

# ANAESTHETICS AND ANALGESICS AT LAMB MARKING

The development of effective and practical anaesthetic and analgesic treatments for lambs has been a critical advance in alleviating the pain and distress lambs experience at marking. This factsheet provides growers with information on the available options for alleviating pain associated with mulesing, tail docking and castration.

## Why provide anaesthetics and analgesics?

Mulesing, tail docking and castration are painful procedures that cause distress for the lamb due to:

- the distress from being physically restrained during the lamb marking process
- the distress of being separated from their dam
- the immediate pain of the procedure
- the longer-term pain and discomfort associated from inflammation of the wound, which can last for days.

Haemorrhage and post-surgical infection of the wound are also important animal welfare concerns. However, research has shown that the pain and distress experienced by lambs at marking can be reduced or alleviated with the appropriate use of anaesthetics and analgesics that are now available for use on sheep.

## What anaesthetics and analgesics are available for pain relief at marking?

There are currently four products available for sheep for alleviating pain from mulesing, tail docking and/or castration, specific to the different techniques.

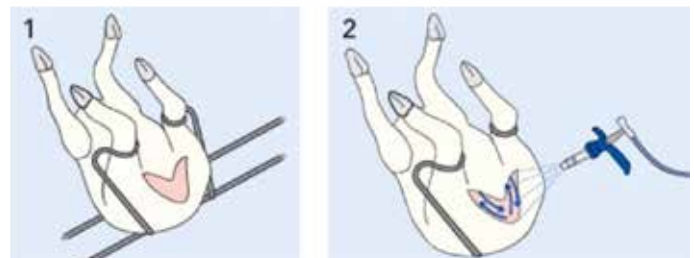
### Fast acting but short lasting anaesthetics

Local anaesthetics block pain so sensory function of the area is lost. The two local anaesthetic products available for use at lamb marking are Tri-Solfen® and NumOcaine®.

Tri-Solfen® is a topical pain relief and antiseptic solution that contains:

- **Two local anaesthetics**, for immediate and longer lasting pain relief
- **Adrenaline**, to reduce blood supply to the area, reducing blood loss
- An **antiseptic**, reducing the risk of infection to the open wound.

Tri-Solfen® is applied as a gel spray directly onto the open wound (such as the mulesing wound, tail stump or inside the scrotum) and provides immediate (within one minute) pain relief that lasts up to 24 hours. It also works to seal and protect the wound, reducing the risk of infection and assisting with healing.



Apply Tri-Solfen® immediately after mulesing.

Apply Tri-Solfen® as a series of stripes up and down the wound for full coverage of the wound and tail.

Tri-Solfen® needs to be sprayed onto open wounds to work and so does NOT provide pain relief for rings.



**NumOcaine® (delivered via the Numnuts® device)** is an injected local anaesthetic developed specifically for ring castration and tail docking with rings. It provides immediate pain relief, reaching maximum intensity 15-35 minutes after application.

## Slow acting but longer lasting analgesics

Two analgesic products are registered for use in sheep in Australia: **Buccalgescic®** and **Metacam 20®**, they contain the same active, meloxicam which is a non-steroidal anti-inflammatory drug (NSAID).



**Buccalgescic®** administers the dose of meloxicam orally as a viscous paste, inside the mouth between the gums and cheek, with no needle required.



**Metacam 20®** administers meloxicam as a subcutaneous injection high on the neck behind the ear.

Products with meloxicam alleviate pain and inflammation and reduce fever and fluid production caused by tissue damage. These are slower-acting than local anaesthetics, can be injected or applied orally, and provides longer-lasting pain relief for over 24 hours. When it comes to lamb marking these products can be used for mulesing, surgical castration, hot or cold knife tail docking, ring castration and ring tail docking.

The combination of both Tri-Solfen® or NumOcaine® with a meloxicam product provides the most effective pain relief and gives the lamb 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.

When deciding the best option for providing anaesthetics or analgesics to your lambs for lamb marking it is recommended you consult your vet as there are many variables and factors to consider. It is also important to remember that all drugs used for lamb marking, whether prescribed or over the counter, have meat withhold periods associated with their use.

The welfare of lambs is underpinned by the Australian Animal Welfare Standards and Guidelines for Sheep.

These Standards and Guidelines are the legal requirements for the welfare of sheep. They have been endorsed, by all States. More information on the Standards and Guidelines can be found at: [www.animalwelfarestandards.net.au/sheep/](http://www.animalwelfarestandards.net.au/sheep/)

It is also recommended you be aware of your State's regulations, as every State may have different pain relief requirements for sheep.

### Further information

Further information on best practice mulesing techniques is available at [www.wool.com/flystrikelatest](http://www.wool.com/flystrikelatest), including

- **Plan, Prepare and Conduct Best Welfare Practice Lamb Marking Procedures Guide**
- **Anaesthetics and analgesics including FAQs - Beyond the Bale article.**

	Action	Application	WHP	Mulesing	Tail docking with knife/hot knife	Castration with knife	Tail docking with rings	Castration with rings
TRI-SOLFEN®	Short acting local anaesthetic	Fan spray application to the wound (effective in less than 1 min)	90 days	✓	✓	✓	✗	✗
BUCCALGESIC®	Longer acting analgesic	Oral with custom applicator – gel applied inside the cheek (effective from 10 mins)	10 days	✓	✓	✓	✓	✓
METACAM 20®	Longer acting analgesic	Subcutaneous injection into muscle high on neck (effective from 10 mins)	11 days	✓	✓	✓	✓	✓
NUMOCAINE® (NUMNUTS® DELIVERY)	Short acting local anaesthetic	Injection with Numnuts® device (effective in less than 1 min)	0 days	✗	✗	✗	✓	✓

Growers must follow all label directions and veterinary instructions when using pain relief products. BUCCALGESIC®, METACAM 20®, NUMOCAINE® (NUMNUTS® DELIVERY) are Section 4 (S4) veterinary medications and require consultation with your local vet. TRI-SOLFEN® is available over the counter from your local reseller.

## Cost of analgesics and anaesthetics

Prices used are the standard retail price (GST incl) for the product alone. They do not include the cost of labour to administer the product. Follow all label directions and veterinary instructions when using pain relief products.

### Recommended retail prices for Buccalgesic® (Troy Laboratories, as at December 2019)

Castration and tail docking	Total dose	Cost @ 48 cents per mL
Lambs under 10 kg	1.0 mL	\$0.48
Lambs 10.1 -15.0kg	1.5 mL	\$0.72
Lambs 15.1 to 20.0kg	2.0 mL	\$0.96
Lambs 20.1 to 25 kg	2.5 mL	\$1.20

### Recommended retail prices for Metacam 20® (Boehringer Ingelheim, as at August 2020)

All purposes	Total dose	Cost @ 132 cents per mL
Lambs under 10 kg	0.50 mL	\$0.66
Lambs 10.1 -15.0kg	0.75 mL	\$0.99
Lambs 15.1 to 20.0kg	1.00 mL	\$1.32
Lambs 20.1 to 25 kg	1.25 mL	\$1.65

### Recommended retail prices for NumOcaïne® (MavLab, as at August 2020)

Husbandry practice	Total dose	Cost @ 45 cents per mL
Tail docking	1.5 mL	\$0.67
Castration	1.5 mL	\$0.67
Castration and tail docking	3.0 mL	\$1.34

The Numnuts® applicator retails for \$385 incl GST.

### Recommended retail prices for Tri-Solfen® (Bayer, as at August 2020)

Husbandry practice	Total dose	Cost @ 13 cents per mL*
<b>Mulesing</b>		
Lambs 5-10kg	6.0 mL	\$0.78
Lambs 11-15kg	8.0 mL	\$1.04
Lambs 16-20kg	10.0 mL	\$1.30
Lambs over 20kg	12.0 mL	\$1.56
<b>Castration</b>		
Lambs up to 10kg	3.0 mL	\$0.39
Lambs over 10kg	4.5 mL	\$0.59
<b>Tail docking (if not concurrently mulesed)</b>		
Lambs up to 10kg	1.5 mL	\$0.20
Lambs over 10kg	2.0 mL	\$0.26
<b>Combined castration, tail dock &amp; mules</b>		
Lambs 5-10kg	9.0 mL	\$1.17
Lambs 11-15kg	12.5 mL	\$1.63
Lambs 16-20kg	14.5 mL	\$1.89
Lambs over 20kg	16.5 mL	\$2.15

\*Cost based on the 20 L pack (\$2616); note the RRP for the 1 L pack = \$200 (20 c per ml), 5 L pack = \$779 (16 c per ml)