

What is Methylation?

Methylation is a [biochemical process](#) that's actually used throughout your body. Simply put, methylation is when one carbon atom and three hydrogen atoms are added to a molecule. One carbon plus three hydrogen atoms is called a methyl group, which is why this process is called methylation.

Methyl groups can be thought of as little light switches for very important processes, including:

- Stress response
- Flight or flight reactions
- Detoxification
- Synthesis of neurotransmitters
- Synthesis of glutathione (your body's master antioxidant)
- Folate metabolism
- Hormone regulation
- Energy production
- DNA repair
- Gene expression
- Scavenging free radicals
- Supporting appropriate immune system response

Methyl groups turn on many of these processes and if you don't have enough of them, it can cause a lot of health problems. For example, maybe you have plenty of a neurotransmitter, but you don't have enough methyl groups to activate it – then it might not be doing you any good.

You're probably thinking, methylation sounds great and in most cases it is. Which is why there was a flare of concern when scientists discovered MTHFR gene mutations that can cause people to not produce enough methyl groups.

Having a shortage of methyl groups is a big deal because it can cause a vital process to become compromised, making you sick. Abnormal methylation has been linked to conditions like [autoimmune disease](#), so it's something I regularly check for in my practice.