## Comprehensive Primary Care for Adults With HIV

*February 2021*

### Table 3: Recommended Laboratory Testing for Adults With HIV

*Frequency Key: I = initial (baseline) visit; A = annual visit; N = as needed*

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| HIV-1 RNA quantitative viral load        | • Regular monitoring is the most accurate and meaningful measure of effective ART.  
• Check every 3 to 6 months during years 1 and 2, and every 4 to 6 months thereafter.  
• Monitor every 1 to 3 months if adherence is unstable or patient has detectable viral load.  
☑️ See the NYSDOH AI guideline *Virologic and Immunologic Monitoring*. | I A N      |
| CD4 lymphocyte count                     | • Check every 3 to 6 months if CD4 count <200 cells/mm³; not indicated if viral load is consistently undetectable (CD4 count >200 cells/mm³).  
• Monitor every 3 months if diagnosis is recent (<2 years), viral load suppression is inconsistent, or CD4 count is close to or below 200 cells/mm³.  
☑️ See the NYSDOH AI guideline: *Virologic and Immunologic Monitoring*. | I A N      |
| HIV-1 resistance testing (genotypic)     | • Perform at treatment initiation.  
• Perform if viral load is >500 copies/mL (archive genotype may be considered if VL below 500 copies/mL).  
• Consult with an expert in HIV care in the event of treatment failure. | I          |
| G6PD                                     | • Screen for deficiency to avoid use of oxidant drugs, including dapsone, primaquine, sulfonamides.  
☑️ Prevalence of G6PD deficiency is highest among people of African, Asian, or Mediterranean descent, but consider in all patients given diversity of backgrounds. | I          |
| Complete blood count                    | • For patients not taking zidovudine, check at initiation of ART and repeat as clinically indicated.  
• For patients taking zidovudine, check at initiation, and 4 weeks after initiation; follow every 3 months for the first year, then every 6 months.  
☑️ Consider with any change in medication. | I A        |
| Estimated glomerular filtration rate    | • For patients taking TDF, check at initiation, then repeat at 4 weeks, 3 months, 6 months, and 12 months for the first year, then every 6 months thereafter.  
• For patients not taking TDF, check at initiation, 6 months during the first year, then annually thereafter.  
• Check after initiation of medication with risk for renal disease (e.g., use of nonsteroidal anti-inflammatory agents, angiotensin-converting enzyme inhibitors).  
• Check if patient has history of diabetes or other renal diseases. | I A N      |
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| Hepatic panel:                                                                  | • Check 3 months after initiation of ART, after initiating medication with risk for liver disease (e.g., statins, azoles), or if there is a history of viral hepatitis, and then at 12 months.  
  • Check every year if patient is stable and without above risks.                | I A N      |
| • Aspartate aminotransferase                                                    |                                                                                                                                            | I A N      |
| • Alanine aminotransferase                                                      |                                                                                                                                            | I A N      |
| • Alkaline phosphatase                                                          |                                                                                                                                            | I A N      |
| • Total bilirubin                                                               |                                                                                                                                            | I A N      |
| Random blood glucose (fasting or hemoglobin A1c if high)                       | • Check every 6 to 12 months if a patient has risk factors for diabetes (family history, obesity, use of protease inhibitors or INSTIs).  
  • If abnormal, repeat random glucose as a fasting glucose or A1C.  
  ☑ Results are used to diagnose diabetes. See Standards of Medical Care in Diabetes—2019 Abridged for Primary Care Providers. | I A N      |
| Tuberculosis screening                                                          | • Obtain IGRA TB test (such as T-SPOT or QuantiFERON-TB) or tuberculin skin test (commonly known as PPD) at baseline for diagnosis of latent TB infection, unless the patient has previously tested positive or has documented TB.  
  • Repeat annually for patients at risk (e.g., unstable housing, incarceration, travel or immigration).  
  ☑ Consider preventive therapy for patients with ≥5 mm reaction to PPD. See: CDC: Treatment of LTBI and TB for Persons with HIV and Clinical Info HIV.gov > Mycobacterium tuberculosis. | I A        |
| Hepatitis A                                                                     | • Repeat after vaccination to ensure immunity.  
  ☑ See the NYSDOH AI guideline Prevention and Management of HAV in Adults With HIV > Transmission and Prevention for testing and vaccination recommendations. | I N        |
| • Anti-hepatitis A immunoglobulin                                               |                                                                                                                                            | I N        |
| Hepatitis B                                                                     | • If HBsAg-positive or if HBCAb-positive but HBsAb-negative, perform HBV DNA viral load test.  
  • Repeat HBsAb after vaccination to ensure immunity.  
  ☑ See the NYSDOH AI guideline HBV-HIV Coinfection > Baseline Evaluation and Screening for testing and vaccination recommendations. | I N        |
| • Surface antibody                                                              |                                                                                                                                            | I N        |
| • Surface antigen                                                               |                                                                                                                                            | I N        |
| • Core antibody                                                                 |                                                                                                                                            | I N        |
| Hepatitis C                                                                     | • If patient was previously treated for HCV or is antibody-positive, perform HCV viral load test.  
  • Check at entry to care; repeat as clinically indicated for patients with exposure risk.  
  ☑ See the NYSDOH AI guideline Treatment of Chronic HCV with Direct-Acting Antivirals > Diagnosis of HCV Infection. | I N        |
| • HCV antibody                                                                  |                                                                                                                                            | I N        |
| • HCV RNA quantitative viral load                                               |                                                                                                                                            | I N        |
| Measles titer                                                                   | • Vaccinate if patient is not immune and has a CD4 count >200 cells/mm³.                                                                  | I          |
| Varicella titer                                                                 | • For patients with no evidence of immunity and CD4 count >200 cells/mm³, consider vaccination for chicken pox (Varivax; 2 doses, 3 months apart); engage patients in shared decision-making, taking into consideration the potential risks of a live vaccine.  
  • Live vaccines are contraindicated for patients with CD4 counts <200 cells/mm³. | I          |
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| **Urinalysis**  | • Evaluate for proteinuria.  
• Check for symptoms of UTI or change in creatinine or other urinary symptoms (including glucosuria for patients on tenofovir).  
☑ See the NYSDOH AI guideline Antiretroviral Therapy > Laboratory Monitoring for Adverse Effects of ART. | I | A | N |
| **Urine pregnancy test** | • Perform for all individuals of childbearing potential who are sexually active.  
• Repeat at patient request. | I | N |
| **Lipid panel** | • Perform at least every 3 years if patient has increased risk for CVD.  
• Consider annual screening if patient is taking protease inhibitors.  
• For adults >75 years old, initiate discussion of possible benefits of age-appropriate preventive therapies in the context of comorbidities and life expectancy.  
☑ HIV is considered a risk-enhancing factor for CVD; clinicians may opt to perform more frequent lipid testing in patients with cardiovascular comorbidities. | I | +/– | N |
| **Serum thyroid-stimulating hormone** | • Insufficient evidence exists for routine screening of nonpregnant adults.  
☑ Adults with HIV have higher incidence of thyroid dysfunction than those without HIV. Discuss annual screening. See USPSTF Thyroid Dysfunction: Screening. | I | +/– |
| **Gonorrhea and chlamydia** | • Perform baseline testing at oral, anal, urethral, and cervical sites for MSM and TGW and others as indicated by individual exposure.  
• Repeat based on risk factors and sites of exposure.  
• Repeat every 3 months for MSM and TGW.  
☑ See Update to the CDC’s Treatment Guidelines for Gonococcal Infection, 2020. | I | A | N |
| **Syphilis** | • Use same laboratory test consistently.  
• Repeat at least annually  
• Repeat every 3 months for patients with risk of exposure (e.g., MSM).  
☑ See the NYSDOH AI guideline Management of Syphilis in Patients with HIV. | I | A | N |
| **Trichomonas** | • Perform screening test if the patient has a vagina and is sexually active. | I | A | N |
| **HLA-B*5701** | • Must be performed before initiation of abacavir, otherwise not routine. | N |

**Abbreviations:** ART, antiretroviral therapy; CDC, Centers for Disease Control and Prevention; MSM, men who have sex with men; CVD, cardiovascular disease; FDA, U.S. Food and Drug Administration; G6PD, glucose-6-phosphate dehydrogenase; HBcAb, hepatitis B core antibody; HBsAb, hepatitis B surface antibody; HBsAg, hepatitis B surface antigen; HBV, hepatitis B virus; HCV, hepatitis C virus; IGRA, interferon gamma release assay; INSTI, integrase strand transfer inhibitor; PPD, purified protein derivative; TB, tuberculosis; TDF, tenofovir disoproxil fumarate; TGW, transgender women; USPSTF, United States Preventive Services Taskforce; UTI, urinary tract infection.