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Disbudding: to sedate or not to sedate

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What our research is about

• Use of sedation is recommended as part of best practices for disbudding calves, although the impact of this medication on calves prior to disbudding has not been fully evaluated in controlled trials
• The objective of this study is to examine the effects of xylazine sedation, in conjunction with local anesthesia and NSAID analgesia, on outcomes associated with disbudding pain, play behaviour, inflammation, and stress responses in calves 2-6 weeks of age disbudded via cautery

What we are doing

• An entire room of calves (15 max) are used for one trial day, all calves receive lidocaine and meloxicam and half are randomly assigned to receive xylazine as well
• Measures collected include feeding behaviour, pressure sensitivity, serum haptoglobin (indicator of inflammation), play behaviour, standing and laying behaviour, struggle behaviours during disbudding, time to administer lidocaine, and time to perform disbudding

Potential research impact

• Improve welfare for calves undergoing cautery disbudding through assessing optimal pain control strategies
• Inform policy makers on best practices for disbudding calves
• Inform both producers and veterinarians on best practices for disbudding calves

What we’ve seen so far

• Trial is ongoing – will be completed by September, 2019
• Through observations during this trial it appears as though it takes much less time to both block and disbud calves that appear to have been sedated
• If a lidocaine nerve block was unsuccessful, the use of sedation did not mitigate the acute pain of the procedure

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Background on sedation

• Sedatives are recommended for disbudding as they are assumed to reduce the stress associated with the procedure, but the impact of xylazine as part of a disbudding protocol has not been evaluated through clinical trials
• Xylazine has been associated with temperature depression and should be used with caution in cold weather
• Human abuse potential exists for xylazine
• Past studies examining the effects of xylazine have found that cortisol levels were higher in sedated calves compared to non-sedated
• Use of outcomes other than cortisol such as self-rewarding behaviours, like play behaviour, will help to answer the question of whether sedation is beneficial for disbudding procedures

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