



## Why Are Labs Important?

Labs are done for a variety of different reasons. There are main reasons why labs are done:

- Monitor a patient's body functions
- Confirm a condition based on the symptoms a patient is experiencing
- Not all conditions can be seen and it is important to run labs in order to catch a condition before harm is done to the body
- Help determine when to start treatment
- Monitor the course of HIV disease in a patient
- Help in determining treatment options for patients

## Hepatitis Lab Tests

Hepatitis labs are done to check for the presence of the hepatitis viruses. They are also done to test for the immunity to the hepatitis viruses. The most common hepatitis viruses looked for are A, B, and C.



## Other Important Lab Tests

Some Labs are done to check for opportunistic infections or side effects to medications. Some of these tests may include:

- Chemistry and Fluid Balance
- CBC
- Urinalysis
- Toxo IgG

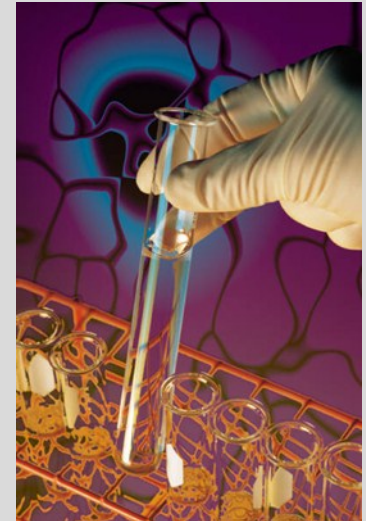
## Research Labs

Research labs in addition to the labs mentioned in this brochure may be ordered if the client chooses to participate in clinical trials. These tests may include:

- PBMC- peripheral blood mononuclear cells (used to look at the immune system)
- Saliva/sputum/Stool
- Stored serum /tissue for future tests
- Other tests specific to the studies

## Laboratory Tests “Labs”

### What and Why?



Educational information provided to you by the  
Florida Consortium for HIV/AIDS Research and  
The AIDS Institute



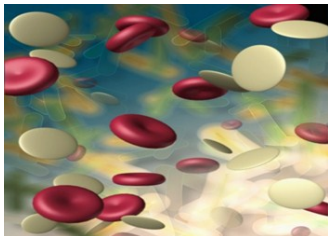
THE AIDS INSTITUTE



# Most Common Labs

## Viral Load

The viral load measures how many copies of the virus are in the blood. The goal is to keep the viral load suppressed to the lowest limit of the test performed and is usually reported as “Undetectable”.



## CD4 Cell Count

The CD4 cell count lab measures how many CD4 cells are present in the blood. CD4 cells are looked at in HIV patients because this is where the virus replicates. The higher the CD4 cell count, the healthier the patient’s immune system. CD4 cell count is also looked at in order to decide if Antiretroviral Therapy (ART) should be started. Patients are considered to have AIDS if their CD4 cell count is below 200 or below 14% of the total lymphocyte count.



## Complete blood

### Count (CBC) includes

- White blood cells (WBC)
  - \* Help fight infection
- Red blood cells (RBC)
  - \* Carry oxygen through the body
- Platelets
  - \* Help the blood to clot

CBC is a useful measure of overall health

## Liver Function Tests

Liver function tests are used to tell if the liver is damaged or inflamed. It is important to look at these factors because any one who is on medications can suffer from a compromised liver. This can lead to liver disease or inflammation. Liver function labs include checking liver enzymes.

These include:

- ALT
- AST
- GGT
- Alkaline Phosphatase



## Kidney function tests

Tests include:

- GFR– tells how well the kidneys are filtering the blood
- BUN & Creatinine are elevated in kidney damage
- Urinalysis– Checks for proteins in the urine. This can happen when the kidney is damaged.

## Glucose

Blood glucose tests measures how much sugar is in the blood. High levels of blood glucose can damage eyes, kidneys, nerves, and blood vessels. Blood glucose levels are tested by taking a fasting blood sugar. Normal values for this are between 70 and 99 milligrams per deciliter.

## Lipids: Triglycerides

Type of fat, high levels are associated with heart disease.



## Lipids: Cholesterol

Waxy fat-like substance that is carried in the blood. Total cholesterol should be less than 200. There are two different types of cholesterol. Good and bad.

HDL Cholesterol= Good Cholesterol

LDL Cholesterol= Bad Cholesterol

## Drug Resistance Genotype/Phenotype

HIV is considered to be resistant if the virus continues to multiply while a patient is on Antiretroviral Therapy.

Genotype labs are generally done to test for drug resistance before beginning antiretroviral therapy or when a patient’s viral load increases. Phenotype test is also done to determine effectiveness of medications in suppressing the virus from replication.

Other labs include :

Tropism (Trofile) assay to see if the virus is using CCR5 &/ or CXCR4 co-receptors to enter the cell

HLA-B5701 is a test done before a patient takes the drug Abacavir. If negative, there is a minimal risk of an allergic reaction.

