New Syphilis Testing Algorithm

- Traditionally, syphilis test algorithms have started with a non-treponemal assay (e.g. VDRL or RPR) that detects antibodies to lipoidal antigens.
- Positives are reflexed to a treponemal assay (e.g. FTA-ABS, or TP-PA) that detects *Treponema pallidum*-specific antigens.
- However, non-treponemal tests have inherent limitations: they lack sensitivity in primary and late syphilis, are not specific to syphilis, and are manual, labor-intensive tests.
- Thus, YNHH will implement a new "reverse" syphilis test algorithm on the evening of July 29, 2016, as shown in figure below.
- Initial screening will be done with the "Liaison® Treponema Assay", a chemiluminescence immunoassay that looks for total antibodies (both IgG and IgM) to *T. pallidum*. This screening test will be performed 6 days a week, Sun-Fri.
- "Reactive" specimens will be reflexively tested the following day by RPR, a non-treponemal test, to assess disease activity.
- Discordant samples (Liaison+/ RPR-) will be tested using a second *T. pallidum* assay, TP-PA, to confirm screen specificity.
- Testing of serum will be performed in the Clinical Virology Laboratory. Testing of CSF for suspected cases of neurosyphilis will remain unchanged (i.e. VDRL with reflex to FTA-ABS).

![Reverse Syphilis Testing Algorithm](image)

**Figure 1: Reverse syphilis testing algorithm to be performed at YNHH.** Comments corresponding to test results are shown on the right. Temporary comments reported while reflex testing is ongoing are shown in dashed boxes. Final comments are in solid boxes.