

# Dehorning the Goat

Judy Marteniuk, DVM, MS  
Large Animal Clinical Sciences  
College of Veterinary Medicine  
Michigan State University

- ❖ Breeds of goats and dehorning requirements for show
  - Dehorning requirements for show are breed specific
    - All dairy goats need to be dehorned
    - Angoras are shown with horns
    - Meat goats are shown with horns
- ❖ When to dehorn the goat
  - No goat is ever too old to be dehorned
    - Much more involved procedure for older goats
    - Sinus will be opened and healing will take months
  - If dehorning an older goat (sinuses possibly opened), should only be done when fly season is not an issue to prevent maggots entering the sinus
  - Best time to dehorn is when the kid is just developing horns
    - Few days to few weeks of age depending on breed and gender
      - The kid should be normal – active and nursing normally
    - Does are slower than intact males to grow horns
    - Pygmies and Nigerian does are very slow to develop horns
    - Healing will require a couple of weeks
- ❖ Prepping for dehorning
  - Vaccination
    - Dam vaccinated prepartum for tetanus
    - Kids from unvaccinated dam or questionable colostrum status
      - 300 to 500 IU tetanus antitoxin (TAT)
    - Kids from vaccinated dam
      - Should not need tetanus antitoxin
    - 2-3 week old kids – CDT (*Clostridium perfringens* C&D, plus tetanus) vaccination
      - Booster at weaning and 3-4 weeks later
      - 30 day slaughter withdrawal after CDT vaccination
  - Clipping
    - Allows easier visualization the horn/skin junction and reduces scur incidence
    - Reduce time needed to complete the dehorning and hence the chance of brain damage from heat of the electric dehorner
  - Anesthesia
    - Clients will do young kids without anesthesia, but anesthesia should always be used
    - Kids under 15-20# can easily be dehorned with only a local block

- Regular corneal block (as with calves), plus a line block between the medial canthus of the eye and the medial aspect of the horn
- Watch dosage, it is easy to overdose and cause toxicity
  - do not use more than 4.5 mg/kg of lidocaine per kid (if castrating, as well must divide dose between the two horns and the spermatic cords)
  - If you desire a larger volume when blocking the areas, calculate the dose and dilute to a larger volume
- Xylazine – 5mg per 100# administered IV, IM or SQ depending upon duration of tranquilization desired.
- Pain control
  - Depending on size of horns and difficulty removing, post-op pain medications may or may not be needed
    - Young kids – allow to nurse post-dehorning and they never act painful
    - Older kids, adult animals, or if complications
      - NSAID's (Banamine 0.5 to 1.1 mg/kg SID or BID, Meloxicam 1mg/kg SID, Aspirin 80 to 320 grains BID depending on size of goat)
      - Narcotics – (bupomorphine, butorphanol) not generally necessary

#### ❖ Methods of dehorning

- Burning
  - Done on young kids when horns are small
  - Can do year-round since, the sinus is not opened
  - May hold kid or place in dehorning box for restraint
  - Clip hair around the horn, to allow better visualization of tissue to be removed, also reduces time the dehorner needs to be in place
  - Electric dehorner with tip adapter (Butane dehorner should work, but I have not used one)
  - Firm, even pressure applied to the tissue around the horn for 6-8 sec. If need more time, let the head cool and then reburn. Do not leave the dehorner on the horn too long as kids do not have a sinus and brain trauma can easily occur. If severe enough trauma, death can result
  - Remove tissue inside burned ring (assures that dehorning was adequate and growth of a scur is unlikely – doe or wether, (no guarantees with a intact male) Tissue should be burned sufficiently (dark brown) that no bleeding occurs at the ring circle where the dehorner was placed (Make sure adequate burn at the ventral aspect where the corneal artery occurs, otherwise bleeding will occur when tissue is removed)
  - Powder area with hemostatic powder and/or Blue Kote. Do not get either in the goat's eyes
- Reduce size and burn (age varies by size, gender and breed)

- If horn length is the problem, but horn base is still small, cut the horn to the height that will fit into the dehorner (consideration - will you open the sinus?)
- Follow procedures as above, but lesser concern about time the dehorner is held on horn, as the goat now has some frontal sinus present.
- If horn base slightly bigger than dehorner, the horn can be burnt around in stages to remove the horn tissue. Skin should be freely moveable around removed horn. If skin is tight to the bone in an area, remove more tissue.
  - Cranial medial aspect often not adequately removed especially in the intact male
- Fetotomy wire – open
  - Clip the hair about 5 cm around the horn, and prep the area for the surgical procedure.
  - Make a surgical incision about 1 cm around the horn
  - Place the fetotomy wire in the surgical incision and remove the horn. The person sawing the horn should be positioned at about 2 o'clock (where the goat's nose is 12 o'clock and poll is 6 o'clock)
  - The fetotomy wire often slips out of the caudal part of the incision. If this occurs, surgically remove the tissue between your incision and the open sinus.
    - Skin should be freely movable around removed horn
  - Pull vessels that are bleeding excessively
    - Common to see blood at nose, due to blood draining through the sinus
  - Place open 4X4's over the open sinus and apply hemostatic powder. You may need to apply multiple layers of gauze and powder to form a matrix for clotting.
  - Wrap Vetrap or elastron around the head in a figure 8 pattern using the ears.
    - Make sure the wrap is not too tight, as the animal needs to be able to breathe and eat. If swelling occurs in the throat latch, cut the bandage to reduce the pressure.
    - Remove the lower aspect of the bandage in about 3-5 days at about the level of the ears. Do not remove the bandage material over the area of the horns. This material may come off, or may stay in place until the horn is healed.
- Cosmetic
  - Prep as for a fetotomy wire dehorn
  - The incision is made around the base of the horn just a few mm away from the horn skin junction and then continued in two incisions, one that goes ventral from the lateral aspect of the horn about halfway between the lateral canthus of the eye and the ear. The other incision goes down toward the rostral aspect of the nose from the rostral-medial aspect of the horn. Each incision is about 1 cm long (maybe longer or shorter based on the size of the

animal, etc.) and intersects with the incision around the horn base. The skin is then reflected around the entire periphery of the horn and fetotomy wire used to remove the horn.

- Care should be taken not to damage the rostral flap with the wire saw (a pair of scissors or a thumb forcep can be used to retract the flap out of the way of the saw)
- After the horn is removed, then use a pair of sharp bone rongeurs. Be very careful simply to cut the bone away without "rocking" the rongeurs back and forth. If you rock then they tend to pull up large fragments of bone that may open areas that you do not want to open (especially along the caudal border of the horn base). Level the entire edge of the horn base and actually take down some of the prominent ridge on the cranial aspect to shape the head to look more like a polled animal. Removing some of this bone from the cranial aspect is critical to fully closing the incision
- Remember that if the animal is only sedated and locally blocked, the periosteum in the sinus is still sensitive and the animal may vocalize and move as you touch it with the rongeurs. (I would use general anesthesia initially until you are comfortable with the procedure)
- After the bone has been leveled and removed the incision can be closed in a "curved" almost "C" shape extending from behind the eye down toward the nose. You may also find it helpful to loosen some of the fibrous tissue on the ventral aspect of the caudal skin flap. If you notice, most animals (esp. bucks) have some folds of tissue at that location that do not release after you have undermined the caudal flap. If you gently turn you blade up towards the ventral aspect of that flap and lightly brush the tissue while extending the flap these folds will flatten out. Be sure not to cut too deep or you will go through the flap.
- As you undermine the rostral flap take care not to go too close to the nerve foramen above the eye or you may induce some paralysis.
- For additional information, refer to: Cosmetic dehorning in goats. By Hague, B-A; Hooper, R-N Vet-Surg. 1997 Jul-Aug; 26(4): 332-4
- I also place a couple of rolled 4x4 gauze over the incisions and secure them with 2 horizontal mattress sutures to help with hemostasis. These also reduce pressure on incision sutures and minimize post-op swelling.
- With good fly control, this procedure can be done during fly season.

#### ❖ Complications

- Regrowth of horn (scur)
  - Occurs if some horn tissue was left – make sure tissue around horn is freely movable after a horn has been removed
  - Common in intact male goats even when dehorning technique seemed appropriate. Also commonly recurs when a scur is removed, but should be smaller than previous scur.
- Sinus infection post-dehorning

- Clean area with warm, moist gauze and betadine/chlorhexidine. If bandage is present, remove bandage over the affected horn. Area may be sprayed with Blue Kote to help dry the area.
- Systemic antibiotics may be warranted if a goat goes off feed. **Remember that all goats are considered food animals, choose drugs accordingly**
- Do not use a Barnes dehorner to reduce horn size or dehorn a goat as it can easily “scoop into brain” as the frontal sinus may be shallow
- Complications addressed above:
  - Overdose of local anesthesia, or injectable anesthesia. Remember you may be dealing with animals that are under 10#
  - Tetanus (if not vaccinated or given TAT)
  - Over-heating the brain if electric dehorner left on too long
  - Maggots (if dehorned during fly season)

