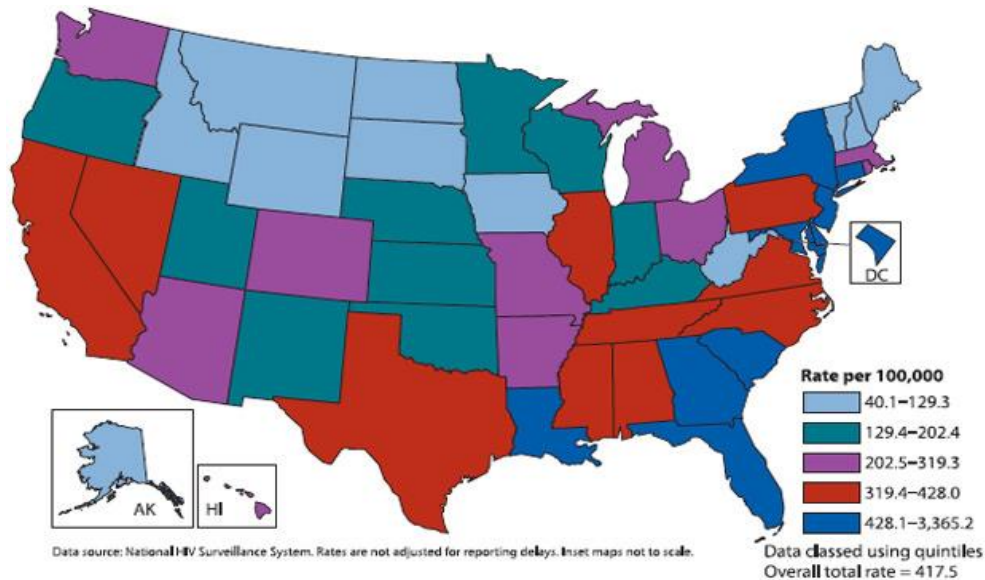
- More than 1.1 million people in the United States are living with HIV infection, and almost 1 in 6 (15.8%) are unaware of their infection.<sup>7</sup>
- Gay, bisexual, and other men who have sex with men (MSM<sup>4</sup>), particularly young black/African American MSM, are most seriously affected by HIV.<sup>7</sup>
- By race, blacks/African Americans face the most severe burden of HIV.<sup>7</sup>

**Figure1: Estimated New HIV Infections in the United States, 2010, for the Most Affected Subpopulations**





**Figure 2: HIV/AIDS Demographic Distribution in the United States, 2010.**



## Clinical Management

In the cosmetology industry, it is important to control the infections by taking precautions. The best known method is called Universal Precaution. Universal precaution refers to avoiding contact with the client's bodily fluids at all time. Any instruments that had contacted blood must be clean, disinfect, sterile and stored properly before using it on the next client. This not only protects the client but the technician performing the work. Technicians often cut themselves while performing a cosmetology service. Universal precautions will also prevent the infection of common communicable bacteria and viruses within blood as well. Some examples are hepatitis B, hepatitis C, Tuberculosis and hemorrhagic fevers are severe diseases that can be prevented with universal precautions.

HIV does not survive well outside the human body therefore proper clinical management will prevent the spread of the virus. When a customer or technician is cut, the technician should stop and carefully put aside the instruments that created the cut. For proper infection control, immediately tend to the cut. If excessive bleeding occurs the technician must control it by using a cotton ball and applying pressure to the cut area. Gloves must be worn while tending to any wound. If an antiseptic solution is used, droplets should be applied to the cut, avoiding direct contact of the bottle or applicator to the wound. Doing this will not contaminate the antiseptic solution. After bleeding is controlled, apply any first aid needed and determine if it is safe to continue service.

When continuing a service it is important to use a clean set of instruments, may it be the cutting shears or nail clippers. For this reason many hair stylists and nail technicians have several sets of instruments to use while waiting for the dirty or contaminated ones to be properly sterilized.

Common services with high chance of exposing blood in salon environment are:

- Shaving with sharp razors
- Eyebrow and body waxing that disrupts hair follicles
- Facials with any extractions of papule or blackheads
- Manicure and Pedicure involving ingrown toe-nails and cuticle trimming
- Construction of Acrylic or Artificial Nails with sharp files and metal drill bits

The proper ways to disinfect instruments in a salon include:

1. Wash instruments with warm soap water
2. Rinse well and carefully put instruments in wet sanitizer with diluted hospital grade disinfecting solution (ex. Barbicide plus)
3. Allow adequate time to soak recommended by manufacture of disinfectant
4. Remove instruments and rinse with water
5. Dry instruments completely to prevent rust
6. Store the instruments in a sterile pouch or box
7. Place in clean cabinet or UV sterilizer

A separate sharp container should be reserved for all sharps in salons separate from the garbage disposal. Nail polish bottles often drop down from the polish rack and shatter producing small sharps. These sharps, used needles and other broken glasses have the capability to puncture skin and cause bleeding. The bleeding again is a route of transmission for HIV. Therefore, making sure all sharps are picked up and the floor is properly sweep or vacuumed is a very important clinical management step. Many Full-Serviced salons give a client temporary sandals after a pedicure. These sandals are typically made from Styrofoam and can be punctured easily if sharps are still on the floor. In short, isolating sharps from other garbage materials is the best way to prevent any accidental stick.

Knowing when to turn away infected clients, wanting services, is another clinical management tool for safety reasons. Often clients want to get services done without realizing how their health issues would affect the technicians and other clients. Some example of services that should not be rendered are:

- Pedicures for client who has open wound on the heels or legs
- Manicures on client with easy to rupture blisters or exudates on cuticles
- Chemical Hair services with sores or cuts on scalp
- Waxing services on sun-burned skins

## Prevention

To prevent any spread of HIV it is important to have good hygiene in the salon and follow universal precautions. Any instruments that fell on the floor needs to be cleaned and disinfected before use it on the next customer.

The most effective method to sterile instruments is to use an autoclave machine. An autoclave machine uses heat and water vapor to kill all communicable agents such as fungi, bacteria and viruses. Autoclaves commonly use steam heated to 121–134 °C (250–273 °F). Most salons do not have an autoclave machine due to the high cost of the machine; therefore most have opted to use cold sterilization. Cold sterilizing uses hospital grade solution to sterilize instruments. The instruments are soaked in the solutions based on manufacture’s guideline on the required amount of time as to be effective. With adequate time in cold a sterilization solution, instruments are then rinsed and dried to be stored safely for their next use.

The nail technician often use a sharp metal drill bit to produce acrylic nails, these often create cuts on customer cuticles if handle improperly. Every time a cut occurs past the epidermis layer of the skin and bleeding is visible; the drill bits need to be sterilize before reuse. The cuticle nipper, nail clipper and files are no different. In many salons, files and buffers are kept separately for each customer in a box container. This is a good infection control method with regard to transmitting diseases between two different customers. However, they must be cleaned and disinfected before being put away. Thinking differently there are pros and cons to every situation. One of the drawbacks of doing this is space to keep the boxes. In addition, the customer may not come back regularly, or at all, causing the files and buffers to sit idle for an extend periods of time. When these items are idled for an extended period of time, mold and fungus can potentially grow creating more trouble than intended.

How can HIV/AIDS patient live so long?

The virus is within the DNA of the cell therefore it is hard to develop a drug that would identify and kill the virus. The only way to prolong a HIV/AIDS patient’s life is to slow down the development of the virus and treat the common symptoms. The anti-retroviral drugs are prescribed to delay production of HIV in immune cells. If the virus doesn’t grow fast, this will prolong the life of an individual that has HIV/AIDS. As of today, there are 31 antiretroviral drugs (ARVs) approved by the Food and Drug Administration to treat HIV infection. 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. By suppressing the amount of virus in the body, people infected with HIV can now live longer and healthier lives. However, they can still transmit the virus and must continuously take antiretroviral drugs in order to maintain their health quality.<sup>5</sup>

With low count of CD4+, HIV/AIDS patient are susceptible to infections therefore many doctors prescribe antibiotics for their patients. There are many types of antibiotics available and doctors

will prescribe different kinds to avoid the body developing an antibiotic resistance. Antibiotic resistance refers to the capacity of many bacteria to become resistant to a particular antibiotic so that it is no longer effective against these bacteria. It is known that the increasing use of antibiotics when they really are not needed has contributed to this problem and has led to the evolution of many bacterial strains to no longer respond to treatment with common antibiotics.<sup>4</sup>

Nutrition play an important role in an HIV/AIDS positive patient's life. It is recommended that HIV/AIDS positive patient consult with a nutritionist to determine what types of food to consume. Eating right and having enough vitamins and nutrients in the body will help HIV positive patients add many years to their life.

## **Behavioral Attitudes**

HIV/AIDS is a serious disease. However, it is chronic and can be intervened with due to advances made in medical technology. It is not any more serious than cancer or any other deadly disease, therefore, we should not have a negative attitude toward a client or patient infected with it. Consider people with Stage IV cancer that have few weeks to live in comparison with HIV/AIDS patient who can live up to 20 years plus without any symptoms. Most people's point of view towards a cancer patient is sympathetic while with an adult HIV/AIDS patient is looked on in a disgraceful manner. Perhaps the general thinking is that the HIV/AIDS patient is promiscuous or an IV drug user, and they contracted this terrible disease because of their life style. Although, this may be true in some cases, it is not necessarily correct in all cases and is a false assumption. We now know that HIV/AIDS can be transmitted in many ways. There is no HIV/AIDS positive individual who intentionally wanted to be infected. Therefore, they should be treated in the same way as any client that comes into the salon for a service.



## Course Evaluation

As part of the program assessment please complete the following questions to help us exceed our educational standards where necessary. Please circle Agree, Disagree or Neither.

1. The content of the course materials is easy to understand  
a. Agree                      b. Disagree                      c. Neither
2. The course materials is up-to-date  
a. Agree                      b. Disagree                      c. Neither
3. I would use this program again  
a. Agree                      b. Disagree                      c. Neither
4. I have a better understanding of HIV/AIDS after completing this course  
a. Agree                      b. Disagree                      c. Neither
5. The course is convenient and easy to access  
a. Agree                      b. Disagree                      c. Neither
6. I would recommend this course to family and friends.  
a. Agree                      b. Disagree                      c. Neither

Thank You!!

References:

1. <http://www.cdc.gov/hiv/resources/qa/transmission.htm>
2. <http://www.webmd.com/hiv-aids/tc/human-immunodeficiency-virus-hiv-infection-exams-and-tests>
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6. <http://www.aids.gov/hiv-aids-basics/hiv-aids-101/statistics/>