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DATE: February 10, 2016
TO: UCH Medical Staff, Housestaff, Patient Care Centers, and Outpatient Clinics
FROM: Kathleen G. Beavis, MD, Interim Director of Laboratories and
Director, Clinical Microbiology and Immunology Laboratories
RE: Syphilis IgG Testing

Effective February 17, 2016, the Clinical Microbiology/Immunology Laboratory will perform an automated qualitative syphilis IgG test and institute the CDC-recommended algorithm for syphilis testing. This new multiplex flow immunoassay performed on the BioPlex 2200 system simultaneously detects IgG antibodies to *T. pallidum* proteins (15kDa, 17kDa, and 47kDa).

Specimen requirements and ordering information:

<u>Test name</u>	<u>Epic CODE</u>	<u>Specimen</u>
Syphilis IgG Antibody	SYGPR	6 mL serum in red top tube
RPR (For newborn screening and to confirm treatment success ONLY)	RPRT	4 mL serum in red top tube

Test information and turnaround time

This approach to syphilis testing (reverse algorithm) starts with syphilis IgG as an initial test. A negative syphilis IgG means that past and present syphilis infection is unlikely.

A positive syphilis IgG can indicate a past or present infection. Specimens showing positive syphilis IgG will be reflexed automatically to RPR. If there is a discrepancy between syphilis IgG and RPR (IgG positive, RPR negative), *T. pallidum* particle agglutination (TPPA) will be performed.

This approach will provide a better detection of early primary and latent infection that may be missed with the traditional RPR screening. Additionally, false positive RPR results due to autoimmune diseases, infectious mononucleosis, and other viral, bacterial and parasitic infections, will be reduced.

RPR will be orderable for newborn screening and as a treatment follow-up test ONLY (confirmation of successful therapy). Newborn syphilis testing will continue to be performed using the traditional algorithm (screening with RPR, confirmation with TPPA).

Testing will be performed seven days a week. Results will be reported as Reactive, Equivocal, and Non-Reactive.

The interpretation is as follows using CDC guidelines:

<u>Syphilis IgG</u>	<u>RPR</u>	<u>TPPA (sendout)</u>	<u>Interpretation</u>
Non-Reactive	(Not performed)	(Not performed)	Syphilis unlikely
Reactive	Reactive	(Not performed)	Untreated or previously treated syphilis confirmed
Reactive	Non-Reactive	Non-reactive	Syphilis unlikely unless clinical findings are strongly suggestive; if high risk repeat in 2 weeks.
Reactive	Non-Reactive	Reactive	Active or previously treated syphilis likely; determine prior history

RPR and TPPA will be performed on all Syphilis IgG equivocal results.

For further information see Syphilis Testing Algorithm in the Laboratory Handbook. This algorithm is intended to be used as a guide for testing and interpretation of the test results.

If you have any questions, please contact Ana Flores, Chief Technologist, Clinical Microbiology/ Immunology Laboratory at 773-702-6618, or Vera Tesic, MD, Asst. Director at 773-702-2677.