

Chondroitin sulfate works as well as non-steroidal anti-inflammatory drugs (NSAIDs) for relieving the pain of knee osteoarthritis



Pharmaceutical-grade chondroitin sulfate 4&6 should be considered a first-line treatment for people with osteoarthritis of the knee.

INTRODUCTION

Osteoarthritis is a common condition that makes a person's joints stiff and painful, particularly in the morning. It is caused by thinning of the cartilage within the joints, which allows the bones to rub against each. Joint swelling and pain are frequent symptoms. It is the most common of all the different types of arthritis, and typically becomes more common as people get older.

Chondroitin sulfate is a dietary supplement. Versions of chondroitin sulfate for pharmaceutical use have different preparation and composition, and higher purity than food-grade products. Pharmaceutical chondroitin sulfate 4&6 has been shown to improve pain and function and to delay joint damage in osteoarthritis of the knee. The 4&6 refers to the particular structure of the molecule.

WHAT DID THE AUTHORS HOPE TO FIND?

The authors wanted to see whether pharmaceutical-grade chondroitin sulfate 4&6 could relieve symptoms as well as non-steroidal anti-inflammatory drugs (often shortened to NSAIDs) do in people with knee osteoarthritis.

WHO WAS STUDIED?

The study included 604 men and women over the age of 50 with knee osteoarthritis that had been diagnosed by a doctor and seen on an X-ray.

HOW WAS THE STUDY CONDUCTED?

This was a randomised, placebo-controlled trial, which means that patients were assigned by chance to one of three treatment groups to receive either chondroitin sulfate 4&6, celecoxib (an NSAID), or a placebo (a dummy that has no active medicine in it) for 6 months. Using chance in this way means that the groups will be similar and will allow the treatment under investigation to be compared objectively. During the treatment neither patients nor their doctors knew which group they were in.

WHAT WERE THE MAIN FINDINGS OF THE STUDY?

The study found that pharmaceutical-grade chondroitin sulfate 4&6 reduced pain and improved function better than placebo, and to the same extent as the NSAID drug tested (celecoxib). There was no difference in safety profiles between the three groups.

ARE THESE FINDINGS NEW?

This study confirms previous findings that chondroitin sulfate can help relieve symptoms in people with osteoarthritis in their knees.

WHAT ARE THE LIMITATIONS OF THE STUDY?

This study was carried out in people with osteoarthritis in their knees, and it might not be possible to say that the same would be true for osteoarthritis in other joints.

WHAT DO THE AUTHORS PLAN ON DOING WITH THIS INFORMATION?

More studies are needed in people with osteoarthritis in their hands or spine. It would also be interesting to find out whether a combination of pharmaceutical-grade chondroitin sulfate and patented crystalline glucosamine sulfate can deliver good results.

WHAT DOES THIS MEAN FOR ME?

If you have osteoarthritis in your knees, you could consider using pharmaceutical-grade chondroitin sulfate to relieve the pain. However, it is important to understand that you may not get the same results from less pure food-grade or over-the-counter preparations of chondroitin sulfate.

FURTHER READING

Bruyère, O et al. An algorithm recommendation for the management of knee osteoarthritis in Europe and internationally: A report from a task force of the European Society for Clinical and Economic Aspects of Osteoporosis and Osteoarthritis (ESCEO). *Semin Arthritis Rheum* 2014;44(3):253–263.

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