**Client Education regarding Disbudding and Dehorning: Advice and Reasons**

The following table can be provided to clients as an informative tool. It highlights advice and reasons for the advice as to aid in understanding the entire process of disbudding/dehorning. The table provides information on the following:

1. Horns and their growth
2. Definition of disbudding and dehorning
3. Reasons for dehorning
4. Dehorning age
5. Anaesthesia and pain relief
6. Blocking the nerve to the horn
7. Aftercare (Imperative for clients)

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| ADVICE | REASON |
| 1. Explaining horns and their growth:

Horns are the pairs of hard, bonelike, permanent growths projecting from the heads of cattle. They grow from a unique area of skin cells at the base of the horn. At about two months of age, horns become attached to the frontal bone of the skull. A sinus lies within the skull beneath the horn bud. As the horn grows and attaches to the skull, this frontal sinus joins into the adjacent portion of the horn. | This is the reason that a 1cm thick circumference of skin should be removed along with the horn – to avoid re-growth of the horn.The recommended age for dehorning is <2 months because at this age and beyond the horns become attached to the skull’s frontal bone and subsequently opens into the frontal sinus. When disbudding is done at <2months the sinuses are not left open which predisposes the patient to infection. |
| 1. Disbudding and Dehorning defined:
* Horned cattle have horns because they have not been dehorned or they are not polled.
* Some breeds are naturally (genetically) hornless because they do not grow horns.
* Dehorning of horned cattle is the process of removal of their horns or the process of preventing their growth.
* A polled animal is one that grew no horns or one that was dehorned.
* Disbudding by chemical or hot-iron destroys the horn-producing cells of the horn bud. Surgical disbudding removes the horn bud and the horn-producing cells of the horn bud.
* Dehorning removes the horn and horn-producing tissue after horns have formed from the bud.
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| 1. Reasons For Dehorning:
* reduce the risk of injury and bruising to herd mates
* prevent financial losses from trimming damaged carcasses caused by horned feedlot cattle during transport to slaughter
* require less space at the feed bunk and in transit
* decrease risk of injury to farm workers, horses and dogs
* decrease risk of death, illness and setback by dehorning young calves versus older calves
* gain a price advantage by offering hornless cattle at auction
* produce docile cattle that are easier to handle
* decrease aggressiveness at the feed bunk
* enhance on-farm safety for animals, producers and employees
* facilitate easier use of handling facilities
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| 1. Dehorning age:

Dehorning should be done at the earliest practicable age. The dehorning age is suggested to be <8 weeks OR The Canadian Veterinary Medical Association (CVMA) recommends that, when dehorning is necessary, it be performed within the first week of life. | Dehorning at a young age minimizes hazards to the calf, the cow-calf producer, and the feedlot owner. Hazards for calves and owners include:* sickness or death following dehorning of older calves
* decreased live weight gains in the weeks following dehorning of older calves
* loss of productivity

Many producers choose to dehorn new-born calves because:* techniques are easier for the operator
* dehorning is less stressful on newborn calves
* of concerns for animal welfare
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| 1. Anaesthesia and Pain Relief:

Choices in anaesthesia and pain relief include:* a short-acting, local anaesthetic (e.g., lidocaine) with an effect for about 60-180 minutes
* a sedative (alpha-2 agonist, e.g., xylazine) given alone or in conjunction with a local anaesthetic will provide analgesia for a few hours
* a combination of local anaesthetic, a sedative (alpha-2 agonist, e.g., xylazine) and non-steroidal anti-inflammatory drug (NSAID) provides pain control of longer duration.
 | * Inclusion of a sedative with the local anaesthetic could eliminate the need for physical restraint during dehorning.
* Treatment with an analgesic by itself prior to disbudding (dehorning) with caustic paste is not effective in controlling pain
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| 1. Blocking the nerve to the horn

The cornual nerve supplies sensation to the horn. This nerve travels from immediately behind the eye to the base of the horn. It lies underneath a small overhanging ledge of bone that is a part of the skull. This ledge is easily detected with slight finger pressure. A vein and an artery are found in association with the nerve. Administration of the anaesthetic is simple in young calves. | One nerve provides feeling to each horn. Blocking the nerve makes dehorning easier on the calf and on the person doing the job. You must block one nerve on each side of the head. Lidocaine anaesthetic is a prescription drug  |
| 1. Aftercare \* (Most important aspect for the client\*\*:
* Spray the wound with an antibiotic spray everyday
* After administration of the antibiotic spray, apply a fly repellent
* Observe for swelling/inflammation
* Observe the behavior of the animal (normal vs abnormal)
* Observe eating and drinking habits
 | * Spraying reduces the incidence or likelihood if bacterial infections occurring.
* Fly repellent prevents fly strike with subsequent infection of the wound
* Inflammation should be minimal if present at all. Severe inflammation is indicative of infection and must be treated immediately.
* Adverse behavioral changes and mentation may be indicative of discomfort. It should be monitored as it may be indicative of an underlying problem.
* Eating and drinking should not change because of disbudding/dehorning. Therefore any reduction in the 2 parameters should be brought to the veterinarian’s attention.
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