Baseline Evaluation

Updated: September 21, 2022
Reviewed: September 21, 2022

Every patient with HIV entering into care should have a complete medical history, physical examination, and laboratory evaluation and should be counseled regarding the implications of HIV infection. The goals of this initial evaluation are to confirm the diagnosis of HIV infection, obtain appropriate baseline historical and laboratory data, ensure patient understanding about HIV infection and its transmission, and initiate care as recommended in the HIV Medicine Association of the Infectious Diseases Society of America's (HIVMA/IDSA) Primary Care Guidance for Persons with HIV[1] and the Adult and Adolescent Opportunistic Infections Guidelines.[2] The initial evaluation also should include discussion of the benefits of antiretroviral therapy (ART) for the patient's health and to prevent HIV transmission, as well as strategies to optimize care engagement and treatment adherence **(AIII).** Information obtained in this baseline evaluation then can be used to define treatment management goals and plans. The Panel on Antiretroviral Guidelines for Adults and Adolescents recommends initiating ART at the time of diagnosis (when possible) or as soon as possible afterward to increase the uptake of ART, decrease the time required to achieve linkage to care and virologic suppression, improve the rate of virologic suppression, and reduce HIV transmission **(AII).**

The following laboratory tests performed during initial patient visits can be used to stage HIV progression and to assist in the selection of antiretroviral (ARV) drug regimens:

- HIV antigen/antibody testing (if prior documentation is not available or if HIV RNA is below the assay's limit of detection) **(AI)**
- CD4 T lymphocyte (CD4) cell count **(AI)**
- Plasma HIV RNA (viral load) **(AI)**
- Complete blood count; chemistry profile, including glucose, blood urea nitrogen and creatinine, liver enzymes and bilirubin, urinalysis, and serologies for hepatitis A, B, and C viruses **(AIII)**
  - If random blood glucose level is abnormal, repeat fasting
- Serum lipids (if random levels are abnormal, fasting lipids should be obtained)
- HLA-B*5701 test (if abacavir is being considered) **(AI)**
- Genotypic drug-resistance testing **(AII).** Based on current rates of transmitted drug resistance to different ARV medications, standard genotypic drug-resistance testing in ARV-naive people should focus on testing for mutations in the reverse transcriptase (RT) and protease (PR) genes. If transmitted integrase strand transfer inhibitor (INSTI) resistance is a concern in people with newly diagnosed HIV or in people who acquired HIV after receipt of long-acting cabotegravir (CAB-LA) as pre-exposure prophylaxis (PrEP), testing for mutations in the integrase gene also should be performed.
- For patients who have HIV RNA levels <1,000 copies/mL, viral amplification for drug-resistance testing should still be performed; however, it may not always be successful **(BII)** (see Drug-Resistance Testing).

In addition, other tests (including screening tests for sexually transmitted infections, opportunistic infections, and cancer) should be performed as recommended in the HIVMA/IDSA's Primary Care Guidance for Persons with HIV[1] and the Adult and Adolescent Opportunistic Infections Guidelines.[2]

Many clinics have adopted a rapid start policy to initiate ART on the day of HIV diagnosis in order to increase ART uptake and engagement in care and to accelerate the time to viral suppression. Rapid ART initiation also reduces the time during which people with newly diagnosed HIV can transmit HIV. Prior to ART initiation, HIV infection should be confirmed. HIV RNA and CD4 count also should be obtained, but results need not be available before starting ART. CD4 count will determine the need for prophylaxis for certain opportunistic infections.

- If available, results of safety testing—such as complete blood count, renal function tests, and liver enzymes—should be reviewed. If safety test results are not available, ART can still be started, but a clinician should review the results as soon as possible.
- Genotypic resistance testing for RT and PR (and INSTI resistance testing if patient has a history of CAB PrEP use or if INSTI transmission is suspected) should be obtained before ART initiation. It is not necessary to delay ART until results are available, but results should be reviewed as soon as possible in order to make adjustments to the regimen, if needed.
- Screening for viral hepatitis should be done before starting ART, and if ART initiation occurs before results are available, a regimen that has activity against hepatitis B virus should be selected.
- In patients who do not have reliable methods of contact, rapid ART may be initiated, with a plan for a return clinic visit soon after ART initiation to review test results.
- Screening for sexually transmitted infections should, ideally, occur at the initial visit, but results do not need to be available before starting ART.

For previously treated patients who present for an initial evaluation with a new health care provider, it is critical to obtain a complete ARV history (including drug-resistance testing results, if available), preferably through the review of past medical records. A complete immunization history (including for SARS-CoV-2) also should be obtained. Newly diagnosed patients also should be asked about any prior use of ARV agents for prevention of HIV infection.

People with HIV often must cope with many social, psychiatric, and medical issues that are best addressed through a patient-centered, multidisciplinary approach. The baseline evaluation should include consideration of the patient's readiness for ART, including an assessment of substance use (including tobacco use), social support, mental health, medical comorbidities, economic factors (e.g., unstable housing, food instability), medical insurance status and adequacy of coverage, and other factors that are known to impair adherence to ART and increase the risk of HIV transmission. Once evaluated, these factors should be managed accordingly. The baseline evaluation also should include a discussion of risk reduction and disclosure to sexual and/or needle-sharing partners, especially with untreated patients who are still at high risk of HIV transmission. People with HIV should be informed that maintaining a plasma HIV RNA of <200 copies/mL, including any measurable value below this threshold, with ART prevents sexual transmission of HIV to their partners **(AII).** Patients may recognize this concept as Undetectable = Untransmittable or U=U.

References

1. Thompson MA, Horberg MA, Agwu AL, et al. Primary care guidance for persons with human immunodeficiency virus: 2020 update by the HIV Medicine Association of the Infectious Diseases Society of America. *Clin Infect Dis*. 2021;73(11):e3572-e3605. Available at: https://pubmed.ncbi.nlm.nih.gov/33225349.

2. Panel on Guidelines for the Prevention and Treatment of Opportunistic Infections in Adults and Adolescents with HIV. Guidelines for the prevention and treatment of opportunistic infections in adults and adolescents with HIV 2022. Available at: https://clinicalinfo.hiv.gov/en/guidelines/hiv-clinical-guidelines-adult-and-adolescent-opportunistic-infections/whats-new.