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| A message from **Adam Morgan, M.D.** *(Laboratory Medical Director | SSM Health St. Mary’s Hospital - Madison) ...* |
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| Syphilis Total Ab Screen w/ReflexNotification Date: February 14, 2024Effective Date: February 20, 2024 |
| SUBJECT: **Syphilis Reverse Screening - SYPHILIS TOTAL AB SCREEN W/ REFLEX (LAB12272)**SSM Health Wisconsin will be changing to the **reverse algorithm** to screen for syphilis to improve turnaround time and to align with system initiatives.**FDL area hospitals and clinics will also be adopting the reverse algorithm in the coming future.**Reverse syphilis testing algorithm starts with an assay to measure IgM and IgG antibodies specific to *Treponema pallidum* (TP) utilizing the Syphilis TP antibody CMIA assay which will be performed at St. Mary’s Madison.  Advantages of utilizing the reverse syphilis screening model1. The TP antibody screening test is specific to syphilis (although false positives may occur).
2. TP antibodies are more sensitive than RPR for detecting both primary and late syphilis.
3. The TP antibody assay can be performed within the SSM Wisconsin region to improve turnaround time.

Samples which are reactive for TP (syphilis) antibodies will be sent for rapid plasma regain (RPR) confirmation testing to help distinguish between infection with *T. pallidum* (syphilis) versus a falsely reactive treponemal antibody result. The TP antibody test and RPR test can identify persons previously treated for syphilis and those with untreated or incompletely treated syphilis. Discordant results between the syphilis TP antibody assay and RPR will be further reflexed to a second treponemal test, Treponema Pallidum Particle Agglutination (TP-PA) for further evaluation if necessary. Please see chart below for interpreting results utilizing the reverse screening model.Table. Interpretation and follow-up of syphilis reverse screening results

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| Patient History | Syphilis (TP) IgM/IgG antibody screen CMIA | RPR | TP-PA | Interpretation | Follow - up |
| Unknown history of syphilis | Nonreactive | N/A | N/A | No serologic evidence of syphilis | None, unless clinically indicated (e.g. early/acute/primary syphilis) |
| Unknown history of syphilis | Reactive | Reactive | N/A | Untreated or recently treated syphilis | See Centers for Disease Control and Prevention treatment guidelines |
| Unknown history of syphilis | Reactive | Nonreactive | Nonreactive | Probable false-positive screening test | No clinical follow-up testing, unless clinically indicated (e.g. acute/primary syphilis) |
| Unknown history of syphilis  | Reactive | Nonreactive  | Reactive | Possible syphilis (e.g. early or latent) or previously treated syphilis | Historical and clinical evaluation required |
| Known history of syphilis | Reactive | Nonreactive | Reactive or N/A | Past, successfully treated syphilis | None |

**CMIA** – Chemiluminescent microparticle immunoassay; **RPR** – rapid plasma regain; **TP-PA** – *Treponema pallidum* particle agglutination.Please direct specific questions or comments to:Amy Little SoldierLaboratory Technical Specialist, ChemistrySSM Health St. Mary’s Hospital MadisonOffice: (608) 258-6910amy.littlesoldier@ssmhealth.comMolly Gurney, M.D.Assistant Laboratory Medical Director, ChemistrySSM Health St. Mary’s Hospital MadisonOffice: (608) 258-6914molly.gurney@ssmhealth.comPlease communicate to colleagues and staff in your area accordingly.Thank you,***Adam Morgan, M.D.******Laboratory Medical Director******Pathology, SSM Health St. Mary’s Hospital Madison****700 South Park Street**Madison, WI 53715**Office: (608) 258-6914* |
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