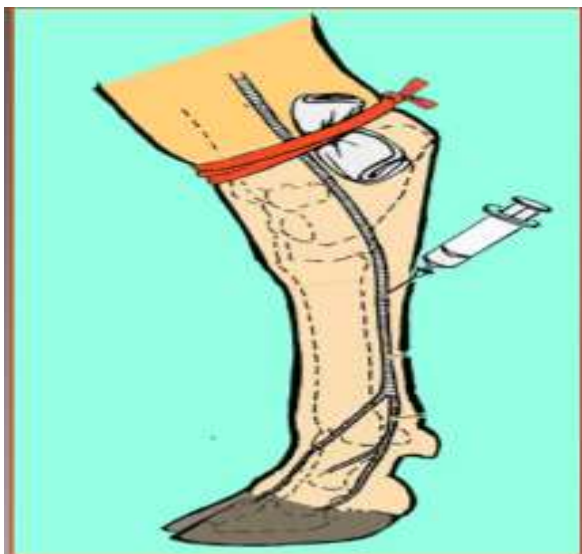


## INTRAVENOUS REGIONAL ANAESTHESIA OF THE LOWER LIMB IN CATTLE

- Restrain the animal
- Clip and disinfect over a convenient prominent superficial limb vein distal to where the tourniquet will be placed
  - The lateral digital vein immediately proximal to the fetlock may be used; the radial vein or median palmar digital vein may be used on the forelimb, the lateral branch of the lateral saphenous vein, or the lateral plantar vein, or the lateral plantar digital vein may be used on the hind limb
- Place a rubber tube tourniquet or wide flat rubber band around the limb
- The band or tubing may be placed in the proximal metatarsal or proximal metacarpal region or above the hock or carpus
- The tourniquet must be applied tightly
- Insert a needle (19 gauge (1.1 mm external diameter) 3.6cm long into the vein, directed distally
- Aspirate blood to confirm that the needle is properly positioned within a vein
- Inject an appropriate amount of local anaesthetic solution, e.g. 10-20 ml of 2% lidocaine hydrochloride for adult cattle
  - 30 ml of 2% lidocaine **without** adrenalin; this may be followed by additional saline to encourage spread of the local anaesthetic
  - 30 ml of 2% lidocaine is recommended, injected rapidly
- Withdraw the needle and massage the injection site for a few seconds to prevent haematoma formation
- Anaesthesia should be complete in five minutes and persist for 1-2 hours if the tourniquet is left in place

- Analgesia should be in effect after ten minutes
- Analgesia develops in 15-20 minutes
  - Check after ten minutes whether full analgesia has been achieved: it is important to check the state of analgesia in the deep tissues prior to beginning a surgical procedure involving these tissues (e.g. digit amputation)
  - It is particularly important to confirm that the caudal aspects of the interdigital cleft are insensitive as this is often the last area to become fully anaesthetised
  - Sometimes the skin between the digits is not fully anaesthetised; in such cases inject 5 ml of 2% lidocaine midline on the dorsal aspect of the fetlock and 5 ml midline on the caudal aspect between the dew claws
- Analgesia remains until the tourniquet is removed
  - Following surgery (up to 45 minutes) release the tourniquet slowly over about ten seconds
  - Release should not cause any problems if at least ten minutes have elapsed between injection and release of the tourniquet
- The tourniquet may be left in place for up to 1.5 hours without ill effect



**Diagram showing region for IVRA in the lower limb of cattle**