

Veterinary surgery

Veterinary surgery is surgery performed on animals by veterinarians, whereby the procedures fall into three broad categories: orthopaedics (bones, joints, muscles), soft tissue surgery (skin, body cavities, cardiovascular system, GI/urogenital/respiratory tracts), and neurosurgery. Advanced surgical procedures such as joint replacement (total hip, knee and elbow replacement), fracture repair, stabilization of cranial cruciate ligament deficiency, oncologic (cancer) surgery, herniated disc treatment, complicated gastrointestinal or urogenital procedures, kidney transplant, skin grafts, complicated wound management, minimally invasive procedures (arthroscopy, laparoscopy, thoracoscopy), etc. are performed by Veterinary Surgeons (as registered in their jurisdiction). Most general practice veterinarians perform routine surgery [neuters (spay and castration), minor mass excisions, etc.], some also perform additional procedures.

The goal of veterinary surgery may be quite different in pets and in farm animals. In the former, situation is a bit like in human beings, and more and more complex operations are performed, with sophisticated anaesthesia techniques. In the latter, the cost of the operation must not exceed the economic benefit in surgically treating the illness.

Common veterinary surgeries:

Elective procedures:

Elective procedures are those performed on a non-emergency basis, and which do not involve immediately life-threatening conditions. These are in contrast to emergency procedures.

Sterilization Surgery

One of the most common elective surgical procedures in animals are those that render animals incapable of reproducing. Neutering in animals describes spaying or castration (also please see castration). To spay (medical term: ovariectomy or ovario-hysterectomy) is to completely remove the ovaries and often the uterus of a female animal. In a dog, this is accomplished through a ventral midline incision into the abdomen. In a cat, this is accomplished either by a ventral midline abdominal incision, or by a flank incision (more common in the UK). With an

ovariectomy ligatures are placed on the blood vessels above and below the ovary and the organ is removed. With an ovariohysterectomy, the ligaments of the uterus and ovaries are broken down and the blood vessels are ligated and both organs are removed. The body wall, subcutis, and skin are sutured. To castrate (medical term: orchiectomy) is to remove the testicles of a male animal. Different techniques are used depending on the type of animal, including ligation of the spermatic cord with suture material, placing a rubber band around the cord to restrict blood flow to the testes, or crushing the cord with a specialized instrument like the Burdizzo.

Neutering is usually performed to prevent breeding, prevent unwanted behavior, or decrease risk of future medical problems. Neutering is also performed as an emergency procedure to treat certain reproductive diseases, like pyometra and testicular torsion, and it is used to treat ovarian, uterine, and testicular cancer. It is also recommended in cases of cryptorchidism to prevent torsion and malignant transformation of the testicles. Please see spaying and neutering for more information on the advantages and disadvantages of this procedure.

Laser surgery offers a number of benefits, including reduced risk of infection, less post-operative pain and swelling, reduced bleeding and improved visibility of the surgical field. Better hemostasis and visibility can in some cases minimize the need for anesthesia and/or reduce overall surgical time.

Dental surgery:

Anesthetised dog with an epulis

Common dental surgical procedures:

- Horses - Floating (grinding down) of uneven teeth edges and removal of wolf teeth.
- Dogs - Dental prophylaxis is commonly performed to remove tartar and treat periodontal disease. This procedure is usually performed under anesthesia. Other common procedures include extraction of abscessed or broken teeth, extraction of deciduous teeth, root canals, and removal of gingival hyperplasia and epulides.

- Cats - Dental prophylaxis as described above for the dog and treatment and extraction of teeth with feline odontoclastic resorptive lesions (FORLs).

Surgical oncology:

In older dogs and cats tumors are a common occurrence, and may involve any or multiple body systems: skin, musculoskeletal, gastrointestinal tract, urogenital tract, reproductive tract, cardiovascular system, spinal cord and peripheral nerves, the spleen and the lining of body cavities. Common skin tumors include lipomas, mast cell tumors, melanomas, squamous cell carcinomas, basal cell carcinomas, fibrosarcomas, and histiocytomas. Skin tumors are removed through either simple excisions or through excisions needing reconstructive plastic surgery. Common oral tumors include melanomas, fibrosarcomas, squamous cell carcinomas, which are removed with as much surrounding tissue as possible, including parts of the mandible and maxilla. Other types of cancer requiring surgery include osteosarcoma, stomach and intestinal tumors, splenic masses, and urinary bladder tumors.

Ophthalmic surgery:

Common ophthalmic surgeries in animals include:

- Enucleation of the eye to treat glaucoma or eye proptosis.
- Cataract surgery
- Entropion surgery
- Ectropion surgery
- Eyelid tumor removal
- Cherry eye surgery
- Exenteration (complete removal) of the orbit, especially for squamous cell carcinoma in the cat and cow.

Orthopedic surgery:

Common orthopedic surgeries in animals include:

- Ruptured anterior cruciate ligament repair

- For hip dysplasia: Femoral head ostectomy
- Triple pelvic osteotomy
- Hip replacement
- Leg amputation
- Bone fracture repair
- Arthroscopy
- MPL - medial patellar luxation
- APL - anterior patellar luxation