

GLUCOSAMINE, MSM & CHONDROITIN

When connective tissues (ligaments, tendons, cartilages and spinal discs) are made or repaired, collagen is laid down over a framework of glycosaminoglycans (GAG's). The resultant structure hold water and nutrients allowing molecules to move through cartilage where there is no blood supply and provides a shock absorbing material that protects the joints. The major raw material for GAG is Glucosamine which is produced in the body from glucose and glutamine. Low levels of Glucosamine will hamper the growth and maintenance processes. Chondroitin sulphate consists of repeating chains of GAG's. Sulphur is a key component in connective tissue, where it is an important element in proteins, contributing to their physical properties. Methylsulphonylmethane (MSM) is a naturally occurring organic sulphur compound found in all living plant and animal tissues. Naturally occurring organic compounds are easy for the body to absorb and use.

The Benefits of Glucosamine, MSM & Chondroitin

Joints - supplementation of Glucosamine in the diet has been associated with slowing down the wear and tear, in some cases, restoring the thickness of cartilage in the joints and the production of synovial fluid (a lubricant in joints). A supportive effect has been demonstrated between glucosamine and chondroitin where the beneficial effects of the combination was greater than the effects of either component alone. MSM increases permeability of cell membranes which aids in the removal of toxins and reduces pressure build up leading to a reduction in pain and inflammation. The pain relieving effect of Glucosamine has been compared favourably with conventional pain killers and the effect continues to develop for up to 8 weeks. Glucosamine has also helped a number of other joint related problems including degeneration, swelling, inflammation, sciatica, recuperation from operations or injuries, osteoarthritis and slipped discs.

Hair, skin and nail health - sulphur rich keratin and collagen are important constituents of hair, skin and nails, and are required for their maintenance and repair. MSM may also help reduce scar formation.

Properties

Glucosamine - is an essential precursor of the GAG chondroitin sulphate (a key structural component of cartilage) and hyaluronic acid (found in joint lubrication - synovial fluid, the fluid in the eye and loose connective tissue).

MSM - because sulphur is needed for virtually every function in every cell of the body, its properties are too numerous to list in their entirety. It is present in proteoglycans which are large molecules which interlink and bind cells together. These include chondroitin sulphate and keratin sulphate and are found in connective tissues (including cartilage, ligaments, tendons), blood vessels, skin, nails and hair.

Chondroitin sulphate - together with hyaluronic acid, chondroitin forms a substance known as aggrecan which gives the cartilage shock absorbing properties. Aggrecan and collagen act together to form tough deformable cartilage which always returns to its original shape. This provides an effective way of separating and protecting two articulating bones. Chondroitin sulphates are a component of cartilage which help to attract water maintaining the compressibility/elasticity and fluidity of joint movement. They are also components of the walls of blood vessels and are thus important in maintaining vascular health.

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