

Field vet perspective on the application of pain relief for tail docking and castration of lambs

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This talk is a field veterinary perspective on lamb tail docking and castration procedures, the pain mitigation science and options available for farmers to apply. A more comprehensive report was published on the subject in the Grazing Gazette Issue no. 64 Dec 2023, and follows on from a webinar hosted by the sheep and beef vet committee on the topic.

The presentation will report on some field observations, feedback from farmers involved and discuss some of the challenges with adapting current pharmaceutical options available.

The areas of practicality, compliance, field application of prescription pharmaceuticals and making a meaningful difference will be explored.

“The why” is a very good place to start with producers and prescribing veterinarians. Do you want to be compliant or make a meaningful difference to welfare outcomes – or both? What is “the right thing to do”? It is a challenging space for many producers, there are many opinions and suspicions that this is not necessary or practical.

Consumer demand and processor requirements initiated a lot of the actions that have been taken thus far. An international textile body are requesting pain management be applied to sheep subjected to painful procedures. Brand partners retailing specific wool types wanting to meet their obligations and are requesting that wool growers use pain relief on lambs.

There are farmers wanting to comply with standards and supply brands that have pain management (tailing, castration and shearing cuts) as part of their obligations.

There are other farmer-types that just looking to explore better ways of doing things and improve welfare outcomes for their stock.

There are concerns that imposing the use of pain mitigation pharmaceuticals will have implications for other sectors (e.g. red meat), adding considerable compliance cost for routine procedures without buy-in from growers.

Where do the sheep vets sit on the issue? What are the societal expectations? What will come out of the New Zealand Welfare review into sheep and beef farming practices?

This is an emerging space that requires active participation from the veterinary community and prescribing vets. Reading science papers is of value. Getting out in the field and seeing for yourself is imperative if you are going to debate, advise or prescribe in this space.

What pain is occurring with tail docking and castration?

A starting point for prescribing veterinarians is to understand the procedures being undertaken, the methods applied, the environment where they take place and the mechanisms of an animal's response to a noxious stimuli. For New Zealand sheep systems hot iron cautery and rubber rings are the most common method for tail removal. Application of rubber rings are the main method of castration. The methods of measuring acute pain responses are by observing pain behaviours

(subjective) and measuring cortisol levels (objective). Other forms of measurement exist such as evaluating nerve ending responses or production parameters are also reported on.

The acute pain responses generated from tail dock and castration are different. The distinction between inflammatory response and nerve barrages are important to consider with respect to what pain alleviation method is chosen.

Procedure and method	Acute pain and time	Observable response to noxious stimuli during acute phase	Cortisol level at peak
None. Handled.			1-2
Hot Iron tail docking	Nerve barrage 2-4 sec	Sudden movement. Some vocalising at tail removal.	1-2
Rubber ring tail docking	Nerve barrage, ischaemia 5-45 min	Restlessness. Tail flicking. May sit down	1-2
Rubber ring castration	5-45 min	Restlessness. Open mouth panting. Vocalising. Lying down.	4

(Mellor and Stafford 2000)

Chronic pain parameters, such as inflammation will exist to some degree also, the extent and impact of chronic pain is difficult to research. There are generally no observable pain displays after the acute phase and cortisol levels return to base line after 2-4 hours with rubber ring application. The area of phantom pain, hyperalgesia of neuroma formation after the procedure are also hard to quantify and frame within the relevance of this topic. They are problematic to address with a mitigation or pharmaceutical solution. There may be local inflammatory processes of healing occurring that do not register any systemic or behavioural change.

Pharmaceutical mitigation strategies for alleviation of pain from tailing and castration

- Injectable Lignocaine
- Local spray-on
- NSAIDs (non-steroidal anti-inflammatory drugs)

Will discuss in the presentation pros and cons of current pharmaceutical options that have been prescribed and used in the New Zealand tailing systems.

Prescribing, compliance and precedence

Prescribing of lignocaine injection for use in tail docking and castration requires approval via Veterinary Operating Instruction (VOI) for contractors or Veterinary Authorisation (VA) for animal owners. This involves an audit of competency to handle and administer it correctly. A register of the drug usage is to be documented in a logbook. It will be a trust model between the animal owner or tailing contractor with the bona-fide veterinary supplier. The prescription period is for a 2- to 3-month period, after which a follow-up to audit the documentation of administration process is best practice.

The logistics of carrying out these authorisations and following up the appropriate use and documentation is not without some challenges for the New Zealand veterinary industry.

For the integrity of the Veterinary profession and their relationships with farmer clients the prescribing needs to be viewed by both parties as beneficial, practical, achievable and have significant productivity and welfare outcomes that can be observed and relied upon.

Farmers will get on board if they can see the benefits of improving the welfare of their lambs. They will also support measures that improve their image and perception that they genuinely care for their animals. Consumers want this too. For these reasons prescribing vets need to have a sound basis for their recommendations.

Prescribing

The current model of prescribing restricted veterinary medicines in New Zealand leaves the details of what is appropriate to prescribe up to the veterinarian for the farm. The guidance from the international standard as developed by the Textile Exchange is as follows:

Tail Docking Standard Operating Procedure

2. Pain relief measures.

“For all methods, pain relief shall be applied when suitable pain relief is available on the market. Pain management options shall be discussed with a veterinary surgeon and options shall be reviewed regularly. See the additional pain relief guidance sheet. Age Lambs shall not be tail docked until the ewe/lamb bond has become established. The procedure shall be carried out between the ages of 24 hours and 8 weeks.”

The use of the term ‘suitable’ is interesting to reflect on with the context of the data that is available. It is left largely up to the veterinarians and farmers to define this. In reality the farmer chooses what they want to do and often try various options before settling on a system.

The New Zealand context and systems needs to be considered along with a wholistic view of animal welfare outcomes, not just drug applications available for pain mitigation. This topic can be an opportunity to review, discuss and challenge a wider approach to welfare management.

Summary

For rubber ring castration of lambs injecting lignocaine anaesthetic into both sides of the scrotal sac is an appropriate and suitable option for alleviating pain. The application of lignocaine for tail removal is less clearly defined as suitable. The use of NSAIDs alone is not suitable for alleviating acute castration pain nor does it demonstrate any observable differences with respect to the discomfort displayed when applied to tail-docked lambs, whether hot iron or rings have been used. The effect of local anaesthetic gel on cauterised tissue is difficult to assess, but along with NSAIDs, are deemed compliant pain relief products that show some intent to mitigate pain. New technologies are likely to come to market that will super-seed current drug options and tail docking/castration methods. These too need to fit with requirements of efficiency and value. The international standard does allow for this: *“Pain management options shall be discussed with a veterinary surgeon and options shall be reviewed regularly”*.

Summary recommendations from the Sheep and Beef Veterinary Committee (2023)

1. Effective and appropriate analgesia is encouraged at the time of castration of lambs.
2. When castrating lambs with rubber rings the injection of local anaesthetic into the scrotal neck is the preferred method of providing acute pain relief.
3. There is a lack of suitable, practical, and effective pain relief options for rubber ring or hot iron tail docking.
4. Further research is required to address pain mitigation associated with tail docking. These measures must not be onerous to obtain or administer and have wide safety parameters.

There is a need for the Veterinary industry of New Zealand to set up a prescribing, training and auditing system for New Zealand vets to follow with clients wishing to pursue pain mitigation for castration.

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