AASRP GUIDELINES

CAMELID CASTRATION GUIDELINES

This guideline from the American Association of Small Ruminant Practitioners serves to assist veterinarians with enhancing the welfare of their client's camelids 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.

Practicing veterinarians offering service to clients owning camelids are routinely asked for advice on castration of pet quality males. Superficially, this might appear to be a simple question, but there has been significant debate on this issue. At the center of the debate is a concern for musculoskeletal maturation of males after prepubertal castration. Breeders would prefer to castrate males at 4 to 6 months old so that they may be sold as pets soon after weaning. Veterinarians would prefer to see camelids castrated at 18 to 24 months after they have reached skeletal height maturity.

EFFECTS OF PREPUBERTAL CASTRATION

Castration of males at an early age has been shown in several species to delay the closure of long-bone physes. Therefore, geldings may develop a tall, straight legged stature (particularly of the hind limbs). In llamas, lateral patellar luxation and early onset of degenerative osteoarthritis of the stifle joints have been seen as complications of this posture. Historical data usually reveals that affected males were castrated at an early age (e.g. 4 months).

CASTRATION TECHNIQUES

Basically, any castration method that has been used in other livestock and pet animals has been done successfully in camelids. However, two methods have become standards of practice: scrotal castration (similar to horses and swine) and pre-scrotal castration (similar to canine). AASRP recommends to administer tetanus toxoid vaccination or at least make sure the animal's vaccinations is current. All food should be withheld for 12 hours prior to castration in case general anesthesia or heavy sedation becomes necessary.

SCROTAL CASTRATION can be done with the animal standing or recumbent. For standing castration, the camelid is sedated with xylazine (0.2 mg/kg body weight, IM) and butorphanol (0.1 mg/kg, IM) and an epidural is administered (2 ml, 2% lidocaine; or 10 mg xylazine in 2 ml sterile normal saline). The scrotum is prepared for aseptic surgery and, if an epidural was not used, 2 ml lidocaine is injected as a line block along the median raphe. A 2 cm incision is made on either side and parallel to the median raphe along the ventral most aspect of the scrotum. Each testicle is removed and excised either using an emasculator or after transfixation ligation with a No. 0 absorbable monofilament suture. For recumbency, intravenous (xylazine (0.2 mg/kg), butorphanol (0.1 mg/kg), ketamine (1 to 2 mg/kg)) or intramuscular (xylazine (0.3-0.4 mg/kg), butorphanol (0.03-0.04 mg/kg), ketamine (3-4 mg/kg)) anesthetic can be used. For more information about field anesthesia in camelids, please refer to Field Anesthetic Techniques for Camelids (AABP Proceedings 2009).

PRE-SCROTAL CASTRATION is done with the animal recumbent. Strict aseptic technique is critical to ensure that infection of the castra-

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tion site does not develop. A 2 cm incision is made on ventral midline immediately cranial to the ventral base of the scrotum. Each testicle is removed through this incision and excised after transfixation ligation. After hemostasis has been achieved, the skin incision is closed using a subcuticular or subcutaneous suture pattern.

POSTOPERATIVE MANAGEMENT

Camelids should be confined to a small pen for 24 to 48 hours after castration. Owners should monitor the incision for bleeding, swelling, exudative discharge, fly infestation, difficulty urinating, and any other problems. The use of systemic antibiotics post-surgery remains up to the discretion of the surgeon. Topical fly spray can be applied depending upon the season. Post-operative analgesia can be achieved using a subcutaneous injection of flunixin meglumine at the time of surgery or oral meloxicam (1 mg/kg) administered once at recovery. Meloxicam has the advantage over flunixin in that it has a longer half-life maintaining plasma levels to provide sufficient analgesia for 48-72 hours.

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