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

Laboratory Test	Comments	Frequency*		
		I	**A**	**N**
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		N
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: • Aspartate aminotransferase • Alanine aminotransferase • Alkaline phosphatase • Total bilirubin	• 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
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 for 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 LTB1 and TB for Persons with HIV* and *Clinical Info HIV.gov > Mycobacterium tuberculosis*.	I	A	
Hepatitis A • Anti-hepatitis A immunoglobulin	• 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
Hepatitis B • Surface antibody • Surface antigen • Core antibody	• 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
Hepatitis C • HCV antibody • HCV RNA quantitative viral load	• 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
Measles titer	• Vaccinate if patient is not immune and has a CD4 count >200 cells/mm^3.	I		
Varicella titer	• For patients with no evidence of immunity and CD4 count >200 cells/mm^3, 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/mm^3.	I		

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	• Above 50 years of age, regardless of varicella titer status or CD4 cell count, consider vaccination for Herpes zoster with recombinant zoster virus (RZV; SHINGRIX) two doses 2 to 6 months apart.			
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.				