

SPECIAL SURGERY (A5)

HYSTEROTOMY IN COWS (CESAREAN SECTION)

Cesarean section is the most frequently performed surgical operation in cattle. It allows extraction of a live calf in cases of dystocia, preserving the cow's future fertility.

Preparation

- **Material:** Simple instrumentation (scalpel, dissecting forceps, retractors, Mayo scissors, hemostats, needle holder, chromic catgut No. 8 for uterus/muscles, nasal staples for skin).
- **Restraint, Anesthesia, Preparation:** Cow restrained standing, hocks hobbled, head fixed high. Surgical analgesia via paravertebral anesthesia of the last three dorsal and first three lumbar spaces. Left flank area shaved and aseptically prepared.

Surgical Steps

1. **Laparotomy:** Incision in the left flank, slightly below and behind the gastrotomy site, oblique direction. Careful hemostasis.
2. **Exteriorization:** Explore cavity, locate uterus and fetal position. Exteriorize the fetus and a portion of the uterus to allow fetal fluids to drain outside the coelom.
3. **Uterine Incision & Calf Extraction:** Incise the uterus (20-30 cm) between cotyledons. Extract the calf. Explore for a second calf.
4. **Uterine Suture:** Close the uterus with a continuous suture (Schmieden or Lembert) using chromic catgut No. 8. Asepsis of the suture line. Return uterus to abdomen.
5. **Abdominal Wall Closure:** Suture in three layers: continuous on peritoneum, X sutures on muscles, and skin (nasal staples or simple sutures). Leave a drain if asepsis is questionable.

SPECIAL SURGERY (A5)

Postoperative Care

- Manage placental delivery if not spontaneous.
- Administer anti-tetanus and anti-gangrene sera, preventive penicillin.
- Nasal staples cut on day 12.

Complications

- Infectious: peritonitis, wall abscesses, pyoemia, mastitis.
- Gynecological: sterility due to chronic uterine infection.

URINARY TRACT SURGERY

Urinary tract surgery in veterinary practice is largely limited to emergency interventions for obstructive urolithiasis via cystotomy, urethrotomy, or urethrostomy.

CYSTOTOMY IN CARNIVORES

Incision of the bladder to extract calculi.

Preparation

- Organize for septic and aseptic phases (two sets of instruments).
- Catheterize preoperatively, lavage bladder with isotonic saline + procaine/lidocaine +/- proteolytic enzymes, antibiotics, or antiseptics. Final rinse with saline + procaine/lidocaine only.
- Collect and discard initial urine or lavage fluid.

Surgical Steps

1. Antepubic Laparotomy: Incision between pubis and umbilicus. Careful debridement of linea alba.
2. Exteriorization: Exteriorize bladder, present its dorsal surface.
3. Incision: Incise bladder on its dorsal surface in the median plane, caudal to the apex.
4. Extraction: Remove calculi, explore folds. Lavage mucosa if possible.
5. Bladder Suture:
 - Appositional Suture: Close first layer with an inverting continuous suture (Cushing) using absorbable monofilament.

SPECIAL SURGERY (A5)

- Asepsis: Discard instruments, disinfect, rescrub.
- Imbrication Suture (optional): Perform a second inverting layer (Reverdin) if wall is rigid.

6. Abdominal Closure.

Postoperative Care

- Prevent bladder spasms (phloroglucinol).
- Antibiotics (broad spectrum, eliminated in urine).
- Antilithiasis treatment.

Complications

- Suture dehiscence leading to urine peritonitis or uremia.

URETHROTOMY IN THE DOG

Incision of the urethra to relieve obstruction. Performed between the distal end of the os penis and the scrotum. The fistula is left to heal by second intention.

Surgical Steps

1. Prep: Place a urinary catheter for identification.
2. Incision: Skin incision in the median sagittal plane just behind the os penis. Incise the retractor penis muscle strictly in the midline.
3. Urethral Incision: Incise the urethra strictly in the midline until the catheter or calculi are seen.
4. Extraction: Remove accessible calculi with a curette. Lavage bladder.

Postoperative Care

- Phloroglucinol, antibiotics, antilithiasis treatment.
- Topical antiseptic-corticosteroid ointment to delay fistula closure.

Complications

- Hemorrhage from the corpus cavernosum (incorrect incision).
- Recurrent obstruction if lithogenesis continues.

URETHROSTOMY IN THE DOG

Creation of a permanent artificial meatus (hypospadias) to prevent recurrent urethral obstruction. The technique extends urethrotomy by suturing the urethral mucosa to the skin with simple interrupted sutures.

Postoperative Care

- Elizabethan collar to prevent licking.
- No obstruction recurrence. Requires hygiene management for deviated urine stream.

SURGERY OF THE MAMMARY GLAND AND LACTEAL FISTULAS

Anatomy

- Bitch: 10 mammary glands in 5 pairs.
- Queen: 8 mammary glands in 4 pairs.

Physiology

Stimulated by estrogen and progesterone; lactation regulated by prolactin and oxytocin.

Common Pathologies

1. Mammary Tumors: Benign (fibroadenomas, adenomas) and malignant (carcinomas, sarcomas).
2. Mastitis: Acute or chronic bacterial infection.
3. Lacteal Fistulas: Abnormal opening between the gland and exterior, often post-lactation or due to chronic infection.

Surgical Indications

- Tumors: Excision (lumpectomy) for benign; partial or total mastectomy for malignant.
- Severe Mastitis: Drainage; mastectomy if recurrent/severe.
- Lacteal Fistulas: Excision of fistulous tract and suture.

Preoperative Preparation

- Complete clinical exam, imaging (radiographs for pulmonary metastases, ultrasound), histopathology (biopsy), prophylactic antibiotics, bloodwork.

Surgical Techniques

- Lumpectomy: Excision with adequate margins.
- Partial Mastectomy: Removal of one gland.

SPECIAL SURGERY (A5)

- Total Mastectomy: Removal of all glands on one or both chains.
- Fistula Repair: Excision and primary closure.

Postoperative Care and Follow-up

- Complications: Wound infection, hemorrhage, healing problems, tumor recurrence.
- Follow-up: Analgesics, antibiotics, long-term monitoring (clinical exams every 3-6 months, radiology as needed).

PERIANAL FISTULA IN DOGS

Definition

A chronic, painful disease where single or multiple fistulas develop around the anus. Strong breed predisposition in German Shepherds and Irish Setters.

Clinical Signs

- Pain on defecation, dyschezia, anal bleeding, constipation/fecal incontinence, intense licking, malodorous discharge.

Diagnosis

Based on clinical signs and physical examination.

Differential Diagnosis

Anorectal fistulas, anal sac abscesses, perianal tumors (squamous cell carcinoma, hyperplastic anus, perianal adenoma), autoimmune diseases (Lupus erythematosus). Biopsy is necessary.

Treatment

- Medical: Antibiotics for secondary infection, hygienic measures, hypoallergenic diet, immunomodulators (e.g., ketoconazole/cyclosporine combination).
- Surgical (Fistulectomy): Removal of persistent fistulas and anal sacs if involved.

SPECIAL SURGERY (A5)

- Complications: Suture dehiscence, uncontrolled pain, anal stenosis, fecal incontinence, recurrence.

AURAL HEMATOMA IN DOGS

Definition

A fluctuating, well-circumscribed swelling of the auricle, typically on the concave surface, caused by rupture of microvessels from head shaking or trauma.

Diagnosis

Clinical diagnosis, often confirmed by aseptic aspiration, which yields serosanguineous fluid.

Evolution

Conservative treatments have high recurrence rates and can lead to permanent ear deformity (cauliflower ear). Surgery is the best option.

Surgical Technique

1. Anesthesia: General anesthesia.
2. Preparation: Shave and disinfect the ear.
3. Incision: S-shaped or linear incision on the concave surface to evacuate the hematoma.
4. Drainage: Complete evacuation of the hematoma content.
5. Mattress Sutures: Place through-and-through mattress sutures, parallel to the ear's long axis, to appose the skin to the cartilage. Start from the periphery, moving toward the central incision.
6. Compressive Bandage: Applied to maintain pressure and prevent recurrence.

Postoperative Care

- Antibiotics and anti-inflammatories.

SPECIAL SURGERY (A5)

- Monitor for infection or recurrence.
- Remove sutures after 10-14 days.

Post-Surgical Evolution

- Immediate (1-3 days): Mild swelling, controlled pain, dry bandage.
- Intermediate (4-10 days): Progressive reduction of edema, suture maintains apposition.
- Healing (10-14 days): Suture removal, ear gradually returns to shape.
- Late (3-4 weeks): Final appearance may show minor irregularities.

Potential Complications

- Post-surgical infection.
- Deformity (cauliflower ear).
- Recurrence.