



## Complete Summary

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### GUIDELINE TITLE

HIV infection: detection, counseling, and referral. Sexually transmitted diseases treatment guidelines 2002.

### BIBLIOGRAPHIC SOURCE(S)

Centers for Disease Control and Prevention. HIV infection: detection, counseling, and referral. Sexually transmitted diseases treatment guidelines. MMWR Recomm Rep 2002 May 10;51(RR-6):7-11.

## COMPLETE SUMMARY CONTENT

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## SCOPE

### DISEASE/CONDITION(S)

Human immunodeficiency virus (HIV) infection

### GUIDELINE CATEGORY

Counseling  
Diagnosis  
Evaluation  
Management

### CLINICAL SPECIALTY

Family Practice  
Infectious Diseases  
Internal Medicine  
Obstetrics and Gynecology  
Pediatrics

Preventive Medicine  
Psychology

#### INTENDED USERS

Advanced Practice Nurses  
Health Care Providers  
Managed Care Organizations  
Nurses  
Physician Assistants  
Physicians  
Public Health Departments

#### GUIDELINE OBJECTIVE(S)

- To update the 1998 Guidelines for Treatment of Sexually Transmitted Diseases (MMWR 1998; 47[No. RR-1])
- To assist physicians and other health-care providers in preventing and treating sexually transmitted diseases (STDs)
- To provide information regarding the following aspects of human immunodeficiency virus (HIV) infection:
  - Diagnostic testing for HIV-1 and HIV-2 infection
  - Counseling of patients who have HIV infection, and referral of patients to support services (including medical care)
  - Management of sex partners and injection-drug partners
  - HIV infection during pregnancy and in infants and children

#### TARGET POPULATION

Persons with human immunodeficiency virus (HIV) infection and those at risk for infection, including persons seeking evaluation for sexually transmitted diseases (STDs), injection drug users, pregnant women, and infants of HIV-infected women

#### INTERVENTIONS AND PRACTICES CONSIDERED

Note from the National Guideline Clearinghouse and the Centers for Disease Control and Prevention: These guidelines focus on the treatment and counseling of individual patients and do not address other community services and interventions that are important in sexually transmitted disease/human immunodeficiency virus (STD/HIV) prevention.

1. HIV-1 and HIV-2 testing with pre and posttest counseling
  - Obtaining informed consent
  - Screening test with enzyme immunoassay (EIA)
  - Supplemental tests including western blot (WB) or immunofluorescence assay (IFA)
2. Nucleic acid testing (HIV plasma ribonucleic acid [RNA]) in those suspected of acute retroviral syndrome
3. Antiretroviral drugs
4. Referral to HIV clinical care provider as needed
5. Counseling and education for transmission prevention

6. Behavioral and psychosocial services
7. Evaluation of HIV-positive patients including medical history; physical examination; testing for *Neisseria gonorrhoeae* and *Chlamydia trachomatis*; complete blood count and chemistry profile; toxoplasma antibody test tests for hepatitis B, C, and for men who have sex with men, hepatitis A; syphilis serology; a CD4+ T-lymphocyte analysis and determination of HIV plasma RNA; a tuberculin skin test; a urinalysis; and a chest radiograph
8. Hepatitis B, influenza, and pneumococcal vaccination, where appropriate
9. Treatment of other sexually transmitted diseases, as appropriate
10. Psychosocial evaluation and behavioral interventions, as needed
11. Partner notification (patient and provider referral)
12. Voluntary counseling and HIV testing for pregnant women
13. HIV testing in infants and children including laboratory evidence in blood or tissues by culture, nucleic acid, or antigen detection

#### MAJOR OUTCOMES CONSIDERED

- Human immunodeficiency virus (HIV)-associated morbidity and mortality
- Alleviation of signs and symptoms
- Prevention of sequelae
- Prevention of transmission of HIV and other sexually transmitted diseases (STDs)

## METHODOLOGY

#### METHODS USED TO COLLECT/SELECT EVIDENCE

Searches of Electronic Databases

#### DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE

Not stated

#### NUMBER OF SOURCE DOCUMENTS

Not stated

#### METHODS USED TO ASSESS THE QUALITY AND STRENGTH OF THE EVIDENCE

Subjective Review

#### RATING SCHEME FOR THE STRENGTH OF THE EVIDENCE

Not applicable

#### METHODS USED TO ANALYZE THE EVIDENCE

Systematic Review with Evidence Tables

## DESCRIPTION OF THE METHODS USED TO ANALYZE THE EVIDENCE

Beginning in 2000, Centers for Disease Control and Prevention (CDC) personnel and professionals knowledgeable in the field of sexually transmitted diseases (STDs) systematically reviewed literature (i.e., published abstracts and peer-reviewed journal articles) concerning each of the major STDs, focusing on information that had become available since publication of the 1998 Guidelines for Treatment of Sexually Transmitted Diseases. Background papers were written and tables of evidence constructed summarizing the type of study (e.g., randomized controlled trial or case series), study population and setting, treatments or other interventions, outcome measures assessed, reported findings, and weaknesses and biases in study design and analysis. A draft document was developed on the basis of the reviews.

## METHODS USED TO FORMULATE THE RECOMMENDATIONS

Not stated

## RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS

Not applicable

## COST ANALYSIS

A formal cost analysis was not performed and published cost analyses were not reviewed.

## METHOD OF GUIDELINE VALIDATION

Peer Review

## DESCRIPTION OF METHOD OF GUIDELINE VALIDATION

Not stated

# RECOMMENDATIONS

## MAJOR RECOMMENDATIONS

Proper management of human immunodeficiency virus (HIV) infection involves a complex array of behavioral, psychosocial, and medical services. Although some of these services may be available in the STD treatment facility, many services are often unavailable in this setting. Therefore, referral to a health-care provider or facility experienced in caring for HIV-infected patients is advised. Staff in STD treatment facilities should be knowledgeable about the options for referral available in their communities. While in STD treatment facilities, HIV-infected patients should be educated about HIV infection and the various options for available support services and HIV care.

Because multiple, complex services are required for management of HIV infection, detailed information (particularly regarding medical care) is beyond the scope of this section of the guideline and can be found elsewhere. The guideline provides information regarding diagnostic testing for HIV infection, counseling patients who have HIV infection, and referral of patients to support services (including medical care). Information also is provided regarding the management of sex partners, because such services can and should be provided in STD treatment facilities. In addition, the topics of HIV infection during pregnancy and in infants and children are addressed.

### Detection of HIV Infection: Diagnostic Testing

Testing for HIV is recommended and should be offered to all persons who seek evaluation and treatment for STDs. Counseling before and after testing (i.e., pretest and posttest counseling) is an integral part of the testing procedure (See the National Guideline Clearinghouse [NGC] summary of the Centers for Disease Control and Prevention [CDC] guideline [Clinical Prevention Guidelines, section on HIV Prevention Counseling](#)). Informed consent must be obtained before an HIV test is performed. Some states require written consent.

HIV infection usually is diagnosed by tests for antibodies against HIV-1 and HIV-2 (HIV-1/2). Antibody testing begins with a sensitive screening test (e.g., the enzyme immunoassay [EIA]). Reactive screening tests must be confirmed by supplemental test (e.g., the Western blot [WB]) or an immunofluorescence assay (IFA). If confirmed by a supplemental test, a positive antibody test result indicates that a person is infected with HIV and is capable of transmitting the virus to others. HIV antibody is detectable in at least 95% of patients within 3 months after infection. Although a negative antibody test result usually indicates that a person is not infected, antibody tests cannot exclude recent infection.

Most HIV infections in the United States are caused by HIV-1; <100 cases of HIV-2 infection have been documented. However, HIV-2 infection should be suspected in persons who have epidemiologic risk factors for HIV-2. Examples of these risk factors include persons with sex partners from West Africa (where HIV-2 is endemic), those with sex partners known to be infected with HIV-2, and persons who received a blood transfusion or a non-sterile injection in a West African country. HIV-2 testing is also indicated when clinical evidence of HIV exists but tests for antibodies to HIV-1 are not positive, or when HIV-1 Western blot results include the unusual indeterminate pattern of gag plus pol bands in the absence of env bands.

Health-care providers should be knowledgeable about the symptoms and signs of acute retroviral syndrome, which is characterized by fever, malaise, lymphadenopathy, and skin rash. This syndrome frequently occurs in the first few weeks after HIV infection, before antibody test results become positive. Suspicion of acute retroviral syndrome should prompt nucleic acid testing (HIV plasma ribonucleic acid [RNA][i.e., viral load]) to detect the presence of HIV, although this test is not approved for diagnostic purposes; a positive test should be confirmed by another HIV test. Current guidelines suggest that persons with recently acquired HIV infection might benefit from antiretroviral drugs, and such patients may be candidates for clinical trials. Therefore, patients with acute HIV infection should be referred immediately to an HIV clinical care provider.

Detection of HIV infection should prompt efforts to reduce the risk behavior that resulted in HIV infection and could result in transmission of HIV to others. Early counseling and education are particularly important for persons with recently acquired infection, because HIV plasma RNA levels are characteristically high during this phase of infection and likely constitute a risk factor for HIV transmission.

The following are specific recommendations for diagnostic testing for HIV infection.

- HIV testing is recommended and should be offered to all persons who seek evaluation and treatment for STDs.
- Informed consent must be obtained before an HIV test is performed; some states require written consent.
- Positive screening tests for HIV antibody must be confirmed by a more specific confirmatory test (either Western blot or immunofluorescence assay) before being considered diagnostic of HIV infection.
- Patients who have positive HIV test results must receive initial counseling on-site and should either a) receive behavioral, psychosocial, and medical evaluation and monitoring services or b) be referred for these services.
- Providers should be alert to the possibility of acute retroviral syndrome and should perform nucleic acid testing for HIV, if indicated. Patients suspected of having recently acquired HIV infection should be referred for immediate consultation with a specialist.

### Counseling for Patients with HIV Infection and Referral to Support Services

Patients can be expected to be distressed when first informed of a positive HIV test result. Such patients face several major adaptive challenges, including a) accepting the possibility of a shortened life span, b) coping with others' reactions to a stigmatizing illness, c) developing and adopting strategies for maintaining physical and emotional health, and d) initiating changes in behavior to prevent HIV transmission to others. Many patients also require assistance with making reproductive choices, gaining access to health services, and confronting possible employment or housing discrimination. Therefore, in addition to medical care, behavioral and psychosocial services are an integral part of health care for HIV-infected patients. Such services should be available on site or through referral when HIV infection is diagnosed. A comprehensive discussion of specific recommendations is available in the [Guidelines for HIV Counseling, Testing and Referral](#).

Practice settings for offering HIV care differ depending on local resources and needs. Primary-care providers and outpatient facilities must ensure that appropriate resources are available for each patient to avoid fragmentation of care. Although a single source that is capable of providing comprehensive care for all stages of HIV infection is preferred, the limited availability of such resources often results in the need to coordinate care among medical and social service providers in different locations. Providers should avoid long delays between diagnosis of HIV infection and access to additional medical and psychosocial services.

Recently identified HIV infection may not have been recently acquired. Persons newly diagnosed with HIV may be at any stage of infection. Therefore, health-care providers should be alert for symptoms or signs that suggest advanced HIV infection (e.g., fever, weight loss, diarrhea, cough, shortness of breath, and oral candidiasis). The presence of any of these symptoms should prompt urgent referral for medical care. Similarly, providers should be alert for signs of psychologic distress and be prepared to refer patients accordingly.

Diagnosis of HIV infection reinforces the need to counsel patients regarding high risk behaviors, because the consequences of such behaviors include the risk for acquiring additional STDs and for transmitting HIV (and other STDs) to other persons. Such attention to behaviors in HIV-infected persons is consistent with national strategies for HIV prevention. Providers should be able to refer patients for prevention counseling and risk reduction support concerning high risk behaviors (e.g., substance abuse and high risk sexual behavior).

HIV-infected patients in the STD treatment setting should be educated about what to expect as they enter medical care for HIV infection. In non-emergent situations, the initial evaluation of HIV-positive patients usually includes a) a detailed medical history, including sexual and substance-abuse history, previous STDs, and specific HIV-related symptoms or diagnoses; b) a physical examination (including a gynecologic examination for women); c) testing for *N. gonorrhoeae* and *C. trachomatis* (and for women, a Papanicolaou (Pap) test and wet mount examination of vaginal secretions); d) complete blood and platelet counts and blood chemistry profile; e) toxoplasma antibody test; f) tests for hepatitis B, C, and for men who have sex with men, hepatitis A; g) syphilis serology; h) a CD4+ T-lymphocyte analysis and determination of HIV plasma RNA (i.e., HIV viral load); i) a tuberculin skin test (TST) (sometimes referred to as a purified protein derivative [PPD]); j) a urinalysis; and k) a chest radiograph.

In subsequent visits, once the results of laboratory and skin tests are available, the patient may be offered antiretroviral therapy, if indicated, as well as specific medications to reduce the incidence of opportunistic infections (e.g., *Pneumocystis carinii* pneumonia, toxoplasmic encephalitis, disseminated *Mycobacterium avium* complex infection, and tuberculosis). Hepatitis B vaccination should be offered to patients who lack hepatitis B serologic markers. Hepatitis A vaccination should be given to persons at increased risk for hepatitis A infection (e.g., men who have sex with men and illegal drug users) and to patients with chronic hepatitis B or hepatitis C who lack antibodies to hepatitis A. Influenza vaccination should be offered annually, and pneumococcal vaccination should be administered if not given in the previous 5 years.

Providers must be alert to the possibility of new or recurrent STDs and treat such conditions aggressively. Occurrence of an STD in an HIV-infected person is an indication of high-risk behavior and should prompt referral for counseling. Because many STDs are asymptomatic, routine screening for curable STDs (e.g., syphilis, gonorrhea, and chlamydia) should be performed at least yearly for sexually active persons. More frequent screening may be appropriate depending on individual risk behaviors, the local epidemiology of STDs, and whether incident STDs are detected by screening or by the presence of symptoms.

Patients should receive, or be referred for, a thorough psychosocial evaluation, including ascertainment of behavioral factors indicating risk for transmitting HIV. Patients may require referral for specific behavioral intervention (e.g., a substance abuse program), for mental health disorders (e.g., depression), or for emotional distress. They may require assistance with securing and maintaining employment and housing. Women should be counseled or appropriately referred regarding reproductive choices and contraceptive options. Patients with multiple psychosocial problems may be candidates for prevention case management.

The following are specific recommendations for counseling and referral.

- Persons who test positive for HIV antibody should be counseled, either on site or through referral, about the behavioral, psychosocial, and medical implications of HIV infection.
- Health-care providers should be alert for medical or psychosocial conditions that require immediate attention.
- Providers should assess persons for immediate care and support needs and link them to services in which health-care personnel are experienced in providing care for HIV-infected patients, including services for medical care, substance abuse, mental health disorders, emotional distress, reproductive counseling, risk-reduction counseling, and prevention management. HIV-infected persons should be referred to these services as needed and followed up to ensure that referrals have been completed.
- Patients should be educated about what to expect in follow-up medical care.

#### Management of Sex Partners and Injection-Drug Partners

Clinicians evaluating HIV-infected persons should collect information to determine whether any partners should be notified about possible exposure to HIV. When referring to persons who are infected with HIV, the term "partner" includes not only sex partners but also injection-drug users who share syringes or other injection equipment. The rationale for partner notification is that the early diagnosis and treatment of HIV infection in these partners possibly reduces morbidity and provides the opportunity to encourage risk-reducing behaviors. Partner notification for HIV infection must be confidential and depends on the voluntary cooperation of the patient.

Two complementary notification processes, patient referral and provider referral, can be used to identify partners. With patient referral, patients directly inform their partners of their exposure to HIV infection. With provider referral, trained health department personnel locate partners on the basis of the names, descriptions, and addresses provided by the patient. During the notification process, the confidentiality of patients is protected; their names are not revealed to partners who are notified. Many state health departments provide assistance, if requested, with provider-referral partner notification.

The following are specific recommendations for implementing partner-notification procedures.

- HIV-infected patients should be encouraged to notify their partners and to refer them for counseling and testing. If requested by the patient, health-care

- providers should assist in this process, either directly or by referral to health department partner-notification programs.
- If patients are unwilling to notify their partners, or if they cannot ensure that their partners will seek counseling, physicians or health department personnel should use confidential procedures to notify partners.

### Special Considerations

#### Pregnancy

Voluntary counseling and HIV testing should be offered routinely to all pregnant women as early in pregnancy as possible. For women who decline these services, providers should continue to strongly encourage testing and to address concerns that pose obstacles to testing. Providing pregnant women with counseling and testing is particularly important not only to maintain the health of the patient, but also because interventions (antiretroviral and obstetrical) are available that can reduce perinatal transmission of HIV.

Once identified as being HIV-infected, pregnant women should be informed specifically about the risk for perinatal infection. Current evidence indicates that, in the absence of antiretroviral and other interventions, 15%--25% of infants born to HIV-infected mothers will become infected with HIV; such evidence also indicates that an additional 12%--14% are infected during breastfeeding in resource-limited settings where HIV-infected women breastfeed their infants into the second year of life. However, the risk of HIV transmission can be reduced substantially to  $\leq 2\%$  through antiretroviral regimens and obstetrical interventions (i.e., zidovudine [AZT] or nevirapine and elective cesarean-section at 38 weeks of pregnancy) and by avoiding breastfeeding. Pregnant women who are HIV-infected should be counseled about their options (either on-site or by referral), given appropriate antenatal treatment, and (for women living in the United States, where infant formula is readily available and can be safely prepared) advised not to breastfeed their infants.

#### HIV Infection Among Infants and Children

Diagnosis of HIV infection in a pregnant woman indicates the need to consider whether additional children are infected. Infants and young children with HIV infection differ from adults and adolescents with respect to the diagnosis, clinical presentation, and management of HIV disease. For example, because maternal HIV antibody passes through the placenta, antibody tests for HIV are expected to be positive in the sera of both infected and uninfected infants born to seropositive mothers. A definitive determination of HIV infection for an infant aged <18 months should be based on laboratory evidence of HIV in blood or tissues by culture, nucleic acid, or antigen detection. Management of infants, children, and adolescents who are known or suspected to be infected with HIV requires referral to physicians familiar with the manifestations and treatment of pediatric HIV infection.

#### CLINICAL ALGORITHM(S)

None provided

## EVIDENCE SUPPORTING THE RECOMMENDATIONS

### TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS

The type of supporting evidence is not specifically stated for each recommendation.

Throughout the 2002 guideline document, the evidence used as the basis for specific recommendations is discussed briefly. More comprehensive, annotated discussions of such evidence will appear in background papers that will be published in a supplement issue of the journal *Clinical Infectious Diseases*.

## BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

### POTENTIAL BENEFITS

Greater awareness among both patients and health-care providers of the risk factors associated with human immunodeficiency virus (HIV) transmission has led to increased testing for HIV and earlier diagnosis of the infection, often before symptoms develop. Prompt diagnosis of HIV infection is important for several reasons. Treatments are available that slow the decline of immune system function; use of these therapies has been associated with substantial declines in HIV-associated morbidity and mortality in recent years. HIV-infected persons who have altered immune function are at increased risk for infections for which preventive measures are available (e.g., *Pneumocystis carinii* pneumonia [PCP], toxoplasmic encephalitis [TE], disseminated *Mycobacterium avium* complex [MAC] disease, tuberculosis [TB], and bacterial pneumonia). Because of its effect on the immune system, HIV affects the diagnosis, evaluation, treatment, and follow-up of many other diseases and may affect the efficacy of antimicrobial therapy for some sexually transmitted diseases (STDs). Finally, the early diagnosis of HIV enables health-care providers to counsel such patients, refer them to various support services, and help prevent HIV transmission to others.

### POTENTIAL HARMS

Not stated

## QUALIFYING STATEMENTS

### QUALIFYING STATEMENTS

These recommendations were developed in consultation with public- and private-sector professionals knowledgeable in the treatment of patients with sexually transmitted diseases (STDs). They are applicable to various patient-care settings, including family planning clinics, private physicians' offices, managed care organizations, and other primary-care facilities. When using these guidelines, the disease prevalence and other characteristics of the medical practice setting should be considered. These recommendations should be regarded as a source of clinical guidance and not as standards or inflexible rules. These guidelines focus on the treatment and counseling of individual patients and do not address other

community services and interventions that are important in sexually transmitted disease/human immunodeficiency virus (STD/HIV) prevention.

## IMPLEMENTATION OF THE GUIDELINE

### DESCRIPTION OF IMPLEMENTATION STRATEGY

An implementation strategy was not provided.

## INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES

### IOM CARE NEED

Living with Illness  
Staying Healthy

### IOM DOMAIN

Effectiveness

## IDENTIFYING INFORMATION AND AVAILABILITY

### BIBLIOGRAPHIC SOURCE(S)

Centers for Disease Control and Prevention. HIV infection: detection, counseling, and referral. Sexually transmitted diseases treatment guidelines. MMWR Recomm Rep 2002 May 10;51(RR-6):7-11.

### ADAPTATION

Not applicable: The guideline was not adapted from another source.

### DATE RELEASED

1993 (revised 2002 May 10)

### GUIDELINE DEVELOPER(S)

Centers for Disease Control and Prevention - Federal Government Agency [U.S.]

### GUIDELINE DEVELOPER COMMENT

These guidelines for the treatment of patients who have sexually transmitted diseases (STDs) were developed by the Centers for Disease Control and Prevention (CDC) after consultation with a group of professionals knowledgeable in the field of STDs who met in Atlanta on September 26--28, 2000.

### SOURCE(S) OF FUNDING

United States Government

## GUIDELINE COMMITTEE

Not stated

## COMPOSITION OF GROUP THAT AUTHORED THE GUIDELINE

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## FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST

Not stated

#### GUIDELINE STATUS

This is the current release of the guideline.

The information in this report updates the "1998 Sexually Transmitted Diseases Treatment Guidelines" (MMWR 1998; 47[No. RR-1]).

#### GUIDELINE AVAILABILITY

Electronic copies: Available from the Centers for Disease Control and Prevention (CDC) Web site:

- [HTML version](#)
- [Portable Document Format \(PDF\)](#)

Print copies: Available from the Centers for Disease Control and Prevention, MMWR, Atlanta, GA 30333. Additional copies can be purchased from the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402-9325; (202) 783-3238.

#### AVAILABILITY OF COMPANION DOCUMENTS

The following are available:

- Workowski KA, Levine WC, Wasserheit JN. U.S. Centers for Disease Control and Prevention guidelines for the treatment of sexually transmitted diseases: an opportunity to unify clinical and public health practice. *Ann Intern Med.* 2002 Aug 20; 137(4): 255-62. Electronic copies: Available through [Annals of Internal Medicine Online](#).
- Sexually Transmitted Diseases Treatment Guidelines 2002 for PDA or Palm OS. Available from the [CDC National Prevention Information Network \(NPIN\) Web site](#).

#### PATIENT RESOURCES

None available

#### NGC STATUS

This summary was completed by ECRI on August 19, 2002.

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Date Modified: 11/15/2004

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