

A.I.D.E.

Glutathione and Inflammation



QUENCH INFLAMMATORY FIRES

Glutathione levels are deficient in all serious illnesses. Glutathione (GSH) is so protective of our well-being that every human cell can synthesize it from three amino acids (L-cysteine, L-glutamic acid and glycine). GSH's most important functions are commonly remembered with the acronym "AIDE":

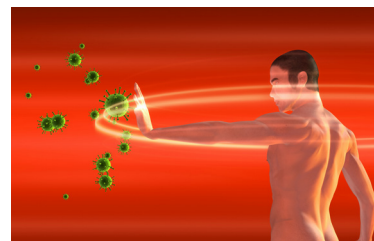
Antioxidant – GSH reduces oxidative stress in every body cell. It recycles antioxidant vitamins C and E and supports their function.

Inflammation reducer – GSH regulates immune function in multiple ways.

Detoxifier – GSH binds directly to toxins, preparing them for elimination. For example, glutathione can bind to heavy metals like mercury, organic and inorganic cancer-causing agents and mold toxins.

Energizer – High energy levels require a healthy heart. Because of its relentless beating, heart cells are prone to oxidative stress and need extra help. GSH provides the antioxidants to reduce the stress. GSH also aides DNA production and repair and scavenges and metabolizes cholesterol. There are strong correlations between low glutathione levels, atherosclerosis, and heart attack recurrence.

High energy also requires optimal brain function, orchestrated by neurotransmitters. With insufficient levels of the soothing brain chemical serotonin¹ and too few antioxidants to quell inflammation, the brain may protect itself from overstimulation by reducing the excitatory, "feel good" brain chemicals dopamine and norepinephrine. Low levels of these energizing brain compounds partially define aging and diseases like chronic fatigue syndrome.



¹Reducing stress gently raises serotonin levels. Exercise, meditation, and reducing the stress of chronic low-grade infections like gum disease, toxins, poor sleep patterns, and poor diet also raise serotonin levels.

CHRONIC DISEASE AND GLUTATHIONE

Aging and some diseases create an inability to produce glutathione efficiently. Poorly controlled diabetics have runaway oxidation and are unable to form glutathione well.

Those with Parkinson's disease are poor detoxifiers and often have low GSH levels in the liver and the dopamine-producing regions of the brain. They are particularly susceptible to pesticide exposure and respond well to GSH-boosting.

Oxidative stress is a major driver of HIV/AIDS progression. Pro-

inflammatory compounds (particularly TNF) help activate the virus. Maintaining high GSH levels is therefore critical for those with HIV/AIDS.

Additionally those with asthma, hepatitis, cancers, Alzheimer's, respiratory diseases like chronic obstructive pulmonary disease, asthma, malnutrition, and physical stress often experience sub-optimal level glutathione levels.

A toxic metabolite of acetaminophen depletes glutathione, so if you frequently pop Tylenol or

other aspirin-free painkillers that contain acetaminophene, you likely need to boost glutathione levels.

As manufacturers decreased mercury levels in vaccines, they significantly multiplied aluminum levels. Aluminum depletes glutathione synthesis in the body. The lack of glutathione amplifies mercury's toxic effects. If you choose to vaccinate, consider trying to enhance glutathione production. ■

BOOSTING GLUTATHIONE LEVELS



Glutathione made within body cells is generally more effective than consuming supplemental forms, which are destroyed by digestive processes. However consuming high levels of glutathione precursors does boost cellular glutathione levels. The amino acid cysteine is usually the limiting factor in GSH production. Cysteine is rarely found in foods, but it is available in whey protein isolates. Buy from a company that respects its fragility during processing

because heat and mechanical stresses release free cysteine, degrading its bioavailability. Remember to treat it with the same respect at home. Do not heat it or slip it into blenderized drinks. Stir or shake gently!

Other excellent sources of the fragile cysteine precursor molecule are Immunocal® and silymarin from milk thistle.

Diabetics need special help because they have difficulty producing GSH even when cysteine is abundant.

For these people liposomal glutathione² may be an answer. The fatty exterior made from the same material as cell membranes allows it to bypass the digestive tract to enter the blood stream. The lipid exterior

also protects the water-soluble interior that keeps glutathione in its active state. Maintain good digestive tract flora and a high fiber diet when detoxing or chelating with glutathione or any other agent to prevent reabsorption of toxins.

Diabetics should also know that alpha lipoic acid (ALA) recycles glutathione. In fact, it may be the most effective supplement for boosting glutathione levels. Additionally, it is another important antioxidant. It reduces inflammation, enhances insulin sensitivity, chelates heavy metals, and assists in recycling vitamin C, E, and CoQ10. ■

² ReadiSorb by Complementary Prescriptions is one example of such a product.