Comprehensive Primary Care for Adults With HIV

December 2022

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.	I	A	N
CD4 lymphocyte count	• Check every 3 to 6 months if CD4 count <200 cells/mm^3; not indicated if viral load is consistently undetectable (CD4 count ≥200 cells/mm^3). • 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/mm^3. • See NYSDOH AI guideline Virologic and Immunologic Monitoring in HIV Care.	I	A	N
HIV-1 resistance testing (genotypic)	• Perform at treatment initiation. • Perform if HIV RNA (viral load) is ≥500 copies/mL; archive genotype may be considered if viral load is <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, at 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
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

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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 integrase strand transfer inhibitors). • 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 TB Treatment for Persons with HIV and DHHS Guidelines for the Prevention and Treatment of Opportunistic Infections in Adults and Adolescents with HIV > Mycobacterium tuberculosis Infection and Disease.	I	A	
Hepatitis A • Anti-hepatitis A immunoglobulin	• Repeat after vaccination to ensure immunity. • See NYSDOH AI guideline Prevention and Management of Hepatitis A Virus Infection 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, perform an HBV DNA viral load test. • Repeat anti-HBs test after vaccination to ensure immunity. • See NYSDOH AI guideline Prevention and Management of Hepatitis B Virus Infection in Adults With HIV > HBV Screening and Diagnosis and > HBV Vaccination 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 NYSDOH AI guideline Hepatitis C Virus Screening, Testing, and Diagnosis in Adults > HCV Testing Sequence and Diagnosis.	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. • For patients ≥50 years old, regardless of varicella titer status or CD4 cell count, consider vaccination for herpes zoster with recombinant zoster virus (Shingrix; 2 doses, 2 to 6 months apart).	I		
Urinalysis	• Evaluate for proteinuria. • Check for symptoms of UTI or change in creatinine or other urinary symptoms (including glucosuria for patients on tenofovir). • See NYSDOH AI guideline 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

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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 NYSDOH STI self-collection outside of a clinic setting in New York State (NYS) Question & Answer. • 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 NYSDOH STI self-collection outside of a clinic setting in New York State (NYS) Question & Answer.	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: anti-HBs, hepatitis B surface antibody; ART, antiretroviral therapy; CDC, Centers for Disease Control and Prevention; MSM, men who have sex with men; CVD, cardiovascular disease; DHHS, U.S. Department of Health and Human Services; FDA, U.S. Food and Drug Administration; G6PD, glucose-6-phosphate dehydrogenase; HBsAg, hepatitis B surface antigen; HBV, hepatitis B virus; HCV, hepatitis C virus; IGRA, interferon-gamma release assay; MSM, men who have sex with men; NYSDOH AI, New York State Department of Health AIDS Institute; PPD, purified protein derivative; TB, tuberculosis; TDF, tenofovir disoproxil fumarate; TGW, transgender women; USPSTF, U.S. Preventive Services Task Force; UTI, urinary tract infection.