



fitness • nutrition • healing

Clinical Applications

- Support Anti-Inflammatory Activity
- Aid in Reducing Joint Swelling
- Maintain Healthy Collagen
- Promote Healthy Bone Growth and Development
- Promote Formation of Mucopolysaccharides

Total DJD™ goes beyond the more common combination of glucosamine, chondroitin and MSM with the addition of New Zealand Green Lipped Mussels containing eicosatetraenoic acids and glycosaminoglycans, Hyaluronic acid, Vitamin C and Manganese, making this a very comprehensive formula for overall skeletal and joint health.

All Total Fitness® Formulas Meet or Exceed cGMP quality Standards

Discussion

Green Lipped Mussels (GLM) (*Perna canaliculus*) are sourced from clear unpolluted waters off New Zealand, tested and guaranteed for purity. They contain glycosaminoglycans, the principal component of cartilage and synovial fluid, as well as eicosatetraenoic acid that promotes anti-inflammatory activity and aids in the reduction of joint swelling.^{1,2} GLM has been shown to inhibit COX-1, COX-2 and Lipoxygenase enzymes.^{3,4} In a randomized trial green-lipped mussel was effective at reducing symptoms in up to 76% of people with joint inflammation and deterioration.⁵ In a similar trial subjects with joint conditions had 50% and 67% pain reduction respectively after supplementing three months.⁶

Methyl Sulfonyl Methane (MSM), Chondroitin Sulfate, Glucosamine HCL – please see Joint Rx™ DRS for discussion.

Hyaluronic Acid, a naturally occurring glycosaminoglycan found in synovial fluid, helps create a viscous environment, cushion joints and maintains normal function. It has both anti-inflammatory and antioxidant properties.^{7,8} Hyaluronic acid has been shown to recover proper signaling for cross talk between IgF -1 receptors and beta-integrin disturbed by IL-beta thereby protecting cultured human chondrocytes from interleukin-1-induced inhibition of collagen biosynthesis.⁹ In a rat model, treatment with these supplements limited the erosive action of arthritis in the articular joints of the knee and paw, reduced lipid peroxidation, restored the endogenous antioxidants, reduced glutathione (GSH) and superoxide dismutase, decreased plasma TNF-alpha levels, and limited synovial neutrophil infiltration.¹⁰

Vitamin C and Manganese- Vitamin C is essential for every step of the multi-step synthesis of collagen and for maintaining its integrity. The vitamin gets destroyed in the process of manufacturing collagen.¹¹ Serum levels of ascorbate and dehydroascorbate appear to be related to the degree of joint inflammation in arthritic rats.¹² Manganese is important in the growth and development of normal bone and in the synthesis of cartilage.¹³ Studies in rats, rabbits and humans have demonstrated a joint supportive, antiinflammatory effect of a combination of glucosamine, chondroitin and manganese ascorbate measurable by indices such as the Lesquene Index, X-rays, histologic (tissue) index (HI) scoring of lesions, T-cell proliferation and serological studies for antibody classes and subclasses.^{14,15}



Supplement Facts

Serving Size: 4 Capsules
Servings Per Container: 30

	Amount Per Serving	%Daily Value
Vitamin C (as ascorbic acid)	75 mg	125%
Manganese (as manganese bis-glycinate chelate)	10 mg	500%
Green Lipped Mussel (Perna canaliculus)	1000 mg	**
MSM (methylsulfonylmethane)	1000 mg	**
Glucosamine HCL	600 mg	**
Chondroitin Sulfate	600 mg	**
Hyaluronic Acid (as manganese bis-glycinate chelate)	30 mg	**

** Daily Value not established.

Other Ingredients: HPMC (capsule), Magnesium Stearate.

Dosing:

Take two capsules twice daily or as directed.

References

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Cautions:

Individuals with shellfish allergy should avoid this supplement. Drug/formula interaction may be possible.¹⁷ Please check appropriate reference. Some people have reported side effects with green lipped mussel.¹⁶ Avoid during Pregnancy and Lactation.

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

