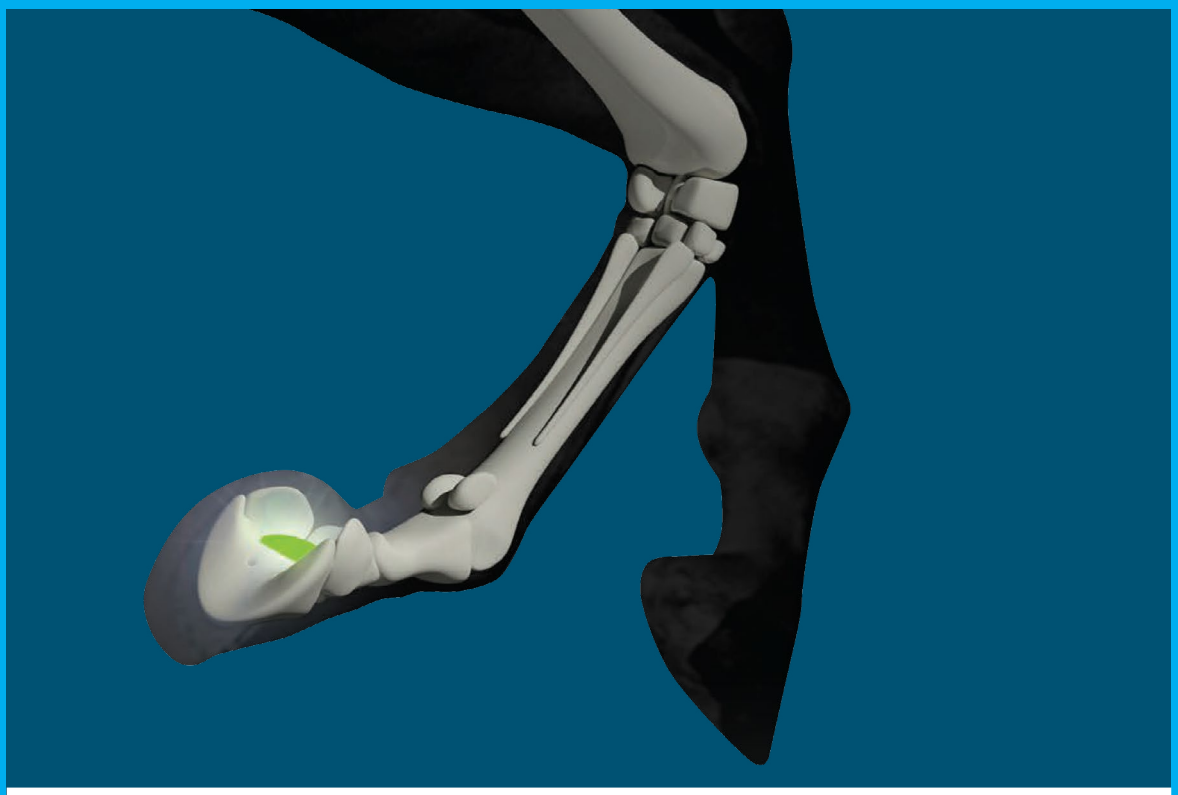
RXVET PHARMACEUTICALS

Osphos®

A stride forward

EASILY ADMINISTERED | WELL TOLERATED | PROVEN EFFICACY



Technical Manual

Introducing Osphos®, the **new intramuscular injection** from the innovators in equine health

Osphos® 60 mg/ml Disodium clodronate as 51 mg/ml clodronic acid solution is administered by simple intramuscular injection. It is the only licensed intramuscular product in New Zealand for the control of clinical signs associated with the bone resorptive processes of navicular syndrome.

With Osphos® the benefits are clear...

How Osphos® works

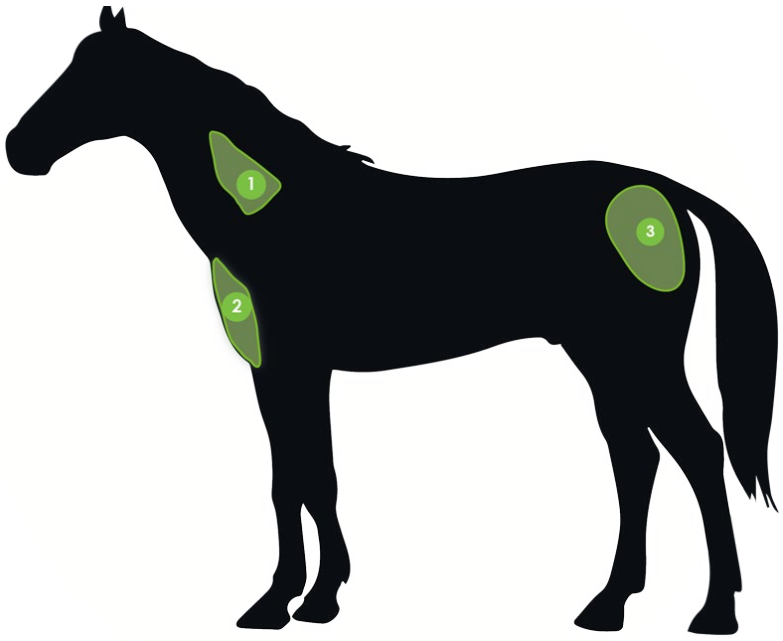
Osphos® uses the Bisphosphonate Clodronic acid to help restore the balance between resorption and remodelling in diseased bone.

Osphos® binds to hydroxyapatite crystals on the navicular bone which are taken in by the osteoclast during bone resorption. This inhibits osteoclast activity by preventing them from adhering to the bone surface and inducing osteoclast cell death.

This helps to reduce mineral loss.

Simple administration

Osphos® solution for injection is presented in a 15 ml vial sufficient to treat one horse.
It is administered via **intramuscular injection** and should be evenly spread over 2 to 3 injection sites.



Suitable sites for injection:

1. **Centre of the lower neck**
2. **Pectoral muscles**
3. **Gluteal muscles**

Recommended dosage

3 ml per 100 kg of bodyweight

Solution for injection

Disodium Clodronate 60 mg/ml as Clodronic acid 51 mg/ml

Intramuscular injection provides a quick and easy route of administration, and a full dose can be administered in minutes.

With Osphos® the benefits are clear

Efficacy

- Clinical improvement in lameness visible at **28 days** after treatment with Osphos®[1].
- Lameness in **74.7%** of horses improved by at least one grade at 56 days after treatment.
- Horses with navicular syndrome positively respond to treatment with Osphos®.

Side Effects

- **1.6%** of treatments resulted in signs of colic.
- **0.8%** of injection sites showed a reaction which resolved without medical intervention within 2-3 days.
- Use caution with concurrent administration of Phenylbutazone and other NSAIDs.
- For more information please read the data sheet.

Repeat treatments

- Osphos® has proven efficacy at 6 months post-treatment in **65.8%** of cases.
- Treatment with Osphos® may be repeated from 3 months onwards depending on results and level of work that the horse is in.

Complementary care

- A holistic approach is beneficial when treating lameness; husbandry, management, shoeing and exercise should all be considered for the best results.
- **Remedial farriery**
  Trimming and shoeing can greatly aid in correcting and maintaining foot balance; this is particularly important when dealing with navicular syndrome.
- **Exercise**
  Controlled exercise has been proven to be beneficial.
- **Interim analgesia**
  It may be advisable to prescribe non-steroidal anti-inflammatory drugs in order to relieve pain associated with the condition. Concurrent administration of Phenylbutazone has been shown to be well tolerated.

[1] Frevel et al (2014), Multi-centre field trial to evaluate the effectiveness of clodronic acid (as disodium clodronate) for navicular syndrome, BEVA Congress Scientific Proceedings 2014.

Data Sheet

FOR ANIMAL TREATMENT ONLY
RESTRICTED VETERINARY MEDICINE

Osphos® 51 mg/ml

Solution for Injection For horses

Statement of the active substance and other ingredients:

1 ml contains:

- Active substance: Clodronic acid 51 mg (equivalent to clodronate disodium tetrahydrate 74.98 mg)
- Clear, colourless solution for injection.

Indication:

For the alleviation of clinical forelimb lameness associated with the bone resorptive processes of the distal sesamoid (navicular bone) in adult horses.

Contraindications:

- Do not administer intravenously.
- Do not administer to horses less than 4 years of age due to the absence of data regarding use in growing animals.
- Do not administer to horses with impaired renal function.
- Do not use in cases of known hypersensitivity to the active substance or to any of the excipients.

Adverse reactions:

In a clinical field study, administration of clodronic acid at 1.19 mg/kg to 142 horses resulted in the following frequency of adverse reactions: nervousness, lip licking, yawning and colic were common; head bobbing, transient swelling and/or pain at the injection site, pawing the ground, hives and pruritus were uncommon.

Episodes of renal insufficiency have been reported, rarely, during the post-authorisation period, and were more frequently observed in animals concurrently exposed to NSAIDs. In these cases, appropriate fluid therapy should be instituted and renal parameters monitored.

The frequency of adverse reactions is defined using the following convention:

- common (more than 1 but less than 10 animals in 100 animals displaying adverse reactions during the course of one treatment)
- uncommon (more than 1 but less than 10 animals in 1,000 animals)
- rare (more than 1 but less than 10 animals in 10,000 animals treated)
- very rare (less than 1 animal in 10,000 animals treated, including isolated reports).

If you notice any serious effects or other effects not mentioned in this package leaflet, please inform your veterinary surgeon.

Target species:

Horses.

Dosage for each species, route and method of administration:

- Intramuscular injection only. 1.53 mg clodronic acid per kg body weight, corresponding to 3 ml per 100 kg body weight.
- The maximum dose is 765 mg clodronic acid per horse (one 15 ml vial per horse >500 kg).
- Do not exceed the recommended dose.

Advice on correct administration:

Divide the total volume evenly for administration at 2 to 3 separate injection sites.

Withholding period:

- Animals (or specific species if the WHP is species stratified) producing meat or offal for human consumption must not be sold for slaughter either during treatment or within 63 days of the last treatment.
- Not authorised for use in animals producing milk for human consumption.
  It is an offence for users of this product to cause residues exceeding the relevant MRL in the Food Notice: Maximum Residue Levels of Agricultural Compounds

Special storage precautions:

- Keep out of the sight and reach of children.
- Do not store above 30°C.
- Keep the container in the outer carton.
- Do not use this veterinary medicinal product after the expiry date which is stated on the carton and vial label.
- The expiry date refers to the last day of that month.
- Once broached use immediately.
- For single use only; any remaining product should be discarded.

Special warnings:

Special warnings for each target species:

The veterinary medicinal product should be used only after a proper lameness examination (including nerve and/or joint blocking), combined with appropriate imaging, in order to identify the cause of pain and the nature of bone lesions. Clinical improvement in lameness may not be accompanied by improvement in the radiological appearance of the navicular bone.

Special precautions for use in animals:

- Use caution when administering bisphosphonates to horses with conditions affecting mineral or electrolyte regulation systems, e.g. hyperkalaemic periodic paralysis, hypocalcaemia.
- Adequate access to drinking water should be provided when using the product. If uncertainty exists about renal function, renal parameters should be assessed before administration of the product. Water consumption and urine output should be monitored after administration.

User warnings:

- Accidental self-injection of this product may increase the risk of obstructed labour in pregnant women and affect fertility in men. Care should be taken when handling the product to avoid self-injection.
- In case of accidental ingestion do NOT induce vomiting. For advice contact the National Poisons Centre 0800 POISON (0800 764 766) or your doctor immediately.
- If skin or hair contact occurs remove contaminated clothing and flush with running water. If splashed in eyes wash out immediately with water.

Pregnancy and lactation:

- Laboratory studies in rats and rabbits have shown evidence of maternotoxic effects, especially during late gestation stages.
- Laboratory studies in rats and rabbits have not produced any evidence of teratogenic or foetotoxic effects.
- The safety of the veterinary medicinal product has not been studied in pregnant or lactating mares. The use of the product during pregnancy or lactation in mares is not recommended.

Interaction with other medicinal products and other forms of interaction:

- Medications such as antibiotics of the aminoglycoside group whose toxicity can be exacerbated by a reduction of blood (serum) calcium levels, and medications such as antibiotics of the tetracycline group that can reduce blood (serum) calcium levels, should not be given for 72 hours after administration of clodronic acid.
- Concurrent administration of potentially nephrotoxic drugs, such as NSAIDs, should be approached with caution and renal function should be monitored.

Overdose (symptoms, emergency procedures, antidotes):

- Adverse reactions may occur when the dose is exceeded.
- At 2X, 3X and 5X the dose, flehming, head shaking, neck retching, pawing, agitation, depression, muscle twitching and colic may be observed. A dose related trend for increases in blood urea nitrogen (BUN) and creatinine may also occur.
- At 5X dosing of clodronic acid, 3 out of 6 horses developed temporary gait abnormalities including hypermetria, spasticity or mild ataxia.
- Erosions of the glandular mucosa of the stomach have been observed in 2 out of 8 animals administered 3X the recommended treatment dose. This was not observed in the 1X or 2X groups.
- In 1 of 8 horses administered 3X the recommended treatment dose a 3 cm diameter area of muscle atrophy was observed at one of the injection sites.
- In a clinical safety study conducted in 48 animals, signs of colic were observed in 94% of animals administered 3X the recommended treatment dose. In most cases, repeated hand walking was adequate to alleviate symptoms.
- Monthly administration of a 1X dose for a total of six months did not lead to signs of overdose.

Incompatibilities:

- In the absence of compatibility studies, this veterinary medicinal product must not be mixed with other veterinary medicinal products.

Special precautions for the disposal of unused product or waste materials:

- Any unused veterinary medicinal product or waste materials derived from such veterinary medicinal product should be disposed of in accordance with local requirements.

Product Registration number - ACVM Registration No: A11429

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For more information please contact your Veterinary Account Manager or RXVET Technical Support Line on 0800 4 RXVET (79838)

RXVET Limited | 0800 4 RXVET | info@rxvet.co.nz | www.rxvet.co.nz