

- SOP No:** ATT 063
- SUBJECT:** Eye extirpation (enucleation) in cattle.
- REASON FOR USE:** This technique is applied to cattle requiring the removal of an eye as a result of disease or injury.
- This technique can only be demonstrated if a current clinical case exists
- POLICY:** This procedure may only be performed by operators skilled in the technique or veterinary students under the direct supervision of an operator skilled in the technique.
- PRECAUTIONS:** The procedure requires accuracy therefore restraining animal movement is critical for the success of the technique. A crush with a headlock offers good restraint that can be further enhanced by the use of a halter and nose pliers. Alternatively, the procedure may be performed using general anaesthesia, for which a crush has been strategically placed to allow release of the patient into a holding pen where the patient is bedded down onto a grass floored area. Aseptic conditions are required throughout the procedure to reduce the risk of bacterial contamination as well as postoperative fly strike
- EQUIPMENT:**
- Lignocaine 2%
  - 8-10cm long 22-18 Gauge Needles
  - 10ml Syringes
  - Xylazine 20mg/ml or other appropriate sedative drugs if necessary
  - Alcohol Swabs
  - Iodine Swabs
  - Animal Clippers
  - Standard surgical kit including Vetafil® suture material
  - Right angled forceps
  - Sterile gloves
- PROCEDURE:**
- Anaesthesia and Surgical Preparation:**
- Restrain the animal in a squeeze crush with its head secured to one side with a halter.
  - Sedate the animal if necessary with the smallest amount of drug necessary for effect to reduce the risk of the animal going down. If the animal is particularly stressed, general anaesthesia can be administered.
  - The hair is clipped around the animal's eye and the surgical site scrubbed as usual for surgery. Proper aseptic technique may be impossible because this procedure is performed on eyes with large, necrotic neoplasms or severe trauma. Some necrotic tissue may be trimmed before the scrub.
  - Administer local anaesthesia by a four-point retrobulbar block. A slightly curved, 8-10cm 22-18 gauge needle is directed through the dorsal eyelid towards the apex of the orbit where the nerves emerge from the orbital foramen.

About 10ml of local anaesthetic is injected. This is repeated through the ventral eyelid and the medial and lateral canthi. Approximately 40ml of lignocaine is used in total. A successful block is indicated by exophthalmus, corneal anaesthesia and mydriasis. The eyelids are sutured closed with the ends of the suture left long to minimize contamination of the surgical field. Towel clamps could be used if necessary to hold the eyelids shut.

**Surgical Technique:**

- A transpalpebral incision, starting ventrally, is made around the orbit, leaving as much normal tissue as possible while attempting to take adequate margins from diseased or neoplastic tissue. The incision is generally 1cm from the margin of the eyelid. Sharp or blunt dissection (a sterile sharpened spoon may be useful) is used around the orbit down to the caudal aspect avoiding entrance through the palpebral conjunctiva. If the reason for enucleation is not neoplasia then some retrobulbar tissue can be left.
  - When the optic stalk and blood supply are reached and pair of right angled forceps is used to grasp the stalk. The stalk is severed distally.
  - Following enucleation a large dead space is left which is impossible to fill. A blood clot will form and organise.
  - Close the skin incision with synthetic nonabsorbable suture material in a simple interrupted or simple continuous pattern. If suture removal will be impossible, absorbable sutures can be used.
- Sutures can be removed 2-3 weeks later.

**RECOMMENDATIONS:**

If infection occurs, some sutures can be removed to allow drainage. If dehiscence occurs, granulation tissue will generally fill the wound. Antiseptic, insecticide, and/or insect repellent preparations should be considered as a postoperative measure. Animal should be checked twice daily for 48 hours to detect any signs of sinusitis or skin bacterial contamination or fly strike.

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**CHAIR OF AEC (Acting)**

**REFERENCES**