

Glutathione LipoMicel® – Clinically Effective Dose

About Glutathione LipoMicel

- Oxidative damage has been associated with an increased prevalence of most major chronic conditions, including cardiovascular and neurological diseases, and has been implicated as the driving force behind the aging process itself.¹⁻³ Older adults have been shown to have an impaired capacity to synthesize glutathione, with increased oxidative damage as a result.⁴
- Glutathione is the most abundant cellular antioxidant and is found in all cells of the body. It has multiple roles in the cell, but the main role is to protect the cell and its organelles (such as mitochondria) from oxidative damage as well as cellular proteins, fats, and DNA.⁵
- Glutathione, comprised of only three amino acids, can directly neutralize reactive oxygen species (free radicals) and can be a cofactor for antioxidant enzymes, such as glutathione peroxidase. It also helps recharge other antioxidants, such as vitamin E.^{6,7}
- In addition to its role as an antioxidant, glutathione also plays an important role in routine cellular processes and signalling (i.e., how different parts of a cell communicate with each other and with other cells). Glutathione has a sulfur group that allows it to bind to many proteins, both protecting proteins from oxidative damage and influencing cellular signals.⁵
- Most research suggests that cellular function, especially mitochondrial health, is tied to a balance between oxidative stress and sufficient antioxidant defences. Thus, excessive oxidative damage and/or depletion of glutathione is likely to impair cellular function and may lead to tissue and organ dysfunction.³
- Glutathione binds to and detoxifies many toxins found in the environment as well as endogenous compounds (i.e., ones synthesized within the body). This includes estrogens, acetaminophen, mercury, lead, arsenic, and many persistent organic pollutants (i.e., compounds that persist in the environment for a long period of time).⁸
- Increased activity of an enzyme (gamma-glutamyltransferase) needed to synthesize intracellular glutathione has been proposed to be a marker for environmental toxin exposure and has been well correlated with risk for many chronic diseases.⁹⁻¹¹
- Improved forms of delivery for glutathione, such as liposomal glutathione and polymeric micelles (liquid micelle matrix), enhance its bioavailability.^{12,13}

How to Use Glutathione LipoMicel

- Take 2 softgels per day or as directed by a health care practitioner.

Cautions and Contraindications

- Consult a health care practitioner prior to use if you are pregnant or breastfeeding. Keep out of reach of children.

Drug Interactions

- Glutathione theoretically may limit the efficacy of chemotherapeutic medications and should only be used concomitantly under physician guidance.¹⁴

Quick Tips for Optimal Health

- Plant-rich diets provide a wide variety of antioxidants and are typically associated with a lower incidence of most conditions related to oxidative stress. For example, a Mediterranean diet is rich in many types of antioxidants, including anthocyanins, polyphenols, and flavonoids, and has been associated with a lower risk for neurodegenerative, cardiovascular, and metabolic conditions.¹⁵
- The Mediterranean diet has also been shown to improve mitochondrial function and reduce oxidative stress and inflammation, which may underlie its multiple benefits.¹⁶ Additionally, it has been suggested that many phytonutrients present in plant foods reduce oxidative stress and improve mitochondrial function, thereby promoting healthy aging.¹⁷
- Ensuring adequate protein intake is important to glutathione synthesis, as glutathione is comprised of amino acids, and levels may drop with inadequate protein intake.¹⁸
- Physical activity, particularly moderate exercise (vs. vigorous), has been associated with an increase in glutathione levels and may be one mechanism by which exercise reduces disease risk.¹⁹

PATIENT NAME: _____

PRACTITIONER NOTES:

PRACTITIONER CONTACT INFORMATION:

- Many nutrients are needed for glutathione synthesis, including magnesium, vitamin C, alpha-lipoic acid, and several B vitamins, all generally found in higher amounts in a diverse plant-rich diet.²⁰
- Other antioxidants and anti-inflammatory compounds may help reduce oxidative stress and restore glutathione levels, including CoQ10, selenium, melatonin, and curcumin.^{21,22}
- Avoiding environmental toxins may also help restore mitochondrial health, as many common environmental pollutants appear to target mitochondria and deplete glutathione levels directly.^{23,24}
- Similarly, tobacco smoke clearly depletes glutathione levels and shifts the balance to an oxidized state of glutathione. Many compounds within tobacco smoke are damaging to DNA, proteins, and other cellular structures, leading to impaired cellular health.²⁵

References

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