Interpreting Syphilis Serology

Supplementary Tables

Tacoma-Pierce County Health Department
Healthy People in Healthy Communities

By Dr. Matthew Clifford-Rashotte and Dr. Natasha Press
June 24, 2020
thischangedmypractice.com/interpretation-of-syphilis-serology

Syphilis Test Characteristics

Test type	Treponemal	Non-treponemal
Examples	EIA TP-PA	RPR VDRL
Detects	Syphilis-specific antibodies.	Antibodies to cellular components released due to syphilis infection.
Reported as	Reactive or non-reactive.	Quantitative titre (1:2, 1:4, etc.) with higher titres indicating stronger positive results.
Change over time	Remain positive over time in most cases.	Decline over time (decline faster with treatment).
Uses	- New diagnosis of syphilis. - Sensitive screening test.	- Monitoring response to treatment. - Distinguishing re-infection vs. resolved infection in people with positive treponemal test.

Syphilis Serology Interpretation

Serologic pattern			Possible interpretations
EIA	**RPR**	**TP-PA**	
Reactive	Reactive	Reactive	- Syphilis infection. - If patient has been treated for syphilis and RPR titre is declining, this may be consistent with treated syphilis.
Reactive	Reactive	Non-reactive	Treponemal tests do not agree, which may indicate: - Early infection (TP-PA not yet positive). - Prior syphilis (treated or untreated). - False positive EIA. - *Test again in 2 weeks.*
Reactive	Non-reactive	Non-reactive	
Reactive	Non-reactive	Reactive	- Previously treated syphilis. - Early syphilis (RPR not yet positive).
Non-reactive	-	-	- Not consistent with syphilis. If concern for primary syphilis (chancre), treat and test again in 2 weeks.