

## Methylation, What's that?

posted by Dr. Dee

TO DO:

1. Clean the house (...and keep it that way)
2. Speak kindly to myself and others
3. Be a good methylator

This last bullet on your to do list might feel like it's out of your control, I mean it's in your genetic blueprint right? Aren't you "hard-coded" to be this way? You either are or you aren't a good methylator...Right? Not so fast, let's start with the defining terms.

**Methylation:** A methyl group is simply one carbon connected to three hydrogen atoms. You guessed it, these organic powerhouses are found in your food and play a huge role in your gene health and your metabolic health.

What Signals Are You Sending?

Why do we care about methylation anyway? It's because methylation pathways are literal switches in the body. These switches start or stop reactions, such as turning on a gene or activating an enzyme. When a methyl group is "lost" or chemically removed, metabolic reactions simply stop. In other words, the gene is turned "off" and the enzyme is deactivated.

We need a balance of both.

Let me give you an example. The ability to turn on an inflammatory cascade is necessary to mount an immune response, to stabilize an injured joint. It is necessary for survival. The ability to turn off that inflammatory response, is just as necessary for survival. Today we live in a world where we get more inflammatory signals than anti-inflammatory signals.

The messages you send your genes with food, sleep, exercise and supplementation are even more important to flip these switches to your advantage.

Methylation is not just one specific reaction. As such, you shouldn't pay too much attention to one genetic polymorphism or one sluggish enzyme in your gene blueprint. There are literally hundreds of methylation reactions in the body meaning, the healthy gene environment you create has everything to do with what you put on your plate. It is not just healthy abs that are made in the kitchen.

When do you want to turn things on?

You need methylation support when you want to optimize detoxification reactions. This isn't just important for individuals with methylation gene variations, but anyone needing to detoxify the body of chemicals. Healthy detoxification and methylation are considered most important for individuals that have immune concerns, sensitivities to their environment, chemical dyes or scents. Even if environmental sensitivities are not a part of your daily life, perhaps you have trouble with red wine, red wine grapes or sulfur rich compounds like cauliflower, broccoli and cabbage. Supporting your methyl pathways is your first step.

Remember, you need balance. There are times we want to turn down methylation. Sometimes for mental emotional well-being, when we can't find focused, maybe we feel hyper or aggressive. At times like this, it's worthwhile paying attention to the steps you can take to slow down methylation so that you can feel more balanced and mindful.

It is becoming clear that failure to turn on and off the switches can lead to several health-related concerns. Gene polymorphisms are implicated in neurologic health and well-being, are involved in creating the building blocks you need for a healthy metabolism, cardiovascular function and healthy aging. All of this is strongly dependent on your methylation potential.

When I mentioned your to do list above, I know mine is much longer as well, but I mentioned these three keynotes "to dos" because an allergy free home, mindfulness, including mindful eating and select nutrients, all need to be in place to optimize your methylation pathways.

### **Top Tips to Support and Balance Healthy Methylation**

**Just as there are many causes of poor methylation, there a plenty of things you can do that support methylation.**

1. Eat more dark green leafy vegetables. You want to eat at least one cup of vegetables like Bok choy, collards, swiss chard, kale, spinach, watercress. Even dandelion and mustard greens are important to support detoxification pathways and support healthy balanced methylation. Dark green "leafies" are some of the most abundant sources of nutrients needed to optimize your methylation.
2. Limit your alcohol to no more than three drinks per week. Not only does alcohol increase your risk for storing low density lipoprotein and triglycerides but alcohol increases your risk for blood sugar abnormalities and cardiovascular decline. Alcohol also depletes your B vitamin levels which are essential drivers of a methylation.
3. Keep the bacteria in your gut healthy and diverse. The best way to do this is to take a probiotic that has multiple strains of that create a pro

and post biotic environment. I call these “The Weeder’s, the Feeder’s and the Bouncers”. You want a diversity of good gut bugs that can get rid of or compete with problematic gut bugs. You want those that can feed, re-populate and improve a healthy gut biome and gut barrier. Additionally, you need the bouncers -the tough guys -the bruisers. You need the ones that can eradicate the pathogenic bacteria that are not just limiting your methylation pathways, they’re limiting your ability to properly balance your immune system.

4. Utilize foods that are rich in B vitamins or take a complex of B-vitamins in supplement form to eliminate or decrease products of metabolism like homocysteine. Poorly metabolized end-products or synthetic food additives may increase your risk for mental emotional and brain aging decline. In addition to B vitamins, zinc and magnesium are hugely important to support a healthy gut barrier, a healthy immune response, healthy blood sugar balance and to support healthy methylation pathways and metabolism.
5. Make sure that your diet is rich in select amino acids like L-tryptophan, glutamine, taurine, glycine and phenylalanine. It’s the combination of these amino acids that don’t just support healthy methylation pathways but are also the building blocks for neurotransmitters and master antioxidants in the body like glutathione.

For added support, especially if mental fatigue or emotional fatigue is your big concern, consider adaptogenic (stress relieving) botanicals. Think Chamomile, valerian root, scutellarin or lemon balm tea. If tea is not your thing. Simple “BLISS” creating botanical formulas can be an easy way to keep methylation and the world around us in balance.

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