ANTIRETROVIRAL LAB MONITORING (Part 1 of 2)

Laboratory Monitoring Schedule for Patients Before and After Initiation of Antiretroviral Therapy

	Baseline	Initiation or modification[a]	Follow-up 2–8 weeks after initiation or modification	Every 3–6 months	Every 6 months	Every 12 months	Treatment failure	Clinically indicated	Delayed initiation
HIV serology	If diagnosis has not been confirmed								
CD4 count	√	√		During first 2yrs of ART or if viremia develops while patient on ART or CD4 count <300 cells/mm^3		After 2yrs on ART with consistently suppressed viral load: if CD4 count 300–500 cells/mm^3, monitor every 12 months. CD4 count >500 cells/mm3, monitoring is optional	√	√	Every 3–6mos
HIV viral load	√	√	√[b]	√[c]	√[c]		√	√	Repeat testing is optional
Resistance testing	√	√[d]					√	√	√[d]
HLA-B*5701 testing		If considering ABC							
Tropism testing		If considering CCR5 antagonist					If considering CCR5 antagonist or CCR5 antagonist-based regimen failed	√	
Hepatitis B serology[e]	√	May repeat if nonimmune and no chronic HBV infection				May repeat if nonimmune and no chronic HBV infection		√	
Hepatitis C serology with confirmation of positive results	√	May repeat if at-risk with negative baseline result				May repeat if at-risk with negative baseline result		√	
Basic chemistry[f,g]	√	√	√	√				√	Every 6–12mos
ALT, AST, T. bilirubin	√	√	√	√				√	Every 6–12mos
CBC with differential	√	√	If on ZDV	If on ZDV or CD4 testing done	√			√	Every 3–6mos
Fasting lipid profile	√	√			If abnormal at last measurement	If normal at last measurement		√	If normal at baseline, annually
Fasting glucose or hemoglobin A1C	√	√		If abnormal at last measurement		If normal at last measurement		√	If normal at baseline, annually
Urinalysis[g,h]	√	√			If on TAF or TDF[h]	√		√	
Pregnancy test		In women with child-bearing potential						√	

(continued)

ANTIRETROVIRAL LAB MONITORING (Part 2 of 2)

NOTES

This table pertains to laboratory tests done to select an ARV regimen and monitor for treatment responses or ART toxicities. Please refer to the HIV Primary Care guidelines for guidance on other laboratory tests generally recommended for primary health care maintenance of HIV patients.

a. If ART initiation occurs soon after HIV diagnosis, repeat baseline testing is not necessary.

b. If HIV RNA is detectable at 2–8 weeks, repeat every 4–8 weeks until suppression to <200 copies/mL, then every 3–6 months.

c. Viral load typically is measured every 3–4 months in patients on ART. However, for adherent patients with consistently suppressed viral load and stable immunologic status for ≥2yrs, may extend monitoring to 6-month intervals.

d. Standard genotypic drug-resistance testing in ART-naive patients should focus on mutations in the reverse transcriptase and protease genes. Also test for mutations to integrase strand transfer inhibitors if resistance is a concern. In ART-naive patients, if resistance testing was performed at entry into care, repeat testing before initiation of ART is optional. For virologically suppressed patients who are switching therapy for toxicity or convenience, viral amplification will not be possible and therefore resistance testing should not be performed. Results from prior resistance testing can be used to help in the construction of a new regimen.

e. If HBsAg (+), TDF or TAF plus either FTC or 3TC should be used as part of the ARV regimen to treat both HBV and HIV infections. If HBsAg, and HBsAb, and anti-HBc are negative at baseline, hepatitis B vaccine series should be administered.

f. Serum Na, K, HCO3, Cl, BUN, creatinine, glucose (preferably fasting), and creatinine-based estimated GFR. Monitor serum phosphorus in patients with CKD who are on TAF- or TDF-based regimens.

g. For patients with renal disease, consult the Guidelines for the Management of Chronic Kidney Disease in HIV-Infected Patients: Recommendations of the HIV Medicine Association of the Infectious Diseases Society of America. More frequent monitoring may be indicated for patients with evidence of kidney disease (eg, proteinuria, decreased glomerular dysfunction) or increased risk of renal insufficiency (eg, patients with diabetes, hypertension).

h. Assess urine glucose and protein before initiating TAF- or TDF-based regimens, and monitor during treatment.

Acronyms: 3TC = lamivudine, ABC = abacavir, ALT = alanine aminotransferase, ART = antiretroviral therapy, AST = aspartate aminotranserase, CBC = complete blood count, CKD = chronic kidney disease, CrCl = creatinine clearance, EFV = efavirenz, FTC = emtricitabine, GFR = glomerular filtration rate HBsAb = hepatitis B surface antibody, HBsAg = hepatitis B surface antigen, HBV = hepatitis B virus, TAF = tenofovir alafenamide, TDF = tenofovir disoproxil fumarate, ZDV = zidovudine

REFERENCES

Panel on Antiretroviral Guidelines for Adults and Adolescents. *Guidelines for the use of antiretroviral agents in HIV-1-infected adults and adolescents.* Department of Health and Human Services.
Available at https://aidsinfo.nih.gov/contentfiles/lvguidelines/adultandadolescentgl.pdf. Accessed August 10, 2017 [Table 3]. (Rev. 8/2017)