

To | ED, NICS, Family Practice, OB/GYN, Neonatal - Perinatal

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Date | April 15, 2011

Re | Total T4 in Pregnant Women

Practice Alert

S Situation

The concentration of total T4 in samples from pregnant women is erroneously low (20%) when measured using the Access Total T4 assay.

B Background

Erroneously low results (outside the normal reference range) could mask hyperthyroidism. Hyperthyroid disease during pregnancy could result in serious, permanent harm to the fetus/neonate.

A Assessment

FMC and KMC use the Access Total T4 assay. It has been proven to give erroneously low results in pregnant patients. Use Access Total T4 along with other assays to diagnose thyroid disease.

R Recommendation

Total T4 (T4) can be misleading when used to diagnose hyperthyroidism. More than 99% of Total T4 is bound to protein making it inert. Diagnostic value of Total T4 is better used as a measure of protein available for binding.

A TSH (Thyroid stimulating Hormone) and a Free T4 (FT4) should be ordered to aid in the diagnosis of thyroid function. In hyperthyroidism TSH will be low with a corresponding increase in FT4.

Q Questions

Please direct any questions to the Core Lab at 718-3701