

## MTHFR: Helps You Use Folic Acid, an Essential B Vitamin for Health

Folate is a B vitamin that has to be activated (methylated) to be used by our bodies. This activation is done by an enzyme (protein) named MTHFR (methyltetrahydrofolate reductase). All of us have this enzyme. If MTHFR is working properly, it activates 100% of folic acid. This is the dominant form. Half of all people have a combination of MTHFR that does not completely activate folic acid. These two forms are called heterozygous and homozygous. If you are heterozygous, you activate folate at 60-70% efficiency. If you are homozygous you only activate 10% of folic acid. There are two main types of MTHFR that we check for, MTHFR C677T and MTHFR A1298C.

So what if you cannot activate folic acid well and your body cannot use the folic acid you get in your diet or through supplements? We are now learning that many medical conditions are helped by adding activated methylfolate.

Conditions helped:

1. **Depression, Anxiety, ADD, Autism and Dementia:** Methylfolate helps make up three of our four main neurotransmitters (dopamine, serotonin, and norepinephrine). It also helps with peripheral neuropathy, even in people with diabetes.
2. **Peripheral Vascular Disease:** Methylfolate helps in nitric oxide formation which relaxes blood vessels.
3. **Uric Acid Metabolism (Gout):** Methylfolate is connected to the normal metabolism of uric acid.
4. **Detoxifications:** Methylfolate can eventually influence downstream formation of compounds that help clear toxins.
5. **Lowering Homocysteine:** Methylfolate is required to metabolize and decrease homocysteine levels.
6. **DNA Repair** (decreases cancer risk): Methylfolate helps provide methyl groups for DNA repair and eventually decreases the risk of abnormal DNA and cancer.
7. **Miscarriage Frequency:** Methylfolate is integral for maintaining pregnancy.
8. **Neural Tube Defect in Newborns:** Methylfolate can help prevent these defects by adequate B12 and methylfolate levels.

In our clinic we suggest that you have your MTHFR checked by a simple blood sample if you have any of the above conditions, or you have a medical/family history that includes any of these conditions. If you have trouble making activated folic acid then you will be helped by taking activated folic acid. There are other B vitamins that are also an important key part of metabolism called methylation. These B vitamins include, methyl B12 and activated B6 or Pyridoxine 5 Phosphate.