

Screening for HIV: Recommendation Statement

► See related Putting Prevention into Practice on page 665 and Editorial on page 614.

This summary is one in a series excerpted from the Recommendation Statements released by the U.S. Preventive Services Task Force (USPSTF). These statements address preventive health services for use in primary care clinical settings, including screening tests, counseling, and preventive medications.

The complete version of this statement, including supporting scientific evidence, evidence tables, grading system, members of the USPSTF at the time this recommendation was finalized, and references, is available on the USPSTF website at <http://www.uspreventiveservicestaskforce.org/>.

A collection of USPSTF recommendation statements reprinted in *AFP* is available at <http://www.aafp.org/afp/uspstf>.

Summary of Recommendations and Evidence

The U.S. Preventive Services Task Force (USPSTF) recommends that clinicians screen for human immunodeficiency virus (HIV) infection in adolescents and adults 15 to 65 years of age. Younger adolescents and older adults who are at increased risk should also be screened (*Table 1*). **A recommendation.**

Go to the Clinical Considerations section for more information about screening intervals.

The USPSTF recommends that clinicians screen all pregnant women for HIV, including those who present in labor who are untested and whose HIV status is unknown. **A recommendation.**

A recommendation.

Rationale

IMPORTANCE

An estimated 1.2 million persons in the United States currently have HIV infection, and the annual incidence of the infection is approximately 50,000 cases. Since the first cases of AIDS were reported in 1981, more than 1.1 million persons have been diagnosed, and nearly 595,000 have died from the condition. Approximately 20% to 25% of individuals with HIV infection are unaware of their positive status.

DETECTION

The USPSTF found convincing evidence that conventional and rapid HIV antibody tests are highly accurate in diagnosing HIV infection.

BENEFITS OF DETECTION AND EARLY INTERVENTION

The USPSTF found convincing evidence that identification and treatment of HIV infection is associated with a markedly reduced risk of progression to AIDS, AIDS-related events, and death in individuals with

immunologically advanced disease (defined as a CD4 count < 200 per mm^3 [$< 0.20 \times 10^9$ per L]). Adequate evidence shows that initiating combined antiretroviral therapy earlier (i.e., at CD4 counts between 200 and 500 per mm^3 [0.20 and 0.50×10^9 per L])—when individuals are more likely to be asymptomatic with disease detected by screening rather than clinical presentation—is also associated with reduced risk of AIDS-related events or death. The USPSTF found convincing evidence that the use of antiretroviral therapy is associated with a substantially decreased risk of transmission from HIV-positive persons to uninfected heterosexual partners. Convincing evidence also shows that identification and treatment of HIV-positive pregnant women dramatically reduce rates of mother-to-child transmission. The overall benefits of screening for HIV infection in adolescents, adults, and pregnant women are substantial.

HARMS OF DETECTION AND EARLY INTERVENTION

The USPSTF found convincing evidence that individual antiretroviral drugs, drug classes, and combinations are associated with short-term adverse events; however, many of these events are transient or self-limited, and effective alternatives can often be found. Although the long-term use of certain antiretroviral drugs may be associated with increased risk of cardiovascular and other adverse events, the magnitude of risk seems to be small. The overall harms of screening for and treatment of HIV infection in adolescents, adults, and pregnant women are small.

USPSTF ASSESSMENT

The USPSTF concludes with high certainty that the net benefit of screening for HIV infection in adolescents, adults, and pregnant women is substantial.

Table 1. Screening for HIV: Clinical Summary of the USPSTF Recommendation

Population	Adolescents and adults 15 to 65 years of age, younger adolescents and older adults at increased risk of infection, and pregnant women
Recommendation	Screen for HIV infection Grade: A
Risk assessment	Men who have sex with men and active injection drug users are at very high risk of new HIV infection. Other persons at high risk include those who have acquired or request testing for other sexually transmitted infections. Behavioral risk factors for HIV infection include: Having unprotected vaginal or anal intercourse Having sex partners who are HIV-infected, bisexual, or injection drug users Exchanging sex for drugs or money The USPSTF recognizes that the above categories are not mutually exclusive, that the degree of sexual risk is on a continuum, and that individuals may not be aware of their sex partners' risk factors for HIV infection.
Screening tests	The conventional serum test for diagnosing HIV infection is repeatedly reactive immunoassay, followed by confirmatory Western blot or immunofluorescent assay. Conventional HIV test results are available within one to two days from most commercial laboratories. Rapid HIV testing may use blood or oral fluid specimens and can provide results in five to 40 minutes; however, initial positive results require confirmation with conventional methods. Other U.S. Food and Drug Administration–approved tests for detection and confirmation of HIV infection include combination tests (for p24 antigen and HIV antibodies) and qualitative HIV-1 RNA.
Interventions	There is currently no cure for chronic HIV infection. However, appropriately timed interventions in HIV-positive persons can reduce risks of clinical progression, complications or death from the disease, and disease transmission. Effective interventions include antiretroviral therapy (specifically, the use of combined antiretroviral therapy), immunizations, and prophylaxis for opportunistic infections.
Balance of benefits and harms	The net benefit of screening for HIV infection in adolescents, adults, and pregnant women is substantial.
Other relevant USPSTF recommendations	The USPSTF has made recommendations on behavioral counseling to prevent sexually transmitted infections. These recommendations are available at http://www.uspreventiveservicestaskforce.org/ .

NOTE: For a summary of the evidence systematically reviewed in making this recommendation, the full recommendation statement, and supporting documents, go to <http://www.uspreventiveservicestaskforce.org/>.

HIV = human immunodeficiency virus; USPSTF = U.S. Preventive Services Task Force.

Clinical Considerations

PATIENT POPULATION

These recommendations apply to adolescents, adults, and pregnant women.

Screening for HIV infection could begin at 15 years of age unless an individual is identified at an earlier age with risk factors for HIV infection. Screening after 65 years of age is indicated if there is ongoing risk of HIV infection, as indicated by risk assessment (e.g., new sex partners).

ASSESSMENT OF RISK

According to estimates from the Centers for Disease Control and Prevention (CDC), men who have sex with men account for

about 60% of HIV-positive persons in the United States.¹ Among men with HIV infection who were diagnosed at 13 years or older, 68% of infections are attributed to male-to-male sexual contact, 8% are attributed to male-to-male sexual contact and injection drug use, and 11% are attributed to heterosexual sexual contact. Among women with HIV infection, 74% of infections are attributed to heterosexual sexual contact and the remainder to injection drug use.^{1,2} According to the CDC, heterosexual sexual contact accounted for an estimated 25% of new HIV infections in 2010 and 27% of existing infections in 2009.^{3,4} Data from the CDC on HIV prevalence in different

subpopulations are available at <http://www.cdc.gov/hiv/topics/surveillance>.

On the basis of HIV prevalence data, the USPSTF considers men who have sex with men and active injection drug users to be at very high risk of new HIV infection. Behavioral risk factors for HIV infection include having unprotected vaginal or anal intercourse; having sex partners who are HIV-infected, bisexual, or injection drug users; or exchanging sex for drugs or money. Other persons at high risk include those who have acquired or request testing for other sexually transmitted infections (STIs). Patients may request HIV testing in the absence of reported risk factors. Individuals not at increased risk of HIV infection include persons who are not sexually active, those who are sexually active in exclusive monogamous relationships with uninfected partners, and those who are not in any of the aforementioned categories. The USPSTF recognizes that these categories are not mutually exclusive, that the degree of sexual risk is on a continuum, and that individuals may not be aware of their sex partners' risk factors for HIV infection. For patients younger than 15 years and older than 65 years, it would be reasonable for clinicians to consider HIV risk factors among individual patients, especially those with new sex partners. However, clinicians should bear in mind that adolescent and adult patients may be reluctant to disclose HIV risk factors, even when asked.

SCREENING INTERVALS

The evidence is insufficient to determine optimal intervals for HIV screening. One reasonable approach would be one-time screening of adolescent and adult patients to identify persons who are already HIV-positive, with repeated screening of those who are at risk of HIV infection, those who actively engage in risky behaviors, and those who live or receive medical care in a high-prevalence setting. According to the CDC, a high-prevalence setting is a geographic location or community with an HIV seroprevalence of at least 1%. These settings include sexually transmitted disease clinics, correctional facilities, homeless shelters, tuberculosis clinics, clinics serving men who have sex with men, and adolescent health clinics with a high prevalence of

STIs. Patient populations that would likely benefit from more frequent testing include those who are at higher risk of HIV infection, those who actively engage in risky behaviors, and those who live in a high-prevalence setting. Given the paucity of available evidence for specific screening intervals, a reasonable approach may be to rescreen groups at very high risk (see Assessment of Risk section) for new HIV infection at least annually and to rescreen individuals at increased risk at somewhat longer intervals (e.g., three to five years). Routine rescreening may not be necessary for individuals who have not been at increased risk since they were found to be HIV-negative. Women screened during a previous pregnancy should be rescreened in subsequent pregnancies.

SCREENING TESTS

The conventional serum test for diagnosing HIV infection is the repeatedly reactive immunoassay followed by confirmatory Western blot or immunofluorescent assay. The test is highly accurate (sensitivity and specificity greater than 99.5%), and results are available within one to two days from most commercial laboratories.

Rapid HIV testing may use blood or oral fluid specimens and can provide results in five to 40 minutes. The sensitivity and specificity of the rapid test are also both greater than 99.5%; however, initial positive results require confirmation with conventional methods.

Other U.S. Food and Drug Administration–approved tests for detection and confirmation of HIV infection include combination tests (for p24 antigen and HIV antibodies) and qualitative HIV-1 RNA.

TREATMENT

No cure for chronic HIV infection currently exists. However, appropriately timed interventions in HIV-positive persons can reduce risks of clinical progression, complications or death from the disease, and disease transmission. Effective interventions include antiretroviral therapy (specifically, the use of combined antiretroviral therapy, defined as three or more antiretroviral agents used together, usually from two or more classes), immunizations, and prophylaxis for opportunistic infections.

OTHER APPROACHES TO PREVENTION

The USPSTF recognizes that the most effective strategy for reducing HIV-related morbidity and mortality in the United States is primary prevention or avoidance of exposure to HIV infection. Condom use can also substantially decrease the risk of transmission of HIV and other STIs.

The USPSTF recommends high-intensity behavioral counseling to prevent STIs for all sexually active adolescents and for adults at increased risk of infection. More information can be found at <http://www.uspreventiveservicestaskforce.org/uspstf/uspstf/uspstf.htm>.

The Community Preventive Services Task Force has made several recommendations related to the prevention of HIV, AIDS, and other STIs, including person-to-person behavioral interventions (information and skill building to change knowledge, attitudes, beliefs, and self-efficacy) for men who have sex with men that can be implemented at the individual, group, or community level. It also recommends health provider notification and encouragement for HIV testing for sexual or needle-sharing partners of individuals diagnosed with HIV, as well as comprehensive risk reduction interventions in adolescents. More information can be found at <http://www.thecommunityguide.org/hiv/index.html>.

OTHER RESOURCES

More information about HIV and AIDS is available at <http://www.aids.gov> and <http://www.cdc.gov/hiv/default.htm>.

The CDC's recommendations on HIV testing in adults, adolescents, and pregnant women in health care settings are available at <http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5514a1.htm>. More information on HIV testing is available at <http://www.cdc.gov/hiv/testing/index.html>

and <http://www.fda.gov/ForConsumers/ByAudience/ForPatientAdvocates/HIVandAIDSActivities/ucm117922.htm>.

Antiretroviral treatment guidelines are regularly updated and available at <http://aidsinfo.nih.gov/guidelines>.

Information about state-based HIV and AIDS hotlines is available at <http://hab.hrsa.gov/gethelp/statehotlines.html>.

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The "Other Considerations," "Discussion," "Update of Previous USPSTF Recommendation," and "Recommendations of Others" sections of this recommendation statement are available at <http://www.uspreventiveservicestaskforce.org/uspstf/uspshivi.htm>.

The U.S. Preventive Services Task Force recommendations are independent of the U.S. government. They do not represent the views of the Agency for Healthcare Research and Quality, the U.S. Department of Health and Human Services, or the U.S. Public Health Service.

REFERENCES

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