MAYO CLINIC LABORATORIES

HIV Treatment Monitoring Algorithm

Before initiating HIV treatment, order:
- HIVQN / HIV-1 RNA Detection and Quantification, Plasma to determine baseline viral load

OR
- HIRGT / HIV-1 RNA Quantification with Reflex to HIV-1 Genotypic Drug Resistance to Protease and Reverse Transcriptase Inhibitors, Plasma to determine baseline viral load and antiviral drug resistance profile

For newly infected patients who have known HIV-1 RNA level of 500 copies/mL, order:
- HIVPR / HIV-1 Genotypic Protease Inhibitor and Reverse Transcriptase Inhibitor Drug Resistance, Plasma

AND if considering combination therapy with integrase inhibitor drugs, add
- HIVI / HIV-1 Genotypic Integrase Inhibitor Drug Resistance, Plasma

Patient on treatment-monitor every 3 months

Select 1 of the 2 following options

HIVQN / HIV-1 RNA Detection and Quantification, Plasma (This is Mayo Clinic Laboratories' standard treatment monitoring assay)

- HIRGT / HIV-1 RNA Quantification with Reflex to HIV-1 Genotypic Drug Resistance to Protease and Reverse Transcriptase Inhibitors, Plasma (HIVPR will be performed automatically if HIV-1 RNA level is ≥500 copies/mL)
- If considering addition of integrase inhibitor therapy, also order HIVI / HIV-1 Genotypic Integrase Inhibitor Drug Resistance, Plasma (requires minimum HIV-1 RNA levels of 500 copies/mL)

Alter treatment as necessary and monitor viral load every 3 months

If patient is not responding to treatment (ie, viral load is not dropping as expected)

Very treatment-experienced patient

Relatively treatment-naive patient

HIV-1 RNA ≥500 copies/mL

Order HIVPR and HIVI to guide selection of drug combinations

If multiple resistance mutations are detected without obvious drug options

Consider phenotypic drug resistance tests:
- FPHIV / Phenosense HIV Drug Resistance Replication Capacity (for HIV-1 RNA level ≥500 copies/mL)
- FPFUZ / Phenosense Entry HIV Drug Resistance Assay (for HIV-1 RNA level ≥500 copies/mL)
- FFTRP / Trofile Co-Receptor Tropism Assay (for HIV-1 RNA level ≥1,000 copies/mL)
- FFTRO / Trofile DNA Co-Receptor Tropism Assay (for HIV-1 RNA level <1,000 copies/mL)

Clickable PDF
Click on blue tests to view test catalog information

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