Rapid Syphilis Testing

Thinking about using a rapid syphilis test in your jurisdiction? The Syphilis Health Check is currently the only FDA-approved CLIA-waived rapid point-of-care syphilis test on the market; other tests are in development.

The Syphilis Health Check is a treponemal test. It detects antibodies (both IgG and IgM) directed against *Treponema pallidum*, the bacterium that causes syphilis. Once a person has had syphilis, their treponemal test will always be positive, regardless of whether they were treated.

Rapid testing should **not** be used in people with a history of syphilis since a treponemal test cannot differentiate between a treated prior infection and a new one. For someone with a syphilis history, a blood draw for a quantitative rapid plasma reagin (RPR) is the best test. The RPR is a non-treponemal test that looks for tissue damage caused by *Treponema pallidum* rather than antibodies to the bacterium itself. A quantitative RPR titer increases or decreases depending on disease activity.

There are pros and cons to rapid syphilis testing. Below are some points to consider:

	PRO	CON
Population	Rapid syphilis testing is most effective in populations where syphilis is new. A positive rapid test in people from such a population will generally indicate an active, untreated infection. For example, in Oregon, our data show a recent, stark increase in syphilis among women, among people experiencing homelessness, and people who use methamphetamine. In a demonstration project in San Joaquin County, CA, 14% of rapid tests were reactive among persons experiencing homelessness tested at homeless shelters, street outreach, and rehabilitation centers.[1]	Rapid testing is less effective among populations that experience a high burden of syphilis (e.g., men who have sex with men). For example, a Denver study showed that the positive predictive value of the rapid test was only 47% among men who have sex with men[2] even after excluding men who reported a history of syphilis.
Performance	The rapid syphilis test has acceptable sensitivity, but estimates vary from 50 to 100% depending on the test used as a reference.[2-5]	Confirmatory testing is necessary for both positive and negative rapid results, since the rapid test might miss an infection. If the rapid result is negative but suspicion for syphilis is high based on exposure history or clinical signs or symptoms, draw blood for confirmatory testing and consider empiric treatment.
Follow-up	Rapid testing is associated with a shorter time to treatment.[2] Initiating treatment on the spot removes a barrier for those experiencing challenges to follow-up.	There is always a risk of losing patients to follow-up. If you do not have treatment available at the time of rapid testing, draw blood for confirmatory testing and arrange for treatment.
Ease of use	A rapid test produces a result within 10 minutes. Non-clinical staff can administer the test. Rapid testing is especially well-suited for outreach settings.	The North Carolina Department of Public Health[5] and the Multnomah County Health Department both found the test to be difficult to read.
Cost		Rapid syphilis tests may be more costly than laboratory-based testing.

Oregon Health Authority

References

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