

Glutathione to Help Detox Your Body

by Moe Bedard | Nov 21, 2016



◀ 36

“If you haven’t heard of glutathione yet, you will. In terms of staying healthy, it is one of the most important molecules in the body.” – Dr. Mark Hyman, founder of The UltraWellness Center

There are several supplements that my family takes and that I also recommend to others who have become ill and or are suffering from toxic mold (fungus) exposure. One of these is called glutathione.

In modern science, glutathione is currently one of the most studied detoxifying agents and antioxidants. In this article, I will explain to you why it is important to take as part of your health protocol and I will also provide you with some great research proving these statements.

What is glutathione and how does it work in our bodies?

Glutathione is a small peptide made from 3 amino acids, glutamate, cysteine, and glycine. It is synthesized and found all throughout the cells of your body such as the immune system, the nervous system, the gastrointestinal system, and the lungs, but it is mainly concentrated in your body's primary detox organ, the liver where it plays a central role as a mycotoxin detoxification agent, chelating agent, antioxidant, and signaling component.

It plays a key process in participating directly in the neutralization of free radicals and reactive oxygen compounds, as well as DNA synthesis and repair, protein synthesis, prostaglandin synthesis, amino acid transport, enzyme activation, detoxification of methylglyoxal, a toxin produced as a byproduct of metabolism, and maintaining exogenous antioxidants such as vitamins C and E in their reduced (active) forms.

Glutathione exists in both reduced (GSH) and oxidized (GSSG) states. Many experts recommend that people take it in its reduced form. In the reduced state, the thiol group of cysteine is able to donate a reducing equivalent ($H^{++} e^{-}$) to other molecules, such as reactive oxygen species to neutralize them, or to protein cysteines to maintain their reduced forms. Reduced glutathione (GSH) can be administered in an intravenous, nebulized, transdermal, oral liposomal, and nasal form.

It is important that if you are sick from mold and want to get well, that you understand how your body works and how it detoxifies itself. Here is the detoxification process that our bodies utilize if removing toxins from the body. The liver is one of the four major organs that eliminate toxins from the body. The other three organs involved are the kidneys, intestinal tract and skin. The liver detoxifies harmful substances whether they come from external sources such as mold mycotoxins, chemicals, pesticides, air pollution and other factors or from internal sources such as burning sugars, fats, protein, parasites and other factors.

Many of the toxins that enter the body are fat soluble which means they dissolve only in fatty or oily solutions and not in water. They all must travel through the body and the first step in the detoxification process they will encounter is the liver. The liver has to convert fat soluble toxins into water soluble substances that can be excreted from the body.

Mold produces what are [known as mycotoxins](#) and they are very toxic to humans. As they build up in our blood, bodily tissues and organs such as our liver, they began to back up as you lose glutathione because it is constantly being used by your immune system to fight these foreign invaders. As Dr. Mark Hyman had once said, "As you detoxify, your body uses up more and more of your glutathione stores until it's gone. That's when you end up with toxic overload."

Think of it like a massive traffic jam in your cells and liver, but there are no traffic lights and no traffic cops to help the situation. This is one of the reasons why many people are unable to detox the mycotoxins from their bodies and the excess build up of toxins that systematically poison us which will then cause an immune reaction. This immune reaction normally starts with inflammation and over time, leads to cell and [DNA damage](#) and a cascade of adverse health symptoms to arise.

Many people who are ill and have a disease from toxic mold, or another debilitating disease such as cancer, and HIV/AIDS will lose a lot of body weight and suffer from what is called wasting. This is when the disease causes the body to starve and muscle and fat tissue to “waste” away. Low levels of glutathione are commonly observed in these patients.

This where glutathione supplementation comes into play. It plays a huge role in restoring the proper levels needed by the body to help it function properly at the cell level and to help it detoxify from mycotoxins.

In a research paper by the American global policy think tank, the RAND Corporation (Research AND Development), the researchers stated that aflatoxins are detoxified by mechanisms that deal with xenobiotics—leading to conjugation with glucuronic acid, sulfates, or glutathione. **The major route for AFB1 detoxification is conjugation of the epoxide with glutathione (through glutathione S transferase) and subsequent excretion in bile** (McLean and Dutton, 1995).

This means that toxicity may vary depending on intracellular glutathione stores in various tissues, which can vary considerably with circadian effects or depletion by other factors—diet, smoking, alcohol, and medications (Tsutsumi and Miyazaki, 1994). Other aflatoxins appear to be primarily eliminated via glucuronide or sulfate conjugation. Various species differences in sensitivity to aflatoxins may reflect differences in detoxification mechanisms (McLean and Dutton, 1995).(1)

Researchers have found that many people who have been exposed to water-damaged buildings toxic mold illness, and or many other debilitating diseases, also suffer from a deficiency of glutathione in their cells. [A 2013 study by Dr. Janette Hope](#), the former president of the [American Academy of Environmental Medicine](#), details also how glutathione deficiency is frequently seen by clinicians treating patients with a [mold mycotoxins](#) illness from being exposed to water-damaged buildings, and how it can have far-reaching effects on the body.

Dr. Hope had written, “Many disease states including Alzheimer’s, Parkinson’s disease, and autism have been found to be associated with low glutathione levels and have been treated with glutathione precursors (N-acetyl cysteine and whey protein) or various forms of glutathione. One study found a correlation of low brain GSH levels with negative symptoms of schizophrenia.

Glutathione deficiency, as is frequently seen by clinicians treating patients exposed to water-damaged buildings, can have far-reaching effects on the body. In addition genomics testing often shows abnormalities in glutathione transferases including GSTP transferase and the GSTM null genotype which has been found to be associated with increased toxicity from aflatoxin.

Marked glutathione deficiency induces cellular damage associated with severe mitochondrial degeneration in a number of tissues and glutathione deficiency results in

mitochondrial damage in the brain. Glutathione deficiency leads to widespread mitochondrial damage which is lethal in newborn rats and guinea pigs. Ascorbate and glutathione function together in protecting mitochondria from [oxidative damage](#).(2)

A 2014 study, [Deficient glutathione in the pathophysiology of mycotoxin-related illness](#), had found that mycotoxin-related deficiency of glutathione may lead to both acute and chronic illnesses.

The researchers had written, "Evidence for the role of oxidative stress in the pathophysiology of mycotoxin-related illness is increasing. The glutathione antioxidant and detoxification systems play a major role in the antioxidant function of cells. Exposure to mycotoxins in humans requires the production of glutathione on an "as needed" basis. Research suggests that mycotoxins can decrease the formation of glutathione due to decreased gene expression of the enzymes needed to form glutathione.

A decrease in glutathione due to mycotoxin-related depletion may contribute to the range of conditions associated with mycotoxin accumulation. Mycotoxin-related compromise of glutathione production can result in an excess of oxidative stress that leads to tissue damage and systemic illness."

The researchers concluded, "These observations echo an early report regarding the benefit of glutathione in the management of aflatoxin-related hepatocellular carcinoma in an animal model, which proposed that administration of the intact glutathione molecule was needed for benefit of the use of glutathione. Anecdotal reports suggest that studies using liposomal glutathione in the management of mycotoxin-related conditions may be warranted." (3)

This is why glutathione supplementation is crucial after you have been exposed to mold mycotoxins.

It is simply one of the best detoxifying agents that you can supplement with to help clean out your body, and help defend it from mold mycotoxins and [free radicals](#). It is also an antioxidant that can help remove the potentially damaging oxidizing agents that can cause cell death and damage to our [mitochondria DNA](#).

Researchers have found that glutathione metabolism and transport participates in many cellular reactions including: antioxidant defense of the cell, drug and toxin detoxification and cell signaling (involved in the regulation of gene expression, apoptosis and cell proliferation). Maintaining optimal cellular levels of glutathione is important for effective cellular function.

Glutathione also plays an important role in the normal function of the intestine and lungs because it functions to help decrease inflammation and to thin mucus. This is important for people who have been exposed to water-damaged buildings and have a mold illness because they often have issues with inflammation in their lungs and mucus and diseases such as asthma. Gut issues such as stomach pain and diarrhea are also another big problem for people who have a toxic mold illness.

Mold Safe Solutions Conclusion

As you can see from the research presented in this article, if you suffer from a mold illness and or disease, your body is most likely not working properly and you may be suffering from low levels of glutathione. These low levels may also be attributing to your body's inability to properly detoxify itself which makes you sicker and can cause you to become incapacitated.

In order to assist your body, it may be wise to supplement with glutathione so you can bring it to the proper levels and help detoxify the mycotoxins from your system. Please remember that glutathione excretes these toxins into your bile. These toxins can be reabsorbed back into your bloodstream via your gut so it is paramount that you take some type of binder such as [activated charcoal](#), clay, and or cholestyramine (CSM) to help your body adsorb these toxins in the bile from the gut and excrete them through your urine and feces.


SOURCES:

1. [The RAND Corporation](#)
2. [A Review of the Mechanism of Injury and Treatment Approaches for Illness Resulting from Exposure to Water-Damaged Buildings, Mold, and Mycotoxins](#)
3. [Deficient glutathione in the pathophysiology of mycotoxin-related illness](#)

◀ 36

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