

22. **What type of a test is the FTA?**

An indirect fluorescent antibody technique.

23. **What is a positive reaction in the FTA?**

Fluorescence of the treponemes.

24. **Which STS can be used to follow the course of infection?**

The nontreponemal tests—VDRL and RPR.

25. **Interpret the following results:**

<u>RPR</u>	<u>FTA-ABS</u>
Reactive	Nonreactive

The patient does not have syphilis. The RPR was a false positive.

26. **What is the *Treponema pallidum*-particle agglutination assay (TP-PA)?**

A treponemal test for syphilis in which the sample is incubated with colored *T. pallidum*-sensitized gel particles in microtiter plates. If *T. pallidum* antibodies are present in the sample, the particles agglutinate and produce a smooth mat over the surface of the wells. If the antibodies are not present, the particles settle to the bottom of the well, forming a compact button.

27. **What other types of tests are now available for syphilis testing?**

EIA and CIA. Because these tests use treponemal antigens, they are referred to as treponemal immunoassays.

28. **What advantage do the treponemal immunoassays for syphilis have in the diagnosis of congenital syphilis?**

Some assays can differentiate between IgG and IgM antibodies. Maternal IgG antibodies can cross the placenta and be detected in the infant's serum even when the infant is not infected. IgM antibodies, on the other hand, cannot cross the placenta, so their presence in the infant's blood indicates an active infection.

29. **What other advantages do the treponemal immunoassays for syphilis have?**

They can be automated, are cost effective for high-volume laboratories, and the results are not subjective.

30. **What is reverse sequence syphilis testing?**

A new testing strategy used in high-volume laboratories that perform treponemal immunoassays for syphilis. Patients are first screened with a treponemal immunoassay (EIA/CIA). If positive, a nontreponemal test (RPR or VDRL) is performed. If the nontreponemal test is positive, the patient is considered positive for syphilis. If the nontreponemal test is negative, an FTA or TP-PA is performed. (CDC recommends TP-PA). If the FTA or TP-PA is positive, the patient is considered to have either a present or past syphilis infection. If the FTA or TP-PA is negative, the patient is considered negative for syphilis. (Note that reverse sequence testing is the opposite of the traditional testing sequence in which a nontreponemal test is performed first, followed by a treponemal test for confirmation of positive results.)

31. **What methods are used to diagnose Lyme disease?**

IFA, ELISA, Western blotting, and PCR (polymerase chain reaction). The first 3 methods detect antibody to *Borrelia burgdorferi* and are not specific. False positives occur with syphilis and other treponemal diseases, such as yaws, relapsing fever, and leptospirosis, as well as with infectious mononucleosis, Rocky Mountain spotted fever, and autoimmune diseases, such as rheumatoid arthritis. PCR, which detects *Borrelia* DNA, is much more specific, but problems with sensitivity and lack of standardization limit its use at this time.