



Claire E Whitehead, BVM&S  
MS DACVIM FHEA MRCVS

Camelid Veterinary Services  
Ltd  
United Kingdom

claire@ukalpacavet.com

### ROUTINE ON-FARM PROCEDURES IN CAMELID PRACTICE

The following procedures represent some of the most frequent procedures likely to be necessary in the course of routine Camelid management and in dealing with sick alpacas.

Blood sampling is a basic and crucial technique. Camelids must be adequately restrained with the head and neck straight. The transverse processes of the cervical vertebrae can be palpated either side of the trachea. The jugular vein runs between these structures and is easily accessed in the mid-section which allows the handler to secure the patient around the top of the neck. Use a 20g needle for alpacas, an 18/19g needle for llamas. Stand directly in front of the animal – not to the side. Palpate the landmarks by rolling your thumb over the trachea and transverse processes and feeling the depression between in which the vessels lie. Hold off the jugular and observe the vein collapse when you let it go. Insert the needle at approximately 30° to the skin and advance the needle confidently through the skin which will feel tough compared to other species. Reposition the needle if necessary. Carotid sampling is relatively frequent due to proximity beneath the jugular: take appropriate steps to prevent haematoma formation by holding off for longer.

Placement of an intravenous catheter is useful for management of sick camelids and for anaesthesia. It is also required for administration of plasma or blood products. Adults will be standing or in sternal recumbency while crias are usually cushed on a table with neck immobilised: for adults, due to thick skin a guide hole is placed prior to insertion of the catheter. Following clipping and scrubbing, local anaesthetic placement greatly enhances successful catheterisation. For crias, an 18g catheter is ideal for short term use and can be placed directly through the skin. For adults, use a 14g catheter (5.25 inch), or 16g (3.5 inch) for older crias up to 6 months. Make a guide hole through the skin first using a needle the same size as the catheter.

Castration is performed on males that are not to be used as breeding males. Typically, decisions are made at 12-18 months of age. Castration at 18 months of age minimises the effects on growth, whereas earlier castration, particularly as young as 6 months,

may result in males growing taller and developing post-legged conformation which may increase susceptibility to patellar luxation and arthritis in later life. However early castrates may maintain finer fleece than those castrated at a later age. There are many different approaches to castration: as long as sufficient analgesia is used the particular method of sedation/anaesthesia should be appropriate to the owners' wishes for patient comfort and budget.

Pre-operative patient assessment should include checking tetanus coverage and physical examination. Flunixin meglumine (1mg/kg) SQ provides analgesia and may improve patient recovery.

Surgical technique involves two separate scrotal skin incisions that are left open to facilitate drainage. The author maintains a closed tunica albuginea and places a transfixation ligature (eg 0 chromic gut or 2-0 vicryl) on the cord and vessels – a semi-closed technique that reduces protuberance of the tunica and scrotal fat from the skin incisions.

Nasolacrimal duct obstruction: affected individuals will usually present at less than 6 months of age with persistent tear-staining of the face, or with chronic conjunctivitis. Application of ophthalmic ointments may have resulted in only transient success. Sometimes the nasolacrimal ducts may be blocked with cellular debris and inflammation, but there may also be a congenital defect where there is no opening at either or both ends of the duct (nasolacrimal duct atresia) normally the distal end, in the nostril. This can be visualised using a light source by standing directly in front of the animal and holding the lateral edge of the nostril out towards you and slightly to the side. Try not to distort the normal architecture. The nasolacrimal duct opening is to be found medially on a fold of cartilage.

Catheterisation of the nasolacrimal ducts is performed under sedation, optimal using a combination of xylazine (0.33mg/kg), ketamine (0.33mg/kg) and butorphanol (0.11mg/kg) given IV together in the same syringe provides 12-15 minutes of useful sedation. Ophthalmic local anaesthetic can be used in the eye if catheterising the proximal end of the duct.

# FARM ANIMAL

## ALPACA AND SHEEP MEDICINE

Flush the ducts while holding the patient with head angled downward. Use a 5 or 6 Fr dog urinary catheter and catheterise the duct preferentially from the nasal end of the duct if present. Hold the catheter in situ with a finger while covering the whole opening. This will facilitate retrograde flushing. If catheterising the lacrimal end of the duct – there are two openings, an upper and a lower punctum on the lid margins. Try to pass the catheter all the way down the duct to the distal end. Saline can be flushed down the catheter in a pulsatile manner in order to distend the site of the opening if atresia has occurred. Make a stab incision using a 15 blade over the bulging mucosa. Ensure that there are no corneal ulcers and treat for 5-7 days using an antibiotic ointment with steroid (without in case of ulcers or if the patient is pregnant).

**NOTE:** None of the treatments listed are licensed for use in llamas or alpacas and are used in accordance with the Cascade. Doses and recommendations described have been used by the author.