Castration and ovariohysterectomy/ovariectomy: cats

Castration and ovariohysterectomy/ovariectomy performed in cats are associated with pain of varying severity which is influenced by the degree of surgical trauma. For this reason surgery should be performed with careful tissue handling and adherence to good surgical principles. General anaesthesia and preventive/multimodal analgesia techniques are strongly recommended. There are many options available for perioperative management. The protocol below is one example. Postoperative treatment with analgesics may be required for up to 3 days after surgery.

**Castration**

**Preoperative:**
- **Neuroleptanalgesia** to include opioid + acepromazine (0.01–0.05 mg/kg) OR alpha2 + ketamine (5–10 mg/kg IM: the higher doses are selected for cats that are more difficult to handle)
- **Induction of anaesthesia:** In some cases an opioid, an alpha2 adrenoceptor agonist and ketamine will provide sufficient analgesia and anaesthesia for a castration
  - **Intravenous:** Propofol to effect (3–10 mg/kg), ketamine (3–5 mg/kg) + diazepam or midazolam (0.25 mg/kg), or alfaxalone (3–5 mg/kg). Note: if an alpha2 adrenoceptor agonist has been used preoperatively these doses may be lower
  - **Intramuscular:** An alpha2 adrenoceptor agonist + ketamine (5–10 mg/kg) or tiletamine/zolazepam (3–4 mg/kg).

**Maintenance of anaesthesia:** Inhalation anaesthesia or ketamine or propofol or alfaxalone IV to effect. Note: in many cases a castration can be completed without the need for maintenance anaesthesia drugs; however, there should be a plan for extending the anaesthesia time in the event the cat becomes responsive or complications arise. Equipment should also be available for endotracheal intubation.
- **Local anaesthetic techniques:** Intra-testicular block and pre- and/or post-surgery skin infiltration with lidocaine.
- **Postoperative analgesia:** NSAID.

**Protocol without controlled drugs**

**Preoperative:** combination of a NSAID and an alpha2 adrenoceptor agonist.
Otherwise as above.

**Protocol with limited availability of analgesic drugs**

**Preoperative:** Alpha2, adrenoceptor agonist + NSAID;
**Induction and maintenance of anaesthesia:** Any available induction agents; injectable or inhalant.
**Local anaesthetic techniques:** Intra-testicular block and pre- and/or post-surgery skin infiltration with lidocaine.
**Postoperative analgesia:** NSAID.

**Ovariohysterectomy/ovariectomy**

**Preoperative:**
- **Anaesthesia:** Opioid ± ketamine (5–10 mg/kg IM: the higher doses are selected for cats that are more difficult to handle)
- **Sedation:** Acepromazine (0.01–0.05 mg/kg IM) or alpha2, adrenoceptor agonist
- **Induction of anaesthesia:**
  - **Intravenous:** Propofol to effect (3–10 mg/kg), ketamine (3–5 mg/kg) + diazepam or midazolam (0.25 mg/kg), or alfaxalone (3–5 mg/kg). Note: if an alpha2 adrenoceptor agonist has been used preoperatively these doses may be lower
  - **Intramuscular:** An alpha2 adrenoceptor agonist + ketamine (5–10 mg/kg) or tiletamine/zolazepam (3–4 mg/kg).

**Maintenance of anaesthesia:** Inhalation anaesthesia or ketamine or propofol or alfaxalone IV to effect (1/3 or 1/2 of initial dose).
Note: in many cases an ovariohysterectomy or ovarioectomy can be completed without the need for maintenance anaesthesia drugs; however, there should be a plan for extending the anaesthesia time in the event the cat becomes responsive or complications arise; venous access is recommended.
- **Local anaesthetic techniques:** Incisional and intraperitoneal/ovarium ligament block with lidocaine.
- **Postoperative analgesia:** NSAID.

**Protocol without controlled drugs**

**Preoperative:** Combination of a NSAID and an alpha2, adrenoceptor agonist.
Otherwise as above.

**Protocol with limited availability of analgesic drugs**

**Preoperative:** Alpha2, adrenoceptor agonist + NSAID.
**Induction and maintenance of anaesthesia:** Any available induction agents; injectable or inhalant.
**Local anaesthetic techniques:** Epidural or incisional and intraperitoneal/ovarium ligament block with lidocaine.
**Postoperative analgesia:** NSAID.

Analgesia may be supplemented after most surgical techniques by application of non-drug modalities such as cold therapy, laser therapy, acupuncture, nursing care, mild exercise and massage.

For additional pharmaceutical dosing information, see the dosing tables in the WSAVA GPC Treatise at www.wsava.org.