CLINICAL GUIDELINES PROGRAM
NEW YORK STATE DEPARTMENT OF HEALTH AIDS INSTITUTE | HIV · HCV · SUBSTANCE USE · LGBT HEALTH

Diagnosis and Management of Acute HIV

Medical Care Criteria Committee, updated August 2020

Contents

Diagnosis and Management of Acute HIV

Introduction

→ A NEW HIV DIAGNOSIS IS A CALL TO ACTION

- In support of the NYSDOH AIDS Institute's January 2018 call to action for patients newly diagnosed with HIV, this committee stresses the following:
  - Immediate linkage to care is essential for any person diagnosed with HIV.
  - For the person with HIV, antiretroviral therapy (ART) dramatically reduces HIV-related morbidity and mortality.
  - Viral suppression helps to prevent HIV transmission to sex partners of people with HIV and prevents perinatal transmission of HIV.
- The urgency of ART initiation is even greater if the newly diagnosed patient is pregnant, has acute HIV infection, is ≥50 years of age, or has advanced disease. For these patients, every effort should be made to initiate ART immediately, and ideally, on the same day as diagnosis.
- All clinical care settings should be prepared, either on-site or with a confirmed referral, to support patients in initiating ART as rapidly as possible after diagnosis.

Editor's Note: *In the medical literature, as in this guideline, the terms "acute HIV infection" and "primary HIV infection" both describe the period immediately after infection when the patient is viremic and has detectable p24 antigen and/or HIV RNA without diagnostic HIV antibodies. For consistency, the term "acute HIV infection" is used in these guidelines.*

The term "recent infection" is generally used to describe the 6-month period after infection occurs. "Early infection" refers to both acute and recent infection, after which infection is defined as chronic.

Accumulating evidence supports a decision to begin HIV treatment at the time of diagnosis [Lundgren, et al. 2015]. Initiation of antiretroviral therapy (ART) during acute infection may have a number of beneficial clinical outcomes, including improved preservation of immunologic function, significantly reduced time to viral suppression, and reduction of the viral reservoir, which could be important for cure strategies [Pires, et al. 2004; Streeck, et al. 2006; Koegl, et al. 2009; Hocqueloux, et al. 2010; Ananworanich, et al. 2012; Buzon, et al. 2012; Lafeuillade, et al. 2012; Margolick, et al. 2012; Phanuphak, et al. 2012; Le, et al. 2013; Saez-Cirion, et al. 2013; Pilcher C, et al. 2015]. The risk of sexual transmission of HIV during acute or recent infection is significantly higher than during chronic infection [Pilcher CD, et al. 2004; Hollingsworth, et al. 2008; Pinkerton 2008; Hollingsworth, et al. 2015], this difference likely correlates with high levels of viremia and is consistent with other routes of transmission [Bellan, et al. 2015]. The public health benefit of early initiation of ART is well documented, with a significant reduction of HIV transmission among virally suppressed individuals. Further, in September 2017, the NYSDOH endorsed the consensus from the *Prevention Access Campaign that Undetectable = Untransmissable ("U = U")*, which indicates that individuals with a durable (≥6 months) undetectable viral load will not sexually transmit HIV [NYSDOH 2017; PAC 2018].

Recognizing and diagnosing acute infection is crucial to linking patients to care early and presents an important opportunity for prevention. Factors that may contribute to the increased risk for transmission during acute infection include:

- Hyperinfectivity associated with both markedly high viral load levels (often much greater than 10 million viral copies/mm^3) and increased infectiousness of the virus [Quinn, et al. 2000; Ma, et al. 2009].
- Missed HIV diagnosis [Chin, et al. 2013] because the nonspecific flu- or mono-like symptoms during acute illness are frequently unrecognized; a diagnosis would prompt providers to recommend treatment and risk-reduction counseling

that could reduce both viral load levels and high-risk behavior [Colfax, et al. 2002; Steward, et al. 2009; Fonner, et al. 2012].

For many reasons, detection of acute HIV infection can be a very important link in the chain of prevention. Evidence demonstrates that patients with a recent diagnosis of HIV are more likely to reduce risk behaviors if they are given counseling at the time of testing [Steward, et al. 2009; Fonner, et al. 2012] and are linked to primary HIV care [Metsch, et al. 2008]. In addition, for those who elect to initiate ART, their risk of transmission is significantly diminished [Cohen, et al. 2011; Cohen, et al. 2016].

❖ RESOURCE

- When a diagnosis of acute infection is made, clinicians should discuss the importance of notifying all recent contacts and refer patients to partner notification services, as mandated by New York State Law. The Department of Health can provide assistance if necessary. See *NYSDOH Provider Reporting & Partner Services* for more information about required reporting.

Presentation and Diagnosis

☑ RECOMMENDATIONS

NYS HIV Testing Requirements

- According to New York State Law, physicians must offer an HIV test to all patients aged 13 years and older (or younger with risk) if a previous test is not documented, even in the absence of symptoms consistent with acute HIV. Although written consent to HIV testing is no longer required in New York State, patients must be given the opportunity to decline, and verbal consent must be documented in the medical record.

Presentation

- Clinicians should include acute HIV infection in the differential diagnosis for *anyone* (regardless of reported risk) with a flu- or mono-like illness (A3), especially when the patient:
  - Presents with a rash (A2)
  - Requests HIV testing (A3)
  - Reports recent sexual or parenteral exposure to a person with or at risk for HIV infection (A2)
  - Presents with a newly diagnosed sexually transmitted infection (A2)
  - Presents with aseptic meningitis (A2)
  - Is pregnant or breastfeeding (A3)
  - Is currently on pre- or post-exposure prophylaxis (PrEP or PEP) (A3)
- Diagnostic HIV RNA testing should be considered for patients who present with compatible symptoms (see *Acute Retroviral Syndrome*), particularly in the context of a sexually transmitted infection [Patel, et al. 2006] or a recent sexual or parenteral exposure with a partner known to have HIV or a partner whose HIV serostatus is not known. (A2)

When Acute HIV Infection Is Suspected

- Clinicians should always perform a plasma HIV RNA assay in conjunction with an antigen/antibody combination screening test. (A2)
- Clinicians should use a 4th-generation antigen/antibody combination assay (preferred) as the initial HIV screening test according to the CDC's *Recommended Laboratory HIV Testing Algorithm for Serum or Plasma Specimens*.
  - If the screening test is reactive, clinicians should perform an HIV-1/HIV-2 antibody-differentiation immunoassay to confirm HIV infection; Western blot is no longer recommended as the confirmatory test. (A2)
  - **Note:** When rapid antibody screening is performed, including screening with a rapid 4th-generation test, a laboratory-based 4th-generation immunoassay is recommended in follow-up diagnostic HIV testing.

☑ RECOMMENDATIONS

Diagnosis

- When HIV RNA ≥5,000 copies/mL is detected, clinicians should consider that result a presumptive diagnosis of acute infection, even if the screening and antibody-differentiation tests are nonreactive or indeterminate. (A2)
- Clinicians should repeat HIV RNA testing to exclude a false-positive result when low-level quantitative results (<5000 copies/mL) from an HIV RNA assay are reported in the absence of serologic evidence of HIV infection. (A2)
  - **Note:** The absence of serologic evidence of HIV infection is defined as a nonreactive screening result (antibody or antibody/antigen combination) or a reactive screening result with a nonreactive or indeterminate antibody-differentiation confirmatory result.
- If a diagnosis of HIV infection is made on the basis of HIV RNA testing alone, the clinicians should collect a new specimen 3 weeks later to repeat HIV diagnostic testing according to the CDC HIV testing algorithm. (A2)
- If a diagnosis of acute infection is made on the basis of HIV RNA testing, then clinicians should recommend initiation of ART without waiting for serologic confirmation. (A2)
- When pregnant women are diagnosed with acute infection by HIV RNA testing, clinicians should *not* wait for results of a confirmatory test to initiate ART; initiation of ART is strongly recommended for pregnant women. (A2)
  - See the NYSDOH AI guideline *HIV Testing During Pregnancy and at Delivery*

NYS Reporting Requirement and Partner Notification

- Clinicians should offer assistance with partner notification and refer patients to other sources for partner notification assistance (*NYSDOH Partner Services* or *NYC CNAP*). (A2)
- Clinicians must report confirmed cases of HIV according to New York State Law. For more information about required reporting, see *NYSDOH Provider Reporting & Partner Services*.

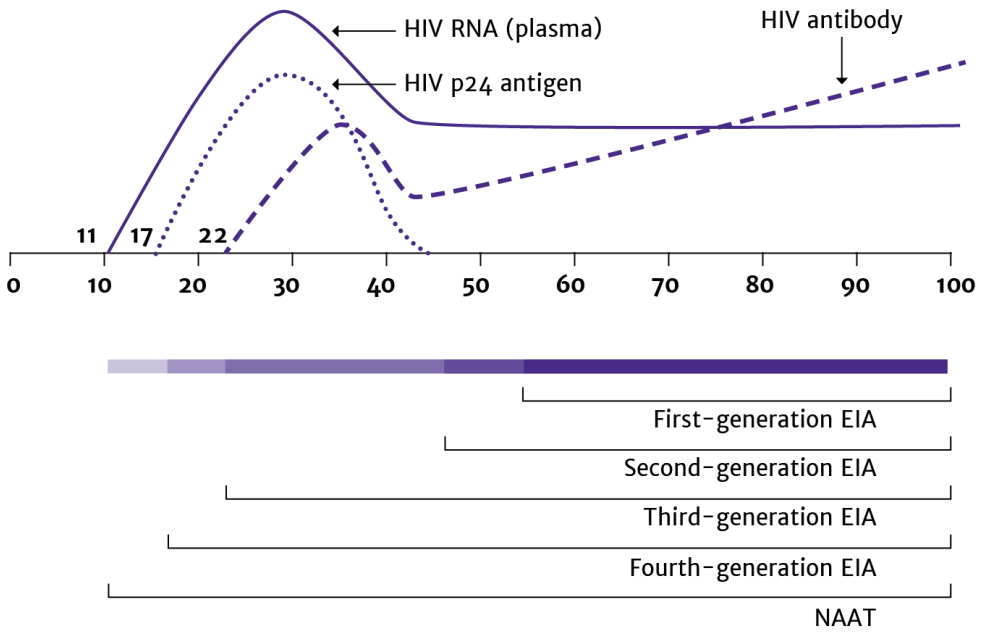
Prevention Following a Negative HIV Test

- Clinicians should recommend PrEP for individuals, including adolescents, who do not have but are high risk of acquiring HIV and have adequate renal function. (A1)
- HIV status should be confirmed by results of a negative 4th-generation (recommended) or 3rd-generation (alternative) HIV test within 1 week of planned PrEP initiation. (A3)
  - See the NYSDOH AI guideline *PrEP to Prevent HIV and Promote Sexual Health*

→ KEY POINTS

- The diagnosis of acute HIV infection requires a high degree of clinical awareness. The nonspecific signs and symptoms of acute HIV infection are often not recognized.
- Diagnostic HIV RNA testing should be considered for patients who present with compatible symptoms (see *Acute Retroviral Syndrome*), particularly in the context of a sexually transmitted infection [Patel, et al. 2006] or a recent sexual or parenteral exposure with a partner known to have HIV or a partner whose HIV serostatus is not known.
- A negative screening test in response to suspected acute HIV infection is an opportunity to offer or refer the individual for PrEP. See the NYSDOH AI guideline *PrEP to Prevent HIV and Promote Sexual Health*.

FIGURE 1. Window of Detection for HIV, Based on Test Used*



*Nucleic acid amplification testing (NAAT) is performed to detect HIV RNA. Enzyme immunoassay (EIA) is performed to detect HIV antibody (second- and third-generation EIA) or HIV antibody/antigen (fourth-generation EIA).

New York State Department of Health AIDS Institute: www.hivguidelines.org

The time from HIV infection to detection of the virus depends on the test that is used. Figure 1 illustrates the window of detection of HIV infection according to antibody, antibody/antigen combination, and HIV RNA tests.

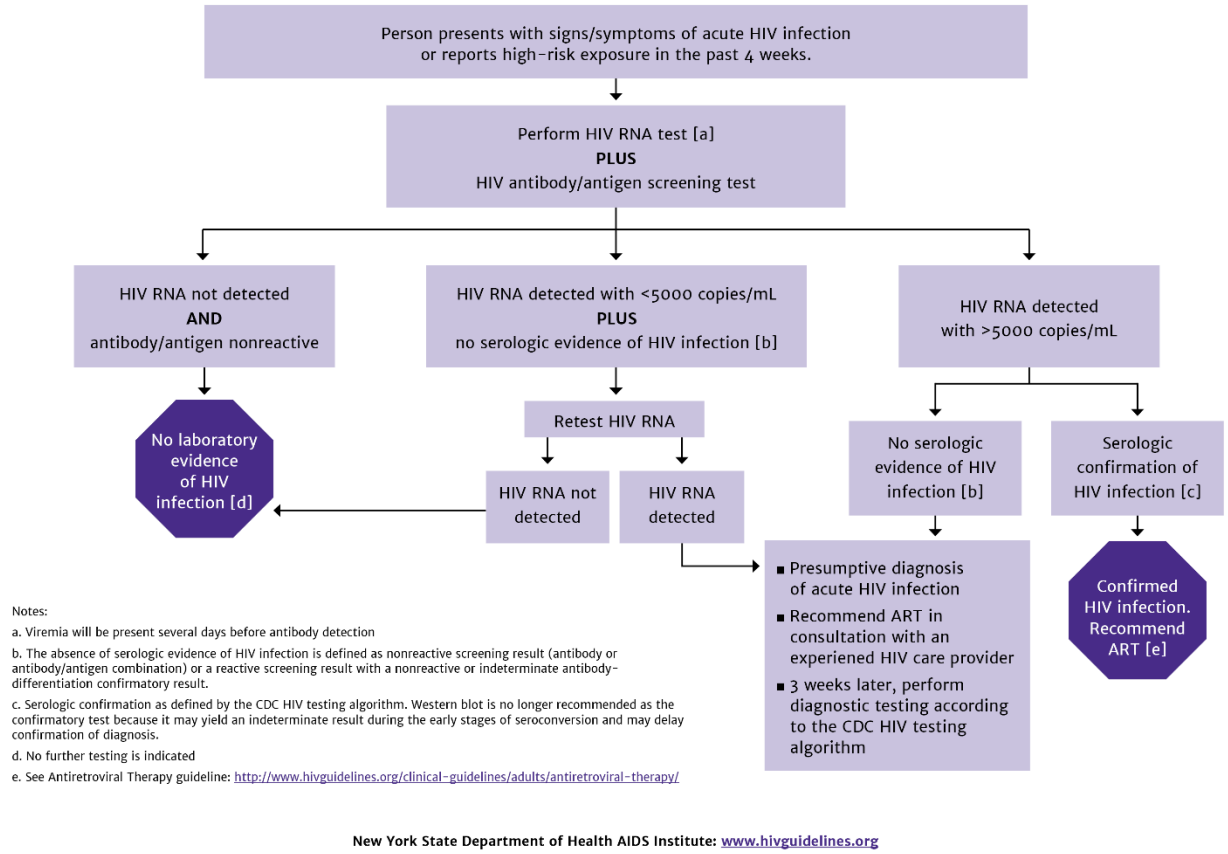
Presentation: Patients acutely infected with HIV will often experience at least some symptoms of acute retroviral syndrome. Fever and flu- or mono-like symptoms are common in acute HIV infection but are nonspecific. Rash, mucocutaneous ulcers, oropharyngeal candidiasis, and meningismus are more specific and should raise the index of suspicion. See *Acute Retroviral Syndrome* for a more extensive list of signs and symptoms. The mean time from exposure to onset of symptoms is generally 2 to 4 weeks, with a range of 5 to 29 days; however, some cases have presented with symptoms up to 3 months after exposure [Apoola, et al. 2002]. Theoretically, this time course may be prolonged in patients who become infected while on PEP or PrEP.

Diagnosis: Acute HIV infection is often not recognized in the primary care setting because the symptom profile is similar to that of influenza, mononucleosis, and other common illnesses. Furthermore, patients often do not recognize that they may have recently been exposed to HIV. Therefore, the clinician should have a high index of suspicion for acute HIV infection in a patient who may have recently engaged in behavior involving sexual or parenteral exposure to another person's blood or body fluids and who is presenting with a febrile, flu-, or mono-like illness. Identification of acute HIV infection during pregnancy is particularly important to ensure appropriate steps are taken to prevent mother-to-child transmission [Patterson, et al. 2007].

When clinicians suspect acute infection, a test for plasma HIV RNA should be performed. High levels of HIV RNA detected in plasma through use of sensitive nucleic acid amplification testing (NAAT), in combination with a negative or indeterminate HIV screening or type-differentiation test, support the presumptive diagnosis of acute HIV infection.

When low-level viremia is reported by HIV RNA testing (<5000 copies/mL) in the absence of serologic evidence of HIV infection, HIV RNA testing should be repeated to exclude a false-positive result [Hecht, et al. 2002]. Repeat HIV RNA testing with a result of low-level viremia may represent true HIV infection, warranting appropriate counseling regarding transmission risk. ART should be recommended in the setting of low-level viremia that has been confirmed by repeat HIV RNA testing.

FIGURE 2. Diagnostic Testing for Acute HIV Infection



New York State Department of Health AIDS Institute: www.hivguidelines.org

HIV RNA levels tend to be very high in acute infection; however, a low value may represent any point on the upward or downward slope of the viremia associated with acute infection or could simply represent chronic infection. Plasma HIV RNA levels during acute infection do not appear significantly different in patients who have symptoms versus those who are asymptomatic [Patterson, et al. 2007]. Viremia occurs approximately 2 weeks prior to the detection of a specific immune response. Patients diagnosed with acute infection by HIV RNA testing should always receive follow-up diagnostic testing 3 weeks later to confirm infection (see the *CDC HIV testing algorithm*) [CDC 2013, 2014]. Figure 2 illustrates diagnostic testing for acute HIV infection.

→ KEY POINTS IN ACUTE HIV DIAGNOSTIC TESTING

- Patients undergoing HIV testing who are not suspected to have acute infection should receive screening according to the standard protocol (see the *CDC HIV testing algorithm*). Patients with clinical signs or symptoms of acute retroviral syndrome or who are at high risk for acute infection should receive HIV screening and HIV RNA testing simultaneously.
- A positive HIV RNA assay is a preliminary diagnosis of HIV; ART should be recommended while waiting for confirmatory testing.
- Individual laboratories have internal protocols for reporting HIV tests with preliminary results: *indeterminate*, *inconclusive*, *nondiagnostic*, and *pending validation* are among the terms used when preliminary results cannot be classified definitively. The clinician should contact the appropriate laboratory authority to determine the significance of the nondefinitive results and the supplemental testing that would be indicated. This is of particular importance in tests from patients with suspected acute HIV infection. Clinicians should become familiar with the internal test-reporting policies of their institutions.

Acute Retroviral Syndrome

Associated signs and symptoms (expected frequency among patients who are symptomatic):

- Fever (80%)
- Tired or fatigued (78%)
- Malaise (68%)
- Arthralgias (joint pain) (54%)
- Headache (54%)
- Loss of appetite (54%)
- Rash (51%)
- Night sweats (51%)
- Myalgias (pain in muscles) (49%)
- Nausea (49%)
- Diarrhea (46%)
- Fever and rash (46%)
- Pharyngitis (sore throat) (44%)
- Oral ulcers (mouth sores) (37%)
- Stiff neck (34%)
- Weight loss (>5 lb; 2.5 kg) (32%)
- Confusion (25%)
- Photophobia (24%)
- Vomiting (12%)
- Infected gums (10%)
- Sores on anus (5%)
- Sores on genitals (2%)

Data are from Hecht FM, Busch MP, Rawal B, et al. Use of laboratory tests and clinical symptoms for identification of primary HIV infection. *AIDS* 2002;16:1119-1129.

*The most specific symptoms in this study were oral ulcers and weight loss. Best predictors were fever and rash. Index of suspicion should be high when these symptoms are present.

Management, Including While on PEP or PrEP

☑ RECOMMENDATIONS

Managing Acute HIV

- Clinicians should recommend antiretroviral therapy (ART) to all patients diagnosed with acute HIV infection. (A1)
- Clinicians should inform patients about the increased risk of transmitting HIV during acute infection. (A2)
- As part of the initial management of patients diagnosed with acute HIV infection, clinicians should:
  - Consult with a care provider experienced in the treatment of acute HIV infection. (A3)
  - Obtain HIV genotypic resistance testing for the protease (A2), reverse transcriptase (A2), and integrase (B2) genes at the time of diagnosis.
- **Patients taking post-exposure prophylaxis (PEP):** When acute HIV infection is diagnosed in an individual receiving PEP, ART should be continued pending consultation with an experienced HIV care provider. (A3)

☑ RECOMMENDATIONS

- **Patients taking pre-exposure prophylaxis (PrEP):** When acute HIV infection is diagnosed in an individual receiving PrEP, a fully active ART regimen should be recommended in consultation with an experienced HIV care provider. (A3) See also: *PrEP to Prevent HIV and Promote Sexual Health > Managing a Positive HIV Test Result.*
  - Clinicians who do not have access to experienced HIV care providers should call the Clinical Education Initiative (CEI) Line at 1-866-637-2342.

Initiating ART

- When a patient agrees with the clinician's recommendation to initiate ART during acute HIV infection:
  - Treatment should be implemented with the goal of suppressing plasma HIV RNA to below detectable levels. (A1)
  - Clinicians should perform baseline laboratory testing listed in *Box 1: Baseline Laboratory Testing Checklist* for all patients who are initiating ART immediately; ART can be started while awaiting laboratory test results. (A3) See the NYSDOH AI guideline *When to Initiate ART, With Protocol for Rapid Initiation* for more information.

Patients are at greatest risk for transmitting HIV during periods of high viremia early in infection. Clinicians should counsel patients with acute HIV about the increased risk of transmission during the 6 months after infection. Partner notification [Golden, et al. 2004], counseling on safer sex, and screening for other sexually transmitted infections are all important in the management of any new HIV diagnosis.

Consult an Experienced HIV Care Provider

- When choosing an ART regimen for a patient with acute HIV infection, a care provider experienced in the treatment of acute HIV infection should be consulted.
- Data are insufficient to support firm recommendations regarding specific regimens for treating acute HIV infection.
- The risks of transmitted resistance should be considered when prescribing ART while awaiting HIV resistance results.

Clinicians who do not have access to experienced HIV care providers should call the CEI Line at 1-866-637-2342.

Rationale for early treatment: The NYSDOH AI HIV Clinical Guidelines Program and the U.S. Department of Health and Human Services recommend initiation of ART for all patients with a confirmed HIV diagnosis regardless of their CD4 cell count or viral load. Initiation of ART is associated with the following benefits for the individual with HIV:

- Reduced morbidity and mortality [Zolopa, et al. 2009; Lundgren, et al. 2015].
- Reduced risk of transmission to others [Cohen, et al. 2016].
- Improved immunologic recovery (CD4 T cell counts) [Jain, et al. 2013].
- Reduced HIV reservoir [Jain, et al. 2013].
- Reduced treatment delays and improved retention in care and viral suppression at 12 months [Ford, et al. 2018].
  - See the NYSDOH guideline *When to Initiate ART, With Protocol for Rapid Initiation > Rationale for Rapid ART Initiation* for more information.

The rationale for early treatment (CD4 count >500 cells/mm^3) in chronic HIV infection was definitively demonstrated in preliminary results from the START study, in which there was a 53% reduction in serious illness or death among individuals who received early treatment [Lundgren, et al. 2015].

In 3 randomized controlled studies that compared deferred versus immediate initiation of ART for acute or recent HIV infection [Grijsen, et al. 2012; Hogan, et al. 2012; Fidler, et al. 2013], immediate initiation of ART delayed a decrease in CD4 counts to <350 cells/mm^3 compared with no therapy. A notable finding across these studies is the high percentage of patients who deferred therapy who progressed to CD4 counts <350 cells/mm^3 within the first year after infection, suggesting that if initiation of ART is postponed, most patients will experience significant immune decline fairly rapidly.

Although these studies may have oversampled symptomatic patients, a population in whom disease progresses more rapidly [Vanhems, et al. 1998; Lavreys, et al. 2006], previous estimates that included more asymptomatic patients indicated an average time of 1.5 years after seroconversion for CD4 counts to decline to <350 cells/mm^3 [CASCADE 2000]. These findings suggest that the amount of time off therapy gained by deferring initiation is limited, relative to the need for lifelong treatment.

Notably, these studies used an outdated recommended CD4 count threshold of <350 cells/mm^3 instead of current recommendations for early treatment at any CD4 count, including CD4 counts >500 cells/mm^3, and investigated various durations of ART followed by treatment interruption [Grijsen, et al. 2012; Hogan, et al. 2012; Fidler, et al. 2013]. Because there is evidence that treatment interruptions carry significant risks of morbidity and mortality [El-Sadr, et al. 2006], as well as increased transmission risk during viral rebound [Rieder, et al. 2010; Hamlyn, et al. 2012], the findings regarding treatment interruption no longer have relevance for individualized treatment decisions in the context of acute or chronic HIV infection.

The risks and benefits of early ART to discuss with patients when making the decision of whether and when to initiate ART are outlined below. It should be emphasized that the START trial provided definitive evidence that the benefits of early initiation of ART outweigh the potential disadvantages.

Benefits of early ART in asymptomatic patients (early therapy = initiation at CD4 counts >500 cells/mm^3):

- Reduction in HIV-related and non–HIV-related morbidity and mortality [Phillips, et al. 2007; Kitahata, et al. 2009; Marin, et al. 2009; Sterne, et al. 2009; Ray, et al. 2010; Silverberg, et al. 2011; Ho, et al. 2012; Lewden, et al. 2012; Lundgren, et al. 2015].
- Delay or prevention of immune system compromise [Lewden, et al. 2007].
- Possible lower risk of antiretroviral resistance [Uy, et al. 2009].
- Decreased risk of sexual transmission of HIV [Quinn, et al. 2000; Castilla, et al. 2005; Donnell, et al. 2010; Cohen, et al. 2011]. HIV cannot be transmitted sexually when the plasma viral load is undetectable; ART is not a substitute for primary HIV prevention measures, such as avoidance of needle sharing [Politch, et al. 2012].
- Decreased risk of several severe bacterial infections [O'Connor, et al. 2017].
- Potential decrease in size of viral reservoir and preservation of gut-associated lymphoid tissue with initiation during acute HIV, i.e., within the first 6 weeks [Jain, et al. 2013; Novelli, et al. 2018].

Disadvantages of early ART in asymptomatic patients:

- Possibility of greater cumulative side effects from ART [Volberding and Deeks 2010].
- Possibility for earlier development of drug resistance and limitation in future [Barth, et al. 2012] antiretroviral options if adherence and viral suppression are suboptimal.
- Possibility for earlier onset of treatment fatigue.

Genotypic resistance testing: The increasing incidence of transmission of antiretroviral resistance [Kim, et al. 2013] argues for resistance testing at baseline in all individuals with HIV, including those who are acutely infected. Antiretroviral drug resistance mutations are more likely to be detected when genotypic resistance testing is performed at the time of recent infection [Kim, et al. 2013]. Genotypic resistance testing that includes the protease, reverse transcriptase, and integrase genes should be obtained at diagnosis (or initial visit if not done previously), but ART initiation should not be delayed pending the results [Borroto-Esoda, et al. 2007; Kuritzkes, et al. 2008].

To identify the potential for preexisting drug-resistant virus, the initial assessment should also include the patient's history of PrEP and PEP use and previous ART use for people who are re-engaging in care [Ford, et al. 2018]. See the NYSDOH AI guideline *When to Initiate ART, With Protocol for Rapid Initiation > Medical and Psychosocial Assessmen*t for details on taking a medical history before ART initiation.

Clinicians should perform baseline laboratory testing listed in *Box 1: Baseline Laboratory Testing Checklist*, below, for all patients who are initiating ART immediately; ART can be started while awaiting laboratory test results. If ART is initiated during acute HIV infection, it should be continued indefinitely because viremia has been documented to reappear or increase after discontinuation of therapy, and treatment interruptions lead to greater morbidity and mortality [El-Sadr, et al. 2006].

Box 1: Baseline Laboratory Testing Checklist

- HIV-1/2 antigen/antibody assay.
- HIV quantitative viral load.
- Baseline HIV genotypic resistance profile.
- Baseline CD4 cell count.
- Testing for hepatitis A, B, and C viruses.
- Comprehensive metabolic panel (creatinine clearance, hepatic profile).
- Sexually transmitted infection (STI) screening; see the NYSDOH AI *STI Care Guidelines*.
- Urinalysis.
- Pregnancy test for individuals of childbearing potential.

Whether or not ART for acute HIV infection is initiated, follow-up with standard HIV testing and HIV primary care should be arranged (see the NYSDOH AI guidelines *HIV Testing* and *Primary Care Approach*).

→ KEY POINT

- If the decision to initiate treatment has been made, therapy should not be withheld while awaiting the results of baseline laboratory testing, including resistance testing. Adjustments may be made to the regimen once resistance test results are available (see the NYSDOH AI guideline *HIV Resistance Assays*).

All Recommendations

☑ All RECOMMENDATIONS: Diagnosis and Management of Acute HIV

NYS HIV Testing Requirements

- According to New York State Law, physicians must offer an HIV test to all patients aged 13 years and older (or younger with risk) if a previous test is not documented, even in the absence of symptoms consistent with acute HIV. Although written consent to HIV testing is no longer required in New York State, patients must be given the opportunity to decline, and verbal consent must be documented in the medical record.

Presentation

- Clinicians should include acute HIV infection in the differential diagnosis for *anyone* (regardless of reported risk) with a flu- or mono-like illness (A3), especially when the patient:
  - Presents with a rash (A2)
  - Requests HIV testing (A3)
  - Reports recent sexual or parenteral exposure to a person with or at risk for HIV infection (A2)
  - Presents with a newly diagnosed sexually transmitted infection (A2)
  - Presents with aseptic meningitis (A2)
  - Is pregnant or breastfeeding (A3)
  - Is currently on pre- or post-exposure prophylaxis (PrEP or PEP) (A3)
- Diagnostic HIV RNA testing should be considered for patients who present with compatible symptoms (see *Acute Retroviral Syndrome*), particularly in the context of a sexually transmitted infection [Patel, et al. 2006] or a recent sexual or parenteral exposure with a partner known to have HIV or a partner whose HIV serostatus is not known. (A2)

When Acute HIV Infection Is Suspected

- Clinicians should always perform a plasma HIV RNA assay in conjunction with an antigen/antibody combination screening test. (A2)

☑ All RECOMMENDATIONS: Diagnosis and Management of Acute HIV

- Clinicians should use a 4th-generation antigen/antibody combination assay (preferred) as the initial HIV screening test according to the CDC's *Recommended Laboratory HIV Testing Algorithm for Serum or Plasma Specimens*.
  - If the screening test is reactive, clinicians should perform an HIV-1/HIV-2 antibody-differentiation immunoassay to confirm HIV infection; Western blot is no longer recommended as the confirmatory test. (A2)
  - **Note:** When rapid antibody screening is performed, including screening with a rapid 4th-generation test, a laboratory-based 4th-generation immunoassay is recommended in follow-up diagnostic HIV testing.

Diagnosis

- When HIV RNA ≥5,000 copies/mL is detected, clinicians should consider that result a presumptive diagnosis of acute infection, even if the screening and antibody-differentiation tests are nonreactive or indeterminate. (A2)
- Clinicians should repeat HIV RNA testing to exclude a false-positive result when low-level quantitative results (<5000 copies/mL) from an HIV RNA assay are reported in the absence of serologic evidence of HIV infection. (A2)
  - **Note:** The absence of serologic evidence of HIV infection is defined as a nonreactive screening result (antibody or antibody/antigen combination) or a reactive screening result with a nonreactive or indeterminate antibody-differentiation confirmatory result.
- If a diagnosis of HIV infection is made on the basis of HIV RNA testing alone, the clinicians should collect a new specimen 3 weeks later to repeat HIV diagnostic testing according to the CDC HIV testing algorithm. (A2)
- If a diagnosis of acute infection is made on the basis of HIV RNA testing, then clinicians should recommend initiation of ART without waiting for serologic confirmation. (A2)
- When pregnant women are diagnosed with acute infection by HIV RNA testing, clinicians should *not* wait for results of a confirmatory test to initiate ART; initiation of ART is strongly recommended for pregnant women. (A2)
  - See the NYSDOH AI guideline *HIV Testing During Pregnancy and at Delivery*

NYS Reporting Requirement and Partner Notification

- Clinicians should offer assistance with partner notification and refer patients to other sources for partner notification assistance (*NYSDOH Partner Services* or *NYC CNAP*). (A2)
- Clinicians must report confirmed cases of HIV according to New York State Law. For more information about required reporting, see *NYSDOH Provider Reporting & Partner Services*.

Prevention Following a Negative HIV Test

- Clinicians should recommend PrEP for individuals, including adolescents, who do not have but are high risk of acquiring HIV and have adequate renal function. (A1)
- HIV status should be confirmed by results of a negative 4th-generation (recommended) or 3rd-generation (alternative) HIV test within 1 week of planned PrEP initiation. (A3)
  - See the NYSDOH AI guideline *PrEP to Prevent HIV and Promote Sexual Health*

Managing Acute HIV

- Clinicians should recommend antiretroviral therapy (ART) to all patients diagnosed with acute HIV infection. (A1)
- Clinicians should inform patients about the increased risk of transmitting HIV during acute infection. (A2)
- As part of the initial management of patients diagnosed with acute HIV infection, clinicians should:
  - Consult with a care provider experienced in the treatment of acute HIV infection. (A3)
  - Obtain HIV genotypic resistance testing for the protease (A2), reverse transcriptase (A2), and integrase (B2) genes at the time of diagnosis.
- **Patients taking post-exposure prophylaxis (PEP):** When acute HIV infection is diagnosed in an individual receiving PEP, ART should be continued pending consultation with an experienced HIV care provider. (A3)
- **Patients taking pre-exposure prophylaxis (PrEP):** When acute HIV infection is diagnosed in an individual receiving PrEP, a fully active ART regimen should be recommended in consultation with an experienced HIV care provider. (A3) See also: *PrEP to Prevent HIV and Promote Sexual Health > Managing a Positive HIV Test Result.*
  - Clinicians who do not have access to experienced HIV care providers should call the Clinical Education Initiative (CEI) Line at 1-866-637-2342.

☑ All RECOMMENDATIONS: Diagnosis and Management of Acute HIV

Initiating ART

- When a patient agrees with the clinician's recommendation to initiate ART during acute HIV infection:
  - Treatment should be implemented with the goal of suppressing plasma HIV RNA to below detectable levels. (A1)
  - Clinicians should perform baseline laboratory testing listed in *Box 1: Baseline Laboratory Testing Checklist* for all patients who are initiating ART immediately; ART can be started while awaiting laboratory test results. (A3) See the NYSDOH AI guideline *When to Initiate ART, With Protocol for Rapid Initiation* for more information.

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