

# Genetic Lifehacks

Learn. Experiment. Optimize.

Hi everyone,

B vitamins are often something people take in a multi-vitamin or B-complex. But how do you know if you really need them? Or if you need more of a certain one?

The B vitamins are a class of water-soluble vitamins which act as cofactors in a bunch of different metabolic processes.

The history of B vitamin research dates back to the late 1800s, when a physician investigated the cause of beriberi, a disease that causes confusion, weakness, and weight loss (due to the lack of thiamine).

The doctor discovered that a diet high in polished rice (without the rice bran) caused beriberi, and that the sickness could be treated by reintroducing brown rice into the diet.

In the early decades of the 1900s, research into vitamins took off. As a naming convention, A vitamins were fat soluble, and B vitamins were water-soluble. In the 1930s, Merck laboratories started researching and then commercially producing thiamine (vitamin B1) as the first B vitamin supplement. (full story [here](#))

We've come a long way in the past 100 years, when it comes to health and vitamin research. Researchers now know that the B vitamins play unique roles as cofactors in many different biochemical reactions. Cofactors are compounds needed by an enzyme to cause a reaction to happen.

Genetic variants can impact the way that your body absorbs, transports, or utilizes different B vitamins. It turns out that we aren't all the same when it comes to how much and what type of vitamin will work best.

Below are several articles that highlight different genetic needs for B vitamins. You can also see the information on vitamins at a glance in the [Nutrients Summary Report](#).

Hope you all are healthy and happy,

~ Debbie Moon

Members update:

I've been adding articles to the summary reports and updating older articles for the past couple of weeks. I'll continue with these updates throughout the month. My goal is to continually improve the value that you receive from your membership. If you

see anything that doesn't work correctly or just seems wrong, please [let me know!](#)

*PRO Memberships (quiet launch):*

For health professionals - nutritionists, health coaches, doctors, chiropractors, family health gurus, etc - I've added a new PRO membership option. This membership allows you to easily create reports for your clients or family members -- without uploading their genetic data to my server. Privacy is so important when it comes to client genetic data!

The PRO membership includes educational resources such as article overviews, case scenarios, and supplement summaries -- with more rolling out over the coming months. If you want to access to the client report features now, you can go ahead and upgrade your membership at a discounted price by changing your plan on your [Account Information](#) page.



## **Biotin Deficiency: Check your Genes**

Are you dealing with hair loss, brittle nails, or a scaly rash around your mouth? These are all signs of biotin deficiency. Biotin, also known as vitamin B7 or vitamin H, is a cofactor that aids in the metabolism of fats, carbohydrates, and proteins.

This article explains the role of biotin in your cells and also dives into the genetic mutations that can cause a deficiency in biotin. I'll explain what to check for in your genetic raw data to see if this could be an issue for you.

Read the article, view your genes...



### **Thiamine: Genomics, cellular energy, and cognitive function**

Thiamine (vitamin B1) is a water-soluble vitamin that serves as a cofactor in the metabolism of carbohydrates, branch chain amino acids, and fatty acids. It is essential, meaning you have to get it from food. Why is it essential? ATP production, used in every cell for energy, requires thiamine. An insufficient amount of thiamine can cause problems with cellular energy.



### **MTHFR: How to check your data for C677T and A1298C**

The MTHFR gene is important for how your body utilizes folate (vitamin B9) for creating neurotransmitters, detoxifying toxicants, and maintaining a healthy heart. Genetic variants can impact how well this gene works.

There is a lot of misinformation on the internet about the MTHFR gene mutations, so I'm going explain the peer-reviewed research studies here. I'll end with a clear explanation of ways to optimize your diet (or supplements) if you carry MTHFR genetic variants.



### **Vitamin B6 Deficiency**



### **How do your genes**

Vitamin B6 is an important co-factor in hundreds of different enzymatic reactions.[ref] Low levels of B6 are linked to an increased risk of diabetes, cardiovascular disease, neurodegenerative diseases, and cancer. B6 is also important for reducing oxidative stress and inflammation.

Genetic variants – along with lifestyle factors – play a role in how much vitamin B6 you need to get each day.

## **influence your vitamin B12 levels?**

Vitamin B12 is essential for your health! It is a cofactor for biological reactions such as creating the myelin sheath in nerve cells and the synthesis of DNA (rather important!). A lack of vitamin B12 (also known as cobalamin) can create a cascade of effects.[ref]

There are several genes that can influence your absorption, transport, and need for vitamin B12. Some people need higher amounts of B12, and some people thrive on different forms of B12. Looking at your genetic data may help you figure out what is going on in your body.

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### **What I've been reading:**

#### 1. [Smell of bananas stresses out male mice](#)

One of the odor molecules in bananas attaches to the same receptor as a molecule produced by female mice during late pregnancy or when lactating. Apparently, activating that odor receptor causes male mice stress :-)

#### 2) [The Pandora's Box of Embryo Testing Is Officially Open](#)

For couples undergoing IVF, there is now an option available at some fertility clinics to do DNA testing on the embryos and choose the one that is least likely to develop a range of illnesses. The companies are doing genomic predictions, based on polygenic risk scores, to determine which embryo is likely to be 'best'.

I'm all for learning about genetics, of course, but this type of choosing your future child's traits bothers me at a deep level - both morally and with reservations about the polygenic risk predictions.

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**YOUR KID IS THE SPITTING  
IMAGE OF HIS FATHER.....**



**Genetic Lifehacks**

Still wearing a jacket, MT

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