



GOAT KID DISBUDDING

Dehorning of goats reduces the risk of injury to the animal, other goats and people. This guideline serves to assist veterinarians and producers with enhancing the welfare of their clients' goats by providing guidance related to disbudding of goat kids.

VETERINARIAN/CLIENT COMMUNICATION

Essential to this process is that consultation occur between the Veterinarian-of-Record (VOR) and the client regarding the age of disbudding, disbudding technique, pain mitigation strategy and legal drug use that are appropriate for each operation. The use of written, herd-specific protocols to document these discussions (of) is encouraged. Such protocols should be reviewed on a regular basis.

AGE

It is recommended that goat kids are disbudded by 14 days of age, ideally between 5-7 days¹, but after a maternal bond has been established. Dehorning of goat kids over 14 days of age is not recommended. Dehorning after 14 days of age carries an increased risk that horn growth will still occur with scur formation and contributes to greater welfare concerns for the goat. Dehorning of goats over 14 days of age should be performed by a veterinarian and should only occur where health and welfare of the goat is impacted and not for cosmetic purposes.

METHOD

Cautery (hot iron) disbudding is recommended over surgical or other methods of dehorning. Caustic paste disbudding, use of clove oil^{2,3}, and band dehorning is not recommended due to increased pain and tissue damage⁴. Cautery disbudding should only be performed by competent person(s) trained in the procedure. There is a risk of thermal and bacterial meningoencephalitis due to trauma to the skull⁵.

ANALGESIA

Disbudding goat kids is a painful procedure, and as such, pain mitigation is recommended. Lidocaine alone has not been shown to reduce pain expression^{6,7}. Sedation or general anesthesia is preferred, but should be performed under the supervision of a veterinarian⁸⁻¹⁰. Non-steroidal anti-inflammatories (meloxicam) have been shown to reduce signs of pain¹¹ and are therefore recommended for use¹. In the U.S., use of lidocaine and NSAIDs such as meloxicam is extralabel in goats, so veterinary oversight is required.

Sheep dehorning is not recommended under any circumstance. Dehorning of sheep should only be performed by a veterinarian where the health and welfare of the animal is impacted. (e.g. horn damage, or horn growing into head).

Approved by the AASRP Board of Directors December 2020





GOAT KID DISBUDDING CONTINUED

RESOURCES

- ¹Hempstead MN, Waas JR, Stewart M, Sutherland MA, Fowler JL, Plummer PJ. Best-practice recommendations for disbudding dairy goat kids. *Proceedings of American Association of Bovine Practitioners*. 2019:192-5.
- ²Hempstead MN, Waas JR, Stewart M, Cave VM, Turner AR, Sutherland MA. The effectiveness of clove oil and two different cautery disbudding methods on preventing horn growth in dairy goat kids. *PLoS One*. 2018;13(11):e0198229.
- ³Hempstead MN, Waas JR, Stewart M, Zobel G, Cave VM, Julian AF, et al. Pain sensitivity and injury associated with three methods of disbudding goat kids: Cautery, cryosurgical and caustic paste. *Vet J*. 2018;239:42-7.
- ⁴Bowen JS. Dehorning the mature goat. *J Am Vet Med Assoc*. 1977;171(12):1249-50.
- ⁵Hempstead MN, Waas JR, Stewart M, Sutherland MA. Differences between goat kids and calves in relation to cautery disbudding. *Proceedings of American Association of Bovine Practitioners*. 2019:201-2-5.
- ⁶Hempstead MN, Lindquist TM, Shearer JK, Shearer LC, Sutherland MA, Plummer PJ. Acute cortisol and behavior of dairy goat kids administered local anesthesia, topical anesthesia or systemic analgesia prior to cautery disbudding. *Physiol Behav*. 2020;222:112942.
- ⁷Alvarez L, De Luna JB, Gamboa D, Reyes M, Sánchez A, Terrazas A, et al. Cortisol and pain-related behavior in disbudded goat kids with and without cornual nerve block. *Physiol Behav*. 2015;138:58-61.
- ⁸Wagmann N, Spadavecchia C, Morath-Huss U, Schüpbach-Regula G, Zanolari P. Evaluation of anaesthesia and analgesia quality during disbudding of goat kids by certified Swiss farmers. *BMC Vet Res*. 2018;14(1):220.
- ⁹Hempstead MN, Waas JR, Stewart M, Cave VM, Sutherland MA. Can Isoflurane and Meloxicam Mitigate Pain Associated with Cautery Disbudding of 3-Week-Old Goat Kids? *Animals (Basel)*. 2020;10(5).
- ¹⁰Hempstead MN, Waas JR, Stewart M, Dowling SK, Cave VM, Lowe GL, et al. Effect of isoflurane alone or in combination with meloxicam on the behavior and physiology of goat kids following cautery disbudding. *J Dairy Sci*. 2018;101(4):3193-204.
- ¹¹Ingvast-Larsson C, Högberg M, Mengistu U, Olsén L, Bondesson U, Olsson K. Pharmacokinetics of meloxicam in adult goats and its analgesic effect in disbudded kids. *J Vet Pharmacol Ther*. 2011;34(1):64-9.