

# **Pain Control in Dairy Cattle**

**Christopher Luby**

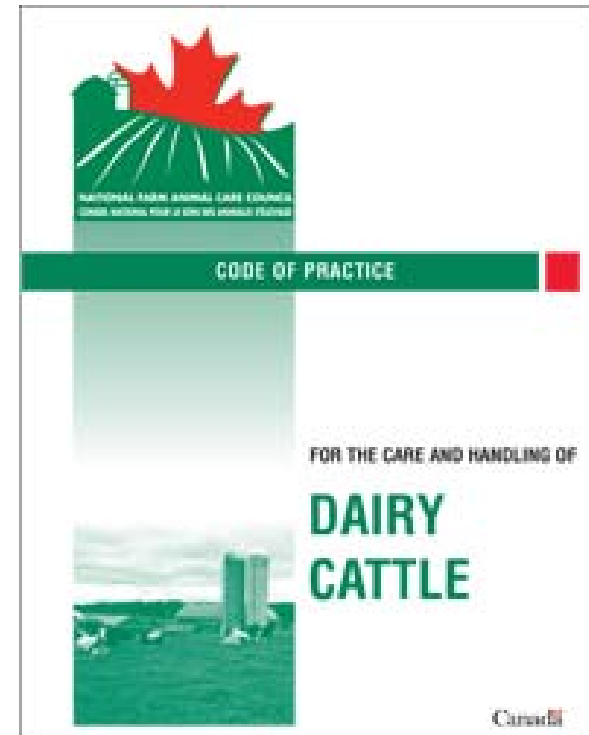
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# Take home points

- Dairy cattle experience pain
- Pain control is possible
- Prevention
- Treatment
- Pain Medication

# Why worry about pain?

- **Good animal care**
- **Pain = reduced production**
- **Welfare code**



# What is pain?

- **“An unpleasant sensory and emotional experience with actual or potential tissue damage” (Merskey, 1979)**
- **Cattle are herd animals so do not show pain well**
- **Err on the side of caution**

# Do cattle experience pain?

- **Castration**
- **Increased neural activity**
- **Increased:**
  - Heart rate
  - Temperature
  - Epinephrine/adrenaline
  - Cortisol
- **Pain medication reduces these:**
  - Local anaesthesia partially
  - Adding in pain control (e.g. metacam, anafen) improved results



Dockweiler et al. 2013. J Dairy Sci. 96:4340

# Examples of painful conditions

- Castration
- Dehorning
- Mastitis
- Calving
- Surgery
- Lameness
- Supranumary teat removal
- Etc






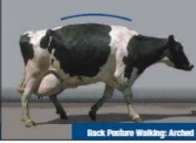




## Locomotion Scoring of Dairy Cattle\*



Available from:

The World Leader in Organic Trace Minerals

[www.availa4.com](http://www.availa4.com)

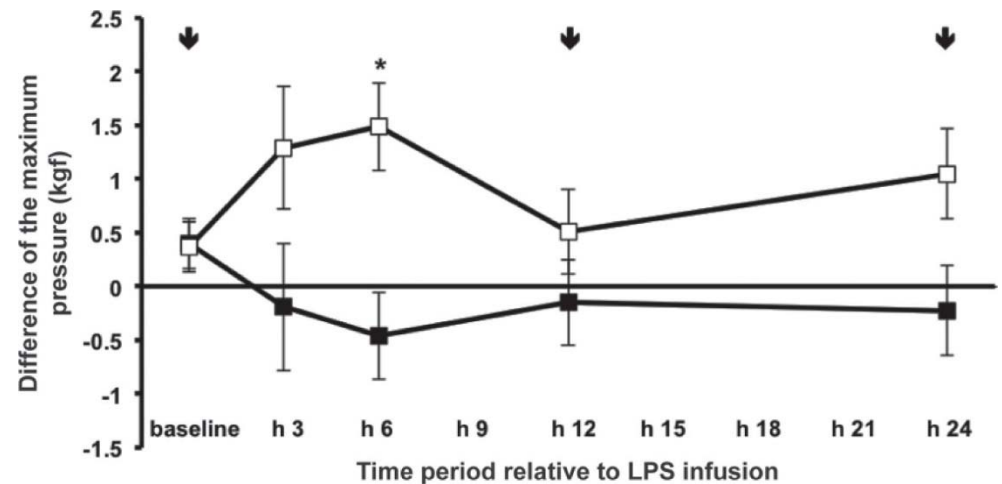
<b>LOCOMOTION SCORE 1</b> <b>NORMAL</b> Clinical Description: Description: Stands and walks normally with a level back. Makes long confident strides.	 Back Posture Standing: Flat	 Back Posture Walking: Flat
<b>LOCOMOTION SCORE 2</b> <b>MILDLY LAME</b> Clinical Description: Description: Stands with flat back, but arches when walks. Gait is slightly abnormal.	 Back Posture Standing: Flat	 Back Posture Walking: Arched
<b>LOCOMOTION SCORE 3</b> <b>MODERATELY LAME</b> Clinical Description: Description: Stands and walks with an arched back and short strides with one or more legs. Slight sinking of dew-claws in limb opposite to the affected limb may be evident.	 Back Posture Standing: Arched	 Back Posture Walking: Arched
<b>LOCOMOTION SCORE 4</b> <b>LAME</b> Clinical Description: Description: Arched back standing and walking. Favoring one or more limbs, but can still bear some weight on them. Sinking of the dew-claws is evident in the limb opposite to the affected limb.	 Back Posture Standing: Arched	 Back Posture Walking: Arched
<b>LOCOMOTION SCORE 5</b> <b>SEVERELY LAME</b> Clinical Description: Description: Pronounced arching of back. Reluctant to move, with almost complete weight transfer off the affected limb.	 Back Posture Standing: Arched	 Back Posture Walking: Arched

\*Adapted from Sprecher, S.J., Heiderick, D.J., Kanawa, J.B. 1997. The Jerning 47-1176-1187 and contributions from Cook, N.S. University of Wisconsin.

From: Zinpro

# Pain and mastitis

- *E. coli* mastitis
- Pain differences between quarters
- Filled boxes: metacam
- Open boxes: placebo
- Higher values = pain



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# Signs of pain

- **Decreased movement**
- **Reduced interactions with other animals**
- **Decreased feed intake**
- **Changed responsiveness**
- **Changes associated with location of pain (e.g. limping)**
- **Changes in posture**
- **Poor coat condition**
- **Grinding teeth**



# Stewardship

- Public perception is crucial
- The “public” buys our products
- We have to be seen to be perfect
- Animal “rights” groups want to shut us down


**Slice of Cruelty**  
DAIRY INDUSTRY'S CRIMINAL ANIMAL ABUSE EXPOSED

TAKE ACTION | CHOOSE VEG | DONATE

MERCY FOR ANIMALS

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### More Information



An undercover investigator with Mercy For Animals documented horrific animal abuse at Winchester Dairy in New Mexico, a milk supplier to Leprino Foods — the world's largest mozzarella cheese producer. Leprino Foods is a primary cheese supplier to Pizza Hut, Domino's and Papa John's restaurants nationwide. The hidden-camera video footage shows:

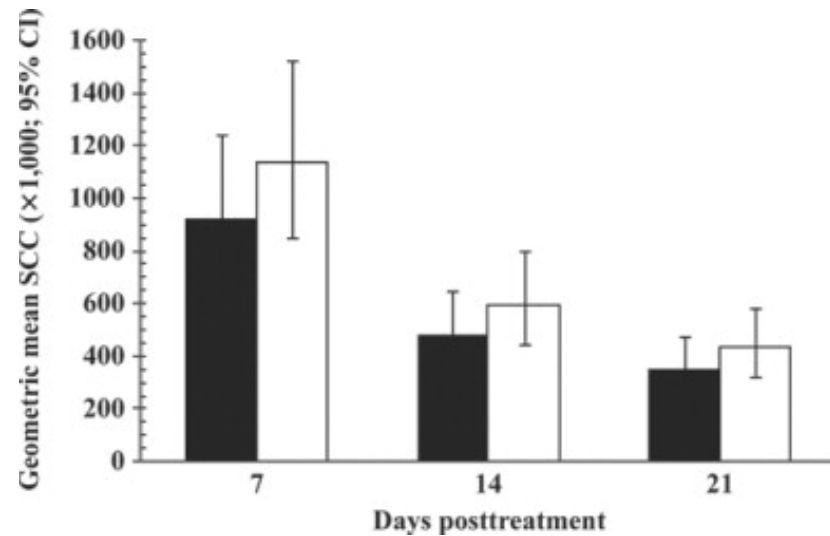
- Workers viciously kicking and punching cows, and stabbing them with screwdrivers, causing bloody wounds and injuries
- Cows being violently whipped in their faces and bodies with chains and metal wires
- Workers maliciously shocking sick and injured cows and dragging them with tractors
- Sick or injured cows suffering from open wounds, infections, and injuries left to suffer without proper veterinary care

Expert Opinions

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# Finances of pain control

- Financial analysis of mastitis treatment  $\pm$  metacam
- Cost of a clinical case drops \$15
- This includes the cost of the metacam



*Journal of Dairy Science* 2009 92, 4421-4431 DOI: (10.3168/jds.2009-2284)

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# Welfare code

- Pain mentioned **30** times in dairy code
- Facility design
- Handling facilities
- Animal health
- Requirements:
  - Cattle that are in pain must be provided prompt medical care or euthanized
  - Pain control must be used when dehorning or castrating
  - Pain control must be used if branding is necessary
  - Euthanasia must cause the least possible pain

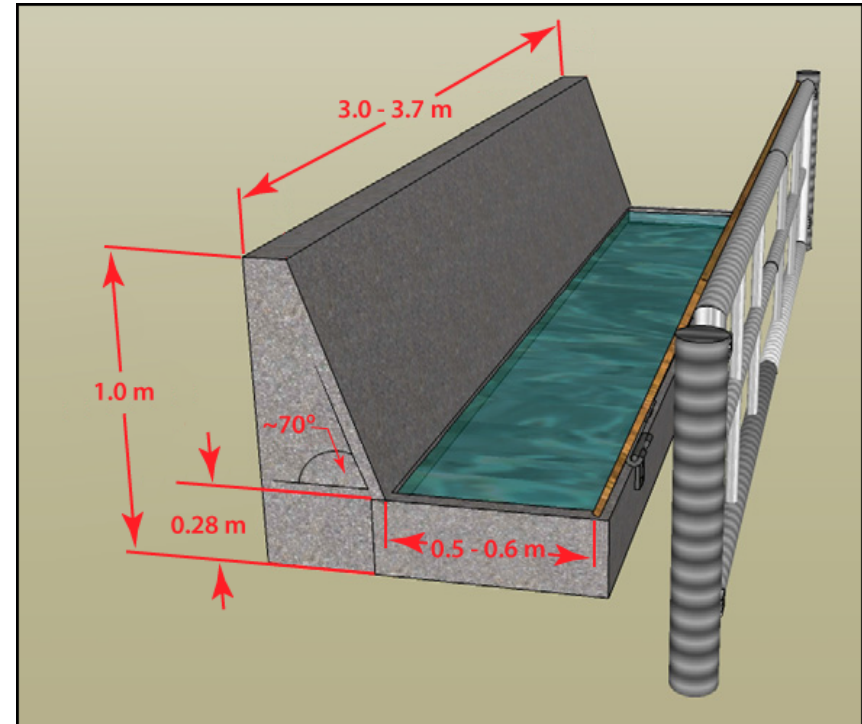
# Pain control

- How to we manage painful conditions?
- Prevention
- Treatment
- Pain medication



# Prevention

- Good disease management
- Prevents disease and pain
- Mastitis Control
- Lameness Control
- Etc.



Dr. N. Cook. University of Wisconsin

# Treatment

- **Specific treatment for the condition**
- **Pain control**
- **Examples:**
  - Treat lame cows
  - Treat mastitis
  - Good calving practices
- **Local anesthetics:**
  - Lidocaine (2%)
  - Dehorning
  - Castration
  - Other painful conditions

# Pain medications

- **Anafen**
  - Labeled for treatment of pain
  - 1.5ml/50kg IV or IM for up to 3d
  - 1 day meat withhold
- **Give before painful procedures**
- **At same time as lidocaine**
- **Metacam**
  - Labeled for treatment of pain following dehorning, clinical mastitis
  - 2.5ml/100kg IV, SC
  - Do not use in calves for veal
  - 20 day meat withhold
  - 96 hour milk withhold

# Questions?

