HIV/AIDS UPDATE 2013

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Division of Continuing Medical Education
# HIV/AIDS UPDATE

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General Information
This self-instructional learning activity is designed for primary care physicians, medical students, residents, interns and other allied healthcare professionals who are involved in HIV patient management and should be of interest to psychologists, nurses, social workers, marriage and family counselors and other health professionals who deal with the HIV patient.

This course fulfills the CME requirement for Florida licensed physicians.

Date of original release: November 1, 2001
Update May 1, 2013.
Expiration Date: April 30, 2016

Target Audience
Physicians

Applying for Continuing Education Credit
- (CME) Credit
- Read the monograph
- Complete the post-test* with a score of 70% or greater.
- Complete the online evaluation and registration process*.

* The link to the post-test, evaluation and registration process appears at the conclusion of this monograph.

Fees
UM Physicians..........................Complimentary
All others..................................$50

Participants must obtain a score of 70% or more, in order to qualify for continuing medical education credit. The Division of Continuing Medical Education will issue a certificate of participation indicating the hours earned.

Accreditation
The University of Miami Leonard M. Miller School of Medicine is accredited by the Accreditation Council for Continuing Medical Education to provide continuing medical education for physicians.

This activity was planned and produced in accordance to ACCME Essential Areas, Elements and Policies.
Credit Designation

The University of Miami Leonard M. Miller School of Medicine designates this educational activity for a maximum of 2 AMA PRA Category 1 Credit(s)™. Physicians should only claim credit commensurate with the extent of their participation in the activity.

Credit is available for the period of May 2013 to April 30, 2016 upon successful completion of the post-test.

Faculty Disclosure

Dr. Baracco has indicated that he has no relevant financial relationships with commercial interests.

Disclosure and Conflict of Interest Resolution:

All conflicts of interest of any individual(s) in a position to control the content of this CME activity has been identified and resolved prior to this educational activity being provided.

Learning Objectives

Upon completion of this self-instructional activity, participants should be able to:

- Accurately diagnose, treat and refer patients with HIV/AIDS or suspected of having HIV/AIDS
- Be knowledgeable of Florida laws specific to this disease
- Implement preventive measures when dealing with patients suspected of having HIV/AIDS

Contact Information

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Introduction
According to World Health Organization estimates, approximately 33.3 million people worldwide and 1.2 million people in North America lived with Human Immunodeficiency Virus (HIV) infection at the end of 2009.

The HIV epidemic has deeply affected not only medicine but society itself. A diagnosis of HIV infection has such important medical, psychological, social, and financial implications that the State of Florida has mandated that all practicing physicians in the State receive training about this disease equivalent to 1.0 CME credit as a requirement for their first licensure renewal.

The following pages provide a comprehensive yet concise, up-to-date and easy to read review of the information that a practicing physician of any specialty in the State of Florida should know about this disease.

Pathogenesis and Natural History of HIV Infection
HIV-1 and HIV-2 belong to the Retroviridae family of RNA viruses.

HIV does not transmit easily. The probability of transmission ranges from 0.0001 to 0.004 per sexual contact. Transmission is enhanced when the mucosal barrier of the genital tract is perturbed by inflammation, trauma, or breached by the presence of ulcerative STDs. Circumcision offers a degree of protection against HIV infection, suggesting that cells found on foreskin may facilitate transmission.

When the virus penetrates the mucosal surface, it is picked up by dendritic cells and through them to partially activated CD4+ T cells of the genital mucosa. In less than 1 week after exposure, there is local propagation in activated CD4+ T cells. The virus then migrates, possibly through lymphatic circulation, to the GALT
(gut-associated lymphoid tissue) where it causes massive depletion of memory CD4+ T cells in the intestinal lamina propria. Subsequent wide dissemination of the virus occurs, with seeding of lymphoid tissues and establishment of chronic HIV reservoirs.

After a period of 1 – 8 weeks approximately 70% of the newly HIV-infected patients develop a mononucleosis-like illness characterized by fever, myalgia, pharyngitis, and generalized non-specific lymphadenopathy. Some patients develop a generalized papulomacular rash, and a few develop hepatitis and aseptic meningitis. This illness is known as the acute retroviral syndrome, or primary HIV infection. It is usually a benign, self-limited illness, though some patients may have a more severe form and seek medical attention. The infection is frequently unrecognized even in those patients who go to their medical provider. During this phase, HIV replicates aggressively in the absence of an immune response, reaching very high levels of viremia, which peaks and then declines spontaneously as partial immunity to the virus becomes established. After several months, the level of viremia reaches a steady state, or “viral set point”. The level of the viral set point is an important predictor of the rapidity of disease progression in the absence of antiretroviral therapy. The resolution of symptoms coincides with the appearance of specific immunity and seroconversion.

After the acute retroviral syndrome resolves, patients enter a period of clinically silent infection of variable length. These patients are asymptomatic, many don’t know they are infected, but they are certainly contagious and may spread the disease to their sexual and parenteral drug partners, and to their offspring. The
integrity of the patient’s immune system – estimated by quantification of CD4+ T-lymphocytes per unit of blood (“CD4+ count”) – deteriorates steadily during this period, at variable rates. The average duration of the asymptomatic phase, in the absence of therapy, is about 8 to 10 years, but can range from as little as 1 year in rare occasions to a “chronic non-progressor” state, by which a small percentage of infected patients maintain the integrity of their immune system throughout the years. The rate of disease progression is determined by a complex interaction between the fitness of the viral strain and the strength of the patient’s specific anti-HIV cellular and humoral immunity.

As the CD4+ count drops and approaches 200 cells/mm³, the first signs of immune deficiency appear. Unexplained weight loss, generalized lymphadenopathy, fatigue, and oral or vaginal candidiasis are common nonspecific signs of advancing HIV disease. Pneumococcal pneumonia and reactivation of latent tuberculosis are also more common in this stage.

The Acquired Immunodeficiency Syndrome (AIDS) is diagnosed when one of two things occur: a) the CD4+ count drops below 200 cells/mm³, even though the patient may still be asymptomatic; or b) the patient develops an opportunistic condition (infection or neoplasm) that defines AIDS, regardless of the patient’s CD4+ count (see Table 1).

The degree of immunosuppression is a continuum. However, this threshold of 200 CD4+ cells/mm³ was chosen to provide uniformity for surveillance studies, for disability and social aid, and to assess the need for prophylaxis against certain opportunistic pathogens.
Patients with AIDS are more likely to acquire a variety of diseases that persons with a stronger immune system would not. At this stage, patients frequently develop a hypercatabolic state due to increased levels of cytokines related to their chronic disease. This leads to weight loss, progressive weakness, and chronic diarrhea. They are also prone to develop *Pneumocystis jiroveci* pneumonia. This predisposition increases as the CD4⁺ count declines. Patients with a CD4⁺ count below 50 cells/mm³ are at risk of developing disseminated *Mycobacterium avium* infection, cytomegalovirus disease, and progressive multifocal leukoencephalopathy (PML).

The natural history described above has been significantly affected by the introduction of effective antiretroviral therapy. Treatment maintains and even reconstitutes to a great degree the immune system of the majority of patients, and has been shown to prolong their survival and decrease morbidity associated with advancing immunodeficiency.

**Epidemiology**

The number of people living with HIV in the world has continued to increase, despite decreasing numbers of new infections. This is explained by a lower mortality and longer life expectancy of infected patients due to the increasing availability of antiretroviral therapy. As of December 2009 an estimated 33.3 million people worldwide were living with HIV (a 27% increase from 1999), 2.6 million of which acquired the infection in 2009, about 20% fewer than at the peak of the epidemic in the late 1990s. There were 1.8 million HIV deaths in 2008, a decrease from 2.1 million at the peak in 2004.
There were an estimated 1.2 million people living with HIV in the United States in 2009. Updated estimates reveal 54,000 people were newly infected and 17,000 died from HIV/AIDS during 2009. African-American and Hispanic populations are disproportionately affected by this epidemic. African Americans account for 42% of AIDS cases and for 50% of newly infected individuals.

**Modes of Transmission**

HIV is transmitted through three main routes: sexual, parenteral, and vertical.

1. **Sexual**

   Sexual intercourse is the leading way of transmission of HIV. This form of transmission occurs mainly among high-risk groups, such as men who have sex with men and sex workers. However, the number of cases acquired by heterosexual transmission has risen significantly in recent years and account for a very significant proportion of new infections. In 2009 31% of all new HIV infections, and 85% of new HIV infections in women, were attributed to heterosexual transmission.

   The risk of sexual transmission is in direct relationship with the amount of trauma and laceration of the recipient’s genital mucosa. So, receptive anal intercourse provides the greatest risk, and the rate of transmission from a man to a woman is greater than the opposite. Genital ulcers from co-existing sexually transmitted diseases such as syphilis and Herpes simplex also enhance transmissibility of the HIV virus.

   Other factors that influence the risk of sexual transmission of HIV are related to the prevalence of HIV in the patient’s environment, the number of sexual
partners, the exchange of sex for drugs or money, and the viral load of the infecting partner.

2. Parenteral

Before 1985, at least 50% of the approximately 16,000 patients with hemophilia in the US and an additional 12,000 blood-transfusion recipients were infected with HIV. Hemophiliacs were at a particularly high risk because a single dose of cryoprecipitate contained products from between 1,000 and 20,000 donors. Today the use of recombinant clotting factors, screening questionnaires, and tests performed to ensure that the blood transfused does not carry an infectious agent make HIV transmission through blood and blood products a very rare event in the US. Each unit of blood undergoes at least ten different tests, as compared to only two (hepatitis B and syphilis) required in 1981.

Users of illicit parenteral drugs continue to account for a large number of infections. Needle sharing and dilution of drug with blood are common practices, as well as engagement in high-risk sexual practices like exchanging sex for drugs and money. Infection with other blood borne pathogens, such as hepatitis B and C viruses, are also common in this group. Due to the repetitive nature of their potential exposure, it is very difficult to quantify the efficiency of this kind of transmission, but it is likely to be high.

3. Vertical transmission

Vertical (mother to child) transmission is the number one cause of HIV infection in children. It occurs mostly during the perinatal period, and during breastfeeding. Several factors have been associated to an increased risk of transmission, and most have to do with the maternal viral load, the exposure of the newborn to
maternal blood during delivery, and to breastfeeding. Good prenatal care, adequate antiretroviral therapy to the mother and child, cesarean section, and not breastfeeding are all associated with decreased transmission of HIV. Even in mothers without chronic therapy for HIV and without prenatal care, antiretroviral agents given through labor and delivery, together with early treatment of the newborn, decrease significantly the risk of transmission.

**Diagnosis**

The CDC updated its guidelines for HIV Testing in 2006 to reflect the changing demographics of HIV infection in the USA, particularly increasing proportions of heterosexual transmission and women comprising new HIV infections. Routine voluntary HIV screening is recommended as a part of standard medical care. This includes incorporation of screening in acute care settings such as Emergency Departments.

A summary of the updated recommendations is as follows:

1. Routine screening for HIV infection should be performed for patients aged 13-64, unless the documented HIV prevalence in the community is < 0.1 %.

2. Patients seeking treatment for STDs and at subsequent visits for a new complaint.

3. Patients initiating treatment for TB.

In addition, new recommendations for repeat screening include annual testing for high-risk groups and both prospective partners prior to initiation of a new sexual relationship.
Florida law carefully structures the manner in which health care providers may obtain HIV tests. The following paragraphs outline the minimal statutory requirements for performing HIV testing.

The process of testing a person for HIV involves five steps:

1. Risk assessment

The evaluation of a particular patient’s risk for HIV infection should be an integral part of the routine primary health care. Patients should be made comfortable and should be assured of the confidentiality of their answers, and the physician has to approach him or her in an objective, non-judgmental manner, devoid of demographic or sociocultural prejudice (Table 2). The provider should elicit information about high-risk sexual behavior and lifestyle, illicit drug use, and medical conditions that may be associated with an increased incidence of HIV infection. Counseling and testing is then offered as appropriate.

Florida law requires a health care provider who attends a pregnant woman for conditions relating to her pregnancy to offer testing for HIV and counsel her on the availability of treatment if she tests positive. If the pregnant woman objects to HIV testing, a reasonable attempt must be made to obtain a written statement of objection, signed by the patient, which shall be placed in her medical record. A woman who tests positive, in addition to the indicated medical and psychological treatment, should be referred to the Healthy Start Care Coordination System (for information, call 1-800-FLA-AIDS or 1-800-451-BABY).
2. Pre-test counseling

Pre-test counseling is not required by Florida law, except in the case of a provider who attends a pregnant woman for conditions related to her pregnancy, but it is strongly encouraged. It may be done through written material. It should include information about the purpose of the HIV test; the indications for testing (medical and/or high risk); the possible need for retesting; information on how to avoid contracting and transmitting HIV infection; the potential social, medical, and economic effects of a positive test result; and, options for eliminating/reducing risk behavior. It should also state the availability of support services for those awaiting test results, and the provider should schedule a specific date for receiving test results. If the healthcare provider chooses to release a negative HIV test result without face-to-face post-test counseling, then a system should be put in place and agreed with the patient to ensure the confidentiality of this information.

3. Informed consent

An informed consent must ALWAYS be obtained. The limited exceptions to obtaining informed consent are outlined in Table 3. The informed consent does not need to be in writing, provided there is adequate documentation in the chart that the test was explained and informed consent was obtained, except when HIV testing is done prior to first donation of blood or organs, and when it is done for insurance purposes. The following information represents a sound and reasonable standard for obtaining informed consent:
• Right to confidential treatment of the information to the extent provided by law. Persons with knowledge of an individual's HIV test result have legal obligations to protect this information from unauthorized disclosure (Table 4).
• An HIV test is used to determine if an individual is infected with the virus that causes AIDS.
• The potential uses and limitations of the test.
• The procedures to be followed.
• That HIV testing is voluntary, and consent can be withdrawn at any time prior to testing.
• Patients should be informed that positive test results will be reported to the county health department for follow-up activities, and they must also be given information about the availability of anonymous testing. A list of anonymous test sites is available at each county health department.

4. Testing

Testing for HIV is performed by looking for HIV-specific antibodies. The usual screening test is by the ELISA (Enzyme-linked immunosorbent assay) method, which is typically done in a blood sample, but point-of-care screening in saliva is also available. Even though it is a very specific test, a positive result must always be confirmed by a second method; Western Blot assay is the most widely used. It is unlawful to disclose to the patient unconfirmed positive ELISA assays, except when decisions about medical care or treatment cannot await the results of confirmatory testing. The health care provider who ordered the test must document justification for the use of preliminary test results in the medical record.
There are certain circumstances, such as screening a baby born to an HIV-positive mother, or diagnosing acute retroviral syndrome, in which antibody testing is not reliable. In those situations, the diagnosis should be made by looking for viral particles, such as viral RNA, or pro-viral DNA (by RT-PCR or bDNA assays).

5. Post-test counseling

All reasonable efforts must be made to notify the test subject of his or her test result. Post-test counseling should be offered to all test subjects and should be based on the test result and the individual’s needs as determined during the risk assessment.

In the case of a hospital emergency department, detention facility, or other facility where the test subject has been released before being notified of positive test results, informing the county health department fulfills this responsibility.

Although Florida law no longer requires face-to-face post-test counseling, it is recommended that providers conduct such a session when the individual tests positive or is a high-risk negative.

When test subjects are given their test results, Florida law requires that, at a minimum, the following information is provided:

- For people with a positive test result, information on preventing transmission of HIV, the availability of appropriate medical and support services, and the importance of notifying sex and/or needle-sharing partners. Providers must make a good faith effort to ensure that spouses and former spouses (from the past ten years) of HIV-infected persons are notified that they may have been exposed to HIV infection. Each test subject shall also be made aware of the
availability of a county health department confidential partner notification program.

- For people with a negative test result, information on preventing the transmission of HIV, if appropriate.

**Clinical Management**

Once diagnosed, HIV-positive patients should be evaluated by a healthcare provider experienced in the care of these patients. Providers should assess the presence of depression and domestic violence. The laboratory assessment will include establishing the stage of their disease, including baseline resistance testing, concomitant active or latent conditions like tuberculosis, Toxoplasma, other sexually transmitted diseases, and hepatitis B and C. In addition, an assessment of overall medical health should be made, including evaluation of pre-existing chronic conditions or conditions that may be affected by antiretroviral therapy, such as diabetes mellitus, coronary heart disease, chronic renal or liver disease, and dyslipidemia. The patient will receive appropriate immunizations and prophylactic medication. A multidisciplinary approach is preferred, with the intervention of psychologists, clinical pharmacists, clinical educators, nutritionists, and social workers.

Antiretroviral therapy is available in the form of a multi-drug combination regimen referred to as combination antiretroviral therapy or “HAART” (Highly-Active AntiRetroviral Therapy). The goals of therapy are to reduce HIV-associated morbidity and prolong the duration and quality of survival, restore and preserve immunologic function, maximally and durably suppress plasma HIV
viral load, and prevent HIV transmission. These goals are achieved by maximizing adherence to the antiretroviral regimen, and using drug-resistance testing in selected clinical settings. How the available drugs are sequenced and the preservation of future treatment options are also important tools.

The U.S. Department of Health and Human Services currently recommends that ART be given to all HIV-infected patients. The strength of the recommendation varies on the basis of pretreatment CD4 cell count, with a strong recommendation given to patients with CD4 cell count of less than 500 cells/mm³, and to pregnant women, patients with history of an AIDS-defining illness, HIV-associated nephropathy, or HIV/hepatitis B virus coinfection, regardless of CD4 cell count.

Several different classes of antiretroviral medications are currently available. Classification is based on mechanisms of action that selectively inhibit HIV replication in variable stages of the HIV lifecycle. In order to maximize the chance of obtaining significant virological suppression a treatment regimen should contain agents that fall within at least two different treatment classes. Commonly used agents target the HIV specific enzyme reverse transcriptase-these may be nucleoside analogues referred to as nucleoside reverse transcriptase inhibitors (NRTI) or drugs that inhibit reverse transcriptase by a different mechanism, i.e. non nucleoside reverse transcriptase Inhibitors (NNRTI). Other pathways targeted include inhibition of the function of Protease and Integrase enzymes- Protease Inhibitors (PIs) and Integrase Inhibitors respectively. Other agents target the binding, fusion and entry of HIV into the target cell- Entry
inhibitors (Table 5). A typical starting combination antiretroviral regimen consists of 2 nucleoside reverse-transcriptase inhibitors (NRTI), and either a non-nucleoside reverse-transcriptase inhibitors (NNRTI) or a protease inhibitor (PI). Ritonavir (a PI) is often used in combination with other PIs to boost the serum level of the other PI by inhibiting its metabolism by the cytochrome P450 enzyme system. These regimens should be designed by a practitioner experienced in the treatment of patients infected with HIV.

Prophylaxis of opportunistic infections is an important element of the care of AIDS patients. Thresholds usually defined by arbitrary CD4 counts are used to instigate prophylactic antibiotic therapy to reduce the incidence of opportunistic infections. These include: Pneumocystis jiroveci (a common cause of pneumonia when CD4 count is under 200), Toxoplasma gondii (a parasite associated with brain lesions, most often occurring with CD4 counts of under 100), Mycobacterium Avium Complex (MAC)- a group of atypical Mycobacteria that can cause disseminated disease in the advanced AIDS host (CD4 usually under 50).

**Prevention**

Preventing new HIV infections is a priority in any HIV control program. There needs to be a strong political and resource commitment from the government and the community for this purpose. Education, support, access to healthcare and effective treatment all must be included in a successful program.
Sexual education is an important component, and should be always provided at an age-appropriate level. Physicians need to teach their patients to avoid high-risk sexual behavior and promote safe sex practices. Patients who inject illicit drugs should also be taught about the risks of needle sharing. Healthcare workers and any person with occupational exposure to blood borne pathogens need to be proficient in using standard infection control precautions.

Prevention strategies also focus on the infected patient as the source. Extensive HIV testing programs and treatment of HIV infection and other STDs in the community are significant as patients with HIV infection controlled with treatment are less likely to transmit HIV than those with untreated infection. There is also recent evidence that pre-exposure prophylaxis is effective but this is a controversial approach because of expense, of adherence, and because of theoretical concerns that it may give rise to widespread resistance.

**HIV and the Healthcare Worker**

As of May, 2011 there were 57 documented cases of occupationally acquired HIV infection by healthcare personnel as well as a further 143 possible cases. The most recent possible new case of occupationally acquired HIV reported to CDC occurred in 2009; no new documented cases have been reported since 1999, although several cases are currently in various stages of investigation. More than 90% of healthcare personnel infected with HIV have non-occupational risk factors reported for acquiring their infection.

Standard precautions are adequate for the care of patients with HIV. They include hand hygiene before and after each patient contact and the use of
gloves as appropriate. Other personal protective equipment, such as gowns, eye shields, and masks, may be necessary when exposure to blood or other body fluids is anticipated.

Healthcare workers may occasionally have an accidental parenteral exposure to HIV. It is estimated that roughly 500,000 percutaneous blood exposures occur each year among hospital-based healthcare workers in the United States. Of these, approximately 5000 occur with patients that have HIV infection. The average risk of HIV transmission after percutaneous exposure to HIV-infected blood is approximately 0.3%, or 1 case in 300+ exposures. This risk will vary depending on the depth of the wound, the amount of blood present on the sharp instrument, the use of gloves, and the viral load of the patient. When the exposed area is a mucous membrane or non-intact skin, the risk of HIV transmission is even lower. It has been calculated that approximately 1 in 1100 such accidents may lead to transmission, a rate of 0.09%. Although episodes of HIV transmission after non-intact skin exposure have been documented, the average risk for transmission by this route has not been precisely quantified but is estimated to be less than the risk for mucous membrane exposures.

After a significant exposure, the wound or mucous membrane should be flushed immediately with copious amounts of water. Each institution has specific protocols to follow after an exposure, and healthcare workers should be familiar with them. It usually entails reporting immediately to the institution's employee health office, infection control office, or emergency department. There, the exposed person will be evaluated, screened, counseled, and prophylaxis offered if appropriate. Informed consent should be obtained from the source of the
exposure, if known, to be screened for blood borne pathogens, including HIV, hepatitis B, and hepatitis C infection. If prophylaxis is offered according to the institution’s protocol, and the employee accepts to take it, it should be taken as soon as possible, preferably within 2 hours of the exposure. In 2008 a legislative bill was passed in Florida that permits testing of existing blood without consent when a member of medical personnel is exposed and consent cannot be obtained in the timeframe necessary to conduct a test and start prophylactic treatment.
Selected References


Greene WC, Peterlin BM. Charting HIV’s remarkable voyage through the cell: Basic science as a passport to future therapy. Nature Medicine 2002; 8(7):673-80


Table 1. Conditions included in the 1993 AIDS Surveillance Case Definition

<table>
<thead>
<tr>
<th>Condition</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Candidiasis of bronchi, trachea, or lungs</td>
<td></td>
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<tr>
<td>Candidiasis, esophageal</td>
<td></td>
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<tr>
<td>Cervical cancer, invasive</td>
<td></td>
</tr>
<tr>
<td>Coccidioidomycosis, disseminated or extrapulmonary</td>
<td></td>
</tr>
<tr>
<td>Cryptococcosis, extrapulmonary</td>
<td></td>
</tr>
<tr>
<td>Cryptosporidiosis, chronic intestinal (greater than 1 month’s duration)</td>
<td></td>
</tr>
<tr>
<td>Cytomegalovirus disease (other than liver, spleen, or nodes)</td>
<td></td>
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<tr>
<td>Cytomegalovirus retinitis (with loss of vision)</td>
<td></td>
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<tr>
<td>Encephalopathy, HIV-related</td>
<td></td>
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<tr>
<td>Herpes simplex: chronic ulcer(s) (greater than 1 month’s duration); or bronchitis, pneumonitis, or esophagitis</td>
<td></td>
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<tr>
<td>Histoplasmosis, disseminated or extrapulmonary</td>
<td></td>
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<tr>
<td>Isosporiasis, chronic intestinal (greater than 1 month’s duration)</td>
<td></td>
</tr>
<tr>
<td>Kaposi’s sarcoma</td>
<td></td>
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<tr>
<td>Lymphoma, Burkitt’s (or equivalent term)</td>
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<tr>
<td>Lymphoma, immunoblastic (or equivalent term)</td>
<td></td>
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<tr>
<td>Lymphoma, primary, of brain</td>
<td></td>
</tr>
<tr>
<td>Mycobacterium avium complex or M. kansasii, disseminated or extrapulmonary</td>
<td></td>
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<tr>
<td>Mycobacterium tuberculosis, any site (pulmonary or extrapulmonary)</td>
<td></td>
</tr>
<tr>
<td>Mycobacterium, other species or unidentified species, disseminated or extrapulmonary</td>
<td></td>
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<tr>
<td>Pneumocystis jiroveci pneumonia</td>
<td></td>
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<tr>
<td>Pneumonia, recurrent</td>
<td></td>
</tr>
<tr>
<td>Progressive multifocal leukoencephalopathy</td>
<td></td>
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<tr>
<td>Salmonella septicemia, recurrent</td>
<td></td>
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<tr>
<td>Toxoplasmosis of brain</td>
<td></td>
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<tr>
<td>Wasting syndrome due to HIV</td>
<td></td>
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</tbody>
</table>

### Table 2
Criteria to Determine an Individual's Risk for HIV Infection

- Sexual behavior
- Substance use/abuse
- Needle sharing
- Occupational exposure
- Blood/blood products/transplants
- Partners at risk for HIV
- History of STDs
- Child of woman with HIV/AIDS
- Victim of sexual assault/domestic violence
- Sex for drugs/money

From: Bureau of HIV/AIDS, Florida Department of Health.  
### Table 3

**Situations in Which Informed Consent for HIV testing is not required**

- When testing for STDs is required by federal or state law
  - Persons convicted of prostitution
  - Prior to release of inmates from prison
  - Medical examiner
- HIV testing of pregnant women. The woman shall be informed of the tests that will be conducted and of her right to refuse testing
  - Screening of blood, plasma, organs
  - Bona fide medical emergencies, patient unable to consent. Must be clearly supported by documentation in the medical record.
  - When obtaining consent would be detrimental to the patient, and test results are necessary to provide appropriate care to the patient
  - HIV test as part of an autopsy
  - Victim’s request in prosecution of sexual battery
  - HIV mandated by court order
  - For epidemiological research, if identity of the testee remains anonymous
  - When human tissue is collected lawfully for corneal removal or enucleation of the eyes
  - After occupational exposure, when blood is available, from a previous draw and only after the patient has refused to give a sample or cannot be located.
  - Occupational exposure during a medical emergency outside the hospital
  - Medically-indicated HIV testing in an infant when a parent cannot be contacted to provide consent
  - HIV testing conducted to monitor the clinical progress of a patient previously diagnosed HIV positive.
  - Repeated HIV testing conducted to monitor possible conversion from an exposure, or to monitor the clinical progress of a patient previously diagnosed to be HIV positive

Summarized from: Florida Department of Health. 2011 Florida statutes s. 381.004 (3)(h), F.S. The complete statute should be reviewed for complete information and procedures. [http://www.leg.state.fl.us](http://www.leg.state.fl.us)
### Table 4

Confidentiality of HIV Test Results

Any person or institution shall comply with the confidentiality provisions of the law in administering an HIV test, protecting the identity of the test subject, and managing records which contain laboratory reports of HIV test results or any report or notation of a laboratory report of an HIV test.

No person or institution shall disclose the identity of a test subject or his/her HIV test results, except to the following persons:

- The subject of the test
- Any person designated in a legally effective release
- Any medical personnel who experience a significant exposure during the course of employment or in the performance of duties, or any non-medical personnel who experience a significant exposure while providing emergency assistance
- Any employee of an authorized health care facility, on a “need to know” basis for the performance of his or her duties
- Health care providers involved in the care of test subjects consulting among themselves to determine diagnosis or treatment of the patient.
- The Department of Health
- A health facility or provider which procures, processes, distributes, or uses human body parts from a deceased person or semen for artificial insemination
- Hospital committees for purposes of program monitoring, program evaluation, or service reviews
- Authorized medical or epidemiological researchers
- Those persons authorized under Section 796.08(3), F.S., to receive HIV test results of convicted prostitutes
- The victim of a criminal offense involving transmission of body fluids shall, upon request, obtain the HIV test results of the person charged or convicted of the crime
- In accordance with specific circumstances established in Section 455.674, F.S., a practitioner regulated through the Division of Medical Quality Assurance within the Department of Health can disclose the identity of an HIV positive patient to the patient’s sex or needle-sharing partner. Any notification of a sex or needle-sharing partner shall be done in accordance with the “Partner Notification Protocol for Practitioners”, dated March 1999
- Employees of the department, child placing or child-caring agencies, or of licensed family foster homes who are directly involved in the placement, care, control, or custody of a test subject and have a need to know such information; the adoptive parents of the test subject; or the adult custodian, adult relative or other person who is responsible for the child’s welfare if the parent or legal guardian cannot be located
- Employees of residential facilities or community-based care programs licensed under Chapter 393, F.S., for developmentally disabled persons if the employees are directly involved in the care, control, or custody of such test subject and have a need to know such information.
- A person allowed access by a court order
- A person allowed access by order of a judge of compensation claims of the Division of Workers’ Compensation of the Department of Labor and Employment Security.

Table 5. Drugs FDA-Approved for the Treatment of HIV Infection

<table>
<thead>
<tr>
<th>NRTI</th>
<th>NNRTI</th>
<th>Protease Inhibitors</th>
<th>Integrase Inhibitors</th>
<th>Fusion/Entry Inhibitors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zidovudine</td>
<td>Efavirenz</td>
<td>Saquinavir</td>
<td>Raltegravir</td>
<td>Enfuvirtide</td>
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<tr>
<td>Didanosine</td>
<td>Nevirapine</td>
<td>Ritonavir</td>
<td></td>
<td>Maraviroc</td>
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<tr>
<td>Stavudine</td>
<td>Delavirdine</td>
<td>Indinavir</td>
<td></td>
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<tr>
<td>Lamivudine</td>
<td>Etravirine</td>
<td>Nelfinavir</td>
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<td>Abacavir</td>
<td>Rilpivirine</td>
<td>Amprenavir</td>
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<tr>
<td>Tenofovir</td>
<td></td>
<td>Fosamprenavir</td>
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<tr>
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<td>Lopinavir</td>
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<td></td>
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<td>Darunavir</td>
</tr>
</tbody>
</table>

Drugs approved by the FDA as of May 2012.

**Post-Test**

Click on the link below to complete the post-test, evaluation and registration process.

**HIV/AIDS Test and evaluation form**