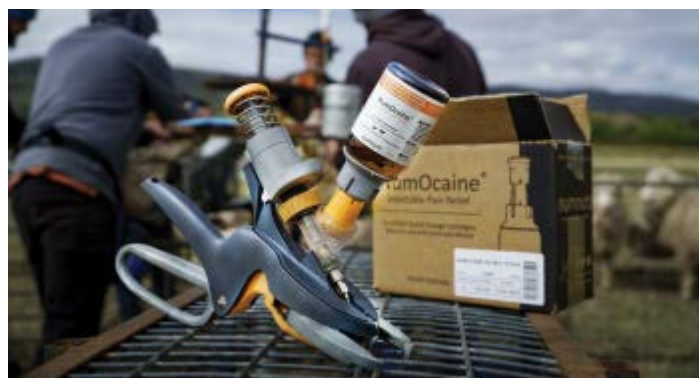


## NumOcaine Fact Sheet

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

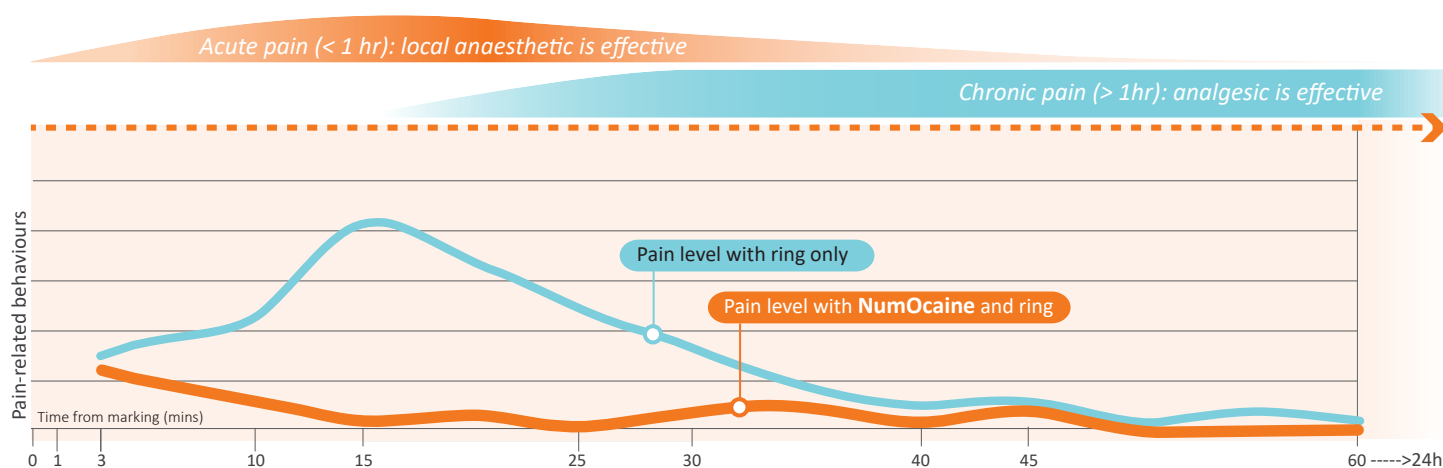
### NumOcaine: Primary Pain Medication for the Peak Pain Period

NumOcaine uses a formulation of 2% lignocaine, the same anaesthetic that many 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.



### Lamb pain behaviours with and without NumOcaine local anaesthetic

Figure 1



Adapted from A. Small et al; (2021).

### Ring marking and pain

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 via 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 1.5ml of NumOcaine (2% lignocaine) into the tail or scrotum of 2 to 4-week-old lambs brought a strong effect of pain relief

within the first hour. Scientist observed up to a significant **68% reduction**<sup>1</sup> in pain-related behaviours in this timeframe using the Numnuts Device and NumOcaine.

**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."*<sup>2</sup>

***“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.”<sup>3</sup> Dr Ali Small***

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



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.”<sup>4</sup>*

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.”<sup>5</sup>*

*“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.”<sup>3</sup>*

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.



**Only NumOcaine provides relief where it's most needed, when it's most needed**

### References

1. Internal data on file
2. 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.
3. Meat and Livestock Agency, Fact sheet - Pain mitigation in sheep. 2020.
4. Small AH, Fisher A, Lee C, Colditz UG, Gap Evaluation of Pain Alleviation Research. AWI Final report. June 2020.
5. Australian Wool Innovation Limited, Anaesthetics and Analgesics at Lamb Marking, 2020.

Figures  
Figure 1: A. Small et al; Local anesthetic delivered with a dual action ring and injection applicator Numnuts reduces the acute pain response of lambs during tail docking; Animals 11(8):2242; Aug 2021



V230124

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