



CPAL

Central Pennsylvania Alliance Laboratory

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HIV Testing and the Role of the bDNA Assay

There have been at least two recent instances where, with good intentions, a physician has used the wrong method of HIV testing to determine a patient's HIV status. In both of these instances a patient had an HIV bDNA (HIV viral load) ordered for diagnostic purposes. In both of these instances the HIV bDNA was in the range of 100 to 300. Since this is listed outside the range of "normal" on a laboratory reporting form, each patient was told by the ordering physician that they were HIV positive. In both circumstances this caused a great deal of emotional distress for the patient. In both circumstances, further testing using the appropriate HIV 1 and 2 Elisa antibody screening test revealed that in fact the patient was HIV negative.

HIV bDNA is a test not yet approved by the FDA, but is routinely used for monitoring already diagnosed HIV infection. In only the rarest circumstances, and in the most experienced hands, should it be used to assist in the diagnosis of HIV infection. The appropriate screening test for HIV infection is the HIV 1 and 2 Elisa antibody screen. Certainly the patient should be made aware, in the mandatory counseling that accompanies any HIV test, that the HIV 1 and 2 Elisa antibody test can be falsely negative in the setting of acute HIV infection, sometimes not converting over for several weeks. If the HIV 1 and 2 Elisa test is positive, the Lab will automatically run a confirmatory HIV Western Blot. A not unusual dilemma, although one that will not be addressed here, is the indeterminate Western Blot result. This can be found both in HIV uninfected patients as a false positive result or can represent the patient who is in the active process of converting over their laboratory test to fully positive because of recent HIV infection.

The HIV bDNA (Viral Load) is inappropriate in the vast number of cases for diagnosing HIV infection because of the high false positivity rate. Three to five percent of individuals who are not HIV infected will have a detectable value on HIV bDNA testing. In almost all circumstances this is a very low number (i.e., below 5000) although there have been reported values that have been higher in HIV uninfected individuals. In almost all cases a person who is truly infected with HIV, particularly those in the acute or sub-acute stage of the infection will have HIV bDNA's above 100,000 although there have been cases of the HIV bDNA in the acute HIV infection as low as 20,000.

Please consult with an infectious disease physician or with CPAL for questions related to HIV testing or specific patient scenarios.

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For question about this, and other, information, call Central Pennsylvania Laboratory at 1-888-480-1422.