



## CASTRATION AND DEHORNING GUIDELINES

*These guidelines from the American Association of Bovine Practitioners serve to assist the veterinarian with enhancing the welfare of cattle on the clients' farms by providing information on how best to approach dehorning and castration of calves on beef and dairy farms.*

### ■ AGE

Dehorning and castration is best done when the calf is young and should be done at the youngest age prudent within the management scheme. Both procedures may be achieved as early as the first 24 hours of life, while in some systems, in order to minimize stress from repeated handling, the procedure may be delayed.

Ideally, horns should be removed before the horn base grows larger than 1-inch in diameter (the size of a small Barne's dehorner). Once the horns have grown greater than 1-inch in diameter, the horns should be left in place and tipped only if necessary or required by processors.

Ideally, castration should be performed by 120 days of age. However, purebred operations may delay the procedure further to allow appropriate time for the selection of future bulls, in which case the appropriate recommended procedures and pain mitigation practices should be used.

### ■ RESTRAINT

Calves should be restrained for dehorning and castration in a way that minimizes stress and the risk of injury to the calf and the operator.

- Chemical restraint may be used to minimize stress and increase ease of handling.
- Mechanical: Employees should be trained on safe, low stress handling and provided the time and resources necessary to achieve this type of handling. The use of a squeeze chute, tilt table, calf cart or halter may accomplish proper head restraint.

### ■ METHOD

All mechanical and chemical methods of dehorning and methods of castration are painful, and calves benefit from the mitigation of both pain associated with the procedure itself and during the recovery and healing period.

Producers should be encouraged to incorporate, or at least begin to incorporate, polled genetics into their herds, as genomics and selection make this a viable option for the future.

Acceptable mechanical methods of dehorning include cautery of the horn bud, and cutting/scooping of small horns using small Barne's-type dehorners. The use of a guillotine (Keystone type dehorners) and elastic banders in animals with well-developed horns is not recommended.

Caustic paste may be used for dehorning and is used most effectively within the first two days of life. When using caustic paste, care must be taken that the calf will not rub the paste onto either its dam or other herd-mates, and will be protected for at least 24 hours from rain or other moisture that may cause the paste to run. For detailed instructions on using paste to dehorn visit <http://ans.oregonstate.edu/sites/ans.oregonstate.edu/files/extension/cattle/DehornCalvesPaste.pdf>

For castration, use of a rubber ring or surgical removal are preferred. The most appropriate method is the method which is in the best interest of the health and well-being of the animal, as determined by a veterinarian, within the environment in which it is being raised.



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#### ■ LOCAL ANESTHESIA

Use of local anesthetic permits the mitigation of the immediate pain associated with dehorning and castration, and provides up to five hours of post-procedural analgesia. Sodium bicarbonate at a 10:1 ratio (lidocaine:sodium bicarb) may also be added to 2% lidocaine to eliminate injection pain that may be present from the injection.

While it is recognized that some management systems will find difficulty administering local anesthetic immediately prior to the procedure, veterinarians should strive to work with clients to advance its use. It is acknowledged that the use of lidocaine in this manner requires a prescription and should be done in the context of a valid veterinary-client-patient relationship (VCPR).

#### ■ SYSTEMIC PAIN RELIEF

Anti-inflammatories have been used effectively to mitigate post-procedural pain. Long-acting

non-steroidal anti-inflammatories (NSAIDs) should be used to extend the period of analgesia. Meloxicam has been shown to mitigate post-procedure pain for up to 48 hours after a single dose of the drug. For example, meloxicam\* administered PO 1.0 mg/kg, or 0.5 mg/kg, IM or IV at the time of the procedure can provide relief from post procedural pain, and promote better short term weight gain and feed intake. The use of NSAIDs after 7 days of age have reduced the risk of bovine respiratory disease when castrations were performed without the benefit of local anesthetic. 

\*There are no approved pain drugs for use in cattle in the US. The AM-DUCA allows extralabel drug use (ELDU) provided a valid VCPR exists and the drug selection decision process is followed. Although flunixin meglumine is an NSAID labeled for use in cattle and has been shown to have short acting analgesic effects, long acting NSAID analgesics, such as meloxicam, are more desirable to mitigate the pain associated with castration and dehorning. This extralabel drug use is deemed appropriate under the Animal Medicinal Drug Use Clarification Act when proper meat withholding periods are observed. In the case of meloxicam, a meat withholding time of 21 days is recommended after a single dose (Smith G, Extralabel use of anesthetic and analgesic compounds in cattle. *Vet Clin North Am Food Anim Pract.* 2013 Mar;29(1):29-45).