NEM[®] Natural Eggshell Membrane Helps Relieve Joint Pain

About NEM

- Multiple clinical trials have shown that natural eggshell membrane (NEM) reduces the pain and stiffness associated with osteoarthritis of the knee, as well as exercise-induced pain and stiffness.
- Eggshell membrane (completely shell-free) is found in the space between the calcified shell and the albumin of chicken eggs. It provides many nutrients associated with joint health, including glucosamine, chondroitin, hyaluronic acid, and collagen type I.¹
- Multiple studies indicate that NEM reduces the expression of numerous inflammatory compounds associated with joint inflammation.^{2,3}
- NEM has also been shown to reduce urinary levels of a biomarker for cartilage degradation (C-terminal cross-linked telopeptide of type-II collagen, CTX-II) among healthy postmenopausal women. CTX-II has been shown to be elevated in several joint diseases, including osteoarthritis and rheumatoid arthritis, as well as in response to strenuous exercise.⁴
- In addition to having a joint protective effect, a double-blind, placebo-controlled trial showed that NEM rapidly reduced pain, stiffness, and discomfort following moderate-intensity exercise in healthy postmenopausal women within approximately one week of use.⁴
- Controlled trials have shown reductions in pain and stiffness associated with osteoarthritis of the knee within approximately 10 days of use.^{1,5,6}
- Open-label trials have also shown rapid improvements in pain and flexibility for people with multiple joint and connective tissue disorders.⁷

How to Use NEM

• Take 1 capsule per day or as directed by a health care practitioner. Consult a health care practitioner for use beyond 8 weeks.

Cautions and Contraindications

• Do not use if you have a known allergy to eggs or egg by-products. Consult a health care practitioner prior to use if you are pregnant or breastfeeding. Consult a health care practitioner if symptoms worsen. Keep out of reach of children.

Drug Interactions

• No known drug interactions.

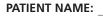
Quick Tips for Optimal Health

- In addition to helping maintain a healthy weight, the Mediterranean diet has also been shown to improve symptoms of osteoarthritis, including pain severity. This diet emphasizes fruits, vegetables, and whole grains, along with healthy fats, primarily olive oil, as well as nuts, fatty fish, and low-fat dairy.⁸
- A combination of diet and exercise has been shown to improve symptoms of knee osteoarthritis to a greater degree than either intervention alone. Among participants in the Intensive Diet and Exercise in Arthritis (IDEA) trial, after a trial lasting 1.5 years, improvements in weight and osteoarthritis symptoms were still observed 3.5 years after the study ended.⁹
- While exercise has been shown to improve symptoms of osteoarthritis, the superiority of one type of exercise to another has not clearly been shown. For example, no advantage of high-, medium-, or low-intensity exercise has been demonstrated, allowing for some flexibility when choosing an exercise program.^{10,11}
- Supplementation with omega-3 fatty acids has been associated with a reduction in joint pain and improved joint function among people with osteoarthritis in multiple randomized clinical trials.¹²
- □ Botanical anti-inflammatories, such as curcumin, have also been associated with pain relief for people with knee osteoarthritis.¹³
- Muscle soreness that begins 1–3 days following high-intensity exercise (DOMS or delayed-onset muscle soreness) may be improved with several interventions, including the use of kinesio tape in combination with compression sleeves.¹⁴
- Cold immersion therapy has been shown to help speed the recovery from strenuous exercise and reduce muscle soreness.¹⁵

PRACTITIONER CONTACT INFORMATION:

9229237

This information is for educational purposes only, and is not intended for self-diagnosis or self-treatment of conditions that should be assessed and treated by your health care practitioner. This product is not intended to diagnose, treat, cure, or prevent any disease. S All rights reserved – Bioclinic Naturals® Canada. Bioclinic Naturals Canada is distributed by Assured Natural Distribution Inc.



PRACTITIONER NOTES:



References

- 1. Ruff, K.J., Winkler, A., Jackson, R.W., et al. (2009). Eggshell membrane in the treatment of pain and stiffness from osteoarthritis of the knee: A randomized, multicenter, double-blind, placebo-controlled clinical study. Clin Rheumatol, 28(8), 907-14.
- 2. Benson, K.F., Ruff, K.J., & Jensen, G.S. (2012). Effects of natural eggshell membrane (NEM) on cytokine production in cultures of peripheral blood mononuclear cells: Increased suppression of tumor necrosis factor-α levels after in vitro digestion. J Med Food, 15(4), 360-8.
- 3. Ruff, K.J., & DeVore, D.P. (2014). Reduction of pro-inflammatory cytokines in rats following 7-day oral supplementation with a proprietary eggshell membrane-derived product. Mod Res Inflamm, 3(1), 19-25.
- 4. Ruff, K.J., Morrison, D., Duncan, S.A., et al. (2018). Beneficial effects of natural eggshell membrane versus placebo in exercise-induced joint pain, stiffness, and cartilage turnover in healthy, postmenopausal women. *Clin Interv Aging*, *13*, 285-95.
- 5. Brunello, E., & Masini, A. (2016). NEM[®] brand eggshell membrane effective in the treatment of pain and stiffness associated with osteoarthritis of the knee in an Italian study population. Int J Clin Med, 7(2), 169-75.
- 6. Eskiyurt, N., Saridoğan, M., Senel, K., et al. (2019). Efficacy and safety of natural eggshell membrane (NEM®) in patients with grade 2/3 knee osteoarthritis: A multi-center, randomized, double-blind, placebo-controlled, single-crossover clinical study. J Arthritis, 8(4), 1000285.
- 7. Ruff, K.J., DeVore, D.P., Leu, M.D., et al. (2009). Eggshell membrane: A possible new natural therapeutic for joint and connective tissue disorders. Results from two open-label human clinical studies. *Clin Interv Aging*, *4*, 235-40.
- 8. Sadeghi, A., Zarrinjooiee, G., Mousavi, S.N., et al. (2022). Effects of a Mediterranean diet compared with the low-fat diet on patients with knee osteoarthritis: A randomized feeding trial. Int J Clin Pract, 2022, 7275192.
- 9. Messier, S.P., Newman, J.J., Scarlett, M.J., et al. (2022). Changes in body weight and knee pain in adults with knee osteoarthritis three-and-a-half years after completing diet and exercise interventions: Follow-up study for a single-blind, single-center, randomized controlled trial. Arthritis Care Res, 74(4), 607-16.
- 10. Tarantino, D., Theysmans, T., Mottola, R., et al. (2023). High-intensity training for knee osteoarthritis: A narrative review. Sports, 11(4), 91.
- 11. de Zwart, A.H., Dekker, J., Roorda, L.D., et al. (2022). High-intensity versus low-intensity resistance training in patients with knee osteoarthritis: A randomized controlled trial. Clin Rehab, 36(7), 952-67.
- 12. Deng, W., Yi, Z., Yin, E., et al. (2023). Effect of omega-3 polyunsaturated fatty acids supplementation for patients with osteoarthritis: A meta-analysis. J Orthop Surg Res, 18(1), 381.
- 13. Hsiao, A.F., Lien, Y.C., Tzeng, I.S., et al. (2021). The efficacy of high- and low-dose curcumin in knee osteoarthritis: A systematic review and meta-analysis. Complement Ther Med, 63, 102775.
- 14. Xue, X., Hao, Y., Yang, X., et al. (2023). Effect of Kinesio tape and compression sleeves on delayed onset of muscle soreness: A single-blinded randomized controlled trial. BMC Musculoskelet Disord, 24(1), 392.
- 15. Moore, E., Fuller, J.T., Bellenger, C.R., et al. (2023). Effects of cold-water immersion compared with other recovery modalities on athletic performance following acute strenuous exercise in physically active participants: A systematic review, meta-analysis, and meta-regression. Sports Med, 53(3), 687-705.