Title of Procedure:
Embryo Collection and Transfer (Sheep & Goats) (L10)

Objective:
The collect unimplanted embryos from donor ewes or does and place them in recipient mothers.

Details of Procedures:

a) Donors
The surgical procedure used is as for the laparotomy step described under Laparotomy/Ovarectomy (Procedure L9). However, it will also include one of the following.

i. The placement of a piece of 1.0mm diameter tubing into the oviduct, via careful manipulation of the tubing in through the fimbria. 5ml of sterile flushing media is then injected via a 26g needle into the distal end of the uterine horn and collected into a second syringe via the preplaced tubing. This procedure allows for the collection of 1-3 day embryos.

Or

ii. The placement of a 2mm Foley balloon catheter into each uterine horn, through a puncture wound near the bifurcation of the horns. Each uterine horn is injected, from its distal end using a sterile 21g needle, with 10-15ml of sterile flushing media. This media is retrieved via the preplaced Foley catheter and allows for the collection of 4-10 day embryos.

b) Recipients
The transfer of embryos to recipients uses the same technique as described for Laparoscopy (Procedure L8), except that Xylazine/Ketamine sedation is used in place of that induced with acepromazine.

The uterus is located by endoscopy and the tip of the uterine horn drawn through a 1-2cm incision in the abdominal wall, using 20cm Babcock forceps. The embryo is then injected into the uterine tip, the uterus returned to the abdominal cavity and the incision sutured.

Drug, Chemicals or Biological Agents:

- Xylazine and Ketamine
- 2% Lignocaine
- Long-acting broad-spectrum antibiotics
Care of Animals after the Procedure:

As described under Laparotomy/Ovarectomy (L9) and Laparoscopy (L8), for donors and recipients respectively.

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

All operators should be familiar with the behaviour and handling methods of the animal species they are using. In addition, operators should be familiar with anaesthetic and surgical techniques involved with laparoscopy, laparotomy and embryo transfer.

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:

General anaesthesia, or sedation and local anaesthesia, at the time of surgery.

References:


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

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