

Laboratory Resource Guide for HIV, Hepatitis B Virus and Syphilis

Interpretation of Laboratory Results

Laboratory test results for HIV, Hepatitis B or Syphilis must be interpreted with caution. A single positive or reactive test result does not definitely indicate current infection. The entire battery of test results must be considered together. Pregnant women are screened for all three of these infections in their first trimester, HIV and syphilis again in the third trimester and syphilis is tested again at delivery. Infants have specific tests indicated.

Key Points

Test results that point to infection:

- **HIV:**
 - Positive HIV screen plus positive confirmatory test, or
 - Detectable HIV Nucleic Acid Test (NAT, RNA, DNA, PCR, viral load)
- **Hepatitis B:**
 - Positive Hepatitis B surface antigen (HBsAg)
 - Positive Hepatitis B virus DNA (HBV DNA)
- **Syphilis:**
 - Positive treponemal test (EIA, CIA, TPPA, TPHA, FTA-ABS) along with
 - Positive nontreponemal test (RPR, USR, VDRL)

Child versus adult testing:

An infant whose mother is infected with HIV or syphilis may carry the mother's antibodies for up to the first two years of life, so antibody-based tests reflect the mother's infection status rather than that of the baby. Infants should not be tested for hepatitis B before 9-12 months of age.

Appropriate testing of infants:

- HIV testing of infants: HIV RNA/DNA nucleic acid test (NAT, PCR, viral load)
- Hepatitis B testing of infants: HBsAg and hepatitis B surface antibody (anti-HBs) testing 3-6 months after receiving hepatitis B (hepB) vaccine and hepatitis B immune globulin (HBIG) at birth along with at least two additional doses of hepB vaccine
- Syphilis testing of infants: same as adult tests (treponemal plus nontreponemal test) with the addition of the syphilis IgM Western blot test if either of the first tests is positive

Refer to the sections below for more detail on the testing of each infection. Reach out to MDHHS Surveillance staff with questions about interpreting laboratory results:

- **HIV:** **313-456-1586**
- **HBV:** **517-335-9443**
- **Syphilis:** **313-446-8961**