

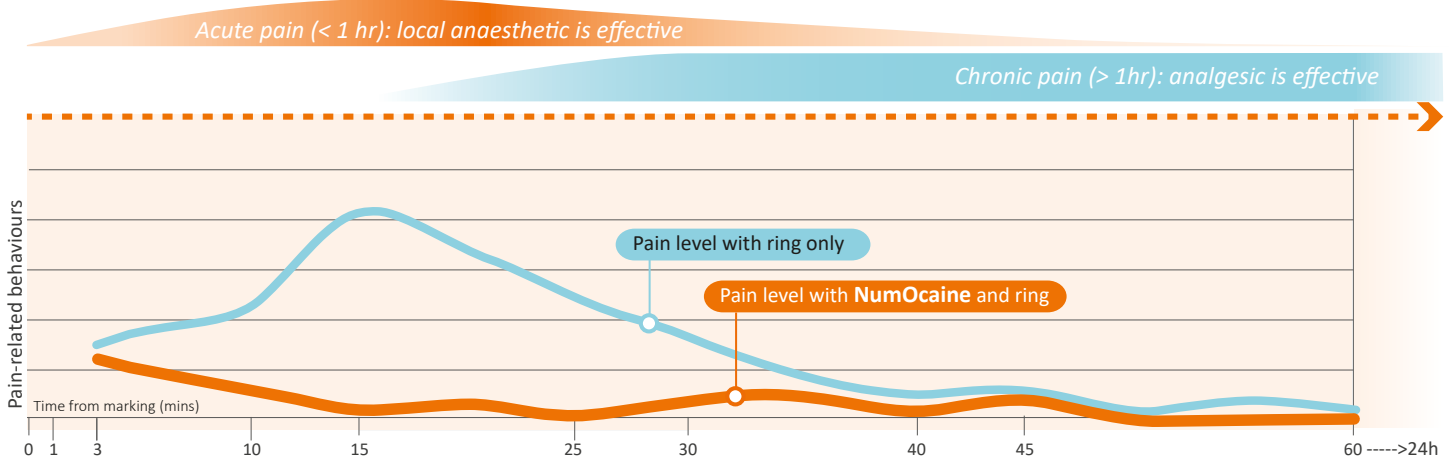
NumOcaine®: Primary Pain Medication for the Peak Pain Period Only NumOcaine® provides relief **where** it's most needed, **when** it's most needed

NumOcaine® uses a formulation of 2% lignocaine, the same medication that dentists use before extracting or drilling into a patient's teeth. In lambs, this powerful, fast-acting local anaesthetic addresses the immediate acute pain that follows ring marking by effectively blocking the nerve signals. It can be used alone or, as described here, within a best practice approach for combined pain relief.



This factsheet provides information about NumOcaine®, the medication used with the Numnuts® device.

Lamb pain behaviours with and without NumOcaine® local anaesthetic



Ring marking and pain in lambs

Studies show that lambs experience the most intense pain 15-45 minutes after ring application, when the initial restriction of the blood supply causes pain to rise to its peak level. This early acute stage is precisely when the lambs need a fast-acting primary medication that numbs the affected area.

As a local anaesthetic, NumOcaine® is injected with the Numnuts® device at the same time as ring application. It starts acting within one minute, blocking the most intense pain experienced by the lamb. It then remains effective throughout the 45 minutes of acutely elevated pain.

In CSIRO trials led by Dr Alison Small, the injection of 1.5 mL of NumOcaine® (2% lignocaine) into the tail or scrotum of 2 to 4-week-old lambs brought powerful pain relief for 60

minutes. Scientists observed a significant **68% reduction** in pain-related behaviours for the first 20-50 minutes after ring marking.

NumOcaine® starts acting within one minute

One hour after ring application, the pain substantially decreases. This occurs because the ring has largely disabled the nerve function, so the acute pain subsides just as the anaesthetic's potency decreases.

"Delivery of lignocaine with the Numnuts® instrument improved welfare outcome of lambs during the acute pain response caused by castration and tail docking with rubber rings." Small et al. 2020¹



NumOcaine® is an S5 drug and is available over the counter in agriculture and farm supply stores, from participating vets, and via the Numnuts® online store. There is no meat withholding period associated with NumOcaine®.

Combining local anaesthetic with analgesics

“Pain is sometimes classified as immediate (fast) pain, and chronic (slow) pain. During painful animal husbandry procedures, there may be immediate pain associated with the procedure, as well as slower long-term pain associated with any injury and healing.” Meat & Livestock Australia²

Two different types of pain medication - local anaesthetics and analgesics - can work one after the other to cover both the high level, intense pain of the acute phase, followed by the slow pain of the chronic inflammation phase.

NumOcaine® is the only injectable local anaesthetic that is delivered precisely at the site of the ring-marking procedure, and which blocks pain during the acute phase. By contrast, spray-on products work only with open wounds.



Standing hunched

Analgesics, also known as NSAIDs (Non-Steroidal Anti-Inflammatory Drugs), act more slowly, starting to take effect after 30 minutes. They are most effective in dulling the sensations a few hours after application. After this their potency subsides, although they are measurable in the bloodstream for at least 24 hours.

“Use of local anaesthesia with NSAIDs, for livestock undergoing routine husbandry procedures provides greater amelioration of the pain response than use of a single agent alone, and should be recommended as current best practice.” Small et al, 2020³

This optimal combination gives lambs *“the best chance of recovering faster, addressing both the immediate pain and distress and any pain that might occur during the healing process, as well as reducing the possibility of infection.” Australian Wool Innovation⁴*

References

1. Small AH, Jongman EC, Niemeyer D, Lee C, Colditz IG. Efficacy of precisely injected single local bolus of lignocaine for alleviation of behavioural responses to pain during tail docking and castration of lambs with rubber rings. Res Vet Sci. 2020 Dec; 133:210-218.

2. Meat and Livestock Agency, Fact sheet - Pain mitigation in sheep. 2020.

3. Small AH, Fisher A, Lee C, Colditz UG, Gap Evaluation of Pain Alleviation Research. AWI Final report. June 2020

4. Australian Wool Innovation Limited, Anaesthetics and Analgesics at Lamb Marking, 2020.



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