

Condrycoll

The synergy of chondroprotection

Condrycoll

The synergy of chondroprotection

Condrycoll

The synergy of chondroprotection

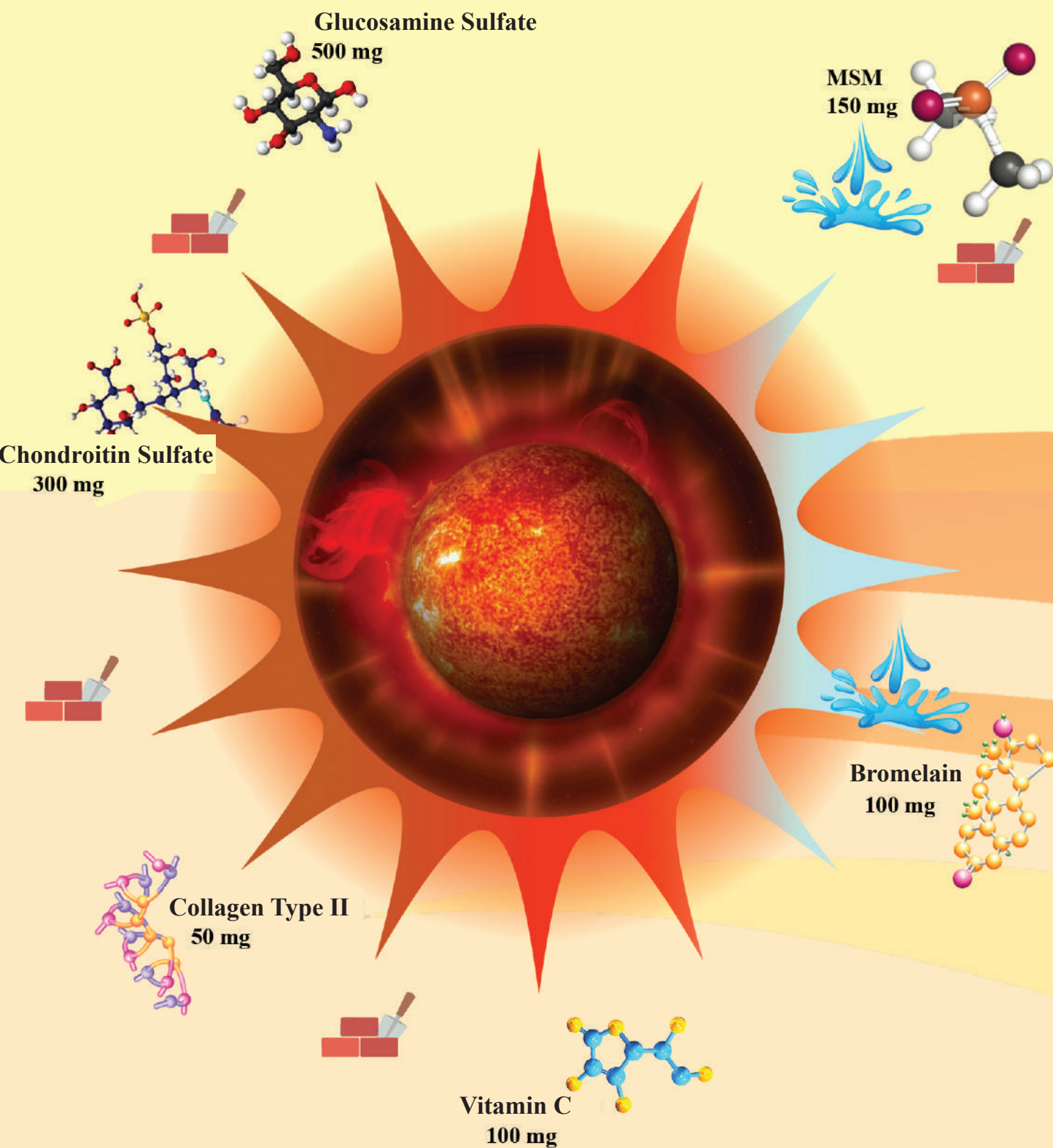


Diagram illustrating the ingredients of Condrycoll, centered around a sun-like graphic. The ingredients are:

- Glucosamine Sulfate 500 mg
- MSM 150 mg
- Chondroitin Sulfate 300 mg
- Collagen Type II 50 mg
- Vitamin C 100 mg
- Bromelain 100 mg

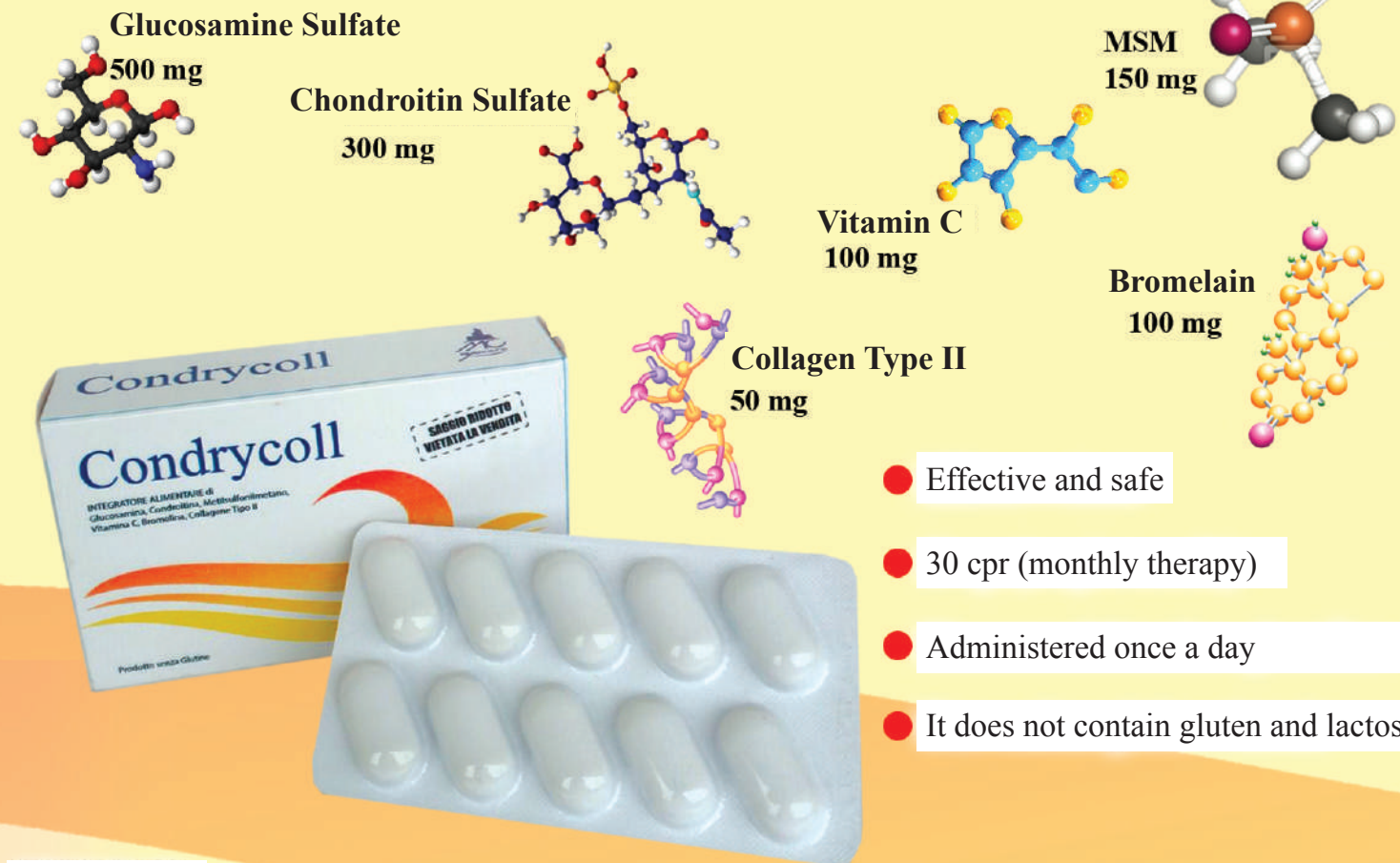


Diagram illustrating the ingredients of Condrycoll, centered around a box and blister pack of Condrycoll. The ingredients are:

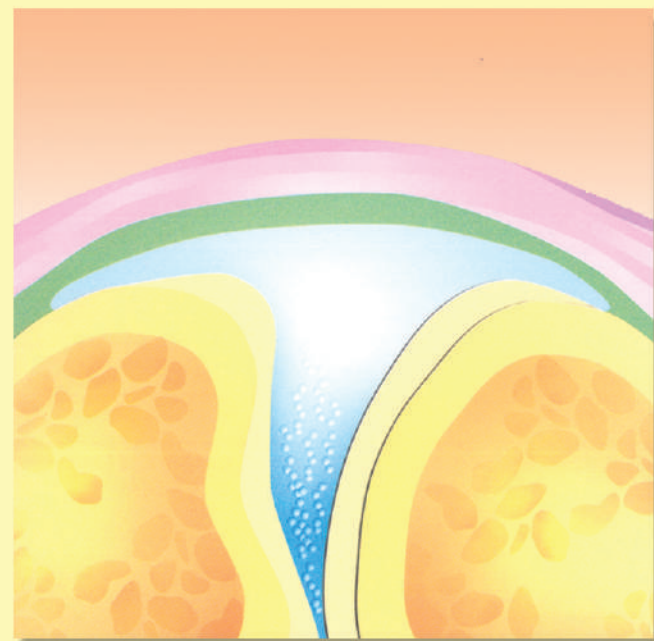
- Glucosamine Sulfate 500 mg
- Chondroitin Sulfate 300 mg
- Vitamin C 100 mg
- MSM 150 mg
- Bromelain 100 mg
- Collagen Type II 50 mg

- Effective and safe
- 30 cpr (monthly therapy)
- Administered once a day
- It does not contain gluten and lactose

BIBLIOGRAPHY

1. Johannes W J Bijlsma, Francis Berenbaum, Floris P J G Lafebe Osteoarthritis:an update with relevance for clinical practice. The lancet , Vol 377 June 18, 2011
2. D.J.Hunter, Osteoarthritis ; Best practice & Research Clinical Rheumatology 25 (2011) 801-814
3. EULAR Recommendations 2003 : an evidence based approach to the management of knee osteoarthritis ; Ann Rheum Dis 2003; 62: 1145-1155
4. OARSI Recommendations for the management of hip and knee osteoarthritis, Part II : OARSI evidence-based , expert consensus guidelines . Osteoarthritis and Cartilage 2008, 16 : 137-162
5. Brien S. et al. , Bromelain as a treatment for osteoarthritis : a review of clinical studies ;Evid Based Complement Alternat med. 2004 Dec; 1(3): 251-257
6. Pavan R. et al., Properties and therapeutic application of bromelain : a review; Biotechnol Res Int. 2012; 2012 : 976203
7. Meta-Analysis of the Related Nutritional Supplements Dimethyl Sulfoxide and Methylsulfonylmethane in the Treatment of Osteoarthritis of the Knee Sarah Brien, Phil Prescott, George Lewith Evid Based Complement Alternat Med. 2011; 2011: 528403. Published online 2011 February 17. doi:10.1093/ecam/nep045
8. Osteoarthritis and nutrition. From nutraceuticals to functional foods: a systematic review of the scientific evidence Laurent G Ameye, Winnie SS Chee Arthritis Res Ther. 2006; 8(4): R127. Published online 2006 July 19. doi: 10.1186/ar2016
9. Efficacy of methylsulfonylmethane supplementation on osteoarthritis of the knee: a randomized controlled study Eytan M Debbi, Gabriel Agar, Gil Fichman, Yaron Bar Ziv, Rami Kardosh, Nahum Halperin, Avi Elbaz, Yiftah Beer, Ronen Debi BMC Complement Altern Med. 2011; 11: 50. Published online 2011 June 27. doi: 10.1186/1472-6882-11-50

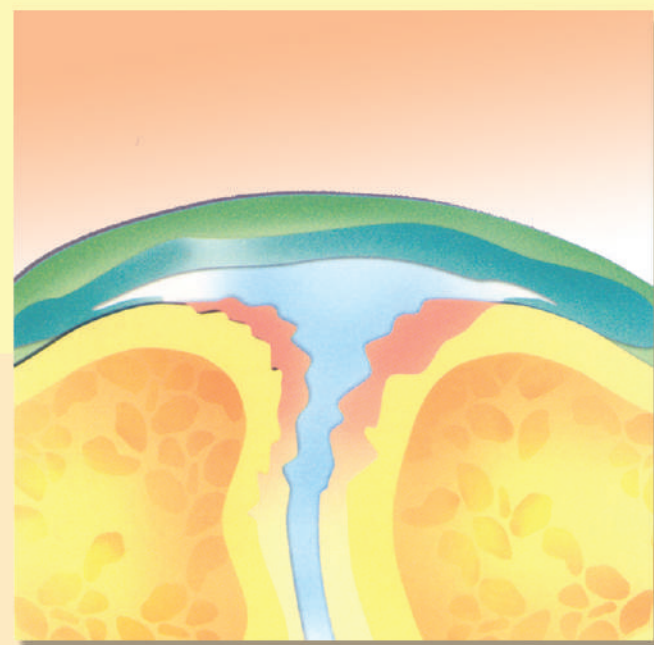




CONSTRUCTION

**=
USURY**

The **cartilage** is a material highly dynamic, it normally meets **degradation and repairing** processes. ⁽¹⁻²⁾



CONSTRUCTION

**<
USURY**

Repeated micro-traumatism or single traumatic injuries can result in the **loss of this balance** and so the onset of **osteoarthritis**. ⁽¹⁻²⁾

Since 2003 the recommendations of European League Against Rheumatism (**EULAR**) for the treatment of knee's OA say:

"Slow- acting symptomatic drugs (SYSADOA) glucosamine sulfate, chondroitin sulfate, hyaluronic acid (...) **have symptomatic effects** and can have **favorable effects on the cartilage structure**" ⁽³⁾

Since 2010 the recommendations of Osteoarthritis Research Society International, **OARSI**, for the treatment of knee's OA and hip's OA say:

"The treatment of **glucosamine and/or chondroitin sulfate** can have **favorable symptomatic effects** in patients with **knee's osteoarthritis**. The rating of effects is going to be done within **6 (six) months** since the beginning of the treatment. ⁽⁴⁾

The main components of the cartilage are:

Glycosaminoglycans (GAG) of which a precursor is **Glucosamine**. They are macromolecules that contribute to forming cartilage's "sponge" structure. being hydrophobes, GAG can bind very easily with water molecules, creating hydrated molecules. hydration leads to a sort of swelling of the GAG molecule.

Chondroitin sulfate molecules: it's a macromolecule of glycosaminoglycan with a spherical shape: it gives resistance to cartilage compression.

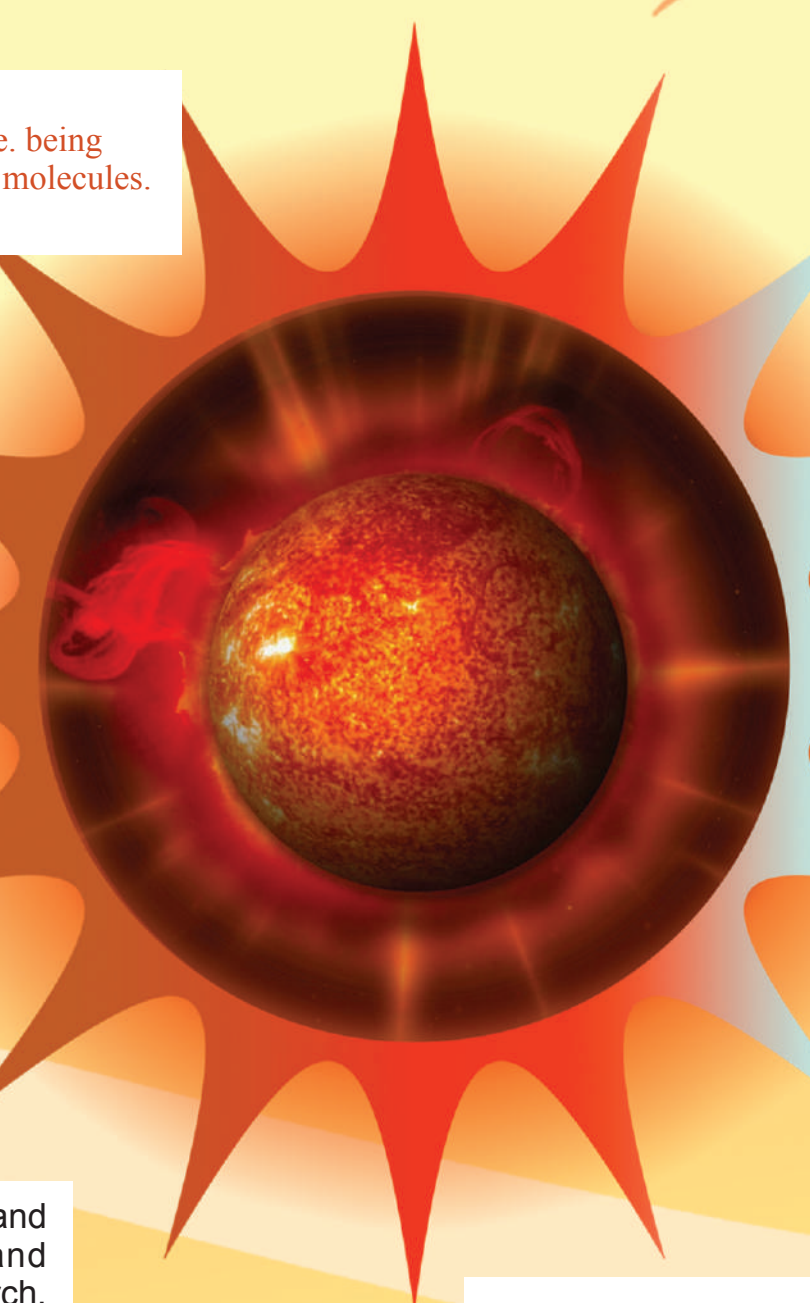
All these components are held together in a **Collagen** matrix (it is the main protein of the connective tissue) like a sponge, it holds the water together, forming the cushioning and the regular sliding of the joints.

And also:
-elastin (another protein)
-water
-hyaluronic acid (shock absorbing and lubricating molecule)
-proteoglycans (macromolecules with a protein axis to which saccharides and GAG are bound)

In order to maintain these properties, a person needs a nutrient-rich diet and an ample supply of glycosaminoglycans, chondroitin sulfate, and proteoglycans, otherwise, the cartilage degenerates more easily. Research, focusing on the prevention of osteoporosis, seems to indicate the use of glucosamine sulfate to protect and repair proteoglycans in cartilage. In fact, glucosamine is important for regulating cartilage formation and supporting the metabolism, favoring a greater production of collagen and proteoglycans; it also stimulates the synovial hyaluronic acid which has the quality of shock-absorbing and lubricating in the synovial fluid.

Condrycoll

The synergy of chondroprotection



The **Bromelain**, which has shown anti-edema analgesic and anti-inflammatory properties, can offer additional treatment for osteoporosis.

The MSM (methyl sulfonyl methane): together, chondroprotective and anti-inflammatory, methyl-sulfonyl-methane is a chondroprotective organic compound synergistic to glucosamine and chondroitin sulfate. About that, it's believed that in addition to the possible stimulus on the synthesis of the cartilage- the methyl-sulfonyl-methane can act helping to stabilize cell membranes, to slow down or stop the loss of cells damaged and to neutralize free radicals that trigger inflammation. Consulting a meta-analysis and a review of some studies available in the literature, and analyzing a more recent study, it's possible to assert that the methyl-sulfonyl-methane appear useful in the arthrosis treatment.

To this, we increase the **vitamin C**, that is very important for the right action of the immune system. The collagen, therefore, strengthens blood vessels, skin, muscles and bones. **Man cannot create collagen without vitamin C.**

The changes that are observed during osteoarthritis involve all joint structures and they are associated with the appearance of inflammation, edema, pain and progressive functional limitation of movement causing a global decompensation of the affected joint. ^(1-2 Johannes...Hunter)

The inflammatory reaction causes the formation of microcrystals of hydroxyapatite, an unmasking of cartilaginous antigens and phagocytosis of degradation fragments with further amplification of the inflammatory process.