

# PAW OSTEOCARE® JOINT PROTECT CHEWS

PAW OsteoCare® Joint Protect chews have been specifically formulated to help improve joint health and function in dogs. With high levels of the premium active ingredients glucosamine & chondroitin, OsteoCare® provides everyday joint care for dogs of all ages.







#### **BENEFITS:**

- Glucosamine sulphate is a glycosaminoglycan precursor, a building block that is essential for optimal joint cartilage health and function.
- Chondroitin sulphate is a major structural component of articular cartilage, and is vital for cartilage and joint health.
- Balanced combination of other nutrients that work together to maintain joint health.
- Improves mobility and protects against joint damage.
- Palatable fish and chickpea chew that is easy to give as a daily supplement.

#### WHEN TO RECOMMEND:

Ideal for dogs that are predisposed to joint problems, such as:

- Large breed dogs
- Overweight dogs
- Very active dogs
- Dogs that have had any form of joint surgery
- Dogs with poor conformation

#### **Each PAW OsteoCare® Chew contains:**

Active ingredients	Small chews (2.5 g/chew)	Medium-large chews (5 g/chew)
Glucosamine sulphate	250 mg	500 mg
Chondroitin sulphate	125 mg	250 mg
Vitamin C	20 mg	40 mg
Manganese gluconate	11 mg	22 mg

#### Dosage:

7.5 - 15 kg

OsteoCare® Small Dog Dosage		
Size: 75 g Tub (approx. 30 chews)		
Bodyweight	Daily Dose	
1 - 7.4 kg	1 Chew	

OsteoCare® Medium-large Dog Dosage		
<b>Size:</b> 300 & 500 g Tubs (approx. 60 & 100 chews)		

Bodyweight	Daily Dose
1 - 9.9 kg	½ a Chew
10 - 24.9 kg	1 Chew
25+ kg	2 Chews

**Administration:** Feed daily

**Size:** 75g Tub (Approx 30 x 2.5g chews), 300g Tub (Approx. 60 x 5g chews) and 500g Tub (Approx. 100 x 5g chews)

2 Chews

#### Warnings/Safety:

- For animal consumption only.
- Not recommended for use in acute or infectious joint conditions.
- Use with caution in pregnant or lactating animals as safe use in these groups has not been established.

### **EDUCATION**

## Glucosamine and chondroitin are key nutrients for joint health

Chondroitin sulphate is part of a family of naturally occurring compounds known as glycosaminoglycans (GAGs). GAGs are long sugar polymers that are structural elements between the protein filaments of cartilage and connective tissue.1 Chondroitin sulphate is the most prevalent GAG. It appears to protect cartilage by supplying it with the substrates needed for repair, and by inhibiting enzymes in the synovial fluid that damage cartilage. It nourishes chondrocytes and increases the fluid content of the extracellular matrix<sup>2</sup>, acting as a shock absorber, and transporting nutrients into the cartilage.<sup>3</sup> In several clinical trials, chondroitin has shown potential to stabilise, or even reverse the pathology of osteoarthritis.4 Its therapeutic effect is gradual in onset, but can last months after ceasing treatment, or with intermittent dosing.5,6

Glucosamine is a chondroprotective that stimulates the production of GAGs, which are attached to proteins, as well as preventing their degradation.<sup>7</sup> It may also stimulate synovial production of hyaluronic acid, which is responsible for synovial fluid's lubricative and cushioning properties.<sup>8,9</sup> Furthermore, glucosamine may have anti-inflammatory benefits<sup>10</sup> and as such, has been the subject of extensive human and animal studies as a treatment for osteoarthritic symptoms.<sup>11,12</sup>

Chondroitin sulphate and glucosamine are combined frequently in supplements, and some trials suggest that they may be effective not only in treating arthritis symptoms, but also in reducing the narrowing of joint spaces, i.e. that they may have a preventative role. An in-vitro study of equine cartilage found that the combination was more effective than either alone in preventing GAG degradation in articular cartilage.

When combined with analgesics, glucosamine has also been synergistic, additive or subadditive, suggesting that some glucosamine: NSAID ratios might enhance pain relief, or lower the dose of NSAIDs required.<sup>14,16</sup>

#### References

1. Liesegang TJ. 1990. Viscoelastic substances in ophthalmology. Surg Ophthamol., 34(4):268-93. 2. Krane SM, 1990. Clinical implications of cartilage metabolism in arthritis. Eur J Rheumatol Inflamm., 10(1):4-9. 3. Sasada T et al. 2005. Role of chondroitin sulfate on mechanical behaviour of articular cartilage. Re Chiba Inst Technol., 42:91-7. 4. McCarty MF. 1998. Enhanced synovial production of hyaluronic acid may explain rapid clinical response to high-dose glucosamine in osteoarthritis. Med Hypotheses, 50(6):507-10. 5. Mazieres et al. 2005. P140 Chondroitin sulfate in the treatment for knee osteoarthritis. Osteoarthritis Cartilage, 13(Suppl 1):S74. 6. Uebelhart et al. 2004. Intermittent treatment of knee osteoarthritis with oral chondroitin sulfate. Osteoarthritis Cartilage, 12(4):269-76. 7. Braun L & Cohen M. 2007. Herbs & Natural Supplements: An Evidence-Based Guide, 2nd edn. Sydney: Elsevier. 8. McCarty MF. 1998. Enhanced synovial production of hyaluronic acid may explain rapid clinical response to high-dose glucosamine in osteoarthritis. Med Hypotheses, 50(6):507-10. 9. McCarty MF et al. 2000. Sulfated glycosaminoglycans and glucosamine may synergize in promoting synovial hyaluronic acid synthesis. Med Hypotheses, 54(5): 798-802. 10. Hua J et al. 2002. Inhibitory actions of glucosamine, a therapeutic agent for osteoarthritis, on the functions of neutrophils. J Leucocyte Biol., 71(4):632-40. 11. Towheed TE et al. 2003. Glucosamine therapy for osteoarthritis. Cochrane Database Syst Rev.: 1. 12. Aragon CL et al. 2007. Systematic review of clinical trials of treatments for osteoarthritis in dogs. J Am Vet Med Assoc., 230(4):514-21. 13. Neil KM et al. 2005. The role of glucosamine and chondroitin sulfate in treatment for and prevention of osteoarthritis in animals. J Am Vet Med Assoc., 226(7);1079-88. 14. McCarthy G et al. 2007. Randomised double-blind, positive-controlled trial to assess the efficacy of glucosamine/chondroitin sulfate for the treatment of dogs with osteoarthritis. Vet J., 174 (1): 54-61. 15. Dechant JE et al. 2005. Effects of glucosamine hydrochloride and chondroitin sulfate, alone and in combination, on normal and interleukin-2 conditioned equine articular cartilage explant metabolism. Equine Vet J., 37 (3):227-231. 16. Tallarida RJ et al. 2003. Antinociceptive synergy, additivity, and subadditivity with combinations of glucosamine plus nonopioid analgesics in mice. J Pharmacol Exp Ther., 307(2): 699-704.