Acupuncture & Natural Health Solutions

Functional Medicine Summer Series #5

Methylation

Greetings to all who've entrusted me with your healing journey.

Last week I said we would jump into the Comprehensive Blood Panel; however, I feel like I need to back up and revisit methylation. Over half of the labs that I have reviewed lately show issues with methylation, so I want you to understand the ramifications of this issue.

Those of you with functionally high RBCs, hemoglobin, hematocrit, MCV, MCH, MCHC and/or RDW have issues with methylation. There is a genetic component to this, so if you have this issue, your family members may have it as well, especially if they have a chronic illness.

If you have no idea what I am talking about, please go back and read the newsletter I wrote earlier this summer about how to know if you have a methylation issue based on your CBC. You can find that article here, #3 CBC Functional Medicine Summer Newsletter Series: RBC.

Why is methylation a big deal?

Methylation is a big deal because it is involved with the turning on and off of genes that lead to disease. Just because you have a gene for a particular disease does not automatically mean that you will get that disease. Lifestyle factors and this methylation process are key factors in whether your body will turn on, or activate, a gene leading to that disease process. But let's back up just a little bit.

What is methylation?

In scientific terms, methylation is the transfer of a methyl group, hence the name, from a methyl donor to a substrate site, usually. When this transfer occurs, something, many things, happen in the body. If the transfer does not occur, then those things do not happen. This leads to chronic illness because the important reactions in the body cannot efficiently take place.

Now, methylation is not an all or nothing process. You don't either methylate or don't methylate, it is a spectrum. We can see this spectrum on the CBC and, in more severe cases, where your numbers are outside the normal ranges, genetic testing can be done.

So, people who have mild methylation issues are getting by, but don't feel fantastic. Those with more severe methylation issues tend to have chronic illnesses and usually never feel like they are improving, regardless of what they do to help themselves.

You are probably saying, "That's all well and good, Toni, but what does this really mean for me?" This question is why I decided to write this article this week and push back the CMP article. Let's break methylation down into more digestible pieces.

Where do we see methylation issues show up the most?

- Neurotransmitters, Mental Health and Brain Health
- Immune System
- Digestive System

How does poor methylation feel?

If you are having trouble methylating, how do you feel? Usually, you feel like something doesn't feel quite right. You may have gone to the doctor, but the doctor says your labs are fine and there is nothing wrong. Maybe you need an antidepressant. Now, I'm being a little facetious here, but it certainly does happen.

Symptoms are different for everyone, but let's look at symptoms in these three areas where methylation is most important.

Neurotransmitters and Mental Health Symptoms:

- Depression
- Fatigue - including chronic fatigue

- Sleep Issues - too much or too little
- Central Pain - pain throughout the body, fibromyalgia
- Brain Fog & Memory Issues

Methylation is involved in neurotransmitter formation. This occurs in the central nervous system (brain and spinal cord), the peripheral nervous system (body) and also other places like the digestive tract, liver, and more.

Neurotransmitters don't work only in the brain; they work all over the body. In the brain, they make us feel certain ways. The methyl donor-dependent neurotransmitters are a little more on the excitatory side. The three main neurotransmitters that require proper methylation are dopamine, norepinephrine and serotonin. These are very excitatory and are involved in reward circuits, memory and keeping us awake.

So how would you feel if we are having trouble with methylation and your dopamine, norepinephrine and serotonin are lower than they should be? There could be depression, overall low energy, sleep issues, either too much or too little, and central pain (a general change in our pain sensation all over the body). This is complex, but central pain can come from an imbalance in our neurotransmitters.

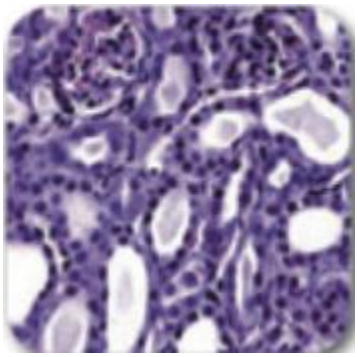
As you can see, the nervous system part of what methylation does turns out to be excruciatingly important. All of these symptoms require proper methylation in order to improve.

What about research?

In 2011/2012 there were two studies published about methylation. One from Harvard and one from Dr. Paul Anderson. The Harvard study was regarding methylation and the association with treatment-resistant depression. In the medical world, what that means is that anti-depressant medications are not working in patients.

When they gave these people methyl donors at really high doses, they had a very high response rate. The people taking the methyl donor supplements improved more than any of the pharmaceuticals.

Dr Anderson's published study was regarding chronic fatigue and fibromyalgia patients and the intervention of methyl cycle support. What the data showed is, when people are stuck with their fibromyalgia and chronic fatigue rating scores, and they have done all the proper things to address it, it was when they supported their methylation defects with methyl cycle donors, that their scores improved.



Immune System Symptoms:

- Catching all the colds and flu
- Carrying chronic infections
- Fatigue and exhaustion
- Clotting issues

The rapidly dividing tissues in your body require methylation. If we do not have proper methylation, we cannot have proper cell turn over. That affects the bone marrow, the digestive tract lining, skin, hair, and some connective tissue.

If the bone marrow is not well-tuned to reproducing bone marrow progenitor cells, they cannot differentiate into other immune system cells. These cells include the natural killer cells (NK), the T-cells, the B-cells, the platelets, and the red and white blood cells. When the proper immune cells are not made, this negatively affects clotting, oxygen-carrying capacity, pain, and most importantly, the immune system.

This is seen frequently in chronic fatigue and fibromyalgia communities. This population is prone to chronic infection, making them sicker, because methylation is not occurring, and they do not have the required immune cells needed to fight infection.

Digestive System Symptoms:

- Gallstones
- Bloating

- Gas
- Constipation
- Diarrhea
- Food intolerances or sensitivities
- Indigestion
- Nausea
- Heartburn
- Belching

Almost all people experiencing chronic illnesses have digestive system issues. These issues lead to the inability to extract and absorb nutrients from your food, systemic inflammation, and difficulty maintaining the proper bacterial balance in the gut. If you have had chronic digestive symptoms and have implemented all the treatment strategies, nothing has really shifted. I recommend looking at your methylation status.

Why does methylation help?

Methylation ties all the systems together. When we support methylation, we stabilize the genome. A stabilized genome leads to the genes being properly turned on or off. Good methylation leads to proper cell turnover of the tissues, supports brain chemistry function and the overall feeling of energy and well-being. Methylation improves digestive, absorption and immune function, and on and on. *This is why methylation has become so important for overall health and extremely important for chronic illness patients.*

I have a methylation issue. What can I do?

If your CBC shows that you have poor methylation capacity, does that just mean you have to succumb to chronic illness? Absolutely not! You just need to supplement with a methyl donor supplement, probably forever.

The supplements that provide methyl donors for all the processes I talked about today are the best investment in your health that you can make. When it comes to methyl donor supplements, a methylated B complex is a very easy and basic choice. I have included links for two great options below.

B-Supreme

by Designs for Health

Contains methyl donors to improve your methylation processes.

Start with one in the morning with food for one week. Then increase to the full dose of one in the morning and one at lunch time with food. Most people do better taking B-complex vitamins with food.

You might also notice that your urine turns more fluorescent yellow and may smell a bit like the B vitamins. This is totally normal.

Purchase Here

Super B Complete by Nutritional Frontiers

Contains methyl donors to improve your methylation processes.

Start with one in the morning with food for one week. Then increase to the full dose of one in the morning and one at lunch time with food. Most people do better taking B-complex vitamins with food.

You might also notice that your urine turns more fluorescent yellow and may smell a bit like the B vitamins. This is totally normal.

Purchase Here

Important Note: If your blood work shows that you have difficulty with methylation, you will need to start slowly when supplementing with methyl donors. Likely, you have not methylated well your entire life, so if you jump into the full dose and start moving those reactions, you might not feel great while the body adjusts.

I recommend starting with one capsule in the morning with food for the first week, then going up to the full dose of one capsule in the morning and one at lunch time with food. Most people do better taking B-complex vitamins with food. You might also notice that your urine turns more fluorescent yellow and may smell a bit like the B vitamins. This is totally normal.

It is my hope that today's article has helped you understand the importance of the methylation biochemical reactions that occur in the body. We also talked about symptoms that can occur when these reactions are not happening. Most of the symptoms associated with poor

methylation occur in the brain, the nervous system, the immune system and the digestive system. Usually, people with this issue have symptoms in all of these areas, but some louder than others.

If you are intrigued by what we have talked about in this functional medicine summer series and would like my help analyzing your personal labs, please reach out. Currently, I am offering an analysis of the last 5 years of your blood labs. I will look for patterns and really tighten up the reference ranges to see where imbalances may be occurring.

If you want a written analysis with my recommendations, the cost is $150. If you want a written analysis and to come in person to discuss my findings, the cost is $240.

Most of you already have these basic labs done at least on an annual basis. However, if you have not had your labs done in the past year, I can facilitate that for you through LabCorp. Just let me know through email or by calling the office, 239-260-4566.

I hope your summer is going well, and you are finding time to have some fun. Just a reminder, I am on staycation through July 6th.

Next week we will jump into the electrolyte portion of the comprehensive metabolic panel.

Want more natural health insights? Listen to my podcast where I discuss lesser-known approaches to chronic health issues. Listen Now

Always in support of your health journey,

Toni Eatros, Acupuncture Physician and Functional Medicine Specialist

Acupuncture and Natural Health Solutions