



## Nutritional support for connective tissue and joints

### APPLICATIONS / BENEFITS

- Supports healthy inflammatory response
- Promotes joint flexibility, function and comfort
- Helps reduce minor discomfort

### OVERVIEW

**Patient One CT Joint Care** supplies a blend of traditional herbs along with flavonoids and enzymes that support joint comfort. This formula provides Turmeric, Boswellia, Ginger, Devil's Claw and Yucca extracts along with Quercetin and Bromelain. Black pepper extract is included to support enhanced absorption of turmeric. CT Joint Care's combination of ingredients is formulated to reduce minor pain and maintain a healthy inflammatory response.

### KEY INGREDIENTS

Turmeric's active constituent curcumin acts as an orchestrator of whole body inflammatory responses, influencing pro-inflammatory COX enzymes, their transcription factors and gene expression. However, it has been found that the therapeutic effectiveness of curcumin is often limited due to its poor absorption from the GI tract. When taken orally only traces appear in the blood, whereas most of the dose is excreted through the feces. Our formula includes **Bioperine®**, a patented extract derived from the common **black pepper** fruit that contains the alkaloid piperine. Black pepper has been shown to enhance the bioavailability and promote absorption of curcumin both in pre-clinical studies and in studies on human volunteers.

After a dose of curcumin, human serum levels of curcumin were either undetectable or very low. When the same dose was given along with piperine, there was a 2000% increase in the bioavailability of the curcumin without adverse effects.

An ayurvedic herb, **Boswellia serrata's** principle constituents—boswellic acid and alpha-boswellic acid—may help maintain healthy leukotriene metabolism by reducing the activity of the enzyme 5-lipoxygenase. In a randomized, double-blind, placebo-controlled trial, Boswellia extract produced statistically significant and clinically relevant decreases in knee discomfort, increases in knee flexion, and increases in walking distance.

**Bromelain**, an enzyme extracted from the stem and fruit of the pineapple plant, helps modulate the inflammatory response. Its anti-inflammatory action is in part a result of inhibiting the generation of bradykinin at the inflammatory site via depletion of the plasma kallikrein system, as well as limiting the formation of fibrin by reduction of clotting cascade intermediates. Research suggests that bromelain reduces leukocyte migration into inflamed areas and prevents firm adhesion of leukocytes to blood vessels at the site of inflammation. Bromelain also has been found to enhance the absorption of quercetin, an active bioflavonoid also included in this formula. **Quercetin**, which belongs to a class of water-soluble plant pigments that cannot be produced in the human body, supports healthy mast cell function. It has been found to moderate pro-inflammatory pathways by inhibiting inducible ICAM-1 expression.

**Devil's claw extract** supports immune mediator activity. It promotes both healthy cyclooxygenase-2 and 5-lipoxygenase enzyme activity. Devil's claw is

included to provide added support for joint flexibility, function and comfort, in part by maintaining healthy eicosanoid metabolism. A review of 12 human studies indicates that devil's claw may reduce mild pain to promote musculoskeletal comfort and function.

Used since antiquity, **Ginger root (*Zingiber officinale*)** contains phytochemicals and has been studied for its effects on inflammatory mediator biosynthesis. The anti-inflammatory effect of ginger has been scientifically proven by its potential inhibitory effect in reducing prostaglandin synthesis and leukotriene biosynthesis. It has demonstrated therapeutic benefits for rheumatoid arthritis, muscular aches, pains and sprains, among other ailments.

A medicinal plant native to Mexico, ***Yucca schidigera*** contains several physiologically active phytochemicals. Used in traditional medicine by Native Americans, it is believed to have anti-arthritis and anti-inflammatory effects. Yucca is a rich source of steroidal saponins, and it has been postulated that saponins may have anti-arthritis properties by suppressing intestinal protozoa which may have a role in joint inflammation. Yucca is also a rich source of polyphenolics, including resveratrol and a number of other stilbenes, which have anti-inflammatory activity.

## REFERENCES

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## Supplement Facts

**Serving Size:** 3 Capsules  
**Servings Per Container:** 30

### Amount Per Serving

Turmeric Extract ( <i>Curcuma longa</i> ) (rhizome) [Standardized to contain 95% curcuminoids, 713 mg]	750 mg*
<i>Boswellia serrata</i> Extract (Frankincense) (resin) [Standardized to contain 65% boswellic acid, 325 mg]	500 mg*
Bromelain (from pineapple) [2000 gelatin digestive units (GDU) per gram] [Delivered by using 83.33 mg of a 2400 GDU per gram]	100 mg*
Ginger Root Extract ( <i>Zingiber officinale</i> ) (root) [Standardized to contain 5% gingerols]	100 mg*
Devil's Claw Extract ( <i>Harpagophytum procumbens</i> ) (root) [Standardized to contain 0.5% harpagosides] [Delivered by using 9.25 mg of a 2.7% extract]	50 mg*
Quercetin (as dihydrate)	50 mg*
Yucca Extract ( <i>Yucca schidigera</i> ) (root) [Standardized to contain 14% Saponins] [Delivered by using 35 mg of a 20% Extract]	50 mg*
BioPerine® Black Pepper Extract ( <i>Piper nigrum</i> ) (fruit) (Standardized to contain 95% piperine)	5 mg*

\* Daily Value not established

**Other Ingredients:** vegetable cellulose (capsule), leucine, rice flour

**Free of:** milk, egg, fish, peanuts, crustacean shellfish, soy, tree nuts, wheat, yeast and gluten. Free of ingredients derived from GMOs.

**Suggested Use:** Take 3 capsules daily as a dietary supplement, preferably with a meal, or as directed by your health practitioner. Store in a cool, dry place.

**Caution:** If you are pregnant, nursing, or taking any medications, consult your health practitioner before use. Discontinue use and consult your health practitioner if any adverse reactions occur. **Keep out of reach of children.** Use only if safety seal is intact.

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