Diagnosis and Management of Acute HIV
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 anyone diagnosed with HIV.
  - For the person with HIV, 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.
Prepare for Rapid Initiation of ART

- 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.
Clinical Awareness of Acute HIV

KEY POINT: 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.
New York State Law: 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 and Diagnosis

✓ RECOMMENDATIONS

• 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 PrEP or PEP (A3)

• Diagnostic HIV RNA testing should be considered for patients who present with compatible symptoms, particularly in the context of an STI or a recent sexual or parenteral exposure with a partner known to have HIV or a partner whose HIV serostatus is not known. (A2)
Presentation and Diagnosis

✔ RECOMMENDATIONS, continued

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 HIV Testing Algorithm.
  - 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.
Presentation and Diagnosis

✔ RECOMMENDATIONS, continued

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.
Diagnosis, continued

- 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*
Prevention Following a Negative HIV Test

✔ RECOMMENDATIONS

• 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 Acquisition
Reporting and Partner Notification

✓ REQUIREMENTS

• Clinicians must report confirmed cases of HIV according to New York State Law.
  ▪ For more information about required reporting, see NYSDOH Provider Reporting and Partner Services.

• Clinicians should offer assistance with partner notification and refer patients to other sources for partner notification assistance (NYSDOH Partner Services or NYC CNAP). (A2)
Negative HIV Test? Opportunity for PrEP

**KEY POINT:** 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 Acquisition.*
FIGURE 1. Window of Detection for HIV, Based on Test Used*

HIV RNA (plasma) → HIV antibody
HIV p24 antigen

11 17 22

First-generation EIA
Second-generation EIA
Third-generation EIA
Fourth-generation EIA
NAAT

*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).
FIGURE 2. Diagnostic Testing for Acute HIV Infection

Person presents with signs/symptoms of acute HIV infection or reports high-risk exposure in the past 4 weeks.

Perform HIV RNA test [a] PLUS HIV antibody/antigen screening test

- HIV RNA not detected AND antibody/antigen nonreactive
  - No laboratory evidence of HIV infection [d]

- HIV RNA detected with <5000 copies/mL PLUS no serologic evidence of HIV infection [b]
  - Retest HIV RNA
    - HIV RNA not detected
    - HIV RNA detected

- HIV RNA detected with >5000 copies/mL
  - No serologic evidence of HIV infection [b]
  - Serologic confirmation of HIV infection [c]
    - Presumptive diagnosis of acute HIV infection
    - Recommend ART in consultation with an experienced HIV care provider
    - 3 weeks later, perform diagnostic testing according to the CDC HIV testing algorithm

Confirmed HIV infection. Recommend ART [e]

Notes:

a. Viremia will be present several days before antibody detection
b. The absence of serologic evidence of HIV infection is defined as nonreactive screening result (antibody or antibody/antigen combination) or a reactive screening result with a nonreactive or indeterminate antibody-differentiation confirmatory result.
c. Serologic confirmation as defined by the CDC HIV testing algorithm. Western blot is no longer recommended as the confirmatory test because it may yield an indeterminate result during the early stages of seroconversion and may delay confirmation of diagnosis.
d. No further testing is indicated

e. See Antiretroviral Therapy guideline: [http://www.hivguidelines.org/clinical-guidelines/adults/antiretroviral-therapy/](http://www.hivguidelines.org/clinical-guidelines/adults/antiretroviral-therapy/)
Acute HIV Diagnostic Testing

KEY POINTS:

- Patients undergoing HIV testing who are not suspected to have acute infection should receive screening according to the standard CDC HIV testing protocol.

- 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.
Management of Acute HIV Infection

✔ RECOMMENDATIONS

- Clinicians should recommend ART for all patients diagnosed with acute HIV infection. (A2)

- Clinicians should inform patients about the increased risk of transmitting HIV during acute HIV 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 baseline HIV genotypic resistance testing, regardless of whether ART is being initiated (A2)
Patients Taking PEP or PrEP

**RECOMMENDATIONS**

- **Patients taking PEP**: When acute HIV infection is diagnosed in a person receiving PEP, ART should be continued pending consultation with an experienced HIV care provider. (A3)

- **Patients taking PrEP**: When acute HIV infection is diagnosed in a person receiving PrEP, a fully active ART regimen should be recommended in consultation with an experienced HIV care provider. (A3)
Initiating ART

✔ RECOMMENDATIONS

• If the clinician and patient have made a decision to initiate ART during acute HIV infection, Treatment should be implemented with the goal of suppressing plasma HIV RNA to below detectable levels (A1)
  ▪ Treatment should not be withheld while awaiting the results of recommended resistance testing; adjustments may be made to the regimen once resistance results are available (A3)

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

➢ KEY POINT: ART should not be withheld while awaiting the results of resistance testing. Adjustments may be made to the regimen once resistance results are available.
Advantages/Disadvantages of Initiating ART

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<tr>
<th>Theoretical Rationale for Initiating ART During Acute Infection</th>
<th>Potential Disadvantages</th>
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<tr>
<td>• Reduce risk of viral transmission</td>
<td>• Development of drug resistance if therapy fails due to nonadherence or insufficient suppression of viral replication</td>
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<td>• Preserve HIV-specific immune function; promote survival of CD4 cells involved in the initial response to HIV infection</td>
<td>• Adverse effects on quality of life as a result of drug toxicities</td>
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<td>• Suppress initial burst of viral replication, decrease magnitude of viral dissemination, which reduces reservoir size and may preserve gut-associated lymphoid tissue</td>
<td>• Earlier commitment to lifetime ART</td>
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<td>• Potential reduction in the emergence of viral mutations with the suppression of viral replication</td>
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<td>• Potential to reduce the severity and duration of illness during symptomatic acute HIV infection</td>
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<td>• Potential to reduce the risk of HIV superinfection (i.e., reinfection with a second strain of HIV)</td>
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