HIV/AIDS: Epidemic Update for Florida Initial Licensure

HOW TO RECEIVE CREDIT

- Read the enclosed course.
- Complete the questions at the end of the course.
- Return your completed Answer Sheet/Evaluation to Paragon CET by mail or fax, or complete online at www.ParagonCET.com. Your postmark or facsimile date will be used as your completion date.
- Receive your Certificate(s) of Completion by mail, fax, or email.

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Audience
This course is designed for cosmetologists and nail technicians as they begin or continue their practice in Florida.

Accreditations
Paragon CET is approved by the Florida Department of Business and Professional Regulation to provide continuing education for Cosmetologists, Estheticians, and Nail Technicians. Provider #0004997.

Designations of Credit
This course has been approved by the Florida Board of Cosmetology for 4 CE hours.

Special Approval
This course fulfills the Florida requirement for 4 hours of continuing education on HIV/AIDS for initial licensure and/or license reactivation.

About the Sponsor
The purpose of Paragon CET is to provide challenging curricula to assist professionals to raise their levels of expertise while fulfilling their continuing education requirements, thereby improving the quality of service to their clients.

Course Objective
In view of the existing HIV/AIDS crisis in the United States, the issues associated with employing or providing services for persons with HIV infection or AIDS are significant. The purpose of this course is to provide salon owners and employees information regarding the transmission, symptoms, and management of HIV infection and to address workplace concerns.

Learning Objectives
Upon completion of this course, you should be able to:

1. Discuss the background and significance of the AIDS epidemic.
2. Describe the transmission of HIV infection, including risk behaviors and routes of contagion.
3. Review proper precautions for employees and clients.
4. Discuss the impact of the virus on special populations living with HIV infection, including women, children, and the elderly.
5. Outline ethical and legal implications of HIV infection.

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A complete Works Cited list appears on page 17.

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INTRODUCTION

The amount that has been learned and written about human immunodeficiency virus (HIV) infection and disease and its influence on individuals and society is staggering. Researchers in America and England have traced the ancestry of the HIV virus to two strains found in African red-capped mangabeys and greater spot-nosed monkeys. The strains most likely combined in chimpanzees that ate the monkeys, resulting in the chimpanzees developing simian immunodeficiency virus (SIV). Chimpanzees then transmitted the virus to humans, likely around 1908. Genetic studies suggest that the lower monkeys first became infected with SIV 100,000 years ago [1].

The established healthcare community became aware of the illness that has since become known as acquired immune deficiency syndrome (AIDS) in 1981. Since then, researchers have made major inroads in understanding the disease. Knowledge about the characteristics and behavior of this human retrovirus has helped to develop targeted therapeutic interventions and vaccine strategies. The availability of antiretroviral drug therapy has been a benefit to many who are HIV-infected, with a delay in the development of opportunistic infections and AIDS. However, HIV does eventually lead to AIDS in many people despite these advances.

WHAT IS HIV?

HIV is a retrovirus that occurs as two types: HIV-1 (the most common) and HIV-2 (relatively uncommon and less infectious) [2; 3]. HIV-1 is responsible for the majority of HIV infections worldwide. In the United States, "HIV" primarily refers to HIV-1 [2].

HIV is spread through certain body fluids (e.g., blood, semen, breast milk) that attack the body's T helper cells, known as CD4+ T cells, which help the body's immune system fight off infections. Untreated, HIV reduces the number of CD4+ T cells, making an individual more likely to get other infections or infection-related cancers. These opportunistic infections or cancers take advantage of the body's weakened immune system and signal that the person has AIDS, the last stage of HIV infection [4].

Before the introduction of antiretroviral therapy (ART) in the mid-1990s, people with HIV could progress to AIDS in just a few years. Currently, someone diagnosed with HIV and treated before the disease is advanced can live nearly as long as someone who does not have HIV [4].

IMPACT OF HIV

According to the Joint United Nations Programme on HIV/AIDS (UNAIDS), an estimated 37.9 million individuals worldwide were living with HIV/AIDS by the end of 2018, approximately 18.8 million of whom are women [5]. Russia and Ukraine have the fastest growing epidemic; since 2010, new HIV infections in these regions have increased by more than 29%. Together, these countries account for 84% of all new infections in Eastern Europe and Central Asia [5]. It is important to note that despite increases in certain geographic areas and demographic groups, overall, the rate of new infections is declining. The global decline in deaths has largely been driven by progress in eastern and southern Africa, which is home to 54% of the world's persons living with HIV [5].

Beginning in 2003, the U.S. government has worked to fight the disease in Africa, partially through the implementation of the President's Emergency Plan for AIDS Relief (PEPFAR) [6].

PEPFAR was reauthorized in 2008, with a total of $48 billion in funds over the following five years and expansion to address additional health issues, including malaria, tuberculosis, maternal health, and clean water [7]. This was extended to 2018 with the PEPFAR Stewardship and Oversight Act of 2013 [8].

As of 2020, an estimated 1.1 million individuals 13 years of age or older were living with HIV/AIDS in the United States [9]. The CDC estimates that approximately 14% of these individuals are unaware of their infection [9]. When reviewing trends in HIV transmission, one should keep in mind that the widespread use of antiretroviral therapy has resulted in fewer deaths and longer survival.

As of 2018, the CDC reported several trends in the HIV/AIDS epidemic [10]:

- By region, 45.0% of persons living with HIV/AIDS reside in the South, 23.3% in the Northeast, 19.7% in the West, and 11.9% in the Midwest.
- By race/ethnicity, 41.5% are black/African American, 30.6% white, 22.3% Hispanic, 1.4% Asian, and less than 1% are American Indian/Alaska Native or Hawaiian/Pacific Islander.
- By sex, 72% of adults and adolescents living with HIV are male.

In 2015, an estimated 4,849 adults and adolescents were diagnosed with HIV in Florida, making the state first in the United States in terms of number of reported cases of HIV [11]. As is true in the country, the disease has disproportionately affected minorities in Florida. In total, 73.1% of adults and adolescents in the state diagnosed with HIV identify as either black or Hispanic [11].

SIGNS AND SYMPTOMS

HIV infection passes through several stages and, if untreated, carries an 80% to 90% mortality rate at 10 years [12]. The initial event, reported in 50% to 90% of infected individuals, is an acute mononucleosis-like illness. Symptoms include fever, sore throat, malaise, rash, diarrhea, enlarged lymph nodes, ulcerations (broken, inflamed skin or mucous membranes), and weight loss averaging 10 pounds. A variety of neurologic syndromes including swelling of the brain (encephalitis) may occur. The illness begins one to three weeks after viral transmission and lasts about two to three weeks. This is followed by a prolonged asymptomatic period in most individuals [4].

Symptomatic infection can be expected after the CD4 T-cell count has decreased to less than 200 cells/mcL, as this represents the stage of severe immunodeficiency. The CDC defines late-stage HIV infection as AIDS on the basis of two criteria: CD4 count less than 200 cells/mcL and the presence of a characteristic AIDS-defining illness such as pneumonia, parasitic infections (such as toxoplasmosis, which affects the nervous system), or other opportunistic infections or tumors. A variety of syndromes may develop at this point, including dementia, nerve damage (numbness, tingling, burning sensation in the hands or feet), extreme weight loss, and chronic diarrhea [4]. Signs and symptoms of HIV generally are related to opportunistic infections preying on an impaired immune system. These diseases include pneumonia, tuberculosis, and others. Individuals with HIV commonly succumb to uncontrollable infection, becoming increasingly debilitated, feverishly ill, malnourished, and often in pain. Enlarged lymph nodes, lung disease, extreme weight loss, and brain/nervous system abnormalities (such as dementia, tremors, and inflammation) contribute to the debilitated state [4].

To date, there is no predictable cure, although current medications have made the disease much more manageable [4; 13]. The median survival of patients with advanced HIV/AIDS (CD4 count <50 cells/mcL) is approximately 12 to 18 months [12]. The cause of death is usually complications of uncontrolled infection, cancer, or organ failure.

HIV TESTING

Three types of HIV tests are available: nucleic acid tests (NAT), antigen/antibody tests, and antibody tests. The tests are typically performed on blood or oral fluid but may also be performed on urine [14]. The NAT looks for the actual HIV virus in the blood. The test tells if an individual has HIV or how much actual virus is present in the blood (a viral load test) [14]. The NAT is very expensive and not routinely used for screening individuals unless they recently had a high-risk exposure or a possible exposure with early symptoms of HIV infection. It can take 7 to 28 days for the NAT to detect HIV [14]. The antigen/antibody test looks for HIV antibodies and HIV antigens. The antigen/antibody test is recommended for testing done in labs and involves drawing blood from a vein. A more rapid finger-prick test also is available [14]. The HIV antibody tests only looks for antibodies to HIV in blood or oral fluid. In general, antibody tests that use blood from a vein can detect HIV sooner after infection than tests done from a finger prick or with oral fluid [14].

The time between potential HIV exposure and positive test results (the "window period") varies from person to person and depends on the HIV test used [14]. The window period is 10 to 33 days for a NAT; 18 to 45 days for the antigen/antibody test; and 23 to 90 days for antibody tests [14]. NAT and antigen/antibody results are usually available in several days. Rapid antibody screening test results and rapid antigen/antibody test results are generally available in 30 minutes or less. The oral fluid antibody self-test provides results in as little as 20 minutes [14]. Only one self-test (or home test) is approved by the U.S. Food and Drug Administration (FDA) and it may not be appropriate for everyone. An individual with a negative HIV test result after potential HIV exposure should be retested after the window period ends [14].

A sequence of tests used in combination, starting with a fourth-generation HIV test, is currently recommended by the CDC. This test detects HIV in the blood earlier than antibody tests do by identifying the HIV-1 p24 antigen, a viral protein that appears in the blood sooner than antibodies. If this test result is negative, no further testing is needed. If the test is positive, a test called an immunoassay that differentiates HIV-1 from HIV-2 antibodies should be performed.

TRANSMISSION OF HIV

Transmission of HIV results from intimate contact with blood and body secretions, excluding saliva and tears. The most common modes of transmission are sexual contact, administration of contaminated blood and blood products, contaminated needles, and mother-to-fetus [13].

RISK CATEGORIES

On the basis of newly reported cases, the transmission risk categories are [10]:

- Male-to-male sexual contact
- Injecting drug users
- Men who have sex with men who inject drugs
- High-risk heterosexual contact
- Blood transfusion
- Perinatal transmission (i.e., from an infected pregnant woman to her fetus or infant)

MODES OF TRANSMISSION

Sexual Transmission of HIV

HIV has been isolated from blood, seminal fluid, pre-ejaculate, vaginal secretions, urine, cerebrospinal fluid, saliva, tears, and breast milk of infected individuals. HIV has not been recovered from the sweat of HIV-infected persons. Contact with saliva, tears, or sweat has not been shown to result in the transmission of HIV [15].

The virus is found in greater concentration in semen than in vaginal fluids, leading to a hypothesis that male-to-female transmission could occur more easily than female-to-male. Sexual behavior that involves exposure to blood is likely to increase transmission risks. Transmission could occur through contact with infected bowel epithelial cells in anal intercourse in addition to access to the bloodstream through breaks in the rectal mucosa [16].

Although all HIV-seropositive people are potentially infectious, there is widespread variation in the seropositivity and seroconversion of their sexual partners. Factors that could explain this variability include differences in sexual practices and numbers of sexual contacts, susceptibility of the partner, differences in viral strains, changing degrees of infectiousness of the HIV-infected person over time, co-factors that enhance or limit transmission, genetic resistance, or a combination of these factors.

Posing the highest risk of infection is unprotected anal receptive intercourse, followed by unprotected vaginal intercourse. Risk is reduced through the use of latex condoms [16]. For the wearer, latex condoms provide a mechanical barrier limiting penile exposure to infectious cervical, vaginal, vulvar, or rectal secretions or lesions. Likewise, the partner is protected from infectious pre-ejaculate, semen, and penile lesions. Oil-based lubricants may make latex condoms (the most effective type) ineffective and should not be used. Water-soluble lubricants are considered safe [17]. Natural membrane condoms (made from lamb cecum) contain small pores and do not block HIV passage [17].

Numerous studies have demonstrated that oral sex can result in the transmission of HIV and other sexually transmitted diseases (STDs). While the risk of HIV transmission through oral sex is much smaller than the risk from anal or vaginal sex, there are several co-factors that can increase this risk, including oral ulcers, bleeding gums, genital sores, and the presence of other STDs. Prevention includes the use of latex condoms, a natural rubber latex sheet, plastic food wrap, a cut open condom, or a dental dam, all of which serve as a physical barrier to transmission [18].

Although abstinence from sexual contact is the sole way to absolutely prevent transmission, using a latex condom to prevent transmission of HIV is more than 10,000 times safer than engaging in unprotected sex [19]. Sexual activity in a mutually monogamous relationship in which neither partner is HIV-infected and no other risk factors are present is considered safe [20]. However, a recently acknowledged phenomenon of men who identify publicly as heterosexual and generally have committed relationships with women, but who also engage in sexual activity with other men, termed being on the "down low" or DL, may be a transmission bridge to heterosexual women [21]. To better understand the actual extent of this behavior and its impact on HIV transmission, more research and studies must be undertaken.

Blood Donor Products

It has been estimated that an HIV-infected drop of human blood contains 1 to 100 live virus particles. HIV is transmitted via blood, primarily through sharing of contaminated needles among injecting drug users and, rarely, through blood transfusion. Donor screening, HIV testing, and heat treatment of the clotting factor have greatly reduced the risks of transmission by donor blood.

Needle Sharing

Transmission of HIV among injecting drug users occurs primarily through contamination of needles or syringes with infected blood. The risk of sustaining HIV infection from a needle stick with infected blood is approximately 1 in 300. Behaviors such as needle sharing, "booting" the injection with blood (drawing blood into the syringe before injecting), and performing frequent injections increases the risk. Cocaine use (by injection or smoking) is associated with a higher prevalence of HIV infection. This may in part be attributed to the exchange of cocaine for sex [20].

The following messages should be stressed for injection drug users [22]:

- The best way for you to prevent HIV and hepatitis B and C virus transmission is to NOT inject drugs.
- Entering substance abuse treatment can help you reduce or stop injecting. This will lower your chances of infection.
- Get vaccinated against hepatitis A and hepatitis B. You can prevent these kinds of viral hepatitis if you get vaccinated.
- If you cannot or will not stop injecting, you should:
  - Use a new, sterile syringe obtained from a reliable source to prepare and divide drugs for each injection.
  - Never reuse or share syringes, water, cookers, or cottons.
  - Use sterile water to prepare drugs each time, or at least clean water from a reliable source.
  - Keep everything as clean as possible when injecting.
- If you cannot use a new, sterile syringe and clean equipment each time, then disinfecting with bleach may be better than doing nothing at all:
  - Fill the syringe with clean water and shake or tap. Squirt out the water and throw it away. Repeat until you do not see any blood in the syringe.
  - Completely fill the syringe with fresh, full-strength household bleach. Keep it in the syringe for 30 seconds or more. Squirt it out and throw the bleach away.
  - Fill the syringe with clean water and shake or tap. Squirt out the water and throw it away.
  - If you do not have any bleach, use clean water to vigorously flush out the syringe. Fill the syringe with water and shake or tap it. Squirt out the water and throw it away. Repeat several times.

It is important to note that a disinfected syringe is not a sterile syringe. The best option is always to use a new, sterile syringe with every injection.

Perinatal Transmission

In the absence of prophylactic treatment, approximately 25% to 30% of children born to HIV-infected mothers will contract HIV infection; this increases to 50% with prolonged breastfeeding [23]. HIV is transmitted to infants in utero, during labor, or through breastfeeding after birth.

Occupational Exposure

The risk of infection through occupational exposure for barbers is low. Educational efforts and universal precautions in accordance with Florida law and Occupational Safety and Health Administration (OSHA) standards should be recognized [20].

Organ Transplantation

Because organ transplantation is less common than other transmission-related activities, there have been very few case reports of HIV acquisition by this route. HIV has been transmitted via transplanted kidneys, liver, heart, pancreas, bone, and, possibly, skin grafts and through artificial insemination. HIV testing is used in these circumstances to rule out infection [20; 24].

CONSIDERATIONS FOR SALON AND SPA PROFESSIONALS

The activities generally performed by cosmetologists, massage therapists, and nail technicians are not considered to be a transmission threat to clients or coworkers. In 1985, the CDC issued routine precautions that all personal-service workers (such as barbers, cosmetologists, and nail technicians) should follow, even though there is no evidence of transmission from a personal-service worker to a client or vice versa [15]. Instruments that are intended to penetrate the skin (such as tattooing and acupuncture needles or ear piercing devices) should be used only once and disposed of or thoroughly cleaned and sterilized. Instruments not intended to penetrate the skin but that may become contaminated with blood (for example, haircutting shears) should be used for only one client and disposed of or thoroughly cleaned and disinfected after each use. Personal-service workers can use the same cleaning procedures that are recommended for healthcare institutions.

The CDC recommends that precautions be taken in all settings (including the home) to prevent exposures to the blood of persons who are HIV infected, at risk for HIV infection, or whose infection and risk status are unknown [15]. Gloves should be worn during contact with blood or other body fluids that could possibly contain visible blood, such as urine, feces, or vomit. Cuts, sores, or breaks on both the cosmetologist's and the client's exposed skin should be covered with bandages. Hands and other parts of the body should be washed immediately after contact with blood or other body fluids, and surfaces soiled with blood should be disinfected appropriately. Practices that increase the likelihood of blood contact, such as sharing of razors, should be avoided.

MANAGEMENT OF HIV INFECTION

ANTIRETROVIRAL THERAPY

The introduction of antiretroviral drugs for the treatment of HIV has resulted in longer lives and fewer symptoms in HIV-positive individuals. Most people take a combination of at least three different medications. HIV has been shown to develop resistance to the medications, particularly when only one drug is used. Therefore, in addition to combination therapy, the sequencing of drugs and the preservation of future treatment options are also important [6; 25]. Treatment continues for an individual's entire life.

There are six major classes of antiretroviral drugs: nucleoside reverse transcriptase inhibitors (NRTIs), non-nucleoside reverse transcriptase inhibitors (NNRTIs), protease inhibitors (PIs), fusion inhibitors (FIs), CCR5 antagonists, and integrase inhibitors. In an effort to improve the efficacy of other antiretroviral medications, a pharmacokinetic enhancer may also be included. Antiretroviral therapy should be initiated immediately for all patients infected with HIV in order to reduce the risk of disease progression and limit transmission [25].

Individuals who have never received antiretroviral treatment are usually started on a regimen of two NRTIs plus a third active antiretroviral drug from one of three drug classes: an INSTI, an NNRTI, or a PI with a pharmacokinetic enhancer (cobicistat or ritonavir) [25]. This combination results in the best reduction of HIV in the blood for the longest period of time and will achieve the goal of no detectable virus in the majority of patients after four to six months.

At the present time, the most active triple-drug regimen (for example, two NRTIs and a PI) in a previously untreated person can be expected to reduce the viral load below detectable levels, increase CD4 counts, reduce the risk of HIV-associated complications, and prolong survival. However, the ability to achieve this advantage depends on the individual's willingness to accept a complex medical regimen that requires many pills, rigorous compliance, frequent follow-up, and moderate risk for drug toxicity.

PREVENTION OF OPPORTUNISTIC INFECTIONS

Opportunistic infections are infections that cause disease in persons with weakened immune systems but that probably would not cause disease in healthy people. Depending on the CD4 count and other risk factors, asymptomatic people may benefit from treatment to prevent opportunistic infections. In many cases, antiretroviral therapy is useful in the prevention and treatment of these infections [26]. Prophylactic therapy for these conditions is strongly recommended because these infections are relatively common in HIV-positive individuals, preventive therapy is simple and cost effective, and efficacy has been established in clinical studies. In addition, all of these individuals should be vaccinated with pneumococcal vaccine. Hepatitis B vaccination should be considered in patients who have not already been vaccinated.

The CDC has developed guidelines for the prevention of opportunistic infections among HIV-infected individuals. The report offers guidelines specific to each type of opportunistic infection and can be viewed at https://aidsinfo.nih.gov/contentfiles/lvguidelines/adult_oi.pdf.

HIV INFECTION IN SPECIAL POPULATIONS

WOMEN LIVING WITH HIV INFECTION

Women now make up nearly half of all AIDS cases worldwide and 24% in the United States [10; 27]. Although the rate of HIV infection in women has declined in recent years (down by 21% overall), more than 7,000 women received an HIV diagnosis in the United States in 2017 [28]. In the last 30 years, the proportion of AIDS cases in women has more than quadrupled, from 8% in 1985 to 37% in 2018 [10; 27]. In 1993, when the CDC expanded the case definition of AIDS, there was a 151% increase in the number of AIDS cases in women and a 105% increase in cases in men. This may be evidence that the previous case definitions based on the clinical characteristics of men did not accurately reflect the symptoms of HIV in women [29].

African American women die from AIDS at a much higher rate (12.7%) compared to Hispanic women (2.5%) or white women (0.9%) [10]. Women of color have been disproportionately affected by HIV/AIDS, with black women accounting for 58% of new HIV diagnoses among women in the United States while representing only 12% of the female population. When compared with adults, a greater percentage of AIDS cases in adolescents are young women. They are more likely to be black or Hispanic/Latino, and they are more likely to be infected through heterosexual intercourse.

Research is being conducted to determine whether the symptoms of HIV, other than those related to the reproductive tract, are different for women than for men. It appears that many symptoms and signs of acute HIV infection and non-specific manifestations, such as fevers, weight loss, and fatigue, are the same.

INFANTS AND CHILDREN WITH HIV

In the United States today, the predominant route of infection with HIV in children is from an infected pregnant woman to her fetus or infant [30]. Thus, the epidemic in children is closely linked to the epidemic in women [31].

Prevention remains the only cure for HIV, yet no intervention aimed at changing behavior to promote health has been or will be 100% successful. The tragedy of perinatal transmission of HIV is that few women are aware of their risk, many are not offered HIV counseling and testing by healthcare providers, and most learn their diagnosis when their child becomes ill. The CDC has adapted recommendations that advocate universal counseling and testing for every pregnant woman regardless of geography, identified risk behavior, or self-identified risk, unless it is declined [32]. In 2019, the U.S. Preventative Services Task Force (USPSTF) published guidelines recommending the screening of all pregnant women for HIV. The benefits supporting this statement included a potential for decreased perinatal transmission of HIV resulting from maternal and neonatal antiretroviral therapy and the increased opportunity to provide counseling regarding risks associated with breastfeeding and elective cesarean delivery [33].

OLDER PEOPLE WITH HIV

Approximately 17% of newly diagnosed cases of HIV in 2017 occurred in individuals 50 years of age or older, and of this group, 30% are 55 years of age or older [34]. However, until recently, there had been little attention given to this group [35]. HIV/AIDS has traditionally been thought to be the disease of the young; therefore, in the past, prevention and education campaigns had not been targeted toward older adults. However, evidence points to the increasing number of infected older people and a need for change in prevention and education campaigns. Some older persons may have less knowledge about HIV and risk reduction strategies. Due to divorce or being widowed and the availability of medications to treat erectile dysfunction, increasing numbers of older people are becoming sexually active with multiple partners [35]. For postmenopausal women, contraception is no longer a concern, and they are less likely to use a condom. Furthermore, vaginal drying and thinning associated with aging can result in small tears or cuts during sexual activity, which also raises the risk for infection with HIV/AIDS [36]. Studies indicate that at-risk individuals in this age group are one-sixth as likely as younger at-risk adults to use condoms during sex [37]. The combination of these factors increases the risk for unprotected sex with new or multiple partners in this age group, thereby increasing their risk for AIDS.

AIDS PREVENTION

PRE-EXPOSURE PROPHYLAXIS

In 2012, the FDA approved the first medication for the prevention of sexually transmitted HIV infection, the combination drug Truvada [38]. In 2019, another combination drug—Descovy (emtricitabine/tenofovir alafenamide)—was approved to prevent HIV infection. In conjunction with safer sex practices, these drugs have been found to be partially effective as pre-exposure prophylaxis in high-risk patients. All candidates will be adults without an acute or established HIV diagnosis. Pre-exposure prophylaxis is indicated for high-risk men who have sex with men (e.g., non-monogamous, injection drug users, partners with established HIV infection), high-risk heterosexual adults, and certain injection drug users [39].

AIDS VACCINE

Achieving an end to the AIDS epidemic will require the development of an effective vaccine. Both preventive and therapeutic vaccines are being studied for use in the fight against HIV. Preventive vaccines are developed to protect individuals from contracting HIV, while the goal of therapeutic vaccines is to boost immune response to and better control existing HIV infection [40]. Of course, the ultimate goal in vaccine research is a vaccine that will prevent infection; however, despite several trials, no vaccine effective in preventing HIV has been discovered.

The International AIDS Vaccine Initiative (IAVI) is working to speed the development and distribution of preventive AIDS vaccines, focusing on four areas: mobilizing support through advocacy and education; accelerating scientific progress; encouraging industrial participation in AIDS vaccine development; and assuring global access [41].

TOPICAL MICROBICIDES

Because HIV is spread predominantly through sexual transmission, the development of chemical and physical barriers that can be used vaginally or rectally to inactivate HIV and other STDs is critically important for controlling HIV infection.

Researchers are developing and testing new chemical compounds that women could apply before intercourse to protect themselves against HIV and other sexually transmitted organisms [42]. These include creams or gels, known as topical microbicides, which ideally would be non-irritating and inexpensive. In addition, microbicides should be available in both spermicidal and non-spermicidal formulations so women do not have to put themselves at risk for acquiring HIV and other STDs in order to conceive a child. The research effort for developing topical microbicides includes basic research, preclinical product development, and clinical evaluation.

EDUCATION TO PREVENT HIV INFECTION

Many adolescents engage in behaviors that put them at risk for HIV infection. According to the CDC, 39.5% of high school students have ever engaged in intercourse [43]. Approximately 54% of currently sexually active high school students had not used a condom at last sexual intercourse; 1.5% had ever injected an illegal drug [43]. Only 71% of U.S. high school districts have adopted a policy specifying that human sexuality is taught, and the content of these discussions may not provide adequate information on the subject. Furthermore, the American Academy of Pediatrics determined that school-based education and intervention programs do not provide the necessary opportunities of confidential discussions or targeted counseling [44]. Accurate and complete information on HIV transmission and risk reduction is necessary for school-aged children.

The CDC offers an initiative called Cut for Life: Hairstylists and Barbers Against AIDS, a program to promote HIV testing and education in salons, hair shows, and barber shops [45]. Through this initiative, salon professionals are encouraged to engage in conversations with their clients about basic HIV facts, getting tested, and seeking treatment, if needed. The CDC has provided several tips to salon professionals wishing to incorporate HIV education into their services [45]:

- Plan your conversation or event around the needs of your clients. You know who they are and what messages they need most to hear.
- Determine the best forum for reaching your clients. Is it one-on-one dialogue as you service them or a group session with several clients at once?
- Consider partnering with your local health department to offer additional information and onsite testing.
- Display materials, such as Act Against AIDS campaign posters or quick tips posters, on your work station mirror to spark conversation.
- Encourage your clients to locate testing sites, get more information, and learn more about HIV.

ETHICAL AND LEGAL CONSIDERATIONS

Globally, the HIV/AIDS epidemic has presented unique challenges that include a variety of ethical and moral issues related to human life and dignity. HIV has affected the most vulnerable groups, often leading to stigma and discrimination. While access to treatment and effective preventative measures are key concerns, the ethical issues that revolve around care (e.g., informed consent across cultures, privacy and confidentiality) also require attention [46].

EMPLOYMENT

Employees living with HIV/AIDS have the right to remain in the workforce to the fullest extent possible and have the right to equal employment opportunities. Several federal, state, and local laws determine how employers design workplace programs pertaining to employees with HIV/AIDS [46]. Providing a workplace environment that is productive and supportive for workers living with HIV requires leadership and a commitment to address issues, such as the stigma often associated with the disease, which can disrupt workplace productivity and possibly lead to discrimination. Negative behaviors, such as shunning, refusing to hire, failing to promote, or firing a person affected by HIV, are discriminatory and may be illegal [46]. Employers can help prevent or address the fears often associated with HIV by becoming educated about the disease; promoting HIV/AIDS education in the workplace; demonstrating consideration and compassion for employees living with HIV/AIDS; and treating these individuals the same way that employees not living with the disease are treated [46].

A public-private partnership called the Business Responds to AIDS (BRTA) program promotes the involvement of businesses, trade associations, and other groups in HIV/AIDS awareness, prevention, and treatment and support. More information about BRTA is available at https://www.cdc.gov/hiv/workplace [47].

DISCRIMINATION

According to the Americans with Disabilities Act (ADA), an individual is considered to have a disability if he or she has a physical or mental impairment that substantially limits one or more major life activities, has a record of such impairment, or is regarded as having such impairment [48]. Persons with HIV disease, both symptomatic and asymptomatic, have physical impairments that substantially limit one or more major life activities and are protected by the law. Persons who are discriminated against because they are regarded as being HIV-positive are also protected. For example, a person who was fired on the basis of a rumor that he had AIDS, even if he did not, would be protected by the law. Moreover, the ADA protects persons who are discriminated against because they have a known association or relationship with an individual who is HIV-positive. For example, the ADA would protect an HIV-negative woman who was denied a job because her roommate had AIDS [48].

Under the ADA, an employer must make a reasonable accommodation to the known physical or mental limitations of a qualified applicant or employee with a disability. A reasonable accommodation is defined as "any modification or adjustment to a job, the job application process, or the work environment that will enable a qualified applicant or employee with a disability to participate in the application process, perform the essential functions of the job, or enjoy the benefits and privileges of employment." Modifying an employee's work schedule is an example of making a reasonable accommodation [48]. An employer is not required to provide an accommodation if it would post an undue hardship on the operation of its business. Undue hardship is defined as "an action requiring significant difficulty or expense" [48].

The ADA also prohibits state licensing agencies and public trade schools for barbering and cosmetology from discriminating against individuals with disabilities. Consequently, a public or private entity cannot deny a person with HIV an occupational license or admission to a trade school because of his or her disability. According to the U.S. Department of Justice, examples of discrimination against persons with HIV/AIDS would include [49]:

- A certificate program for health aides having a blanket policy denying admission to anyone with HIV
- A cosmetology school denying admission to an HIV-positive individual because State cosmetology regulations require that cosmetologists be free from contagious, communicable, or infectious disease

It is important to note that the activities of cosmetology are not high-risk activities, and any indication that they are is unfounded. HIV-infected barbers should not be prevented from doing their jobs as a result of their infection status.

APPROPRIATE ATTITUDE AND BEHAVIOR OF THE SALON PROFESSIONAL

It is important to be aware of one's own attitude about HIV/AIDS and about the behaviors that put people at risk for contracting the disease. It is not appropriate to judge the behavior of a person infected with HIV; how that person became infected should not be an issue. Treat others as you would like to be treated. Recognize that many family structures include same sex partners and extended family members. Avoid placing judgment on families that do not look or behave like yours. Do not be afraid to touch a person with HIV. Holding a hand or giving a hug or a back rub may be comforting. However, also be sensitive to individuals who do not want physical closeness.

FLORIDA STATUTES

The state of Florida has specific laws and statutes governing HIV testing, including sections devoted to informed consent, confidentiality, and counseling. Knowledge of these statutes may be useful in ensuring that public health is served and rights are protected. The Florida Statutes on HIV testing may be viewed online at http://www.leg.state.fl.us/statutes/index.cfm?App_mode=Display_Statute&Search_String=&URL=0300-0399/0381/Sections/0381.004.html.

381.004 HIV testing.—

(1) DEFINITIONS.—As used in this section:

(a) "Health care setting" means a setting devoted to the diagnosis and care of persons or the provision of medical services to persons, such as county health department clinics, hospitals, urgent care clinics, substance abuse treatment clinics, primary care settings, community clinics, blood banks, mobile medical clinics, and correctional health care facilities.

(b) "HIV test" means a test ordered after July 6, 1988, to determine the presence of the antibody or antigen to human immunodeficiency virus or the presence of human immunodeficiency virus infection.

(c) "HIV test result" means a laboratory report of a human immunodeficiency virus test result entered into a medical record on or after July 6, 1988, or any report or notation in a medical record of a laboratory report of a human immunodeficiency virus test. The term does not include test results reported to a health care provider by a patient.

(d) "Nonhealth care setting" means a site that conducts HIV testing for the sole purpose of identifying HIV infection. Such setting does not provide medical treatment but may include community-based organizations, outreach settings, county health department HIV testing programs, and mobile vans.

(e) "Preliminary HIV test" means an antibody or antibody-antigen screening test, such as the immunosorbent assays (IA), or a rapid test approved by the United States Food and Drug Administration.

(f) "Significant exposure" means:

1. Exposure to blood or body fluids through needlestick, instruments, or sharps;
2. Exposure of mucous membranes to visible blood or body fluids to which universal precautions apply according to the National Centers for Disease Control and Prevention, including, without limitations, the following body fluids:
   a. Blood.
   b. Semen.
   c. Vaginal secretions.
   d. Cerebrospinal fluid (CSF).
   e. Synovial fluid.
   f. Pleural fluid.
   g. Peritoneal fluid.
   h. Pericardial fluid.
   i. Amniotic fluid.
   j. Laboratory specimens that contain HIV (e.g., suspensions of concentrated virus); or

3. Exposure of skin to visible blood or body fluids, especially when the exposed skin is chapped, abraded, or afflicted with dermatitis or the contact is prolonged or involving an extensive area.

(g) "Test subject" or "subject of the test" means the person upon whom an HIV test is performed, or the person who has legal authority to make health care decisions for the test subject.

(2) HUMAN IMMUNODEFICIENCY VIRUS TESTING; INFORMED CONSENT; RESULTS; COUNSELING; CONFIDENTIALITY.—

(a) Before performing an HIV test:

1. In a health care setting, the person to be tested shall be notified orally or in writing that the test is planned and that he or she has the right to decline the test. If the person to be tested declines the test, such decision shall be documented in the medical record. A person who has signed a general consent form for medical care is not required to sign or otherwise provide a separate consent for an HIV test during the period in which the general consent form is in effect.

2. In a nonhealth care setting, a provider shall obtain the informed consent of the person upon whom the test is to be performed. Informed consent shall be preceded by an explanation of the right to confidential treatment of information identifying the subject of the test and the results of the test as provided by law.

The test subject shall also be informed that a positive HIV test result will be reported to the county health department with sufficient information to identify the test subject and of the availability and location of sites at which anonymous testing is performed. As required in paragraph (3)(c), each county health department shall maintain a list of sites at which anonymous testing is performed, including the locations, telephone numbers, and hours of operation of the sites.

(b) Except as provided in paragraph (h), informed consent must be obtained from a legal guardian or other person authorized by law if the person:

1. Is not competent, is incapacitated, or is otherwise unable to make an informed judgment; or

2. Has not reached the age of majority, except as provided in s. 384.30.

(c) The person ordering the test or that person's designee shall ensure that all reasonable efforts are made to notify the test subject of his or her test result. Notification of a person with a positive test result shall include information on the availability of appropriate medical and support services, on the importance of notifying partners who may have been exposed, and on preventing transmission of HIV. Notification of a person with a negative test result shall include, as appropriate, information on preventing the transmission of HIV. When testing occurs in a hospital emergency department, detention facility, or other facility and the test subject has been released before being notified of positive test results, informing the county health department for that department to notify the test subject fulfills this responsibility.

381.0042 Patient care for persons with HIV infection.—

The department may establish acquired immune deficiency syndrome patient care networks in each region of the state where the numbers of cases of acquired immune deficiency syndrome and other human immunodeficiency virus infections justifies the establishment of cost-effective regional patient care networks. Such networks shall be delineated by rule of the department which shall take into account natural trade areas and centers of medical excellence that specialize in the treatment of acquired immune deficiency syndrome, as well as available federal, state, and other funds. Each patient care network shall include representation of persons with human immunodeficiency virus infection; health care providers; business interests; the department, including, but not limited to, county health departments; and local units of government. Each network shall plan for the care and treatment of persons with acquired immune deficiency syndrome and acquired immune deficiency syndrome related complex in a cost-effective, dignified manner which emphasizes outpatient and home care. Once each year, beginning April 1989, each network shall make its recommendations concerning the needs for patient care to the department.

381.0045 Targeted outreach for pregnant women. —

(1) This section may be cited as the "Targeted Outreach for Pregnant Women Act of 1998."

(2) It is the purpose of this section to establish a targeted outreach program for high-risk pregnant women who may not seek proper prenatal care, who suffer from substance abuse problems, or who are infected with human immunodeficiency virus (HIV), and to provide these women with links to much needed services and information.

(3) The department shall:

(a) Conduct outreach programs through contracts with, grants to, or other working relationships with persons or entities where the target population is likely to be found.

(b) Provide outreach that is peer-based, culturally sensitive, and performed in a nonjudgmental manner.

(c) Encourage high-risk pregnant women of unknown status to be tested for HIV.

(d) Educate women not receiving prenatal care as to the benefits of such care.

(e) Provide HIV-infected pregnant women with information so they can make an informed decision about the use of Zidovudine (AZT).

(f) Link women with substance abuse treatment, when available, and act as a liaison with Healthy Start coalitions, children's medical services, Ryan White-funded providers, and other services of the Department of Health.

(g) Provide continued oversight to HIV-exposed newborns.

(4) The types of entities the department is encouraged to contract with, provide grants to, or enter into other working relationships with may include, but are not limited to, faith-based organizations, academic institutions, religious organizations, nonprofit community centers, and other social-services-related entities.

381.0046 Statewide HIV and AIDS prevention campaign.—

(1) The Department of Health shall develop and implement a statewide HIV and AIDS prevention campaign that is directed towards minorities who are at risk of HIV infection. The campaign shall include television, radio, and outdoor advertising; public service announcements; and peer-to-peer outreach. Each campaign message and concept shall be evaluated with members of the target group to ensure its effectiveness. The campaign shall provide information on the risk of HIV and AIDS infection and strategies to follow for prevention, early detection, and treatment. The campaign shall use culturally sensitive literature and educational materials and promote the development of individual skills for behavior modification.

(2) The Department of Health shall establish dedicated positions within the department for HIV and AIDS regional minority coordinators and a statewide HIV and AIDS minority coordinator. The coordinators shall facilitate statewide efforts to implement and coordinate HIV and AIDS prevention and treatment programs.

SUMMARY

Although prevention and new medical interventions may reduce the pace of the epidemic, HIV will be a significant disease for many years both in the United States and the world. Education provides the opportunity to ensure that Florida salon professionals have the information necessary to work with and provide services to persons with HIV.

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TEST QUESTIONS
#P4702 HIV/AIDS: EPIDEMIC UPDATE FOR FLORIDA INITIAL LICENSURE

This is an open book test. Please record your responses on the Answer Sheet.
A passing grade of at least 75% must be achieved in order to receive credit for this course.

Accreditation: *Paragon CET is approved by the Florida Department of Business and Professional Regulation to provide continuing education for Cosmetologists, Estheticians, and Nail Technicians. Provider #0004997.*
Designation of Credit: *This course has been approved by the Florida Board of Cosmetology for 4 CE hours.*

This 4 hour CE course must be completed by April 30, 2023.

1. **The healthcare community first became aware of AIDS in 1981.**
   A) *True*
   B) *False*

2. **HIV is a retrovirus.**
   A) *True*
   B) *False*

3. **Approximately 38 million individuals were living with HIV/AIDS worldwide in 2018.**
   A) *True*
   B) *False*

4. **The "window period" is defined as the time between infection with HIV and the ability to detect it with antibody tests.**
   A) *True*
   B) *False*

5. **Injecting drug use is an established risk category for HIV transmission.**
   A) *True*
   B) *False*

6. **Contact with saliva, tears, or sweat has not been shown to result in the transmission of HIV.**
   A) *True*
   B) *False*

7. **A latex condom is not effective in preventing transmission of HIV during oral sex.**
   A) *True*
   B) *False*

8. **Haircutting shears that become contaminated with blood may be thoroughly cleaned and disinfected and reused.**
   A) *True*
   B) *False*

9. **Cuts, sores, or breaks on the cosmetologist's skin should be covered with bandages.**
   A) *True*
   B) *False*

10. **Women now make up nearly half of all AIDS cases in the United States.**
    A) *True*
    B) *False*

11. **It is recommended that all pregnant women be screened for HIV.**
    A) *True*
    B) *False*

12. **Approximately 54% of sexually active high school students had not used a condom at last sexual intercourse.**
    A) *True*
    B) *False*

13. **Private entities may deny a person with HIV an occupational license or admission to a trade school based on his or her infection status.**
    A) *True*
    B) *False*

Test questions continue on next page ➔

14. The activities of cosmetology are considered high-risk activities for the transmission of HIV.
A) True
B) False

15. An appropriate attitude or behavior of the salon professional toward an individual with HIV/AIDS is to treat him or her as you would like to be treated.
A) True
B) False

Be sure to transfer your answers to the Answer Sheet/Evaluation.
DO NOT send these test pages to Paragon CET. Retain them for your records.
PLEASE NOTE: Your postmark or facsimile date will be used as your test completion date.