

*Scientific Studies:****Increasing Glutathione***

“Replenishing glutathione assists in detoxification and may improve health.”

Glutathione (GSH) is a tripeptide antioxidant with the chemical name L-gamma-glutamyl-L-cysteinylglycine. As an antioxidant, it protects cells from free radicals and other toxic substances. It is synthesized in the body from the amino acids L-cysteine, L-glutamate and glycine.

Glutathione is important in leukotriene synthesis and as a hydrophilic molecule that is added to lipophilic toxins and waste in the liver before biotransformation into bile. It is also needed for the detoxification of methylglyoxal, a toxin by-product of metabolism. As such, it functions as nature’s detoxifier.

Grace Ziem has included glutathione in her suggested neural protocol for treating multiple chemical sensitivity (MCS). However, research suggests that glutathione taken orally is not well absorbed. Ziem has recommended nebulized glutathione for better absorption as a result, which requires a prescription.

Fortunately, glutathione precursors such as L-cysteine, L-glutamate and glycine have been shown to increase glutathione content within the cell. Atkuri et al (2007) found that administration of N-

acetylcysteine (NAC), a cysteine prodrug, replenished intracellular glutathione levels.

N-acetylcysteine is known to counter acetaminophen toxicity and was described by Atkuri and his colleagues as “a safe, well-tolerated antidote for cysteine/GSH deficiency” and they went on to say that “over two-thirds of 46 placebo-controlled clinical trials with orally administered NAC have indicated beneficial effects of NAC measured either as trial endpoints or as general measures of improvement in quality of life and well-being of the patients” during the trials.

In our modern world, which is full of many toxicants in our air, food, and water, ill health may be a sign of toxicity. Without sufficient glutathione, our natural detoxification processes slow down. Replenishing glutathione assists in detoxification and may improve health.

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References

Atkuri KR, Mantovani JJ, Herzenberg LA, Herzenberg LA. N-Acetylcysteine—a safe antidote for cysteine/glutathione deficiency. *Curr Opin Pharmacol*. 2007 Jun 28.

Zeim, G. Using the Neural Protocol. Key Pharmacy. Retrieved on July 22, 2007 from:

<http://www.mcscanadian.org/ZiemPallProtocolFromKeyPharmacy.pdf>

