MTHFR Mutation Testing is not Clinically Indicated.

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We have seen recent test orders for MTHFR mutations even in the face of normal serum homocysteine levels. This is a loss of approximately $500 per test.

It was previously hypothesized that reduced enzyme activity of methylene tetrahydrofolate reductase (*MTHFR*) led to mild hyperhomocysteinemia which led to an increased risk for venous thromboembolism, coronary heart disease, and recurrent pregnancy loss. Recent meta-analyses have disproven an association with these risks[1]. This may be related to the fact that in North America flour is folate enriched and pregnant women take B-vitamin supplements to reduce the risk of neural tube defects.

The American College of Medical Genetics and Genomics states: ***MTHFR* polymorphism genotyping should not be ordered as part of the clinical evaluation for thrombophilia or recurrent pregnancy loss[1].**

The American College of Obstetricians and Gynecologists: **Does not recommend the measurement of homocysteine or *MTHFR* polymorphisms in the evaluation of the etiology of venous thromboembolism[2]**.

The ACOG bulletin also states: **Prospective cohort studies have found no association between inherited thrombophilias and fetal loss[2]**.

The Bronson Laboratory Utilization Committee has determined that there is no proven, evidence-based clinical utility in this test for thrombophilia, recurrent pregnancy loss or other clinical indications. The *MTHFR* mutation tests will be removed from our test catalog and made non-orderable.

1. American College of Medical Genetics and Genomics Practice Guideline: lack of evidence for *MTHFR* polymorphism testing, Genet Med 2013:15(2):153–156 https://www.acmg.net/docs/MTHFR_gim2012165a_Feb2013.pdf.

2. Lockwood C, Wendel, G; Committee on Practice Bulletins—Obstetrics. Practice Bulletin no. 124: Inherited thrombophilias in pregnancy. *Obstet Gynecol* 2011;118(3):730–740.