Taking the pain out of disbudding for dairy producers

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**How are Horns Removed?:**

- Polled – not currently practical
- Burn
  - Thermal
  - Chemical

**Why are Horns Removed?:**

- Cow safety
- Owner safety

Pain Managed by:

- Local nerve block + NSAID
KTT – Project:

• Survey to Assess Current Disbudding Practices
  • Veterinarians and Producers in Ontario

• Development of Online Disbudding Training Tool

• Testing of Online Training Tool
  • Veterinary Students
  • Farmers
Survey Questions ...

- What medications are being used?
- What should we be using?
- How can we promote best practices?
Materials & Methods

- Surveys launched November 2014
  - Online (Qualtrics platform)
  - Telephone option

- Dairy producers
  - Random subset of licensed dairy producers, stratified by fifteen geographic zones (n = 603)

- Veterinarians
  - All currently practicing members of the Ontario Association of Bovine Practitioners (n = 238)
Respondents

- **Response rate**
  - Dairy producers – 27 % (n = 163)
  - Veterinarians – 39 % (n = 93)

- **Anonymous respondents**
  - Dairy producers – 0 / 163
  - Veterinarians – 3 / 93

- **No drop outs**
What medications are being used?

<table>
<thead>
<tr>
<th>Year</th>
<th>Dairy producers</th>
<th>Veterinarians</th>
</tr>
</thead>
<tbody>
<tr>
<td>2004</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Local anesthetic</td>
<td>21 %</td>
<td>92 %</td>
</tr>
<tr>
<td>Sedation</td>
<td>12 %</td>
<td>61 %</td>
</tr>
<tr>
<td>NSAID</td>
<td>0 %</td>
<td>2 %</td>
</tr>
<tr>
<td>2014</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Local anesthetic</td>
<td>62 %</td>
<td>97 %</td>
</tr>
<tr>
<td>Sedation</td>
<td>38 %</td>
<td>62 %</td>
</tr>
<tr>
<td>NSAID</td>
<td>24 %</td>
<td>48 %</td>
</tr>
</tbody>
</table>
# Local anesthetic

## Reasons for *use*

<table>
<thead>
<tr>
<th>Dairy producer (62 % use)</th>
<th>Veterinarians (97 % use)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pain control (92 %)</td>
<td>Ease of handling (92 %)</td>
</tr>
<tr>
<td>Ease of handling (81 %)</td>
<td>Pain control (87 %)</td>
</tr>
<tr>
<td>Safety (60 %)</td>
<td>Safety (77 %)</td>
</tr>
</tbody>
</table>

## Reasons for *lack of use*

<table>
<thead>
<tr>
<th>Dairy producer (62 % use)</th>
<th>Veterinarians (97 % use)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unaware (48 %)</td>
<td>Owner request (67 %)</td>
</tr>
<tr>
<td>Time (14 %)</td>
<td>Cost (33 %)</td>
</tr>
<tr>
<td>Cost (7 %)</td>
<td>Time (33 %)</td>
</tr>
</tbody>
</table>
### NSAID

#### Reasons for use

<table>
<thead>
<tr>
<th>Dairy producer (24 % use)</th>
<th>Veterinarians (48 % use)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pain control (82 %)</td>
<td>Pain control (100 %)</td>
</tr>
<tr>
<td>Availability (50 %)</td>
<td>Availability (85 %)</td>
</tr>
<tr>
<td>Low cost (32 %)</td>
<td>Low cost (49 %)</td>
</tr>
</tbody>
</table>

#### Reasons for lack of use

<table>
<thead>
<tr>
<th>Unaware (45 %)</th>
<th>Cost (92 %)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost (10 %)</td>
<td>Owner request (50 %)</td>
</tr>
<tr>
<td>Unnecessary for pain control (10 %)</td>
<td>Unnecessary for pain control (18 %)</td>
</tr>
</tbody>
</table>
So why don’t we use best practices?

• Producers not using local anesthetic or NSAIDs
  • Unaware
  • Cost very uncommonly cited

• Veterinarians not using NSAIDs
  • Concern over cost
Changing practices since 2004

Dairy producers
- Yes: 63%
- No: 37%

Veterinarians
- Yes: 72%
- No: 28%
Who or what influenced your changes?
Survey Conclusions

Improvement has been made → but there is room for more

Veterinary relationship associated with use of pain control

Disconnect
- Veterinary reasons for non-use NOT aligned with Producers reasons
  - Are veterinarians making assumptions on client willingness to adopt recommended practices?

J. Dairy Sci. 99(12):10161-10173
Can we raise awareness?

- 4 workshops throughout ON
- Tested 3 methods of teaching how to give local anesthesia
- All methods effective; demand for further workshops
Is online training as effective as hands-on training?

Is there benefit to a combined approach?
→ Five ½ day workshops with 6 – 10 participants

→ NO experience performing a cornual nerve block
Evaluation protocol

Background knowledge

Handling & restraint

Cornual nerve block technique

Time to perform nerve block

**Cornual nerve block efficacy**

Disbudding technique

Time to perform disbudding

Self-confidence
Cornual nerve block efficacy

Online: 21 / 23

Hands-on: 15 / 20

Combined: 21 / 23

$P = 0.17$
Online Disbudding - Conclusions

Despite differences in technical skill, speed, and confidence, online learning was surprisingly effective

*Caveats - motivated producers, evaluation effect?*

Some benefits to a combined approach

*Small differences or lack of sensitivity?*

Tough to get veterinarians to organize workshops (2)

*Yet 2 advertised workshops all filled!*

Potential applications:
- Sole resource for those unable to access hands-on training
- Preliminary resource to hands-on training
- Resource on-farm to refresh skills or train new employee
- Initiate discussion among producers, with herd veterinarian
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Overall Conclusions

• Adoption of pain control greatly improved in 10 years
• Producers strongly influenced by veterinarians
• Assumptions made by veterinarians on producer willingness to change may not be true
• Online teaching of disbudding technique, including nerve block, works
• Producers may be more willing to participate in workshops than veterinarians realize.
Thanks!

Questions?