



GlycOmega™ Cream

PRODUCT DATA SHEET

GENERAL DESCRIPTION

GlycOmega™ cream provides a rich source of all major classes of Glycosaminoglycans, which are principle components for the cartilage and synovial fluid found in joints.

This process creates flexibility, elasticity and tensile strength in the articular cartilage. The cream also provides strong anti-inflammatory action on the connective tissue and a careful combination of ginger and cinnamon oils delivers a soothing warming effect.

- Containing New Zealand Green Lipped Mussel Oil with Chondroitin and Glucosamine.
- When you need effective, fast-acting pain relief for tender muscles and aching joints.
- When you need the security of naturally occurring nutrients and the freedom of increased mobility and general well-being.
- You need GlycOmega™

Green-lipped Mussel Oil

It's nature's lubricant. Containing a unique blend of omega 3 marine lipids, green-lipped mussel oil inhibits inflammation, relieving arthritic symptoms and aiding in the recovery of arthritic and injured joints.

Chondroitin and Glucosamine Sulphite

These two compounds work together to deliver a synergistic effect that promotes healthy cartilage and provides shock absorbing properties to the joint.

Directions for use

Apply liberally across affected areas and massage in using a vigorous circular motion.

PACKAGING

Bulk cream, 100g tube and tubs

A Randomized, Double Blind, Placebo Controlled Trial of a Topical Cream Containing Glucosamine Sulfate, Chondroitin Sulfate, and Camphor for Osteoarthritis of the Knee

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Glucosamine and chondroitin sulfate have been consistently shown to be agents of low toxicity that may relieve the pain and joint stiffness associated with osteoarthritis (OA)^{1,2}. Longterm use of glucosamine may reduce radiographic progression of OA of the knee, suggesting it may be a chondroprotective, disease modifying agent in OA of the knee³. Although rapidly absorbed

from the gastrointestinal tract, pharmacokinetic data show that when administered orally, glucosamine is subject to uptake and degradation by the liver and uptake into non-joint tissues so that the dose reaching the articular cartilage is a fraction of a percentage of the oral dose⁴. While glucosamine has been shown to be active when given intramuscularly⁵, direct topical application into the dermis surrounding an affected joint may potentially deliver a more concentrated dose to the affected area. Chondroitin sulfate has also been shown to be effective in reducing OA pain⁶ and to enhance the pain relieving action of glucosamine^{7,8} despite poor gastrointestinal bioavailability when administered orally⁹. Chondroitin sulfate may further act as a carrier substance to enhance dermal penetration of topical substances¹⁰. Our study examines the use of a topical glucosamine/chondroitin sulfate preparation containing camphor and peppermint oil in relieving pain from OA of the knee.

RESULTS

Of 144 people screened, 63 fulfilled the eligibility criteria. Four subjects withdrew (2 after Day 4, one after Day 14, and one after Day 26). Data from 59 subjects were analyzed. The 2 treatment groups were similar with respect to demographic composition and illness history. At baseline visit (Week 0), the 2 groups had very similar mean scores for VAS pain, WOMAC, and SF-36 Physical and Mental Health. Between 5 and 9 tubes containing 114g of cream were given to participants (mean 6.5 tubes). In the active group, participants used a mean of 5.5 tubes, with a mean usage of 2.4 times per day (range 1.4 to 3.9) and in the placebo group the participants used a mean of 5.7 tubes, with a mean



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usage of 2.7 times per day (range 1.4 to 4.8).

Between baseline and Weeks 4 and 8, the subjects in the placebo group improved on average in VAS pain, WOMAC, and SF-36 Physical Health. Similar improvements, although of greater magnitude, were seen in the active treatment.

DISCUSSION

The results of the VAS for pain scores suggest that the topical test preparation is more effective than placebo in reducing the pain from OA of the knee. These results support the growing volume of evidence that glucosamine and chondroitin sulfate are active agents against the pain from OA of the knee, and further suggest that these agents are effective when applied topically.

When administered orally, the amounts generally administered are glucosamine 1500mg, and chondroitin sulfate 1200mg daily⁸, of which only a small percentage is available to the joint⁴. Based on a total usage of 5.5 tubes and an average usage of around 2.5 applications per day, it is estimated that the topical dosages applied in this study were roughly 300mg glucosamine sulfate and 780mg chondroitin sulfate per day. If transdermal absorption is between 20 and 40%, then between 60 and 120mg glucosamine sulfate and 156 to 300mg chondroitin sulfate was delivered through topical application. The finding that these dosages were able to elicit a clinically significant response suggest that the topical formulation used in this study was able to effectively deliver active agents to the joints. Further, the finding that adverse events were relatively equally distributed among both groups confirms the results of previous trials that suggest that this application is without toxicity or serious side effects.

Our study supports previous reports that suggests glucosamine and chondroitin sulfate are both safe and effective in treating the pain of OA of the knee, and suggests that topical application of these agents along with camphor and peppermint oil is an effective route of administration.

Further research is required to determine the effects of longterm treatment, the possibility of subgroups of responders, and the determination of which components are most critical for the observed effects.

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