



*“Comprehensive evaluation of the effect of extended-term delivery of a local anesthetic on mitigating the pain caused by castration”*

## IMPROVING PAIN CONTROL DURING BAND CASTRATION - PART 2

**PROJECT NO.:** ANH.25.20

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**BACKGROUND:** Band castration is a common practice used nationwide in cattle production. The procedure is bloodless, but it causes short term discomfort when the band is applied, as well as significant long-term pain as the scrotal tissue necroses due to lack of blood flow. Given the practicalities of cattle handling, and the desire of producers to mitigate the stress of handling, a product that can offer near immediate as well as long term pain mitigation in a single castration handling event would represent a significant advancement in band castration pain control.

A [previous project](#) determined that castration bands impregnated with a slow-release anesthetic (lidocaine) provided therapeutic levels of pain control for at least seven days, but more work is required to determine how long the pain control lasts and fulfill other regulatory requirements before this new type of band can be commercialized.

### OBJECTIVES:

1. Determine the efficacy of a slow-release anesthetic to mitigate the acute and chronic indicators of pain measured in castrated beef calves, including physiology, behaviour, and weight gain

2. Characterize the signs of pain and welfare expressed by calves at two industry-relevant ages (week old and after weaning) when exposed to an extended-term delivery of topical anesthesia
3. Develop a standardized pain evaluation protocol including the use of a combination of behavioural and physiological traits indicative of pain and discomfort in cattle to facilitate the development and registration of future pain mitigation tools.

**IMPLICATIONS OF THE RESEARCH:** An affordable way to relieve the long-term pain of band castration without requiring additional animal handling would be another tool in our toolbox to support animal welfare and improve public confidence.

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