Syphilis Testing Update

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The NPHL has recently implemented new technology for screening of serum samples for evidence of infection by *Treponema pallidum*, the cause of human syphilis. As with many other large volume tests in the laboratory it is important to find means to automate the assay and keep costs at their absolute minimum while still providing the best information possible. The new test incorporates recombinant proteins in an enzyme linked immunoassay (EIA) format similar to other antibody detection methodologies. The use of a treponemal antigen is important because the previous screening assay incorporated a non-treponemal antigen in a test called the Rapid Plasma Reagin (RPR). An algorithm developed by Dr. Victoria Pope (Chief of the Syphilis Serology Reference Laboratory, Division of STD Prevention, National Center for HIV, STD and TB Prevention, Centers for Disease Control and Prevention, Atlanta) serves as the basis for our new protocol. The detection of a positive EIA screen is followed by a qualitative RPR and then, if positive a quantitative RPR. In the past, a screening RPR was followed by a fluorescent treponemal antibody (FTA) absorption test which is labor intensive and subject to interpretation by the reader. In the new algorithm the FTA is reserved for cases where the screening test is positive but the follow up RPR is negative. This process reduces the total number of FTAs that need to be performed, reducing the overall cost of the analysis. As in any test there are special situations such as a patient with latent disease or early non-symptomatic disease where antibodies may not be present and it may be necessary to consult with the clinician to obtain an accurate interpretation of the laboratory findings. For quick reference, a copy of the protocol is inserted below and it can be reprinted from our website at http://www.nphl.org/testdirectory.html.

Syphilis Screening Algorithm, January 2007