



Alleviation of Pain Associated with Disbudding with Ethyl Alcohol

Amanda Mathias, Oklahoma State University

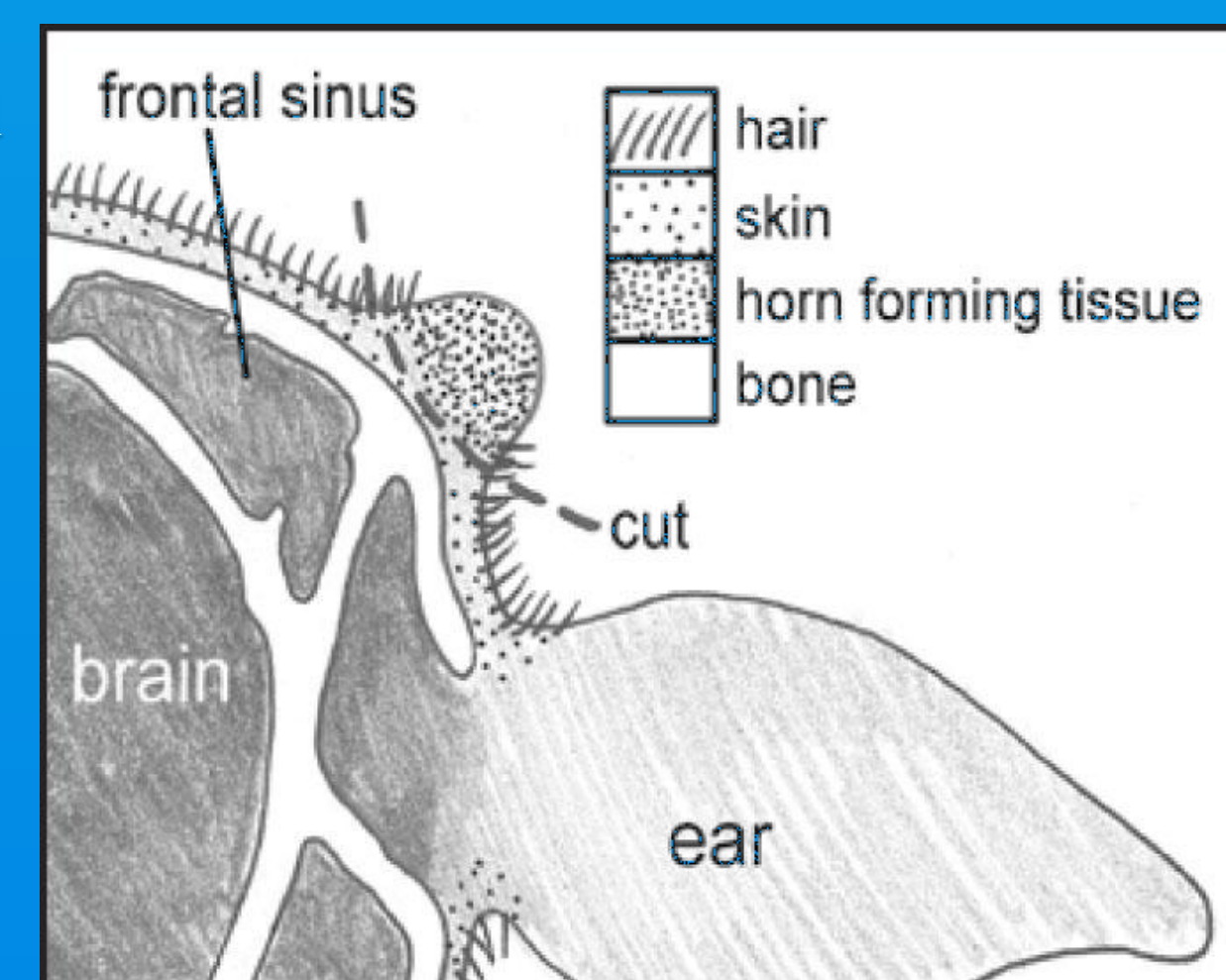


OBJECTIVES

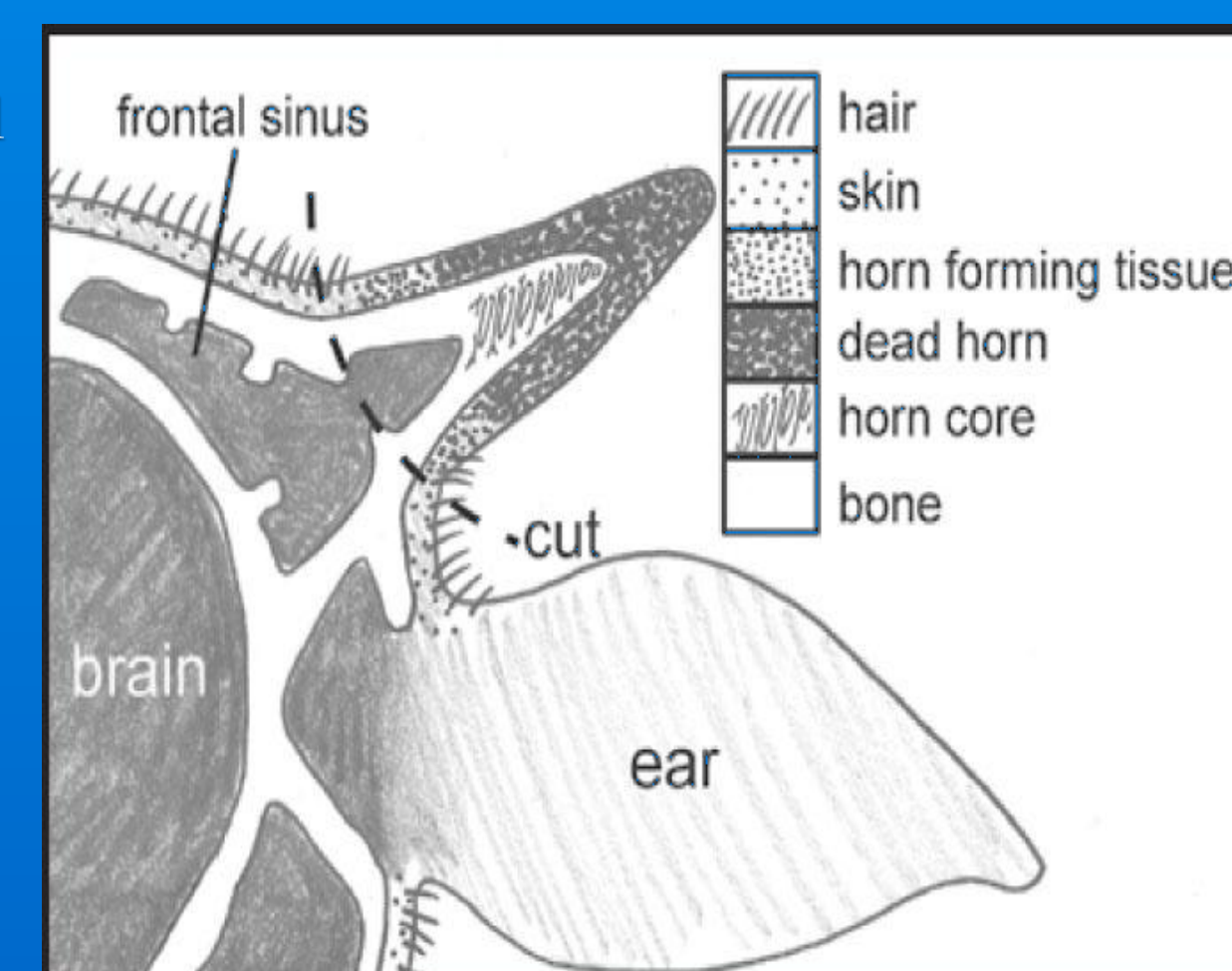
- Determine if anesthesia of the horn bud can be induced via cornual nerve block using ethyl alcohol.
- Determine the duration between administration of the block and onset of anesthesia.
- Determine the duration of anesthesia when using ethyl alcohol as a cornual nerve block.
- Determine any adverse effects of using ethyl alcohol as a cornual nerve block .

DISBUDDING VS. DEHORNING

Disbudding:
The removal of the horn before it attaches to the skull.



Dehorning:
The removal of the horn after it attaches to the skull.



REASONS FOR DISBUDDING

Safety from:

- Human perspective
- Animal perspective

Economic Ramifications:

- Increased
 - incidents of bruising
 - transportation costs
 - Feed bunk space
- Market price of horned vs. no horns
 - A concern horns may cause bruising during transportation and handling, which would adversely affect dressing percentage and if severe enough, product value.
 - Estimate of 22.3% of cattle with horns²

METHODS & MATERIALS

Dairy calves 1-4 weeks of age (n=16) were randomly assigned to one of four treatment groups:

- Trt. 1 (n=4) 5 ml 75% ethyl alcohol
- Trt. 2 (n=4) 2.5 ml 5% ethyl alcohol + 2.5 ml 2% lidocaine
- Trt. 3 (n=4) 5 ml 0.9% saline
- Trt. 4 (n=4) 5 ml 2% lidocaine

Prick Test

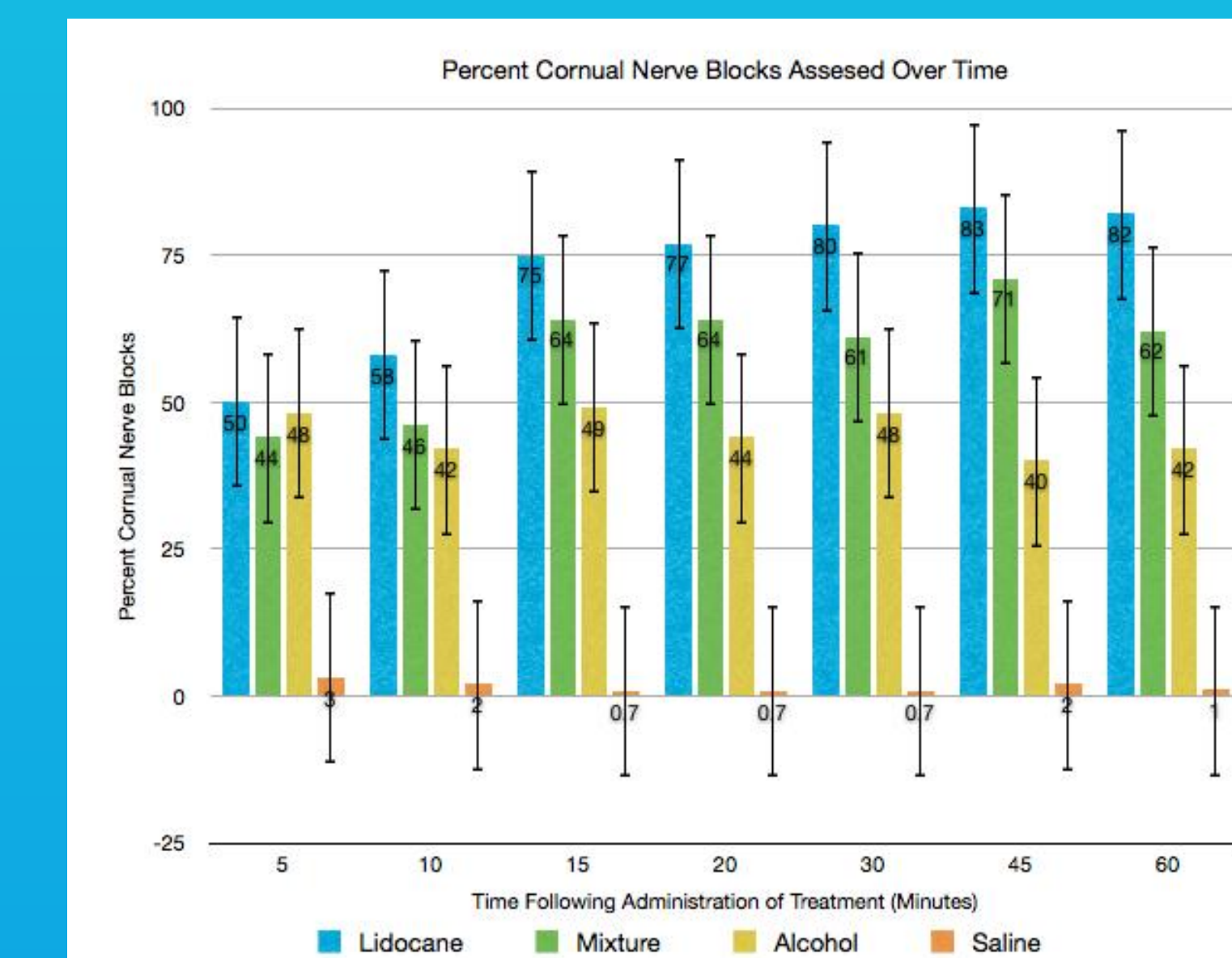
Needle prick area surrounding the horn bud on each horn:

- administered at 12, 3, 6, & 9 o'clock locations
- administered at 5, 10, 15, 20, 30, 60 min. and once a day for 2 weeks following administration of treatments

Prick Test

- Each horn = independent observation.
- considered blocked if calf did not move in response to prick.
- data presented as percentage of blocks at each time point.

Results



DISCUSSION

Disbudding is a necessary management procedure because it eliminates costs associated with horns and improves safety. This procedure can cause pain and distress in calves, but there are no FDA-approved pharmaceuticals for pain management in calves. However, extra-label use of some pharmaceuticals is an option for pain management. Results from the current experiment indicate ethyl alcohol can act as cornual nerve block to aid in pain management, but was not as effective as pharmaceuticals. Future studies are necessary to further evaluate optimum doses of ethyl alcohol and determine if these doses are an effective pain management technique for disbudding.

REFERNECES

¹Dehorning Series: Agfact A0.2.4 Edition: Second edition Last updated: cattlehttp://www.dpi.nsw.gov.au/agriculture/livestock/beef/husbandry/general/dehorning-cattle

²National Beef Quality Audit-2005

ACKNOWLEDGEMENTS

OSU Office of Scholar Development
Dr. Daniel Stein, OSU Department of Animal Science
Dr. John Gilliam Oklahoma State College of Veterinary Medicine
OK-LSAMP