**Complications of Dehorning**

Wounds usually heal well with no treatment, but dehorning can cause several post-operative complications. These include uncontrolled bleeding, fly contamination, and bacterial infection. Calves require observation for bleeding for 30-60 minutes after dehorning.  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.

Infection is a possible complication with any [dehorning method](http://www.dehorning.com/dehorning-methods/), but is most often associated with invasive procedures that expose the sinus cavity and/or cause blood loss. The use of knives, tubes, Barnes (gouge) dehorners, keystone (guillotine) dehorners, obstetrical wire and saws all increase the risk of infection during dehorning. Antibiotic administration such as Pen- Strep and using antibiotic sprays such as Tetravet, help to reduce infection. Follow- up treatments and re- administration can help elimination of any signs of infection. Environments should also always be taken into consideration in reducing any infection.

Exposed sinuses attract disease-carrying flies, and numerous bacteria can be involved. The presence of flies or maggots in sinus cavities will be obvious, but other, more subtle signs of sinusitis can include lack of appetite, fever, nasal discharge and abnormal head carriage. Such infections can show up immediately after dehorning or even months later, after the wounds have healed. Fly repellent spray after dehorning and on follow- up treatments, as previously mentioned, can eliminate this occurrence.

Infectious frontal sinusitis is common and occurs after dehorning. Surgical management of sinusitis is to re-establish a complete drainage of the purulent exudate. Trephination of the frontal sinus is the most commonly performed surgery. The surgery is performed with the animal standing restrained in a chute, using a light sedation and local anaesthesia at the determined sites. Main trephination sites used to effectively drain diverticulums of the frontal sinus are: 1- main part of the frontal sinus (3-4 cm rostral to top of the head, midway between midline and the base of the horn), 2- the post-orbital diverticulum (4 cm caudal to the caudal edge of the orbit above the temporal fossa), 3- rostral site of the frontal sinus (2.5 cm from midline on a perpendicular to midline line passing through the orbit centre). After trephination, a copious lavage using warm sterile fluids is started that may be associated with surgical debridement of any inspissated material through the 20mm trephine holes. Alternatively, if a more aggressive curettage is necessary, a sinusal flap elevated toward midline may be performed. Non-resolution of the drainage may be due to the development of a bone sequestrum. Radiographic re-evaluation is necessary to rule it out. Surgical treatment involved the removal of the sequestrum.

Several diseases can be spread by dehorning instruments contaminated with blood from infected animals. Researchers at the University of California found that [gouge dehorning significantly increased the risk of bovine leukemia virus (BLV) infection in dairy heifers](http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1255626/pdf/cjvetres00045-0186.pdf). Conversely, not dehorning with a [gouge dehorner](http://www.dehorning.com/dehorning-methods/barnes-or-gouger-dehorning/) reduced the risk of BLV transmission by up to 80 percent. Other diseases associated with contaminated dehorning equipment include anaplasmosis, bovine cutaneous papillomas3 and tetanus.

Early-age disbudding with [caustic paste](http://www.dehorning.com/dehorning-methods/caustic-paste-disbudding/) or [hot-iron](http://www.dehorning.com/dehorning-methods/hot-iron-disbudding/), which do not expose the sinus cavities or cause blood loss, reduces the risk of BLV infection associated with dehorning.

If invasive dehorning methods are used, there are several management steps you should take to reduce the risk of infection in your operation:

* Clean dehorning instruments with disinfectant between use on animals.
* Make sure dehorning instruments are kept sharp. Try to cleanly cut bone tissue rather than crushing it, as crushed tissue may be more vulnerable to infection.
* Dehorn outside of fly season or use fly deterrent.
* Treat wounds with blood coagulant powder.
* Monitor mechanically dehorned animals for signs of infection, such as lack of appetite, fever, abnormal head carriage and foul breath. If you see these signs, contact your veterinarian for a definitive diagnosis and treatment.

**Signs of Pain**



Hence, if the farmer notices any or a combination of these signs, the veterinarian should advise administering Aspirin to the animal at dosages of 100mg/kg as an analgesic. If the farmer is very concerned, he/she should contact the veterinarian and a proper physical examination can be made and an appropriate analgesic be administered.