Genetic Lifehacks

Learn. Experiment. Optimize.

Hi everyone,

The term "diet-gene interaction" is one that researchers use when talking about how a genetic variant is impacted by what you eat.

A great example of diet-gene interaction is the MTHFR gene variants. The MTHFR gene encodes a key enzyme needed for converting folate into the active form (methylfolate). A couple of common variants in the MTHFR gene decrease the function of the enzyme by 20 - 70%.

Methylfolate is used by the body to create methyl groups used in a ton of different reactions in your cells. So it is important to have enough of it available for your cells.

People who eat a typical fast-food diet likely don't consume a lot of folate-rich foods. Combined with an MTHFR genetic variant, a poor diet can increase the relative risk of depression, heart disease, neural tube defects, stroke, and miscarriage.

Knowledge is power here. If you know that you have MTHFR variants, you can either increase your consumption of folate-rich foods (or choline-rich foods) or you could consider taking supplemental methyl folate.

The articles below dive into different genes that impact the methylation cycle. I've also put together a Methylation Cycle Topic Summary report so that you can quickly see if this is an area that you need to optimize.

Thank you for being a member!

Debbie

Do you need to eat more folate?

MTHFR: How to check your data for C677T and A1298C

The MTHFR gene codes for an enzyme that is an important part of the methylation cycle. The enzyme is called “methylenetetrahydrofolate reductase” or MTHFR (same as the gene).

There is a lot of swirl about MTHFR — with people thinking the “MTHFR mutation” is the cause of everything under the sun. This seems to have caused a backlash with doctors claiming that MTHFR variants are completely unimportant.

Let’s **cut through the hype**, and I’ll explain the science.

Essentially, research shows that the MTHFR variants statistically increase the risk of quite a few things. But this relative risk needs to be kept in perspective and considered along with environmental factors (diet, lifestyle, etc).

At the end of the article, you will find solid, **evidence-based, lifestyle solutions** for optimizing for the MTHFR variants.

Read the article and check your genes...

Member's Only Article

Folate-rich recipes for MTHFR

Do you have to take supplements if you carry the MTHFR variant? **Nope.** You can add more folate-rich foods to your diet instead. Research shows that a folate-rich diet is enough to overcome the negative effects of the variant.

But...it can be tough to get enough folate in a typical diet. The recommended daily intake of folate is 400 mcg, and many of the traditional foods high in folate that our ancestors used to eat are less common today.

Read the full article

Member's Only Article: Learn how choline affects the methylation cycle

Choline – An Essential Nutrient

Why do we need choline?

Choline is involved in several critical roles in the body including:

- supporting methylation reactions through donating a methyl group
- formation of acetylcholine, a neurotransmitter and cell-signaling molecule
- formation of phosphatidylcholine which makes up cell membranes
- muscle function
- deficiency in choline contributes to non-alcoholic fatty liver disease

Read the full article

What I've been reading:

1) Immersive Environments to the Rescue

This is a Neo Life article on how designers are creating immersive environments - green spaces or digital green spaces - as a way to transform rooms into serene, healing spaces.

Creating an immersive environment is a great option for anyone who is stressed out, living in a city, or working in a high-stress job. The article mentions

this study showing that 15 minutes in an immersive recharge room reduced stress in healthcare workers by 60%.

This article really resonated with me because I've recently bought a house with this view out my home office window...

I find myself often just staring out the window and breathing a sigh of relaxation while I work.

But rather than packing up and moving in next to me in Montana, it would be a whole lot easier just to create a 'recharge room' in your home :-)

2) Setting the record straight: There is no "Covid heart'

This article in STAT is quietly setting the record straight on the effects of COVID on the heart (similar to stories on COVID in the brain). The article explains the initial research paper on effects on young hearts from SARS-CoV-2, and how further research showed that the initial report was incorrect. (This initial paper was the cause of many US college football teams to cancel or delay their season.) More thorough research studies show that the effects of COVID on the heart are similar to other respiratory virus infections.

From the article: "*We take away two lessons from the Covid-19 myocarditis story. One is that SARS-CoV-2 can sometimes, though rarely, cause heart inflammation — just as many other viruses do. Clinicians, therefore, can appeal to sound medicine; further testing can be decided on an individual basis. Screening low-risk patients with MRI and other fancy tests is neither necessary nor wise.*

The broader lesson is that science communication in times of crisis must keep a level head. The public, and decision-makers, need properly controlled studies instead of early sensational reports. In a world where success is measured by clicks, the idea that even mild cases of Covid-19 could pose a new and unprecedented threat to the heart took off. That fear has largely been unsubstantiated, though news of it won't spread nearly as quickly."