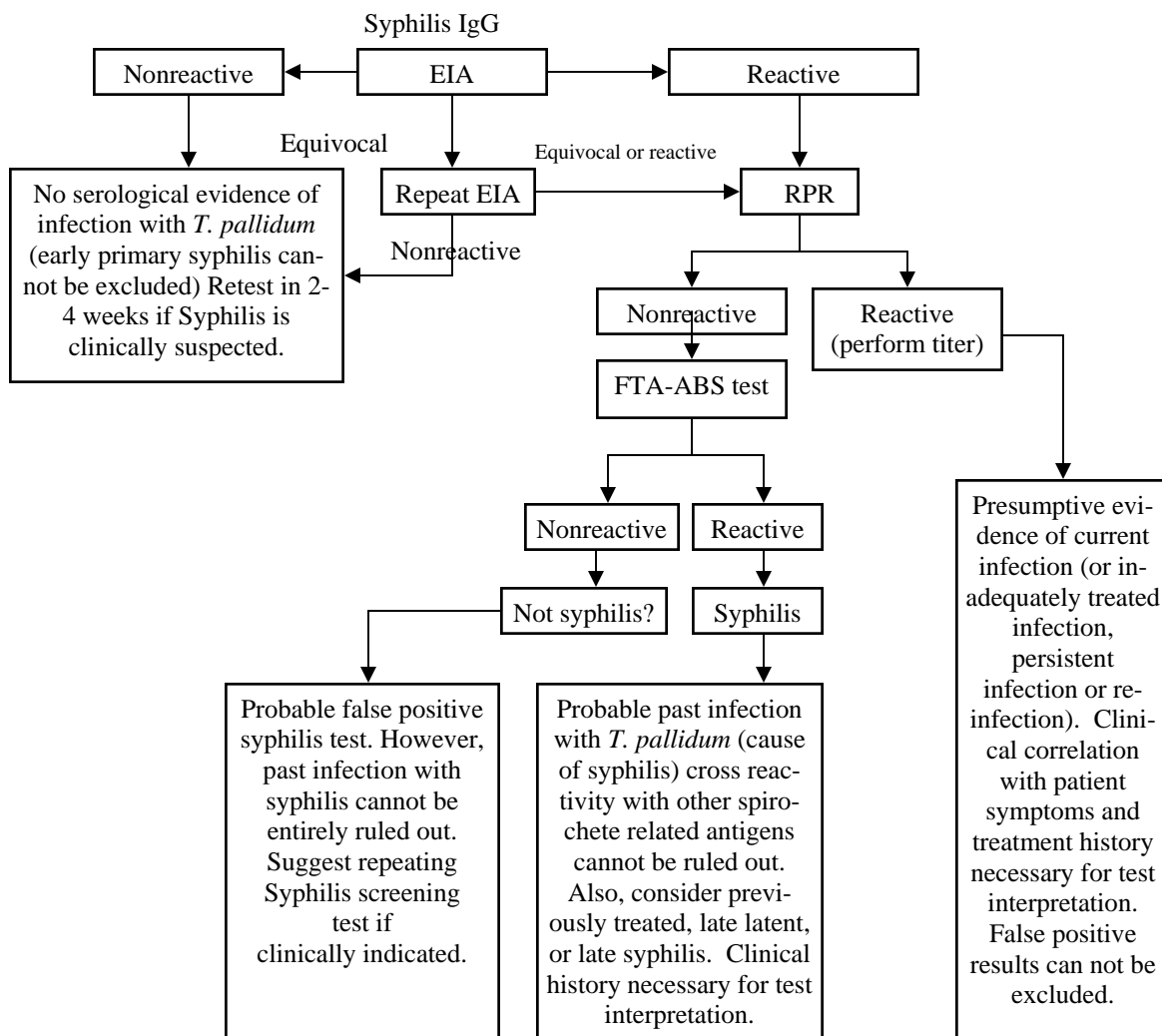


New Reflex Testing Algorithm for Syphilis Screening

Effective December 5, 2006. The laboratory will no longer be using the RPR as the screening test for syphilis. The RPR will be replaced with the Syphilis IgG EIA test. Please order Syphilis IgG when Syphilis screening is needed. RPR and FTA will remain available for treatment follow up and reflex purposes only. VDRL remains test of choice for CSF.

The laboratory will be switching to an enzyme immunoassay (EIA) method which will detect IgG antibodies against *Treponema pallidum*, the spirochete which causes Syphilis. This test has equal sensitivity and greater specificity for *T. pallidum* than RPR which detects anticardiolipin antibodies and has a high false positive rate. The syphilis IgG test remains positive for many years after eradication of the disease. Therefore, the RPR remains essential to demonstrate active disease, to monitor therapy, detect treatment failure, and re-infection. The qualitative VDRL remains the screening test for CSF.



There are two categories of tests for syphilis; nontreponemal tests and treponemal tests. A positive test for syphilis is not diagnostic of the disease, as false positives occur with all currently available laboratory tests.

NONTREPONEMAL TESTS:

The RPR (rapid plasma reagin) and the VDRL (Venereal Disease Research Laboratory) do not directly test for syphilis antibodies. They detect anticardiolipin antibodies and can have a high rate of false positives, especially in a low prevalence population of patients. False positive results are usually, but not always, of low titer ($\leq 1:8$) and occur due to autoimmune disease, drug addiction, acute viral infections, recent immunizations and age (10% of people over 80 years of age have false positive tests results).

TREPONEMAL TESTS:

FTA-ABS (Fluorescent treponemal antibodies absorption) and **Syphilis IgG**: These tests detect specific anti-treponemal antibodies to antigens found in pathogenic and non-pathogenic treponemes indicating exposure during the patient's life. A positive test does not mean the patient has currently untreated syphilis. Although sensitive and specific, false positives occur, especially in low prevalence populations.

SPECIAL CIRCUMSTANCES:

Pregnancy: May result in an increase in RPR titers in women who have been adequately treated for syphilis. The increase is usually 1 or 2 dilutions and raises the question of whether or not to treat/retreat these women for active disease.

Neonatal Syphilis Screening: Newborn infants should not be discharged from the hospital without determination of the mother's serologic status for syphilis. Testing of the infant's blood is inadequate for screening because false negative and false positive results can occur. Passive transfer of maternal antibodies across the placenta occurs and therefore, a positive syphilis IgG or FTA test is not conclusive of active syphilis infection, the RPR on the infant must be positive as well. The tests performed on the infant should be the same as those performed on the mother to enable comparison of titer results. A pediatric infectious disease consult is strongly recommended in these cases.

In summary, presumptive diagnosis of syphilis is possible using a combination of nontreponemal and treponemal tests. The use of only one type of test when positive, without a confirmatory test being performed, is not sufficient for diagnosis because of false positive tests results due to different medical conditions. All test results must be interpreted carefully, together with the patient's clinical history and symptoms to arrive at a clinical diagnosis.

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