**Complications of dehorning**

Dehorning can cause several post-operative complications. Coagulants (blood stop powder), tourniquets, clamps or cauterizing with a hot iron can help to reduce blood loss. A fly repellent is recommended, and producers should watch for signs of infection for 10-14 days after dehorning. Some complications or risks of dehorning post-op include:

1. Brain injury: This can occur if the hot iron is placed for too long during cauterization and may actually burn through the skull of the animal and may cause burning to the brain, leading to neurological signs and incoordination. Thus, a hot iron should not be left on an area for more than 10-15 seconds.
2. Skull fracture: This may occur to improper technique while using instruments such as the Barnes or Keystone dehorner, where a portion of the skull may become cracked due to the force applied.
3. Sinusitis: Frontal sinusitis may occur immediately after dehorning while the site is still open or months later after the dehorning site has healed. The condition is most often unilateral. Signs may include anorexia, pyrexia, unilateral or bilateral nasal discharge, changes in air flow through the nasal passages, and foul breath. Head carriage may be abnormal. In longstanding cases of frontal sinusitis, there may be distortion of the frontal bone, exophthalmos, and neurologic signs.

To treat: draining should be done on the affected sinus. Once drainage has been established, the sinus can be lavaged daily with antiseptic solutions. Treatment with parenteral antibiotics is indicated if systemic signs are present. The best control method is to dehorn calves at a young age using a closed dehorning technique. If this is not possible, close attention should be paid to disinfection of surgical instruments between animals, dust control, and fly control.

1. Myiasis: the infestation of live vertebrates (humans and/or animals) with dipterous larvae. In mammals (including humans), dipterous larvae that can feed on the host's living or dead tissue. The best way to avoid this is by using blood coagulant powder and an Insecticide around the wound after de-horning, and spraying daily for 2 weeks. If possible, de horning should be done outside of peak fly season.
2. Bacterial infection: Care should be taken to avoid bacterial infection intra-op by using clean, sterilized instruments that are sharp (Try to cleanly cut bone tissue rather than crushing it, as crushed tissue may be more vulnerable to infection). Post-op, an antibitoic paste should be applied to the area, and the area should be sprayed with an antibiotic spray eg Tetravet (oxytetracycline), an insecticide to repel bacteria carrying flies, and the wound should be sprayed daily.

**Pre- and intra-op**:

Risks/complications pre-op include inadvertent intravenous injection or incorrect placement of the block with respect to the anatomical location of the corneal nerve block. This may cause the animal to experience extremes of pain, and reacting to this may cause the animal to harm itself or the veterinarian/handler.

1. Banamine (Flunixin) should not be given intra-muscularly, as it may lead to abscesses, muscle necrosis, or local tissue reactions.
2. Hematoma formation may occur if poor injection technique is done
3. Improper restraint of the animal may cause damage to the animal and handler/vet e.g. Becoming burnt with the hot iron during cauterization.