

Liposomal Vitamin C – Optimized Absorption, 1000 mg per serving

About Liposomal Vitamin C

- Vitamin C is an essential nutrient that our bodies cannot synthesize, yet it is required for multiple physiological processes. In addition to being a potent antioxidant, vitamin C is needed for collagen production, which is important for the connective tissues needed in healthy joints and bones, as well as for wound healing. It also enhances the absorption of iron and is essential to many aspects of immune function.^{1,2}
- Liposomal vitamin C is a highly bioavailable form of vitamin C. Liposomes provide a protective layer of lipids that encapsulate vitamin C, which is normally water-soluble. This bypasses the usual limits to how much vitamin C can be absorbed in the digestive tract without digestive symptoms. Liposomal vitamin C has been shown to increase blood levels of vitamin C to a greater degree than traditional forms, providing potent antioxidant activity.^{3,4}
- In a crossover trial, liposomal vitamin C was found to have nearly twice the bioavailability of the non-liposomal form, resulting in peak blood levels that were more than double.⁵
- At least 5% of people in industrialized countries are thought to have deficiencies of vitamin C, and 13% to have suboptimal status.⁶
- Some groups are at higher risk for a vitamin C deficiency, including people with inflammatory bowel disease (IBD), cancer, or food allergies, as well as tobacco smokers.¹ For example, over 20% of people with IBD are likely to have a vitamin C deficiency, and this reaches 40–50% in the presence of elevated markers of inflammation.⁷
- Vitamin C is important for all aspects of the immune system. Supplementation with vitamin C has been shown to reduce the duration of upper respiratory tract infections (URTIs), such as the common cold.²

How to Use Liposomal Vitamin C

- Adolescents (9–18 years) and adults (18 years and older) recommended dose: 2 softgels per day or as directed by a health care practitioner. Keep out of reach of children.

Cautions and Contraindications

- Vitamin C supplementation is contraindicated in blood disorders such as thalassemia, glucose-6-phosphate dehydrogenase (G6PD) deficiency, sickle cell disease, and hemochromatosis. Vitamin C should be used cautiously in oxalate nephropathy or nephrolithiasis, as acidification by ascorbic acid increases the chances of precipitation of cysteine, urate, and oxalate stones, particularly in men.^{1,8}

PATIENT NAME: _____

PRACTITIONER NOTES:

Drug Interactions

- No known contraindications. Some medications deplete vitamin C and supplementation may mitigate adverse effects, including aspirin, indomethacin, oral contraceptives, tetracyclines, and corticosteroids.

Quick Tips for Optimal Health

- In a systematic review of existing studies related to immune function and inflammation, the Mediterranean diet was associated with the lowest levels of inflammatory markers, such as C-reactive protein.⁹
- In addition to its role in immune function, vitamin C is needed for collagen synthesis, which is important for bone health. In a systematic review of studies, a higher intake of vitamin C was associated with a greater bone mineral density and a 33% lower risk for osteoporosis.¹⁰
- While important for overall health, extreme physical activity can also increase the risk of URTIs. In trials involving people such as marathon runners, skiers, and soldiers performing subarctic exercises, vitamin C supplementation was shown to cut the incidence of colds roughly in half.¹¹
- Although clinical trials are needed, preclinical studies and animal models suggest vitamin C may help with recovery from soft tissue injuries, such as injuries to ligaments and tendons.^{12,13}
- Vitamin C has also been found to be important for oral health, including the prevention of gum disease. People with lower dietary intakes of vitamin C have been found to have a greater risk of developing periodontitis and gingivitis.^{14,15}

PRACTITIONER CONTACT INFORMATION:

References

1. Abdullah, M., Jamil, R.T., & Attia, F.N. (2022). Vitamin C (ascorbic acid). *StatPearls* [Internet].
2. Carr, A.C., & Maggini, S. (2017). Vitamin C and immune function. *Nutrients*, *9*(11), 1211.
3. Davis, J.L., Paris, H.L., Beals, J.W., et al. (2016). Liposomal-encapsulated ascorbic acid: Influence on vitamin C bioavailability and capacity to protect against ischemia-reperfusion injury. *Nutr Metab Insights*, *9*, 25-30.
4. Prantl, L., Eigenberger, A., Gehmert, S., et al. (2020). Enhanced resorption of liposomal packed vitamin C monitored by ultrasound. *J Clin Med*, *9*(6), 1616.
5. Gopi, S., & Balakrishnan, P. (2021). Evaluation and clinical comparison studies on liposomal and non-liposomal ascorbic acid (vitamin C) and their enhanced bioavailability. *J Liposome Res*, *31*(4), 356-64.
6. Granger, M., & Eck, P. (2018). Dietary vitamin C in human health. *Adv Food Nutr Res*, *83*, 281-310.
7. Gordon, B.L., Galati, J.S., Yang, S., et al. (2022). Prevalence and factors associated with vitamin C deficiency in inflammatory bowel disease. *World J Gastroenterol*, *28*(33), 4834-45.
8. Jiang, K., Tang, K., Liu, H., et al. (2019). Ascorbic acid supplements and kidney stones incidence among men and women: A systematic review and meta-analysis. *Urol J*, *16*(2), 115-20.
9. Koelman, L., Egea Rodrigues, C., & Aleksandrova, K. (2022). Effects of dietary patterns on biomarkers of inflammation and immune responses: A systematic review and meta-analysis of randomized controlled trials. *Adv Nutr*, *13*(1), 101-15.
10. Malmir, H., Shab-Bidar, S., & Djafarian, K. (2018). Vitamin C intake in relation to bone mineral density and risk of hip fracture and osteoporosis: A systematic review and meta-analysis of observational studies. *Br J Nutr*, *119*(8), 847-58.
11. Hemilä, H., & Chalker, E. (2013). Vitamin C for preventing and treating the common cold. *Cochrane Database Syst Rev*, *2013*(1), CD000980.
12. DePhillipo, N.N., Aman, Z.S., Kennedy, M.I., et al. (2018). Efficacy of vitamin C supplementation on collagen synthesis and oxidative stress after musculoskeletal injuries: A systematic review. *Orthop J Sports Med*, *6*(10), 2325967118804544.
13. Noriega-González, D.C., Drobnic, F., Caballero-García, A., et al. (2022). Effect of vitamin C on tendinopathy recovery: A scoping review. *Nutrients*, *14*(13), 2663.
14. Murererehe, J., Uwitonze, A.M., Nikuze, P., et al. (2022). Beneficial effects of vitamin C in maintaining optimal oral health. *Front Nutr*, *8*, 805809.
15. Tada, A., & Miura, H. (2019). The relationship between vitamin C and periodontal diseases: A systematic review. *Int J Environ Res Public Health*, *16*(14), 2472.