CASTRATION GUIDELINES

This guideline from the American Association of Bovine Practitioners serves to assist veterinarians with enhancing the welfare of their client's cattle by providing guidance related to castration of calves on beef and dairy operations. Essential to this process is that consultation occur between the herd veterinarian and the client regarding age of castration, castration technique and pain mitigation strategies that are appropriate for each operation. The use of written, herd-specific protocols to document these discussions is encouraged. Such protocols should be reviewed on a regular basis.

Castration reduces aggressiveness and sexual activity by lowering testosterone levels. The procedure modifies carcass characteristics by decreasing the number of animals with a high muscle pH ("dark cutters") and improving quality grade. In addition, carcasses from bulls command lower prices at market when compared with carcasses from steers.[1]

AGE

Performing castration at the earliest age possible reduces stress associated with the procedure; within the first 24 hours of life up to three months of age is ideal. Age of castration will vary between production systems and should be based on recommendations of the veterinarian of record in discussion with farm/ranch management. The procedure may be delayed in some production systems (ex. extensively managed commercial beef herds, seedstock operations). Castration should not be delayed for the purpose of enhancing growth as there are no proven growth benefits associated with this practice.[2, 3] It is critical that producers work with their veterinarian to ensure appropriate procedures are in place to promote healing and minimize pain.

RESTRAINT

Calves should be restrained for castration in a way that minimizes stress and the risk of injury to the animal and the operator. The use of a squeeze chute, tilt table, calf cart or halter are examples of tools that may be used to achieve this goal. Chemical restraint may be included in the procedure to further minimize stress to the animal. Employees should be trained appropriately and be provided the time and resources necessary to achieve low- stress handling.

METHOD

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

LOCAL ANESTHESIA

All mechanical and chemical methods of castration are painful. Use of a local anesthetic immediately prior to castration mitigates the immediate pain associated with the procedure and provides up to five hours of post-procedural analgesia. Testicular blocks, spermatic cord blocks, and epidurals can minimize pain associated with castration. The use of sedatives can make the administration of local anesthetics more practical. Local anesthetics and sedatives should be given with human and animal safety in mind. While some management systems may make adminis-

tering local anesthetic difficult, veterinarians are encouraged to work with clients to advance its use. The use of local anesthetics and sedatives requires a prescription and should be administered within the context of a valid veterinarian-client-patient relationship (VCPR).

SYSTEMIC PAIN RELIEF

In addition to local anesthetics, consideration should be given to providing pain mitigation therapy during the recovery and healing period which increases with age at the time of procedure. Non-steroidal anti-inflammatory drugs (NSAIDS) can be used to effectively mitigate the post-procedural pain of castration. The use of injectable, topical and oral NSAIDS with or without the use of local anesthetics are acceptable for pain mitigation during the immediate post-operative period. Long-acting non-steroidal anti-inflammatories (NSAIDs) can be used to extend the period of analgesia. Meloxicam has been shown to mitigate post-procedure pain for up to 48 hours following a single dose of the drug,[4] which promotes better short-term weight gain and feed intake.[1]

The use of NSAIDs in calves older than seven days of age has been shown to reduce the risk of bovine respiratory disease when castrations were performed.[5] Topical NSAID applications make the administration of NSAID therapy at the time of castration practical in most instances when oral or injectable administration is not possible. Further applications during the healing process should be considered where practical and are encouraged especially when the procedures are delayed beyond three months of age.

DEFINITIONS

Analgesia Alleviation of pain, patient is alert.[6]

Anesthesia Without sensation, patient is asleep and cannot be awakened, amnesia and loss of reflexes.[6]

Sedation Slight depression, patient is awake.[6]

REFERENCES

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