SUSTAINED RELEASE

ENDUR-FLEX®

GLUCOSAMINE CHONDROITIN

Promotes joint health & healthy cartilage

endurance products COMPANY

Since 1978

WHAT IS IT?

ENDUR-FLEX® Glucosamine Chondroitin is a sustained-release dietary supplement formulated with a unique vegetable wax-matrix tablet core. Tablet dissolution occurs in a slow, steady manner over several hours to promote optimal absorption and bioavailability of these joint health nutrients.

HOW DOES IT WORK?

ENDUR-FLEX promotes joint health by nourishing your body's production of proteoglycans, which are large molecules required to maintain, rebuild, and repair cartilage tissue and lubricate joints.

Glucosamine and chondroitin sulfate are vital building blocks for proteoglycans and backed by a large body of clinical research. In joint cartilage, proteoglycans weave through the network of collagen where they attract and hold water. This ability to hold water is what maintains resilient yet elastic cartilage tissue. Glucosamine and chondroitin sulfate are also critical to produce the viscous synovial fluid that lubricates and cushions joints.

WHO CAN BENEFIT?

For men and women who need support for optimal joint flexibility, comfort and freedom of movement.

PRODUCT AVAILABILITY

Bottle Size(s):
200 tablets

PRACTITIONER DISTRIBUTION

- WholeScript™ (www.wholescript.com)

Supplement Facts

Serving Size 1 Tablet

Amount Per Tablet		% DV
Glucosamine (as glucosamine HCl)	500 mg	*
Chondroitin (as chondroitin sulfate)	200 mg	*

* Daily Value (DV) not established.

Other Ingredients: Vegetable wax (rice bran and/or carnauba), stearic acid (vegetable), magnesium stearate (vegetable), and silica.

Suggested Use: Take three (3) tablets daily. For best results take one (1) tablet with each meal.

RESEARCH HIGHLIGHTS

Supports cartilage metabolism & repair

Glucosamine and chondroitin are essential components of cartilage metabolism and cartilage repair and regeneration:[1]

- Glucosamine is a water-soluble amino monosaccharide. It is synthesized from glucose in almost every human tissue and is most abundant in connective tissue and cartilage. It is an important precursor of glycoprotein and glycosaminoglycan (GAG) synthesis. In cartilage, it plays a role in the formation of hyaluronic acid, chondroitin sulfate and keratan sulfate, which are—aside from the collagen fibers—the most important components of the extracellular matrix of the joint cartilage and synovial fluid. Glucosamine production is the rate-limiting step in GAG synthesis, and glucosamine supplementation may overcome this bottleneck.
- Chondroitin sulfate is a sulfated glycosaminoglycan usually found attached to proteins as part of a proteoglycan. Chondroitin, an important structural component of cartilage, helps promote lubricating fluids for joints and cartilage and helps provide resistance to compression.
- The function of chondroitin can be structural or regulatory, depending on the properties of the proteoglycan it is in. As a major component of the extracellular matrix, chondroitin is important in maintaining the structural integrity of the cartilage. The sulfate groups of chondroitin sulfate are tightly packed and highly charged, which generates electrostatic repulsion, providing resistance of the cartilage to compression. For this reason, the loss of chondroitin will decrease resistance to compression and may result in damage to the cartilage under stress.

Chondroitin also interacts with proteins in the extracellular matrix to help regulate a wide range of cellular activities, including anti-inflammatory and immune-modulating activity. In addition, chondroitin stimulates the synthesis of proteoglycans and hyaluronic acid while inhibiting the synthesis of proteolytic enzymes and nitric oxide.1

Helps alleviate knee/hip pain due to arthritis

In 2006, one landmark clinical trial[2] known as the GAIT Trial (Glucosamine/chondroitin Arthritis Intervention Trial) evaluated the efficacy and safety of glucosamine (as HCl) and chondroitin sulfate as a treatment for knee pain due to osteoarthritis (OA).

This multicenter, double-blind, placebo- and celecoxib-controlled trial involved more than 1,580 patients with symptomatic knee OA. Patients were randomly assigned to receive 1,500 mg of glucosamine daily, 1,200 mg of chondroitin sulfate daily, both glucosamine and chondroitin sulfate, 200 mg of celecoxib daily, or placebo for 24 weeks. Up to 4,000 mg/day of acetaminophen was allowed as rescue analgesia. Assignment was stratified according to the severity of knee pain (mild vs. moderate-to-severe). The primary outcome measure was a 20% decrease in knee pain from baseline to week 24. The mean age of the patients was 59 years and most (64%) were women. For patients with moderate-to-severe pain, but not mild pain, at baseline, the rate of response was significantly higher with combined therapy than with placebo (79% vs. 54%, respectively; P=.002). Adverse events were mild, infrequent, and evenly distributed among the groups.

These initial findings are supported by numerous controlled clinical trials. One meta-analysis[3] of 30 randomized, controlled trials confirms chondroitin is more effective than placebo for relieving pain and improving physical function, while glucosamine exerts its effect on relieving stiffness in people with hip or knee OA.

Additionally, this glucosamine HCl and chondroitin sulfate combination has been reported to have comparable efficacy to celecoxib in reducing pain, stiffness, functional limitation and joint swelling/effusion after 6 months in patients with painful knee OA, with a good safety profile.[4]

1. Jerosch J. *Int J Rheumatol.* 2011;2011:969012.
2. Clegg DO, et al. *N Engl J Med.* 2006;354:795-808.
3. Zhu X, et al. *J Orthop Surg Res.* 2018;13(1):170.
4. Hochberg MC, et al. *Ann Rheum Dis.* 2016;75(1):37-44.