

# Glucosamine & Chondroitin

**Bio-home Glucosamine and Chondroitin (750/600) Tablets** is an effective formula, for the symptoms of joint disorders, with a clinically tested dose of glucosamine 1500mg and chondroitin 1200mg. This formula helps maintain joint health, relieve joint pain and repair articular cartilage. <sup>[24-25]</sup>

## What is Glucosamine & Chondroitin?

**Glucosamine** is an amino sugar which exists in our body in form of proteoglycans.<sup>[1,2]</sup> Proteoglycan is found in articular cartilage and other connective tissues.<sup>[1,2]</sup> Proteoglycans viscoelastic property keeps large amount of water in cartilage, reduce friction and absorb shock. <sup>[3-5,25]</sup> Glucosamine is important for maintaining the elasticity, strength and resiliency of the cartilage in joints. Clinically proven, administration of glucosamine stimulates mucopolysaccharide and collagen synthesis in cartilage tissue and allows rebuilding of damaged cartilage. In addition to supporting cartilage, glucosamine enhances both the production of hyaluronic acid and its protective action of joint. <sup>[25]</sup>

**Chondroitin** is one of the natural glycosaminoglycans that is synthesized endogenously and secreted by the chondrocytes, constituents most of the cartilaginous tissues.<sup>[24]</sup> Chondroitin absorbs water, adds thickness and elasticity of cartilage and enhances its ability to absorb compressive forces. It also controls the formation of new cartilage matrix, by stimulating chondrocyte metabolism and synthesis of collagen and proteoglycan. Chondroitin reduces cartilage destruction and maintains joint function by inhibiting degradative enzymes which break down cartilage matrix and synovial fluid. <sup>[25]</sup>

Although glucosamine and chondroitin can be synthesized by the body, their production declines with age. <sup>[24]</sup> Damage and erosion of articular cartilage results in pain and reduced mobility. **Bio-home Glucosamine and Chondroitin (750/600) Tablets** provides necessary glucosamine and chondroitin for their chondroprotective action and maintains healthy joints. <sup>[1-17, 24-25]</sup>

## Articular Cartilage – Bumper for the Joints

Cartilage provides a low-friction surface that covers the ends of the bones.<sup>[1]</sup> It has viscoelastic properties that provide lubrication during motion, shock absorbency, and load support.<sup>[1,5-7]</sup> Hence, normal and healthy articular cartilage will enable smooth joint movement, prevent damage of bone by friction and weight, and stabilize position of bones and joints.

## Why do we need Glucosamine & Chondroitin?

Cartilage is mainly composed of water, which its level decreases with age. About 85% of cartilage is water in young people, while it drops to about 70% water in older people.<sup>[8]</sup> With decrease of water content, the cartilage become harder.<sup>[1,6,8]</sup>

This explains why joint movements usually become less smooth as we age.

Swelling and joint pain could be resulted from a range of disorders that cause structural and functional failure of synovial joints; result in wearing of the ends of the bones in a joint. It is characterized by involvement of the entire joint, with loss and erosion of articular cartilage, synovial swelling, and outgrowth of bone and cartilage at the joint margins (osteophytes). These changes result in pain, stiffness (especially after inactivity) and reduced mobility, although patients with these changes characteristic of osteoarthritis are often asymptomatic. Mechanical factors such as misalignment and muscle weakness contribute to joint damage and loss of function. The joints most often affected are hands, hips, and knees.<sup>[24]</sup>

Conventional anti-inflammatory drugs and pain-killer very often irritate the stomach, leading to gastrointestinal discomfort and lack of appetite. In contrast, glucosamine and chondroitin are natural and neutral and would not cause disturbances to the stomach. They are the optimal supplement for joint health.<sup>[12, 24]</sup>

## Common Joint Problems:

- Loss of bone density and bone fracture<sup>[15]</sup>
- Stiff shoulder joint<sup>[16]</sup>
- Hip bone discomfort<sup>[2,3,6,9,14]</sup>
- Sport injuries and ligament swelling<sup>[7-9]</sup>
- Lumbar spine dislocation<sup>[8]</sup>
- Degeneration of spinal column, vertebral bone and knee canopy<sup>[8]</sup>
- Stiff and pain of joint<sup>[1-4,7-17,19,20]</sup>
- Swelling of fingers and wrists joint<sup>[4,16]</sup>
- Joint pain due to over-working<sup>[6,7]</sup>
- Varicose veins<sup>[18]</sup>

## Significant effects observed for continued intake of 3 to 6 months or above<sup>[24-25]</sup> :

- Relieve pain and swelling
- Enhance recovery of articular cartilage and slow down cartilage degeneration
- Decrease outgrowth of bone and cartilage at the joint margins
- Supplement for synovial fluid
- Strengthen the flexibility of joints
- Enhance walking ability
- Promote wound healing
- Promote blood circulation

## Recommended daily dose:

Adults take 1-2 tablets daily or as recommended by physicians.

## References:

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