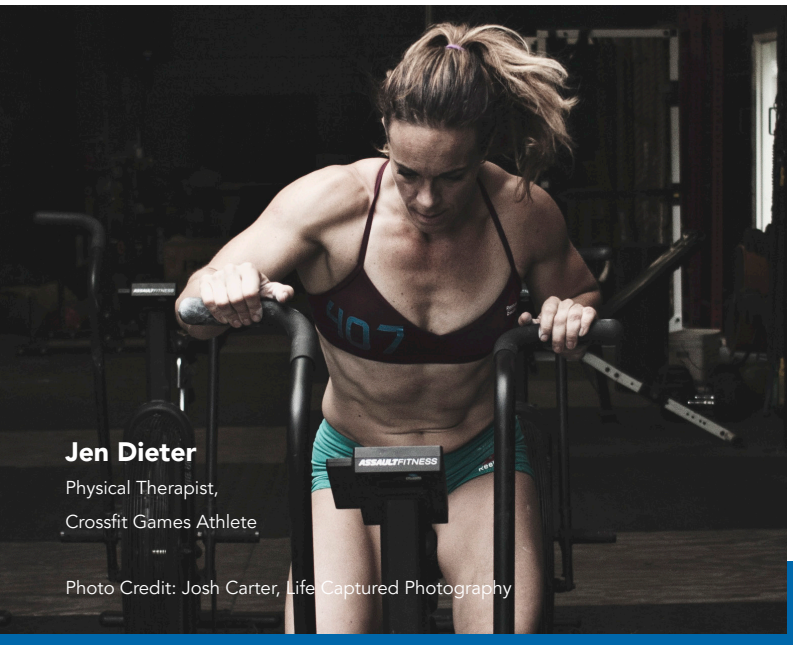
stratum NUTRITION®

# Keep Your Exercise On Track


## The #1 fast-acting, triple-action, branded eggshell membrane ingredient on the market.*

NEM® is a natural, food-sourced, complete joint health ingredient in a small 500mg daily dose that provides greater formulation flexibility. Research reveals that NEM supplementation can help reduce exercise-induced joint pain, stiffness, and help protect cartilage against breakdown.* No other joint health ingredient on the market can claim this triple-action effect and is backed with a vast published research portfolio.



**Jen Dieter**
Physical Therapist,
Crossfit Games Athlete

Photo Credit: Josh Carter, Life Captured Photography

## Ingredient Overview

The NEM matrix is predominantly protein (50-70%) and contains the glycosaminoglycans (GAGs) chondroitin sulfate, dermatan sulfate, keratan sulfate, and hyaluronic acid, as well as collagen types I, V, and X.

- Overall Joint Health
- Healthy Aging
- Cartilage Protection
- Endurance Sports
- Sports Nutrition
- Women's Joint Health

### 1 Capsule

One capsule a day helps support joint health.*†[1-4, 11, 12]

### 1 Ingredient

One ingredient provides 3 powerful benefits.*

### 1 Day

May be all it takes to experience relief from exercise-induced joint stiffness.*†[12]

### Researched for Women

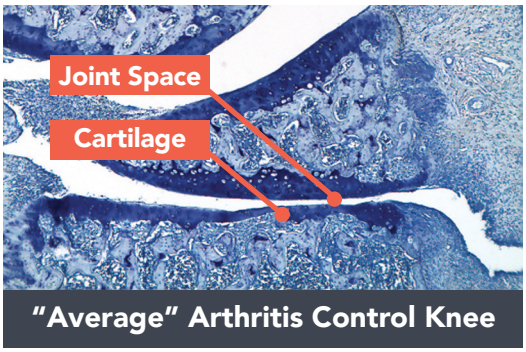
Helps reduce exercise-induced joint pain in postmeno women starting new exercise routines.

*These statements have not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure, or prevent any disease.

# NEM™ 3X JOINT DEFENSE

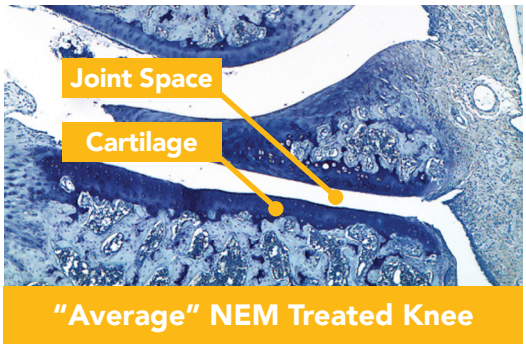
PAIN REDUCTION* ‡
STIFFNESS REDUCTION* ‡
CARTILAGE PROTECTION* ‡
‡*following exercise

stratum NUTRITION®




Animal studies demonstrate the positive effects of NEM on joint tissue in collagen-induced arthritic rats.[8]

Joint space width (white space) is substantially reduced in the arthritic control knee.




Cartilage (dark purple) is substantially thicker in the NEM-treated knee.

## Pain Reduction*

Even minor day-to-day injuries can cause pain and discomfort in and around our joints. Two healthy person studies demonstrate that **NEM® may help provide a rapid reduction of exercise-induced joint aches and pains.** The first study, published in 2017, was a randomized, double-blind, placebo-controlled trial (RCT) in healthy post-menopausal women; and revealed NEM's ability to reduce joint pain associated with exercise in just 8 days.*[12] The positive results were confirmed in a second healthy person trial that included both sexes and a wider age range of subjects. (In pre-publication). None of the subjects in either trial had pre-existing joint complaints. NEM® is the first dietary ingredient that has been shown to reduce exercise-induced pain in truly healthy subjects. It has also demonstrated significant reduction in pain in 7-10 days in 7 other published clinical trials.*[1-4,11]

## Stiffness Reduction*

Healing requires a healthy inflammatory response to everyday wear and tear. NEM® research has demonstrated a significant reduction in stiffness in four open label studies*[1,3,4,13] and three double-blind placebo-controlled trials.*[2,11,12] In a healthy person clinical trial, a significant reduction in exercise-induced stiffness was demonstrated in a quick 4 days.*[12]

**Furthermore, prior *in vivo* and *in vitro* studies show that NEM® may promote a healthy inflammatory response.***[5-8] These studies consistently reveal NEM's selective action in reducing a broad range of pro-inflammatory substances often associated with joint inflammation, such as TNF-α, and both serum and synovial IL-1β.[5-8] Additional published research has revealed that NEM supplementation can decrease levels of the inflammatory marker, CRP[7], and influence the gene transcription factor NF-kB.*[10] NF-kB plays a fundamental role in the function of the immune system and its action occurs very early in the inflammatory cascade.

## Cartilage Protection*

NEM® takes joint support to a higher level by helping protect joint cartilage. **Mechanism of action studies suggest that NEM may help reduce cartilage degradation associated with normal wear and tear.***[5-9] *In vivo*, veterinary and human clinical studies demonstrate the action of NEM® in reducing levels of CTX-II, a recognized biomarker of Type II collagen degradation (the predominant collagen type found in cartilage tissue).*[8,9,12] In the 2017 RCT study, a substantial chondroprotective effect was demonstrated from NEM® supplementation through a lasting decrease in CTX-II.*[12]


**References**

1. Ruff KJ, DeVore DP, Leu MD and Robinson MA. (2009) *Clinical Interventions in Aging*, 4:235-240.
2. Ruff KJ, Winkler A, Jackson RW, DeVore DP and Ritz BW. (2009) *Clinical Rheumatology*, 28:907-914.
3. Danesch U, Seybold M, Rittinghausen R, Treibel W and Bitterlich N. (2014) *Journal of Arthritis*, 3(3):136.
4. Brunello E and Masini A. (2016) *International Journal of Clinical Medicine*, 7:169-175.
5. Benson KF, Ruff KJ and Jensen GS. (2012) *Journal of Medicinal Food*, 15(4):360-368.
6. Ruff KJ and DeVore DP. (2014) *Modern Research in Inflammation*, 3(1):19-25.
7. Sim BY, Bak JW, Lee HJ, Jun JA, Choi HJ, Kwon CJ, Kim HY, Ruff KJ, Brandt K and Kim DH. (2015) *Journal of Nutrition and Health*, 48(4):310-318.
8. Wedekind KJ, Ruff KJ, Atwell CA, Evans JL and Bendele AM. (2016) *Modern Rheumatology*, 1-38.
9. Ruff KJ, Kopp KJ, Von Behrens P, Lux M, Mahn M and Back M. (2016) *Veterinary Medicine: Research & Reports*, 7:113-121.
10. Ruff KJ, Durham PL, O'Reilly A and Long FD. (2015) *Journal of Inflammation Research*, 8:49-57.
11. Eskiyurt N, Saridoğan, Senel K, Günaydin R, Erdal A, Özyiğit E, Akarirmak Ü, Şendur Ö, Barut K, Gülseren A, Özsoy T, Tuncer T, Karataş Ö, İrdesel J, Ketenci A and Aydogan C. (2019) *Journal of Arthritis*, 8(4) 1000285.
12. Ruff KJ, Theodosakis J, Morrison D, Duncan SA, Back M, and Aydogan C. (2018) *Clinical Interventions in Aging*, 13:285-295.
13. Damjanov N, Novkovic S, Basaric M, Nikolic AK, Vagic K, Pejnovic N, Karic V. (2019) *Journal of Arthritis*, 8(5):1000287.


GMO Free · SUITABLE FOR VEGETARIANS · HALAL · K · GRAS SELF AFFIRMED

*The material included in this document is intended for informational and educational purposes only and does not supersede the requirement for submitting claims to the FDA.*




**stratumnutrition.com** **info@stratumnutrition.com** **(800) 970-4479**


***These statements have not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure, or prevent any disease.**