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[Warnings](#)

[Encyclopedia](#)

[News](#)

[Where to Buy](#)

ConsumerLab.com Answers

Question:

Does collagen taken as a supplement help with arthritis? I'm seeing it in products for joint health.

Answer:

Collagen hydrolysate (enzymatically hydrolyzed collagen or collagen peptide), which is often derived from collagen from pig skin or cow bone, may help reduce the pain of osteoarthritis (worn joints) according to some preliminary studies, although, according to an independent review in 2012, the evidence is not conclusive and it is unclear how much it effects other symptoms, such as stiffness and swelling ([Van Vijven, Osteoarth and Cartil, 2012](#)). A possible scientific basis for a benefit is that collagen supplements are a rich source peptides and amino acids (glycine, proline, and hydroxyproline) needed to make the collagen in joint cartilage.

Two other types of collagen which are also sold are collagen in its more raw "undenatured" form and gelatin -- which is derived from collagen but is not broken down as completely to peptides as enzymatically hydrolyzed collagen. Although undenatured collagen, gelatin, and collagen hydrolysate may all be broken down in the gut to yield absorbable amino acids, studies in mice suggest that absorption may be greater with collagen hydrolysate, due to its smaller molecular size.

Most clinical studies have focused on osteoarthritis of the knee and have

used hydrolyzed collagen or, to a lesser extent, gelatin and there is some evidence that either may reduce pain associated with osteoarthritis. In fact, one study suggested greater benefit with collagen hydrolysate than with glucosamine sulfate ([Trc, Intl Orthop 2011](#)). Nevertheless, one form of patented undenatured collagen, [UC-II](#), has been shown to significantly increase knee extension compared to placebo, and improve symptoms of knee osteoarthritis compared to glucosamine and chondroitin.

One of the largest studies with collagen hydrolysate found that, after 3 months, it was not statistically more effective than placebo in reducing pain in knee osteoarthritis. However, after 6 months there was a statistically significant difference: 51.6% of people taking the collagen ([Genacol, Genacol Corporation Inc.](#)) reported a reduction in pain compared to 36.5% of those taking placebo ([Bruyere, Comp Ther in Med 2012](#)).

Research in this area continues. For example, a small study published in 2014 in people with knee osteoarthritis found that taking 5 grams of collagen hydrolysate (collagen peptide) dissolved in a cup of water or milk in the morning and at night after food for 13 weeks significantly improved symptoms compared to taking a placebo ([Kumar, J Sci Food Agric 2014](#)).

There is also some evidence collagen may help to build muscle and increase **muscle strength** in older adults when combined with exercise. In a study among older men (average age 72) with sarcopenia (age-related muscle loss) who participated in a strength training program three days per week for 3 months, those who consumed a daily drink containing 15 grams of collagen peptides ([BODYBALANCE, GELITA AG](#)) had significantly greater increases in lean muscle mass and muscle strength compared to those who consumed a placebo drink ([Zdzieblik, Br J Nutr 2015](#)).

Safety and side effects: Collagen-based supplements appear to be safe but be aware that some people report mild gastrointestinal symptoms ([Vijven, Osteo and Cartl 2012](#)).

The bottom line: Supplements with collagen hydrolysate (typically 10 to 12 grams per day) or gelatin may help reduce pain associated with osteoarthritis when taken for several months (preferably at least 6 months). However, larger studies are needed to confirm this effect and some people may experience mild gastrointestinal side effects.

For information about other supplements used for joint health, see the [Glucosamine, Chondroitin, MSM and Boswellia Supplements Review](#)



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