Title of Procedure: Laparotomy/Ovarectomy (Ewes) (L9)

Objective:
To allow for the observation, exteriorisation and surgical manipulation of the female reproductive organs of sheep.

Details of Procedures:
Antibiotic pre-medication (with a long-acting, broad-spectrum parental antibiotic) is provided to all ewes 24-48 hours before the surgery.

All ewes are fasted (including water) overnight immediately before surgery.

THE OPERATION IS CONDUCTED IN AN AREA APPROVED FOR SURGERY, UNDER THE NORMAL SURGICAL DISCIPLINE OF ASEPSIS.

Anaesthesia is affected by either;
- Pentothal/Thiopentone induction and halothane/oxygen maintenance
  Or
- A combination of the injectable agents Xylazine, and Ketamine, provided surgery is not to be performed on internal organs.

The ewe is restrained in a laparotomy cradle and an area (approx. 15 x 15cm) of the abdomen immediately anterior to the mammary gland is clipped and prepared aseptically (washed with hibitane or iodine-based detergent solution and swabbed with alcoholic iodine).

The cradle is tilted to about 25-30° so that the rumen moves to an anterior position. Sterile drapes are placed over the prepared area.

An 8-10cm incision is made anterior to the mammary gland and 5cm form the midline. The uterus and ovaries are then exteriorised for observation.

The Ovarectomy is to occur:
- The ovarian artery and vein (of each ovary) are located, blunt dissected from the surrounding tissue and ligated separately; any other vessels seen to be serving the ovary are also dissected out and ligated.
- The ovaries are then cut free and the uterus and associated tissues are checked for bleeding.
- After any further ligation, and washing of the uterus with sterile heparinised saline, the uterus is returned to the body cavity.
The peritoneum and muscle layers are sutured, followed by the skin.

The animal is then returned to lateral recumbency and with head lower than chest and abdomen closely observed until it is able to swallow and then stand.

**Drug, Chemicals or Biological Agents:**

- Anaesthetic agents – as approved by Animal Ethics Committee
- Broad-spectrum long-acting antibiotics – e.g. penicillin/streptomycin or tetracycline’s.

**Care of Animals after the Procedure:**

Animals should be closely supervised until they are conscious, and able to swallow and stand. All animals and their vital signs should be observed and measured daily for 3-4 days post-surgery. Antibiotic cover should be provided for 7 to 10 days. Skin sutures should be removed at 10-14 days post-surgery and the wound closely inspected to ensure absence of infection. Surgical wounds should be checked every second day for signs of infection or fly strike.

**Qualifications, Experience, Skills or Training Necessary to Perform this Procedure:**

All operators should be familiar with the behaviour of and handling methods for sheep. In addition, operators should be able to demonstrate familiarity with techniques of chemical restraint and anaesthesia, as well as aseptic technique and the methods used for laparotomy and ovariectomy.

**Effects of Procedure on Wellbeing of Animals:**

Following recovery from anaesthesia behaviour should be normal and wounds should be healed by 10-14 days post-surgery.

**Pain Relief Measures:**

Anaesthesia at the time of surgery.

**References:**


**Prepared by:** Ruth Tremont (UNE Director of Animal Welfare) and Dr G Hinch (Department of Animal Science, UNE), 1993

**Reviewed by:** A/Prof Jim McFARLANE (Science and Technology), 2006