**Notes General notes for local anaesthesia:**

• The analgesic technique chosen should be decided based on the procedure to be undertaken, the facilities available and the skills of the practitioner.

• Standard aseptic techniques should be practiced when performing local analgesia, including surgical preparation of the skin and sterile injection techniques.

• Aspiration to check for blood should be carried out prior to injection, to avoid inadvertent intravenous injection.

• Hyaluronidase may be added to local anaesthetic solutions to increase tissue permeability and thus decrease the time to onset of analgesia and reduce the volume of local anaesthetic solution required; it will also reduce the duration of analgesia. However it is questionable whether it is needed other than with procaine hydrochloride solution, since other local anaesthetic agents, such as lidocaine, penetrate tissues adequately. If used, then 150 turbidity reducing units (TRUs) of hyaluronidase may be added per 25 mL of 2% lidocaine. Note: Use of hyaluronidase is NOT a substitute for accurate placement of local anaesthetic solution, since the tissue fascial planes will still act as barriers.

**Complications/ Limitations / Risk**

Physical restraint and/or sedation is required in addition to the local anaesthesia before any operation is carried out on the teat, both for the safety of the surgeon and to maintain asepsis.

• The cow is restrained standing for minor procedures, otherwise in lateral or dorsal recumbency.

Note: Local anaesthetic solution with added vasopressors (adrenalin or noradrenaline) should NOT be used for analgesia of the teats as they may produce sufficient circulatory compromise of the teat to result in tissue necrosis and sloughing.

**Equipment / Chemicals required**

• Fine gauge needle (23-25 gauge)

• 2% lidocaine.

o Note: Local anaesthetic solution with added vasopressors (adrenaline or noradrenaline) should NOT be used for analgesia of appendages such as the teats as they may produce sufficient circulatory compromise of the appendage to result in tissue necrosis and sloughing.

• Syringe.

• Narrow gauze bandage or suture material to make a tourniquet.

**Expertise level / Ease of Use**

Procedure should only be undertaken by an individual with appropriate clinical training and practical experience; this would usually be a veterinarian or someone with advanced veterinary technician training. These blocks are simple to perform.

**Cost/ Availability**

• Inexpensive.

**Legal and Ethical Considerations**

In some countries there may be legislation restricting the use of this type of technique to licensed veterinarians. For example in the UK: "The Veterinary Surgeons Act 1966 (Section 19) provides, subject to a number of exceptions, that only registered members of the Royal College of Veterinary Surgeons may practice veterinary surgery." (see: LCofC1 - RCVS Guide to Professional Conduct 2000 - Treatment of Animals by Non-Veterinary Surgeons).

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