

Analgesia in calves

In the interests of animal welfare, the British Cattle Veterinary Association (BCVA) and BVA believe that calves should be routinely provided with appropriate analgesia to manage pain associated with disease or necessary veterinary and husbandry procedures. Specifically, we recommend the use of non-steroidal anti-inflammatory drugs (NSAIDs) in addition to local anaesthesia when conducting disbudding and castration in calves.

Background

Castration and disbudding of calves is routinely practised throughout the cattle industry to reduce the risk of injury to both animals and their keepers and facilitate husbandry.

Under the Veterinary Surgeons Act 1966 only a veterinary surgeon may castrate a calf that has reached two months of age. Under the Protection of Animals (Anaesthetics) Act 1954 it is an offence not to use local anaesthetic when castrating calves over two months of age, or when disbudding calves (except with caustic paste, which current welfare codes advise against)

Disbudding (whether by thermal or chemical cautery) and castration (whether carried out surgically or by “bloodless” methods such as using rubber rings or burdizzo) cause both acute pain at the time of the procedure and chronic pain, as evidenced by behavioural change, for a variable time following the procedure (Graf and Senn 1999¹; Robertson and others 1994²). Local anaesthesia can reduce or eliminate much of the acute pain, but chronic pain may still be present once the relatively short duration of local anaesthetic action wanes. NSAIDs have been shown to reduce the signs of pain in this post-operative period in a wide range of research studies (Heinrich and others 2010³; Stafford and Mellor 2011⁴)

Recent research suggests that the perception of pain and willingness to treat pain in cattle by veterinary surgeons has increased over the previous five to ten years (Remnant J, Huxley J, Tremlett A & Hudson C 2017⁵) when compared to research conducted in 2006 (Huxley and Whay 2006⁶), with median pain severity scores assigned by clinicians to several common procedures increasing over this time period. Veterinary surgeons also thought their use of NSAIDs had increased during this time. However, despite routine surgical procedures of calves being scored as similarly painful to procedures in adult cattle, calves undergoing routine procedures were significantly less likely to receive a NSAID.

¹ B Graf and M Senn 1999. Behavioural and physiological responses of calves to dehorning by heat cauterization with or without local anaesthesia. *Applied Animal Behaviour Science* 62, 153-171

² I Robertson, J Kent, and V Molony 1994. Effect of different methods of castration on behaviour and plasma cortisol in calves of three ages. *Research in Veterinary Science* 56, 8-17

³ A Heinrich, T F Duffield, K D Lissemore, and S T Millman 2010. The effect of meloxicam on behavior and pain sensitivity of dairy calves following cautery dehorning with a local anesthetic. *Journal of dairy science* 93, 2450-2457

⁴ K J Stafford and D J Mellor 2011. Addressing the pain associated with disbudding and dehorning in cattle. *Applied Animal Behaviour Science* 135, 226-231

⁵ J Remnant, J Huxley, A Tremlett, and C Hudson 2017. Clinician attitudes to pain and use of analgesia in cattle – Where are we 10-years on? *Veterinary Record* <http://dx.doi.org/10.1136/vr.104428>

⁶ J N Huxley and H R Whay 2006. Current attitudes of cattle practitioners to pain and the use of analgesics in cattle. *Veterinary Record* 159, 662-668 <http://dx.doi.org/10.1136/vr.104428>

The BCVA and BVA position on analgesia in calves

- We recognise that in the interests of animal welfare, human health and safety, and farm business viability that it will not be possible for replacement and reduction to eliminate the need for routine husbandry procedures in all calves.
- We recommend a “Three Rs” approach to castration and disbudding of calves, advocating that where possible these procedures are replaced (for example by selecting polled sires to replace disbudding), reduced (for example by appropriate use of sexed semen to reduce the number of male calves requiring castration) or refined (for example with the use of analgesics).
- We recognise that many of the routine procedures are carried out legally and competently by appropriately trained stock-keepers. We believe that existing legislation does not reflect a level of appropriate analgesia and fails to reflect changes in scientific understanding, pharmaceutical developments and societal opinions which have developed over time.
- We believe that both a local anaesthetic and a NSAID should be used for all castration and disbudding of calves, whichever method is used, in accordance with data sheet recommendations.
- Licensed local anaesthetics are available as POM-VPS, whilst licensed NSAIDs are POM-V. We would encourage stock-keepers and veterinary surgeons to discuss the analgesic regimes used and would urge veterinary surgeons to prescribe appropriately licensed NSAIDs and other analgesic medicines as required.