

## JOINT HEALTH

Joints are areas where two or more bones meet. They are made up of cartilage (connective tissue that covers the bones of joints, reducing friction), synovial membrane and fluid (to provide joint protection and lubrication), ligaments and tendons (bands of connective tissue that provide support and control movement) and bursas (fluid-filled sacs that provide cushion). Most joints are mobile, allowing skeletal movement.

Several scientific studies have demonstrated the joint-protective and supportive actions of certain supplements, including glucosamine, chondroitin, and MSM (methylsulfonylmethane). Glucosamine is an amino sugar that stimulates the synthesis of glycosaminoglycans, the major structural component of cartilage, and aids in replenishing joint fluid.<sup>1</sup> Chondroitin aids in maintaining the structural integrity of connective tissue, including cartilage. Chondroitin attracts fluid into cartilage, making it more shock-absorbent.<sup>2</sup> MSM is a natural source of sulfur which may have soothing properties and is needed for the synthesis and maintenance of cartilage.<sup>2,3</sup>

Additional joint-supportive supplements include hyaluronic acid, devil's claw root and other herbs with soothing actions. Hyaluronic acid is found abundantly in joint synovial fluid and cartilage and plays a role in joint lubrication.<sup>2</sup> Devil's claw root contains iridoid glycosides that have soothing properties.<sup>2</sup>

NSP EverFlex with Hyaluronic Acid is a natural alternative for joint support that combines glucosamine, MSM, chondroitin, devil's claw and hyaluronic acid for healthy joint function. NSP EverFlex Cream provides the cooling relief of menthol, plus MSM and CMO (cetyl myristoleate) along with five other cetylated fatty acid esters. Cetylated fatty acid esters have been clinically studied and shown to help promote joint mobility and flexibility. One study showed improved flexibility and joint function in patients 30 minutes after the initial topical application.

NSP Joint Support and Ayurvedic Joint Health provide nutritional support for the structural system including the joints. IF-Relief contains a combination of herbal extracts that provide antioxidant protection, including mangosteen pericarp, turmeric root, andrographis (whole plant), white willow bark, and boswellia gum;

Studies show that omega-3 fatty acids found in fish oil may promote joint health. Two of the acids contained in fish oil—eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA)—reduce the production of prostaglandins and leukotrienes. After several other small studies, a formal trial was launched in which some patients received fish oil capsules and others received a placebo. The researchers noted that after 14 weeks the patients taking fish oil reported a delay in the onset of fatigue. Clinical studies also indicate that omega-3 fatty acids help improve bone strength and the deposition of calcium into bones.<sup>5</sup> NSP Super Omega-3 EPA contains 1000 mg of purified (molecularly distilled) fish oil, providing both EPA and DHA.

Nature's Sunshine joint supporting products help you to take control of your joint health naturally!

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1. University of Maryland Medical Center. *Glucosamine*. 2008. Available at: <http://www.umm.edu/altmed/articles/glucosamine-000306.htm> Accessed December 18, 2008.

2. Jellin JM, Gregory PJ, Batz F, Hitchens K, et al. *Pharmacist's Letter/Prescriber's Letter Natural Medicines Comprehensive Database*. 9<sup>th</sup> ed. Stockton, CA: Therapeutic Research Faculty; 2007.

3. University of Maryland Medical Center. *Sulfur*. 2007. Available at:  
<http://www.umm.edu/altmed/articles/sulfur-000328.htm> Accessed December 22, 2008.

4. University of Maryland Medical Center. *Devil's Claw*. 2007. Available at:  
<http://www.umm.edu/altmed/articles/devils-claw-000237.htm> Accessed December 22, 2008.

5. University of Maryland Medical Center. Omega-3 Fatty Acids. 2009. Available at:  
<http://www.umm.edu/altmed/articles/omega-3-000316.htm> Accessed June 12, 2009.

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June 18, 2009