

## General Veterinary Surgery

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### Referances

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**Surgery:** Latin: *chirurgiae*, meaning "hand work" is an ancient medical specialty that uses operative manual and instrumental techniques on a patient to investigate and/or treat a pathological condition such as disease or injury, or to help improve bodily function or appearance. The surgery was performed by persons like Barbers, Salemen in addition to their job, it wasn't based on scientific knowledge.

The earliest written records of veterinary medicine can be found in the Egyptian (1900 BCE) and Vedic literature in ancient India (1800 BC). In Europe, the first attempts to organize and regulate the practice of treating animals tended to focus on horses because of their economic significance. The farriers combined their work in shoeing and generally caring for horses' hooves with "horse doctoring".

In 1356, the Lord Mayor of London, concerned at the poor standard of care given to horses in the city, requested that all farriers operating within a seven mile radius of the City of London form a "fellowship" to regulate and improve their practices.

The first veterinary college in Europe was founded in **Lyon**, France in 1762. In the ensuing 20 years similar colleges were established in other European cities. The Veterinary College of London was founded in 1791 by a group led by **Granville Penn**.

In the United States, the first veterinarians had been trained in Europe. However, Boston, New York and Philadelphia all had their own private veterinary schools by the 1850s. These urban schools concentrated primarily on the care of horses. By the turn of the 20th century, several American agricultural colleges had started their own veterinary schools which were focused on livestock animals

**Veterinary surgery** is surgery performed on animals by veterinarians. Advanced surgical procedures such as joint replacement (total hip, knee and elbow replacement), fracture repair, 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. 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.

**Surgery is a technology first who used consisting of a physical intervention on tissues**

As a general rule, a procedure is considered surgical when it involves cutting of a patient's tissues or closure of a previously sustained wound. Other procedures that do not necessarily fall under this rubric, such as angioplasty or endoscopy, may be considered surgery if they involve "common" surgical procedure or settings, such as use of a sterile environment, anesthesia,

antiseptic conditions, typical surgical instruments, and suturing or stapling. All forms of surgery are considered invasive procedures; so-called "noninvasive surgery" usually refers to an excision that does not penetrate the structure being excised (e.g. laser ablation of the cornea) or to a radiosurgical procedure (e.g. irradiation of a tumor).

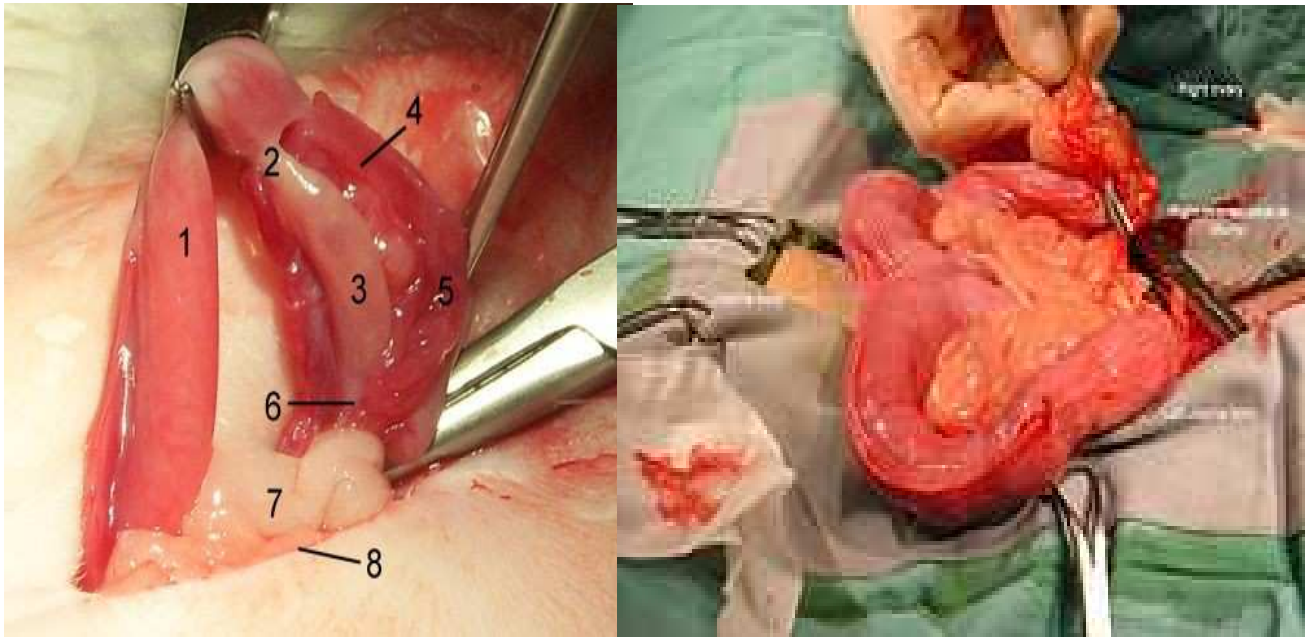
Then the other important event was discovery of anesthesia by Long 1842. AIRAZI was used the absorbable sutures in surgery. The veterinary surgeon should have enough knowledge of subjects such as anatomy, physiology, pathology and bacteriology.

### **Good surgeon should have (characteristics)**

1. Sulaman wisdom
2. Ladies fingers
3. Eagles eye
4. Lions heart

### **Types of surgery**

**Based on timing:** Elective surgery is done to correct a non-life-threatening condition, and is carried out at the patient's request, subject to the surgeon's and the surgical facility's availability.



Emergency surgery is surgery which must be done promptly to save life, limb, or functional capacity.

Semi-elective surgery is one that must be done to avoid permanent disability or death, but can be postponed for a short time.

**Based on purpose:** Exploratory surgery is performed to aid or confirm a diagnosis.

Therapeutic surgery treats a previously diagnosed condition.

**By type of procedure:** Amputation involves cutting off a body part, usually a limb or digit; castration is also an example.

**Replantation** involves reattaching a severed body part.

**Reconstructive surgery** involves reconstruction of an injured, mutilated, or deformed part of the body.

**Cosmetic surgery** is done to improve the appearance of an otherwise normal structure. Excision is the cutting out or removal of an organ, tissue, or other body part from the patient.

**Transplant surgery** is the replacement of an organ or body part by insertion of another from different human (or animal) into the patient. Removing an organ or body part from a live human or animal for use in transplant is also a type of surgery.

**By body part:** When surgery is performed on one organ system or structure, it may be classed by the organ, organ system or tissue involved. Examples include cardiac surgery (performed on the heart), gastrointestinal surgery (performed within the digestive tract and its accessory organs), and orthopedic surgery (performed on bones and/or muscles).

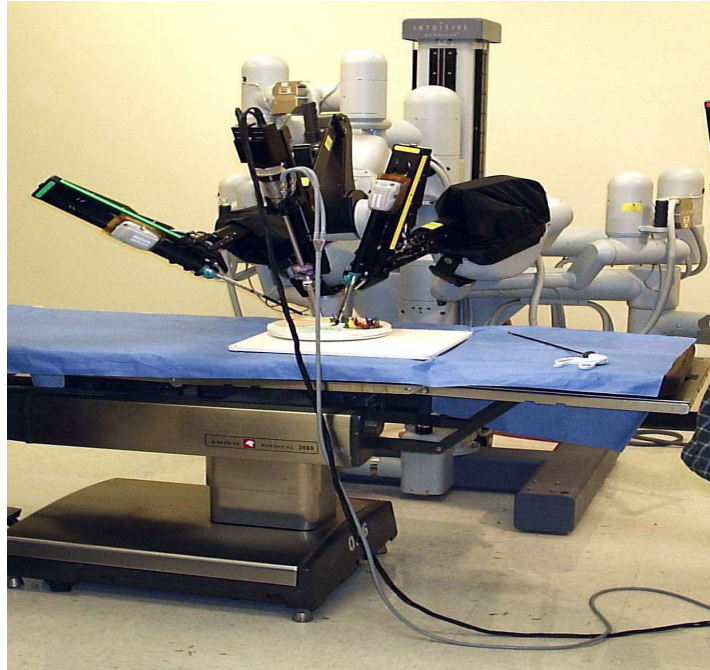
**By degree of invasiveness:** Minimally invasive surgery involves smaller outer incision(s) to insert miniaturized instruments within a body cavity or structure, as in laparoscopic surgery or angioplasty. By contrast, an open surgical procedure or laparotomy requires a large incision to access the area of interest.

**By equipment used:** Laser surgery involves use of a laser for cutting tissue instead of a scalpel or similar surgical instruments.

**Cryosurgery** Using **liquid nitrogen**

**Microsurgery** involves the use of an operating microscope for the surgeon to see small structures.

**Robotic surgery** makes use of a surgical robot, such as the Da Vinci or the Zeus surgical systems, to control the instrumentation under the direction of the surgeon.



## **Terminology**

- ❖ Excision surgery names often start with a name for the organ to be excised (cut out) and end in **-ectomy**.
- ❖ Procedures involving cutting into an organ or tissue end in **-otomy**.
- ❖ A surgical procedure cutting through the abdominal wall to gain access to the abdominal cavity is a laparotomy.
- ❖ Minimally invasive procedures involving small incisions through which an endoscope is inserted end in **-oscopy**. For example, such surgery in the abdominal cavity is called laparoscopy.

- ❖ Procedures for formation of a permanent or semi-permanent opening called a stoma in the body end in **-ostomy**.
- ❖ Reconstruction, plastic or cosmetic surgery of a body part starts with a name for the body part to be reconstructed and ends in **-oplasty**. *Rhino* is used as a prefix for "nose", therefore a *rhinoplasty* is reconstructive or cosmetic surgery for the nose.
- ❖ Reparation of damaged or congenital abnormal structure ends in **-rraphy**. Herniorraphy is the reparation of a hernia, while perineorrhaphy is the reparation of perineum.

### **Pre-operative preparation**

- ❖ physical examination, medical examination, or clinical examination
- ❖ x-rays before surgery

### **Staging for surgery (Operative)**

- ❖ Hair is present at the surgical site, it is clipped off
- ❖ Applying an antiseptic such as chlorhexidine gluconate or povidone-iodine to reduce the possibility of infection
- ❖ Anesthesia is administered to prevent pain from incision

### **Post-operative care**

- ❖ The patient is transferred to the post anesthesia care unit
- ❖ Skin closures are used, they are removed after 7 to 10 days post-operatively

## **Surgical specialties and sub-specialties**

- General surgery
  - Cardiothoracic surgery
  - Vascular surgery
  - Plastic surgery
  - Paediatric surgery
  - Colorectal surgery
  - Transplant surgery
  - Surgical oncology
  - Trauma surgery
  - Endocrine surgery
  - Breast surgery
  - Skin surgery
- Otolaryngology
- Gynaecology
- Oral and maxillofacial surgery
- Dental Surgery
- Orthopaedic surgery
- Neurosurgery
- Ophthalmology
- Podiatric surgery
- Urology



**Halsted's principles**, also known as **Tenets of Halsted**, are the basic principles of surgical technique regarding tissue handling.

- **Gentle handling of tissue**
- **Meticulous haemostasis**
- **Preservation of blood supply**
- **Strict aseptic technique**
- **Minimum tension on tissues**
- **Accurate tissue apposition**
- **Obliteration of dead space**

### **Aims of Surgery**

To save life or prolong age

1. To promote healing
2. To relieve diseases
3. For cosmetic purpose
4. For reconstruction
5. For economic purpose (castration in lambs)
6. For diagnosis
7. For experimental purpose
8. Give rest to the tissue