



# Pain management in disbudding

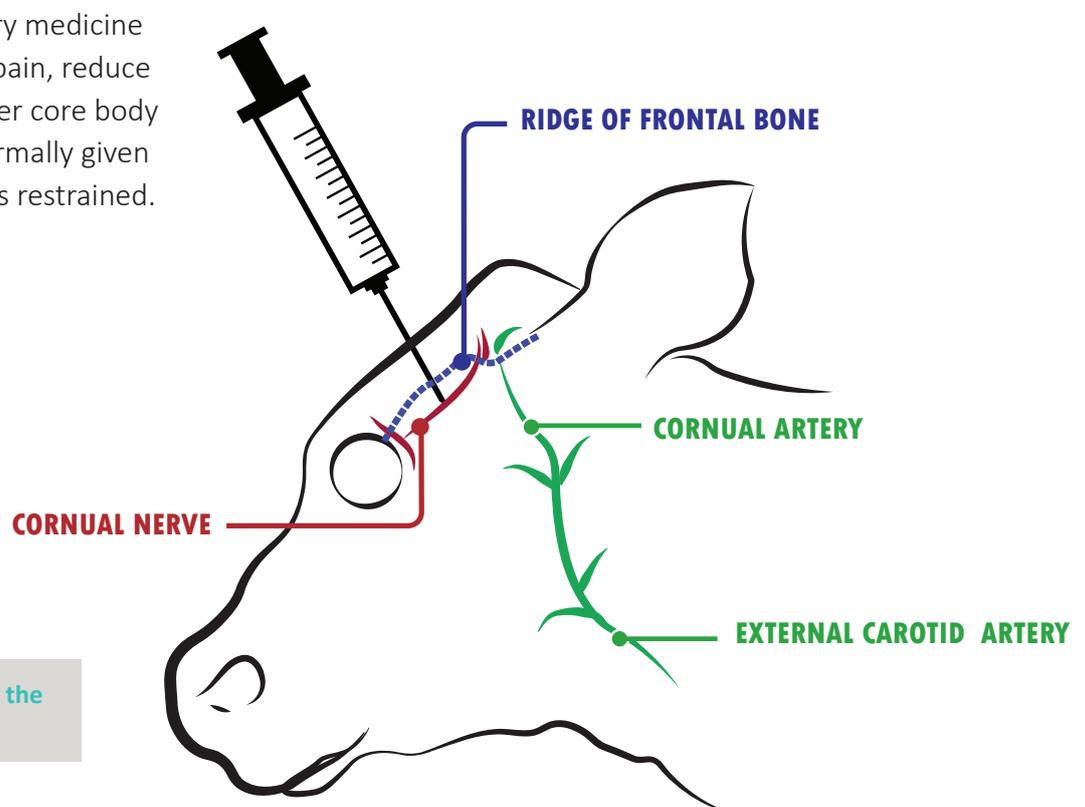
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**D**isbudding and dehorning are painful procedures and are therefore regulated by animal welfare laws. The use of both local anaesthetic and pain relief (analgesia) via a non-steroidal anti-inflammatory drug (NSAID) is considered the gold standard when disbudding calves to minimise the effects of this painful procedure.

Anaesthesia is normally done before the procedure to make it easier on both the animal and the farmer as it blocks the nerve that supplies the horn area. Administration of a local anaesthetic as a prescription only medicine (POM) by a non-vet stockperson is permitted under Irish legislation for the disbudding of calves from 2 weeks to 4 weeks of age. For calves older than 4 weeks, administration of a local anaesthetic prior to dehorning under veterinary supervision, is mandatory.

The best location to anaesthetise the area is halfway between the base of the ear and the corner of the eye. The cornual nerve runs under the ridge in this location. A 5/8" needle is inserted up to its hub under the ridge and inject 2ml of the local anaesthetic (provided by your veterinary practitioner). Pull back while still injecting so that the last bit of local is injected just below the skin. This procedure is repeated on the other side.

An NSAID is a veterinary medicine that is used to relieve pain, reduce inflammation, and lower core body temperature and is normally given after or while the calf is restrained.



Injection site overlying the cornual nerve

For ease of management and increased welfare some farms are now adopting veterinary-directed sedation of calves when disbudding. This is where the calves are sedated by a veterinary practitioner in order to facilitate batch disbudding. Research has shown that sedated calves recover quicker and display less behavioural and physiological signs of pain after disbudding. This usually involves a combination of sedation, local anaesthesia, and an NSAID.

If calves are not being sedated, a calf dehorning crate should be used to minimise stress to a calf and for optimum safety to the operator.

Disbudding involves the destruction of the cells of the horn bud. Cautery (i.e. using a heated disbudding iron) is the only method of disbudding allowed in Ireland under current legislation (S.I. 127 of 2014), which permits disbudding of calves up to 28 days old by thermal cauterisation.

Dehorning refers to the removal of the horn after attachment of the horn bud to the skull. Because the horn grows from the skin around its base, you must remove or destroy a complete ring of hair (1cm wide) around the horn base. The degree of tissue damage associated with disbudding is influenced by the stage of development of the horn bud e.g. in younger calves the burning of the vessels surrounding the horn bud is sufficient, whereas the whole bud needs to be removed when the horn is further developed. Therefore, depending on the calf's age, more tissue damage may be caused, which could lead to prolonged healing time and prolonged stress.

## The Procedure

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The barrel of the cauterising iron is preheated and must be larger than the horn bud so that a complete ring of tissue around the base is cauterized. The hot iron is placed over the horn and held in position with firm pressure. Once the hair starts burning, the iron is rotated around the bud to evenly distribute the heat until a copper-coloured ring of cauterized tissue encircles the bud, but no longer than about 10-20 seconds. Excessively long application of the hot iron may damage the brain. Calves are inspected after 30 minutes and any arteries that are still bleeding are cauterised. The horn bud should fall off within 4 to 6 weeks. Calves are inspected daily, for about 10 days, for early detection of infection. Symptoms of infection include constant tossing of the head and/or a discharge from the wound. Consult with your veterinary practitioner if wounds get infected.

**Note:** Caustic dehorning chemicals must not be used.