

HIV Screening and Counseling

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Learning Objectives

1. Understand the guidelines for HIV screening
2. Relate issues that are important to discuss with a patient who is newly diagnosed with HIV
3. Recognize current laws and resources involving partner disclosure

Case: J.M. is a 21 year old Caucasian male who presents to clinic for a routine health exam. He states that he has no complaints at this time and is feeling well. He has no significant medical history and does not take any medication. He denies any past or present smoking or illicit drug use. He drinks alcohol socially and denies any binge drinking. He is sexually active with a male partner who he has been with for the past one year. He reports that he “usually” uses condoms and that he and his partner are monogamous. He is usually the bottom partner in sexual intercourse. He denies any history of STDs. He has not been seen by a physician for the past 2 years and has never been screened for HIV or other STDs.

1. What are the current recommendations for HIV screening?

As of 2006, the CDC recommends opt-out universal HIV screening for **all** patients aged 13-64 years in all healthcare settings at least once, regardless of risk factors. Similarly, as of 2013, the U.S. Preventative Services Task Force recommends that all adults and adolescents aged 15 to 65 years be screened for HIV at least once. This is supported by evidence that HIV screening is cost effective in a setting where the prevalence of HIV infection is greater than or equal to 0.1%. Individuals who are at higher risk of HIV should be screened **annually**, or more often as concern for HIV exposure arises. High risk individuals include sex partners of HIV-infected individuals (especially those who are untreated or not virally suppressed), injection drug users (especially those who share needles) and their sexual partners, men who have sex with men, those who exchange money or drugs for sex, and heterosexual individuals who themselves or whose sex partners have had multiple partners since their last HIV test. This patient should be screened for HIV at this time.

In the United States, men who have sex with men (MSM) remain the group most predominantly infected with HIV. As of 2010, MSM made up 63% of all new HIV infections, followed by 25% who are heterosexuals (of which two-thirds are women), 8% who are injection drug users, and 3% who are MSM and injection drug users.

2. What type of consent is required to obtain HIV screening on this patient?

HIV testing should be done in an opt-out manner. Patients should be notified about the indication and need for HIV testing, but have the option to decline or defer testing. Unlike in the past, “opt-in testing”, which included written consent and pre and post test counseling, is no longer required.

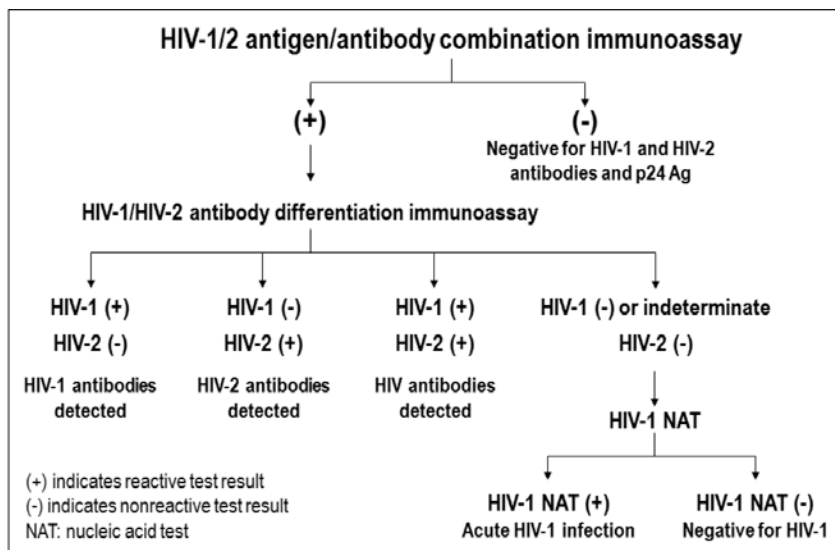
Of note, statistical studies on pregnant women receiving opt-in versus opt-out testing have shown a significant increase in the number of women who underwent HIV testing with an opt-out approach compared to an opt-in approach. As a result, the opt-out approach has drastically decreased rates of maternal to fetal transmission of HIV infection.

3. What type of testing should be used to screen this patient for HIV?

The CDC released an updated HIV testing algorithm in 2014, as shown below. This states that testing should begin with a 4th generation combination antibody/antigen immunoassay that detects antibodies against HIV-1 and HIV-2 as well the HIV-1 p24 antigen. This test will either result as positive or negative.

All specimens that are positive on this initial assay are then sent for an immunoassay that differentiates HIV-1 from HIV-2 antibodies. Specimens that were reactive on the initial immunoassay and nonreactive or indeterminate on the antibody differentiation assay are then sent for HIV-1 nucleic acid testing (NAT).

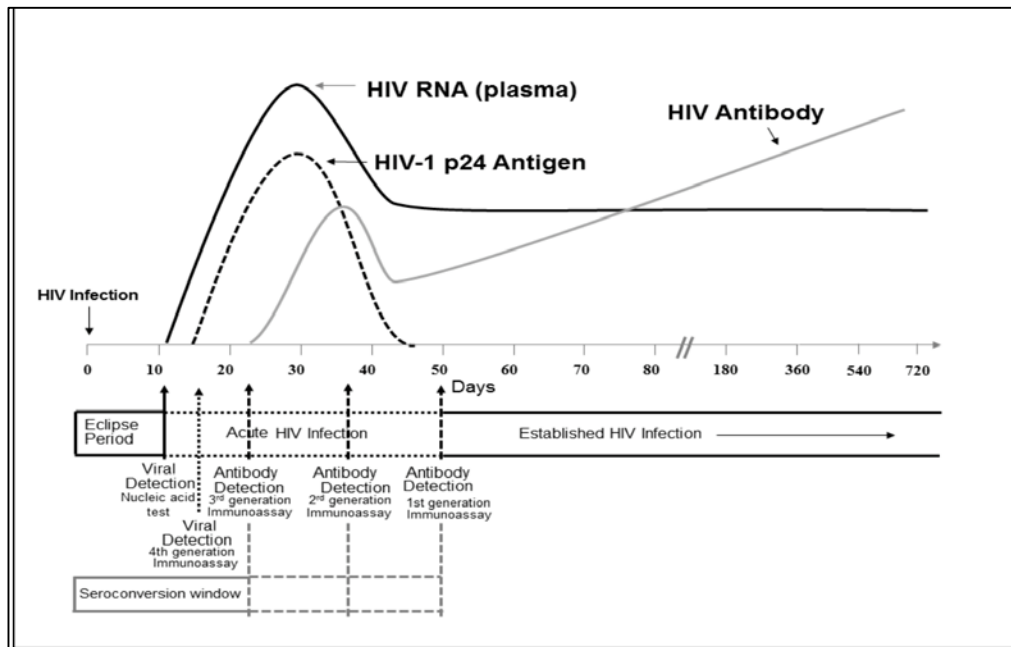
2014 CDC Testing Algorithm



“Laboratory Testing for the Diagnosis of HIV Infection: Updated Recommendations”. Center for Disease Control and Prevention. June 2014.

The graph below depicts the time from HIV infection to detection. Approximately 10 days after HIV exposure, the HIV-1 RNA becomes detectable in the blood through nucleic acid testing. Next, the p24 antigen rises and can be detected by the 4th generation assay about 5-10 days after the initial detection of HIV-RNA. The p24 antigen is only transiently detected, however, as it eventually binds to antibodies and forms immune complexes that interfere with detection. Lastly, antibodies to HIV start to rise about 3 weeks after initial infection. In the “window period” of acute HIV

infection, the p24 antigen may be detected, along with the HIV-1 RNA, however, the antibody to HIV may not yet be present.



"Laboratory Testing for the Diagnosis of HIV Infection: Updated Recommendations". Center for Disease Control and Prevention. June 2014.

Previously, a 3rd generation immunoassay was used for HIV screening which only included IgG and IgM antibodies to HIV (not the p24 antigen).

Also of note, there are now rapid point-of-care and commercially available HIV tests. These are rapid enzyme immunoassays that can analyze saliva or blood from a fingerstick specimen within an hour. The saliva test has a slightly lower sensitivity (about 93%) as compared with blood. While these tests still have fairly high sensitivity and specificity similar to standard laboratory serologies, the results should only be considered preliminary. A supplemental test should still be sent.

False positives are extremely rare but may occur on the Elisa immunoassay or Western Blot assays can be due to HLA antibodies, autoimmune diseases (such as lupus), cross reactivity to yeast, or to other contaminating antigens used to prepare the HIV antigens.

Also note that HIV-2 is very uncommon in the United States and is predominantly found in individuals who are in or from Western Africa. Between 1987 and 2009 there were only 166 cases reports of HIV-2, constituting only 0.01% of the more than 1.4 million U.S. cases of HIV infection diagnosed during that time period.

Case continued: The patient gives verbal consent to obtain HIV testing, as well as screening for other STDs. He is found to have positive HIV-1 antigen and antibody. HIV-1 RNA PCR shows a viral load of 360,000 copies. Other screening for STDs including gonorrhea, chlamydia, and syphilis are negative. He returns to the office several days later for you to update him on the results.

4. What should your patient be counseled on now that he is found to be HIV positive?

Just as with breaking any bad news to a patient, the discussion should be in an appropriate setting, while providing sensitivity and support. One protocol for delivering bad news is the SPIKES protocol:

Setting up the interview

Assessing the patient's **perception**

Obtaining the patient's **invitation** to discuss the diagnosis

Giving **knowledge** and information to the patient

Addressing the patient's **emotions** and providing **empathy**

Providing a **strategy** and **summarizing**

The diagnosis of HIV infection can be quite a shock to most patients and they may deal with a wide spectrum of emotions in coming to terms with this diagnosis. The typical stages of grief include denial, anger, bargaining, depression, and acceptance and all or some of these emotions may occur over time as the patient deals with the new diagnosis. Additionally, the patient should be counseled that HIV is now generally a very treatable condition and with the appropriate therapy and proper adherence to medication, the life expectancy is near-normal.

Patients with a new diagnosis of HIV may face many additional challenges beyond just the disease process, including dealing with the diagnosis of a chronic disease, disclosing the diagnosis to significant others and family, facing social stigmatization, changing behaviors to decrease transmission, and making reproductive decisions. Some patients may also have co-existing underlying mental health issues or substance abuse that also need to be addressed. All patients with HIV diagnosis should also receive a psychosocial screening and be provided access to behavioral, social, and/or psychological services if needed.

The patient in this case should also be counseled on the modes of transmission, and his risk of spreading the infection to others. HIV is spread through direct contact with blood and through sexual intercourse. It has **not** been found to be spread through casual contact such as kissing, touching, or sharing utensils or food. Patients are also at various risk of HIV transmission based on the type of sexual activity they engage in. The highest risk of sexual transmission is through unprotected receptive

anal intercourse, follow by unprotected receptive penile-vaginal intercourse. Next is insertive anal intercourse, followed by insertive penile-vaginal intercourse. The risks with oral intercourse are low, but not entirely negligible, especially if there is exposure to genital secretions. Condoms are protective if used appropriately.

The follow table summarizes the various modes and their associated risk of HIV transmission:

Type of Exposure	Risk per 10,000 Exposures
Parenteral	
Blood Transfusion	9,000 ^b
Needle-sharing during injection drug use	67 ^c
Percutaneous (needle-stick)	30 ^d
Sexual	
Receptive anal intercourse	50 ^{e, f}
Receptive penile-vaginal intercourse	10 ^{e, f, g}
Insertive anal intercourse	6.5 ^{e, f}
Insertive penile-vaginal intercourse	5 ^{e, f}
Receptive oral intercourse	low ^{e, i}
Insertive oral intercourse	low ^{e, i}
Other^h	
Biting	negligible ^j
Spitting	negligible
Throwing body fluids (including semen or saliva)	negligible
Sharing sex toys	negligible

“HIV Transmission Risk”. Center for Disease Control and Prevention. July 2012.

* In March 2014, there was a case report of female-to-female HIV sexual transmission likely secondary to sharing a sex toy. Shirley K. Chan, MPH. “Likely Female-to-Female Sexual Transmission of HIV- Texas 2012”. *CDC Morbidity and Mortality Weekly Report*. March 14, 2014 / 63(10); 209-212.

Case continued: You discuss the diagnosis with your patient and encourage him to notify his current sexual partner, as well as any past sexual partners. He reports that he had several casual encounters over a year ago, before dating his current partner. He thinks he likely contracted HIV then. He is nervous to tell his current partner and does not know how he would notify those prior sexual contacts.

5. What types of assistance and support are available for partner notification?

It is important to discuss with the patient how he feels about notifying his current partner, as well as any past sexual partners. If he does not feel comfortable directly telling them, he can be referred to the Partner Services, a program through the local state health department that will anonymously notify contacts who may have been exposed to and at risk of HIV. This allows partners to be counseled and linked to care

for testing and follow up. A link to partner services referral is available at http://www.ct.gov/dph/lib/dph/infectious_diseases/std/partner/Partner_services_referral_form.pdf

6. What if a patient refuses to notify their sexual partner(s)? Are you legally mandated to report?

Legal obligations for reporting HIV vary by state. Specifically, in Connecticut, providers are encouraged to initiate a referral to Partner Services but are not required by law to do this. If the provider does not decide to report the patient, he/she should continue to address this issue with the patient at future encounters, ensure that the patient understands the serious risks of potentially undiagnosed and untreated HIV in others, and offer support to help with disclosure. Also of note, in some states (but not Connecticut), intentionally or neglectfully transmitting HIV infection can result in criminal prosecution.

Recommended Reading

1. "HIV Infection: detection, counseling, and referral". Sexually Transmitted Diseases Treatment Guidelines, 2010. Center for Disease Control and Prevention. Updated August 2014. <http://www.cdc.gov/std/treatment/2010/hiv.htm>

Additional References/Reading

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6. Moyer V. "Screening for HIV: U.S. Preventive Services Task Force Recommendation Statement". Annals of Internal Medicine. 2013; 159:51-60.
7. O'Brien TR, George JR, Holmberg SD. "Human immunodeficiency virus type 2 infection in the United States". JAMA 1992; 267:2775--9

8. “Reducing HIV Transmission From Mother-to-Child: An Opt-Out Approach to HIV Screening”. Center for Disease Control and Prevention. January 10, 2014. <http://www.cdc.gov/hiv/risk/gender/pregnantwomen/opt-out.html>
9. Rochelle P. Walensky, Kenneth A. Freedberg, Milton C. Weinstein, and A. David Paltiel. “Cost-Effectiveness of HIV Testing and Treatment in the United States”. *Clin Infect Dis.* 2007; 45:S248-S254