

Safe and Certain Tuberculosis Testing for Expecting Mothers

Pregnancy is an exciting time for expecting mothers, but also comes with its own unique health concerns, both for mother and fetus. As advocates for maternal health, it is critical that health providers screen for infectious diseases, like tuberculosis (TB), during routine antenatal care, using the safest and most accurate test. While many people underestimate the threat of TB, it remains the deadliest infectious disease worldwide, and brings considerable risks to an expecting mother and developing baby.

Proactive TB testing helps protect mothers at risk

TB is an airborne disease caused by bacteria called *Mycobacterium tuberculosis*. It is estimated that 13 million Americans are infected with TB. In most cases, the infection remains latent; latent TB infection (LTBI) is a seemingly silent condition and individuals are asymptomatic. In the general population, roughly 5-10% of those infected will go on to develop active TB disease in their lifetime (1, 2). Active TB disease is highly contagious and potentially life threatening, though it is preventable and treatable. It's important to note that women face a heightened risk of TB during pregnancy, when immunological changes make the activation of latent TB infection or de novo infection more likely than among non-pregnant women (3). **LTBI detection has long been a public health priority in the U.S., and should be prioritized in at-risk populations, particularly at-risk pregnant women, so it can be detected and treated before it becomes active.**

The Centers for Disease Control and Prevention (CDC) encourages pregnant women at risk of contracting TB to be tested for LTBI. These risk factors include (4):

- Contact with a person with confirmed or suspected case of TB
- Living in or traveling to a high TB prevalence country (i.e. India, China, and Nigeria), including members of the military who have been stationed in TB-prevalent areas
- Regularly visiting congregate settings (e.g., healthcare facilities, correctional institutions, homeless facilities, etc.)
- Having a medical condition known to weaken the immune system (e.g., HIV or diabetes)

86%

of active TB cases result from reactivated LTBI, with the remaining 14% resulting from recent transmission (2). As such, the best way to prevent TB is to identify LTBI and treat it before it poses a threat to a pregnant woman and her baby.

In general, the benefits of LTBI treatment during pregnancy outweigh potential risks. Leaving the infection untreated is far more dangerous for the mother and fetus if the LTBI progresses to active TB during pregnancy, raising the chance of low birthweight, prematurity, and even neonatal TB, though this is generally assumed to be rare (5). Beyond these dangers, treating TB in its latent form, before it progresses to full-blown disease is far more cost effective – a savings of almost \$17,500 when compared to treating active TB (6). Treating latent TB is also much easier on the mother, as LTBI can be treated in as few as three months – compared to the typical nine-month regimen needed for active disease, including a period of complete quarantine (7).

“It is heartbreaking to think that a new mother could be quarantined from her baby for weeks due to an entirely preventable disease” states Dr. Ralph Pellecchia, OB/GYN at the Metropolitan Family Health Network in New Jersey. “Certain precautions need to be taken for expectant mothers, including a full assessment of their tuberculosis risk. It is imperative that I can rely on accurate testing for at-risk mothers, screening that can positively impact her and her baby’s health, while potentially saving time and money.”

The Centers for Disease Control (CDC) now recommends TB blood tests, known as interferon gamma release assays (IGRA) for most of the population (8). These tests are considered safe for use during pregnancy (4). By eliminating the need for a follow-up appointment, IGRA tests are easier and more convenient to include during routine antenatal screenings, particularly in high-burden areas. Unlike the century-old skin test, TB blood tests do not cross-react with Bacillus Calmette–Guérin (BCG) TB vaccine, resulting in fewer false-positives and quicker identification of individuals with true LTBI.

Blood Test	Skin Test
One visit to the doctor	Two visits to the doctor
A small sample of blood is taken	Tuberculin is injected into the skin
Results are unaffected by the BCG vaccine	Results may be affected by the BCG vaccine
Results are determined in a laboratory	Results determined by subjective/visual assessment

“For expecting mothers, I rely on TB blood testing for an accurate assessment of a woman’s LTBI infection. Blood tests are highly accurate, and only require one doctor’s visit – and TB testing, as part of a comprehensive TB screening, is considered routine during the first trimester for high-risk women,” said Dr. Pellecchia. “Compared to traditional skin testing, blood tests have greater specificity and sensitivity, and are much easier to interpret, giving my patients and me peace of mind.”

Preparing for motherhood can be full of uncertainty, but reliable and accurate TB tests can help keep mothers and their babies safe.

Find out more at www.QuantiFERON.com/pregnancy

References

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QFTPlus is an in vitro diagnostic aid for detection of *Mycobacterium tuberculosis* infection. QFTPlus is an indirect test for *M. tuberculosis* infection (including disease) and is intended for use in conjunction with risk assessment, radiography, and other medical and diagnostic evaluations. QFTPlus package inserts, up-to-date licensing information and product-specific disclaimers can be found at www.QuantiFERON.com. The performance of the USA format of the QFTPlus test has not been extensively evaluated with specimens from pregnant women.

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