What is MTHFR?

The Master of Methylation

The MTHFR is a gene, or actually about 20 of them, discovered with the mapping of the human genome project. Two particular MTHFR genes have been of studied more extensively because they can increase a person’s risk of certain diseases: the C677T and the A1298C, and they affect roughly 40 percent of the world’s population. These two genes can have a great effect on a person’s mental and physical health. If you have one allele or variation on the gene, your risk may be only slight; however, your risk of disease increases if you have 2 alleles.

**C677T** can be associated with increased levels of homocysteine, a independent risk factor for heart disease. It is also associated with greater risks of migraines, strokes, infertility issues, and birth defects.

**A1298C** has been linked with a higher incidence of fibromyalgia, chronic pain, mood changes, schizophrenia, fatigue/chronic fatigue, and irritable bowel disorders.

The MTHFR is responsible for methylation which simply put is our body’s way of converting folate to its usable form, l-methylfolate, which then turns on the methylation cycle.

The methylation cycle is responsible for:

* Detoxication
* Metabolism of Hormones
* Formation of Neurotransmitters
* Over 200 other enzyme and chemical reactions.

Optimizing MTHFR

Optimizing MTHFR risks can help balance hormones, reduce anxiety and depression, protect heart health, reduce digestive issues, increase detoxification, and improve sleep.

Optimization can include dietary changes to consume more natural folate, vitamin B6 and B12 or providing supplementation to correct l-methylfolate and vitamin B deficiencies since most people with MTHFR have had a lowered ability to detoxify, make neurotransmitters, and balance hormones for quite some time.

High folate foods include avocados, broccoli, spinach and other leafy greens, mangos, oranges, beans, and lentils.

Foods rich in B12 include red meat, poultry, milk, cheese, other dairy, and shellfish. Sources of B6 include meats, seafood, poultry, eggs, lentils, beans, nuts, and seeds.

Surgical and Dental Medication Risks with MTHFR

Medication Risks you need to be aware of if you have one or more MTHFR defects:

Nitric Oxide (laughing gas – often used in the dental office or before surgery)

Nitric Oxide is not recommended with MTHFR defects (except there is a smaller risk if you only have 1 defect in the A1298); Nitric Oxide stops the methylation cycle and causes symptoms such as brain fog, memory lapses, numbness and tingling of the hands and/or feet, or new onset sadness, irritability or sleep issues. (mthfr.net)

Remember, if you have trouble with your detoxification pathways, other medications may be harder for your body to properly use and metabolize out of the body. Always, be cautious when starting a new medication or supplement. Start with a low dose and see how you feel for a few days before increasing to the daily recommended dose.

Common Health Conditions Associated with MTHFR

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| Alzheimer’s Disease | Autism | Asthma |
| Bipolar Disorder | Blood Clots | Breast Cancer |
| Chronic Fatigue Syndrome | Epilepsy | Fibromyalgia |
| High Blood Pressure | Irritable Bowel Syndrome | Leukemia |
| Multiple Sclerosis | Heart Attacks | Parkinson’s Disease |
| Strokes | Schizophrenia | Miscarriages |
| Preeclampsia (during pregnancy) | Birth Defects |  |

Definitions:

Detoxification – getting rid of harmful substances from our body; these include but are not limited to poor air quality, heavy metals, air fresheners, dryer sheets, chemical or pesticide additives to foods or water, etc.) breaking down medications and foods

Creation/conversion of neurotransmitters including serotonin (the “happy” hormone) and melatonin for sleep; norepinephrine, epinephrine, and dopamine

Metabolism of Hormones - balancing of hormones and a key player in maintain balance of estrogen and testosterone

For more information, go to MTHFR.net

Full credit and referencing to Dr Ben Lynch at MTHFR.net
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