

Chemistry Testing Update

Effective October 16, 2024

Syphilis Testing – Switch to Reverse Screening Algorithm

Effective Wednesday, October 16, 2024, WDL will switch syphilis screening from the traditional to the reverse algorithm. Please see here for comparison of traditional and reverse algorithms: (<https://www.myadlm.org/clin/articles/2014/november/screening-syphilis>).

Individual syphilis test orders will be replaced by a panel titled “Syphilis Evaluation”. Within the panel, ordering providers will be asked to select the indication for testing: initial screen or follow-up of previous confirmed infection.

- If **initial screen**, syphilis total antibody (IgG + IgM) will be performed.
 - o If syphilis total antibody nonreactive, no further testing is performed
 - o If syphilis total antibody reactive, RPR confirmation testing is automatically performed
 - If RPR reactive, syphilis is confirmed and RPR titer will be performed automatically
 - If RPR nonreactive, TP-PA is automatically performed to differentiate between previous, resolved infection (TP-PA reactive) and false positive total antibody (TP-PA nonreactive)
- If **follow-up of previous confirmed infection**, RPR will be performed (syphilis total antibody testing will NOT be performed).
 - o If RPR nonreactive, no further testing is performed
 - o If RPR reactive, RPR titer will be performed automatically
- **For children <18 months**, RPR will be performed
 - o If RPR nonreactive, no further testing is performed
 - o If RPR reactive, RPR titer will be performed automatically

Syphilis total antibody will be performed 24/7. RPR (and RPR titer) will be performed seven days a week on day shift. TP-PA will be sent to our primary reference lab (ARUP) with an expected turnaround time of 2-4 days.

Test Availability/Turnaround Time

- Syphilis total antibody (IgG + IgM) will be performed 24/7.
- RPR (and RPR titer) will be performed seven days a week on day shift.
- TP-PA will be sent to our primary reference lab (ARUP) with an expected turnaround time of 2-4 days.

Syphilis Screening Algorithm Interpretation Guidance

Syphilis Serology Interpretation Guidelines			
Syphilis Total Ab	RPR	TP-PA	Interpretation
Nonreactive	N/A	N/A	Negative for syphilis. No further testing required, unless clinically indicated.
Reactive	Reactive	N/A	Consistent with untreated or recently treated syphilis. See CDC treatment guidelines. For follow up RPR titers, select "Monitoring of Previous Confirmed Syphilis" in Syphilis Evaluation Order
Reactive	Nonreactive	Reactive	Consistent with past successfully treated syphilis. Early or latent syphilis possible in individuals with no history of treated syphilis.
Reactive	Nonreactive	Nonreactive	Consistent with false positive screening test. No further testing required, unless clinically indicated.

Frequently Asked Questions

1. Why is this change being made?

The forward algorithm depends on the RPR test, which is manual and time-intensive, as the initial step. Conversely, the reverse algorithm begins with syphilis total antibody, which is performed on an automated chemistry analyzer. Adoption of the reverse algorithm will make more efficient use of limited laboratory staff and reduce turnaround time for the initial syphilis screening result.

2. Are there other advantages of the reverse algorithm?

Improved detection of early or latent syphilis

3. Are there disadvantages of the reverse algorithm?

Potential confusion caused by discordant syphilis total antibody/RPR results. This is mitigated by the addition of interpretive comments, as well as a second treponemal test (TP-PA) to differentiate between possible causes of this discordant pattern.

For questions or additional information, contact:

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