

# Chronic Illness Responds to Glutathione

"You can tell what kind of late-night reading I do... it's usually one studies that would bore you to tears. But you see my mission in life is your health! So I read a lot of journals (in between watching cute cat videos on YouTube). Today's article is for anyone who is chronically ill. If you have chronic fatigue syndrome [myalgic encephalitis], fibromyalgia, multiple sclerosis (MS), Lyme disease, Parkinson's, Alzheimer's, depression, psoriasis, lupus or any other complex chronic illness today's article could be a huge game changer for you.

We make glutathione in our liver, all of us do. It's natural to the body, but it's also sold and studied in supplement form. There was a recent article in *Molecular Neurobiology* entitled "The glutathione system: a new drug target in neuroimmune disorders." Think of your neuroimmune system as your brain and immune cells combined and they take action whenever a bug shows up in your body. You need a highly functional neuroimmune system or infections will take over and keep you chronically ill.

Glutathione can help, this is not news. I wrote about this sulfur-based antioxidant in 2000 when it was being used 'quietly' at only the most progressive clinics in the country. Today it's no secret that IV [intravenous] glutathione and special oral forms can be used in the body as powerful medicine, even though it's a natural and produced in your liver, and also sold as an over-the-counter dietary supplement. Glutathione is the antidote to toxic adverse effects of acetaminophen (paracetamol). Hundreds of other drug muggers steal glutathione, as does wine, beers and alcohol. Frequent hangovers are another way to deplete your glutathione levels, which taxes your liver. This explains the correlation of liver disease with alcoholism.

For us here in the field Functional Medicine and clinical nutrition, glutathione is a well-known substance that is critical and fundamental to several purposes in health and function. It plays a crucial status in our antioxidant defenses and detoxification pathways.

Your immune system depends on various arms to be in balance, so Th1, Th2, and Th17 imbalances often have glutathione depletion at the root of the problem. In this case, 'Th1' means T helper 1 which refers to your immune system. This magnificent antioxidant is known for it's ability to detoxify poison that is filtered through your liver but it's also good

brain food. It does housekeeping on your neurons and it serves as a neurotransmitter and a neuromodulator. It protects neurons from devastating insults would otherwise kill your precious brain cells. Without adequate glutathione, getting rid of cellular garbage is impossible and whatever toxin you come into contact with becomes exponentially worse because you can't get rid of it well. *It becomes a free radical shopping spree but it's a bad bargain for you!*

Several trillion mitochondria depend on glutathione for their sheer survival. You can't birth or repair any new mito either so biogenesis stops. Depleted glutathione levels usher in high levels of pro-inflammatory cytokines. The destructive effects are felt throughout all kinds of signaling networks which trash your homeostatic balance.

"Glutathione is your body's most powerful antioxidant and has even been called "the master antioxidant." It is a tripeptide found inside every single cell in your body.

The power behind glutathione is the sulfur chemical groups it contains. Sulfur is a sticky molecule which acts like fly paper attracting toxins and heavy metals in the body to stick onto it. Normally glutathione is recycled in the body but if the toxic load is too great this process breaks down" (Duncan, 2015)

Glutathione is so important that when it is depleted DNA synthesis fails. Genetic expression goes awry. Apoptosis (programmed cell death) is activated. Detoxification function within your liver and your cells fails. Lack of glutathione for detoxification and physiology is like having New York City sanitation workers on strike for months on end, devastating!

The study's authors made the determination that the consequences of depleted glutathione levels plays a primary ubiquitous role in the pathological development of many different neurological and autoimmune disorders, like Parkinson's, major depression, and CFS/ME. Rather than recommending drug intervention, they recommended well known nutrients to increase glutathione concentrations. Taking glutathione pills is a little challenging because the nutrient is bulky and it doesn't penetrate your cells very well. It has to be made intracellularly. You will often see glutathione supplements tied to fatty molecules so they can be made "liposomal" and shuttled into your cells. Even that is difficult. Giving IV injections can be helpful and sometimes nebulizing it works.

Everyone is different and every doctor has their own preference on how to raise glutathione in your body using exogenous forms. If you're trying to bake a cake, why don't you put the

recipe together and put the baking dish into your oven? Same with glutathione. You can take precursor supplements and have it 'baked' inside your cells. It requires three different amino acids:

- N-acetyl cysteine (NAC)
- Glycine
- Glutamine

Yes, you can raise your own glutathione using various different natural interventions. Some people can just take NAC and that is enough for them. You can also crank up glutathione production with curcumin supplements which come from the famous spice called turmeric. Resveratrol has been shown to raise glutathione and so has cinnamon." (Cohen, 2015)

**"Whey Protein:** The best food for optimal production of glutathione is high quality whey protein. It must be cold pressed whey protein derived from grass fed cows, and free of hormones, chemicals and sugar. A high quality whey includes the key amino acids for glutathione production and contains glutamylcysteine that assists the body in converting these amino acids to glutathione.

[\[http://www.wellwisdom.com/whey-protein-comparison/\]](http://www.wellwisdom.com/whey-protein-comparison/)

Our favorite methylation B vitamin called "folate" can help too, along with hyperbaric oxygen therapy (HBOT).

**Raw milk products, raw eggs and meat:** High levels of Glutathione are found in fresh, uncooked meats and raw milk but is negligible in pasteurized dairy products.

**Fresh fruits and vegetables** provide excellent glutathione, but once cooked very little. Spinach, kale, potatoes, asparagus, avocado, squash, okra, cauliflower, broccoli, walnuts, garlic and tomatoes are great sources.

**Milk thistle** is an excellent source of the antioxidant compound silymarin, which may help to prevent glutathione depletion in the liver. Glutathione is crucial for detoxification and can become depleted from acetaminophen, alcohol consumption, heavy metals and toxins." (Duncan, 2015)

"This researchers recommendation to make glutathione a new drug target should provide momentum and open the door for more worldwide awareness (and probably very expensive medications one day). In the meantime, their research confirms to me that natural

glutathione support (however you want to do it) is an excellent consideration if you have chronic illness. Now, one caveat, you can't just take a ton of glutathione if you've been sick a long time because it will go inside your cells then deep into the mitochondria where it could rust (oxidize) if you have been sick a long time. This will make you feel even worse anywhere from 2 hours to 24 hours after your glutathione injection or supplement.

Head my warning and (with doctor's approval) use natural supplements that open the floodgates reeeeeeeal slow. Start with low doses of whatever you buy; I'm referring to either glutathione supplements or specific nutrients that support intracellular glutathione production. Personally, this is the order I recommend you start:

1. Eat a nutrient dense organic diet that focus on cruciferous veggies which are full of sulfur, and other sulfur rich foods which produce glutathione.
2. Consider protein supplements that contain those 3 important amino acids (cysteine, glycine and glutamine are your recipe to make gluathione).
3. The essential fat-soluble vitamins such as Vitamin A, D, E and K. These nutrients nudge the production line so that glutathione can be made.
4. The essential water soluble vitamins such as vitamin C and B complex (only if methylated).
5. Minerals such as zinc and selenium, glutathione is dependent on adequate amounts of these.
6. Herbs such as silymarin, dandelion root, festin and berry extracts enhance antioxidant mechanisms in your body.
7. R lipoic acid, this is another strong sulfur-based antioxidant and chelator that works in cahoots with glutathione. You can buy this one online usually, because most people sell the inferior "alpha" lipoid acid which works, but not quite as well as the "R" isomer.

### **Testing is possible**

You can measure RBC glutathione levels if you'd like to, it just requires a blood test. It's not a bad idea, and personally, I think it's more important than cholesterol markers but that's just me. Leave me your comments and questions below, please keep them short and of general interest to our community. I can't diagnose you either, so please don't post long detailed medical histories (those won't be approved by the moderator)." (Cohen, 2015)

## References

Cohen, S. (2015, May 8). *Chronic Illness Responds to Glutathione*. Retrieved from Suzy Cohen, RPh : <http://suzycohen.com/articles/glutathione-the-new-drug-target/>

Duncan, S. J. (2015). *Gluthione Deficiency due to toxic overlaod on the rise*. Retrieved from <http://blogs.naturalnews.com/glutathione-deficiency-due-toxic-overload-rise/>