



# Effects of calving assistance and pain-relief on the welfare and productivity of Holstein dairy cows

Nicola Gladden<sup>1</sup>, Dorothy McKeegan<sup>2</sup>, Jessica Martin<sup>3</sup>, Kathryn Ellis<sup>1</sup>

1. Scottish Centre for Production Animal Health and Food Safety, University of Glasgow School of Veterinary Medicine, UK.
2. Institute of Biodiversity, Animal Health and Comparative Medicine, University of Glasgow School of Veterinary Medicine, UK.
3. Royal (Dick) School of Veterinary Studies and The Roslin Institute, University of Edinburgh, UK.

- **Calving assistance is associated with reduced postpartum welfare and has a negative effect on subsequent productivity of dairy cows; therefore assistance should be provided judiciously**
- **Ketoprofen treatment is associated with improved postpartum comfort and improvements in some measures of productivity, regardless of assistance**
- **Effects of calving assistance are complex and may include factors other than pain**

## Background

- Up to 50% of calvings are assisted
- Available data are inconsistent and typically focused on measures of production
- Studies of pain-relief are limited and rarely include calving assistance

## Materials & Methods

- Holstein dairy cows calving unassisted or with farmer-assistance were randomly allocated to receive either pain-relief (ketoprofen) or saline within 3 h of calving
- Cow behaviour monitored for first 48 h of life to assess welfare
- Milk production, reproductive performance, health, and survival data for the subsequent lactation were obtained from farm records



## Results

- **Ketoprofen treatment** was associated with lying postures suggestive of **improved comfort**
- **305ME of ketoprofen treated cows** was **664 kg higher** than saline treated cows ( $p = 0.011$ )
- **Ketoprofen treated cows tended to conceive 22 d earlier** than saline treated cows ( $p = 0.056$ ) and a **greater proportion had conceived by 100 DIM** (65.7% vs. 48.6%)
- **Assisted cows** engaged in lateral recumbency more than unassisted cows ( $p = 0.008$ ), suggesting **reduced welfare**
- Parturition **assistance** was **associated with wide-ranging negative production effects:**

Production measure	Odds ratio ( <u>assisted</u> relative to unassisted)	95% CI	p-value
Conceived (overall)	0.02	0.002 - 0.32	0.005
Conceived by 100DIM	0.12	0.02 - 0.69	0.017
Conceived by 200DIM	0.07	0.01 - 0.54	0.011
Postpartum disease diagnosis	5.05	1.16 - 22.0	0.031
Culled before end of lactation	6.61	1.86 - 23.5	0.004

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