

Old Dog. New Boots.



Reliably gives dogs with
OA a new lease of life.


chanelle
PHARMA

Decades of trust

Miles of relief

Pentosan polysulphate sodium (PPS):

- Is a semi-synthetic polysaccharide and the active ingredient in **Osteopen**
- Has been used to manage canine osteoarthritis (OA) since the 1980's
- Is classed as a **disease modifying osteoarthritis drug (DMOAD)**, it has a **multi-action effect** to help maintain joint health with **chondroprotective, analgesic, anti-inflammatory and regenerative properties**^{1,2}
- Targets the **underlying pathogenesis** to help slow the progression of OA³



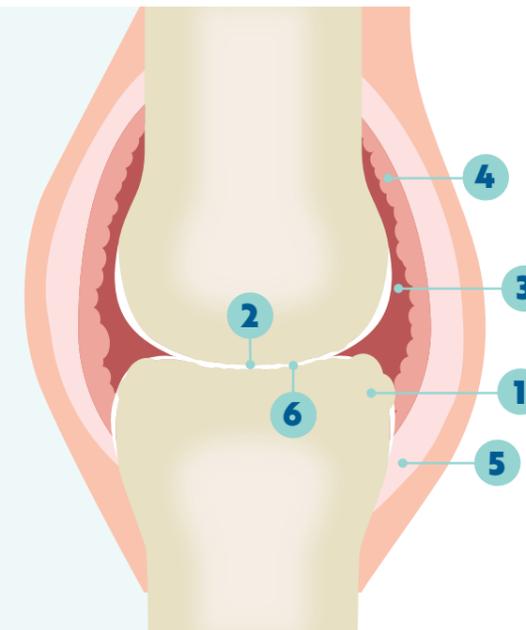
Studies have found PSS is effective:

- **As effective** as the NSAID, carprofen, in the treatment of canine OA lameness and pain, with a **longer-lasting efficacy**⁵
- **Significantly less pain** on joint manipulation and improved orthopaedic scores in dogs receiving PSS vs placebo⁶
- Results in a **significant improvement in weight bearing** for dogs with hip OA⁷

PSS has a good safety profile with a low incidence of side effects which were mild and transient⁴

1/3 experts use PSS in mild canine OA cases, increasing to 2/3 for severe cases⁸

Pathogenesis of OA



- 1 Osteophytes
- 2 Cartilage failure*
- 3 Reduced viscosity of synovial fluid*
- 4 Synovitis*
- 5 Thickened capsule
- 6 Narrowed joint space
- + Vascular disruption*

*Osteopen sites of action

Osteopen targets multiple underlying pathological processes involved in OA²

Inhibits cartilage degeneration³

Promotes chondrogenic differentiation of bone marrow mesenchymal stem cells (MSCs)²

Promotes synthesis of proteoglycans and collagen type II²

Improves quality of synovial fluid²

Exerts protective effects on chondrocyte characteristics and improves the extracellular matrix (ECM) quality in chondrocytes²

May improve subchondral and synovial membrane blood flow due to antithrombotic and fibrinolytic properties¹

Modulates cytokine action¹

OA in Practice

Risk Factors & Initiating Causes'

OA is a progressive and degenerative disease, associated with pain and inflammation with structural and functional decline of joints.⁸

Recent studies indicate 38-40% of dogs show some signs of OA, and young dogs can be affected as well.^{9,10}

Risk factors for disease development and progression⁸



Diet



Obesity



Genetics



Age



Breed



Environment

Initiating causes of OA⁸



Age related degeneration



Acute or chronic trauma/overloading



Developmental joint disease (e.g. hip dysplasia)

OA management needs a multimodal approach, tailored to the dog and caregiver needs:

Weight management

Exercise modification and physiotherapy

NSAIDs



Improving joint health
e.g. Osteopen

Nutritional management

Additional analgesics

Surgery

Osteopen in practice

See what your colleagues think



Dr Alasdair Frost
BVMS, Cert SAS,
MRCVS

Alasdair discusses orthopedic medical management in relation to early arthritis and preventative treatments.

Use Osteopen as part of your multimodal approach to OA

- 1 Identify disease early** – Osteopen slows the progression of OA. It is therefore most effective when administered as early as possible in OA cases
- 2 Assess your patient** – Using an appropriate clinical metrology instrument (CMI) pain scoring system
– Radiography is important for diagnosis and monitoring progression, but treatment recommendations should be based on clinical signs⁸
- 3 Develop a multimodal plan** to manage OA
- 4 Administer Osteopen** and advise on the importance of completing the full course to see an improvement.
– Many cases will only show visible improvement at the third or fourth injection of the primary course⁵
- 5 Schedule repeat visits** – these visits can be used to discuss other aspects of OA care if needed
- 6 Send them home** with an Osteopen support pack
- 7 Monitor disease progression** using an appropriate and consistent clinical metrology instrument (CMI) pain scoring system and adapt treatment plan accordingly

Choose Osteopen

100 mg/ml pentosan polysulphate sodium (PPS)

Use Pentosan in your OA management plan to give your patients a new lease of life.

USE

For the treatment of lameness and pain of degenerative joint disease/osteoarthritis (non-infectious arthrosis) in the skeletally mature dog.

DOSAGE

Give as a course of 4 injections, 5-7 days apart. Administer by aseptic subcutaneous injection.

Weight (kg)	Volume Osteopen (ml) 3 mg/kg (0.3 ml/10 kg)	Weight (kg)	Volume Osteopen (ml) 3 mg/kg (0.3 ml/10 kg)
5	0.15	30	0.90
10	0.30	35	1.05
15	0.45	40	1.20
20	0.60	45	1.35
25	0.75	50	1.50

The course may need to be repeated 1-3 times a year. Regular assessments will allow monitoring of pain, response to treatment and aid the timing of courses.

Note: Osteopen should not be used in cases with clotting disorders, bleeding or advance liver and/or kidney impairment.



Speak to your local territory manager to find out more.



Prescription decisions are for the person issuing the prescription alone.

REFERENCES: **1.** Budsberg SC, Bergh MS, Reynolds LR, Streppa HK. Evaluation of pentosan polysulfate sodium in the postoperative recovery from cranial cruciate injury in dogs: a randomized, placebo-controlled clinical trial. *Veterinary Surgery*. 2007 Apr;36(3):234-44. **2.** Wang Y, Sunaga T, Mwale C, Akaraphutiporn E, Kim S, Okumura M. Pentosan polysulfate sodium promotes redifferentiation to the original phenotype in micromass-cultured canine articular chondrocytes and exerts molecular weight-dependent effects. *Journal of Veterinary Medical Science*. 2023;85(6):680-90. **3.** Vaughan-Scott T, Taylor JH. The pathophysiology and medical management of canine osteoarthritis: continuing education. *Journal of the South African Veterinary Association*. 1997 Mar 1;68(1):21-5. **4.** Hannon RL, Smith JG, Cullis-Hill D, Ghosh P, Hope Cawdery MJ. Safety of Cartrophen Vet in the dog: review of adverse reaction reports in the UK. *Journal of Small Animal Practice*. 2003 May;44(5):202-8. **5.** VET C. A multicentre clinical study of the efficacy of sodium pentosan polysulfate and carprofen in canine osteoarthritis (osteoarthritis). *Journal of Small Animal Practice*. 1996 Mar;37(3):108-14. **7.** Suheb S, Mahesh V, Nagaraja BN. Treatment of hip osteoarthritis in dogs using pentosan polysulfate sodium: A clinical study. *Parameters*. 2015;2. **8.** Cachon T, Frykman O, Innes JF, Lascelles BD, Okumura M, Sousa P, Staffieri F, Steagall PV, Van Ryssen B. COAST development Group's international consensus guidelines for the treatment of canine osteoarthritis. *Frontiers in Veterinary Science*. 2023 Aug 3;10:1137888. **9.** Wright A, Amodio DM, Cernicchiaro N, Lascelles BD, Pavlock AM, Roberts C, Bartram DJ. Identification of canine osteoarthritis using an owner-reported questionnaire and treatment monitoring using functional mobility tests. *Journal of Small Animal Practice*. 2022 Aug;63(8):609-18. **10.** Enomoto M, de Castro N, Hash J, Thomson A, Nakanishi-Hester A, Perry E, Aker S, Haupt E, Opperman L, Roe S, Cole T. Prevalence of radiographic appendicular osteoarthritis and associated clinical signs in young dogs. *Scientific Reports*. 2024 Feb 3;14(1):2827. **Contains:** Pentosan Polysulphate Sodium 100 mg/ml. **Target species:** dogs. **Indications for use:** the treatment of lameness and pain of degenerative joint disease/osteoarthritis (non-infectious arthrosis) and related musculoskeletal disorders by therapeutic activity on the underlying pathological processes (disease modifying osteoarthritis drug) in the dog. Refer to product packaging and leaflets for full indications, side effects, precautions, warnings and contra-indications. **Use medicines responsibly.** Further information can be found on the datasheet, SPC or at www.chanellepharma.com. **Distributed by:** Chanelle Pharmaceuticals Manufacturing Ltd, Loughrea, Co. Galway, Ireland. UK: Vm 08749/4086 Copyright ©Chanelle 2025 All rights reserved.

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