

Genital Surgeries in domestic animals

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Genital surgeries of the female animals

Genital surgeries are infrequent in animals. The three most common surgeries are cesarean section (all animals), Ovariohysterectomy (bitches and cats) and Episioplasty (Caslick operation in mares).

Surgeries of the ovaries

Ovariectomy (Unilateral or bilateral)

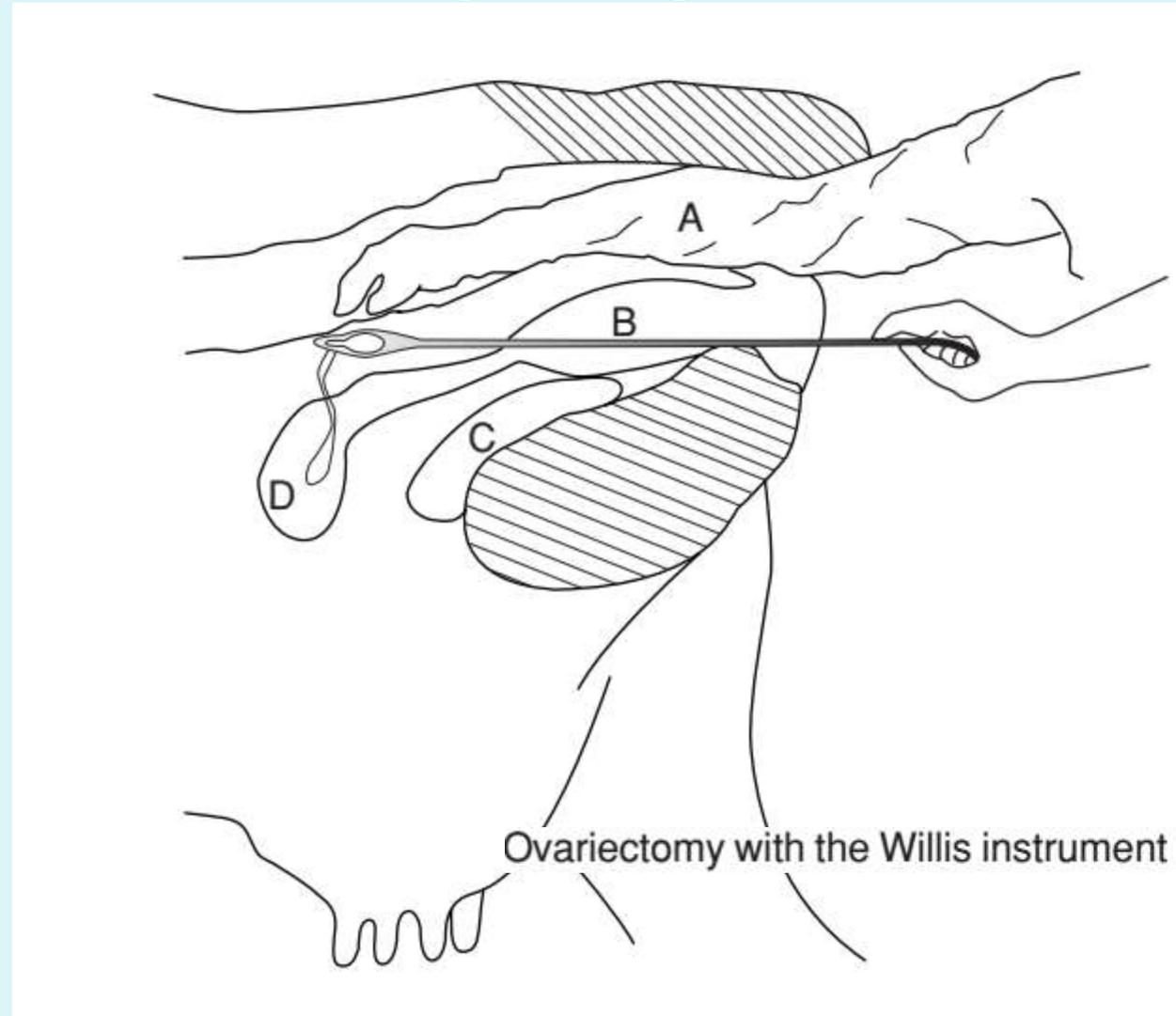
Indications : To prevent estrus and pregnancy in cattle, mares and bitches.

Unilateral ovariectomy for removal of ovary affected with neoplasia.

To obtain tissues for research. For ovarian hydro bursitis in camels.

Approaches: The approaches suggested for ovariectomies include flank celiotomy (laparotomy), colpotomy (through the vagina using special instruments K-R Spay instrument or the Wills spay instrument in heifers) and laparoscopic ovariectomy

Ovariectomy in cows with the Wills spay instrument inserted through vaginal stab incision



Ovariectomy with the Willis instrument inserted through vaginal stab

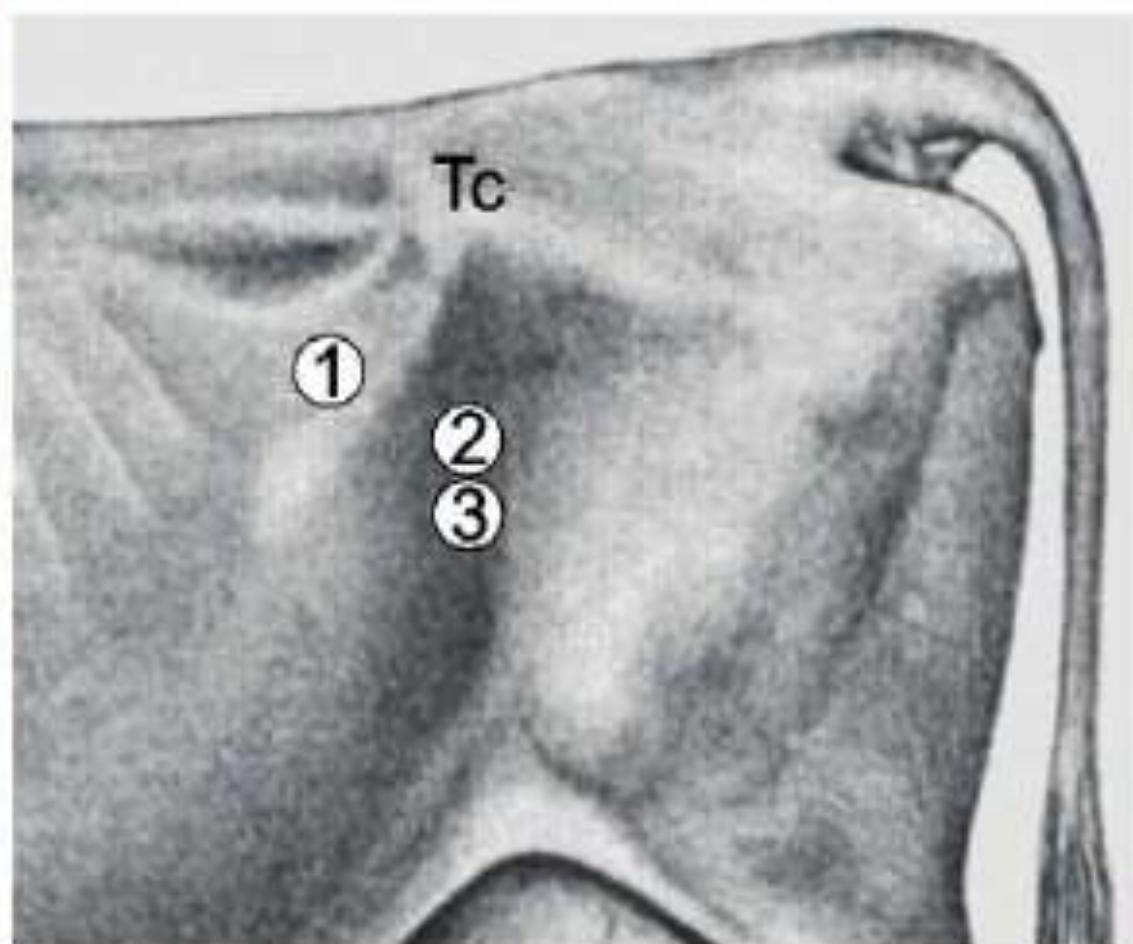
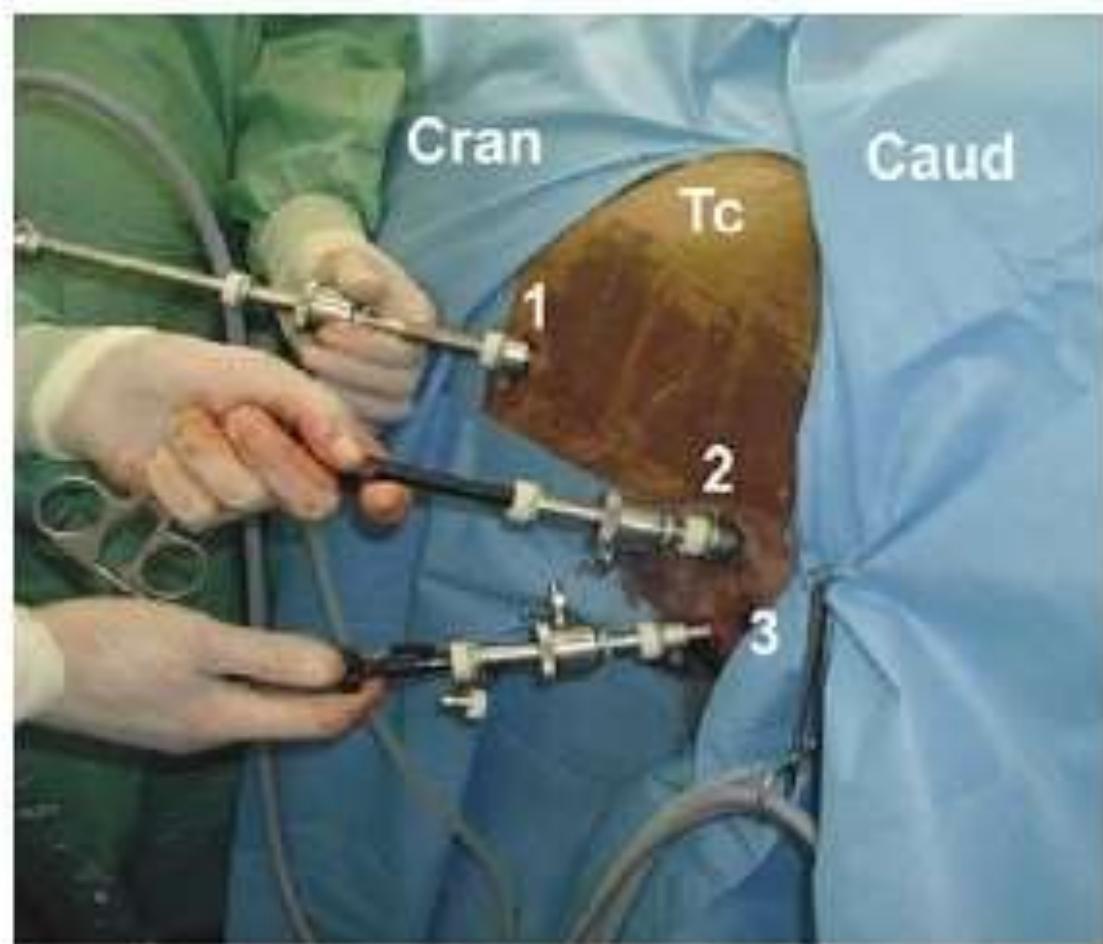
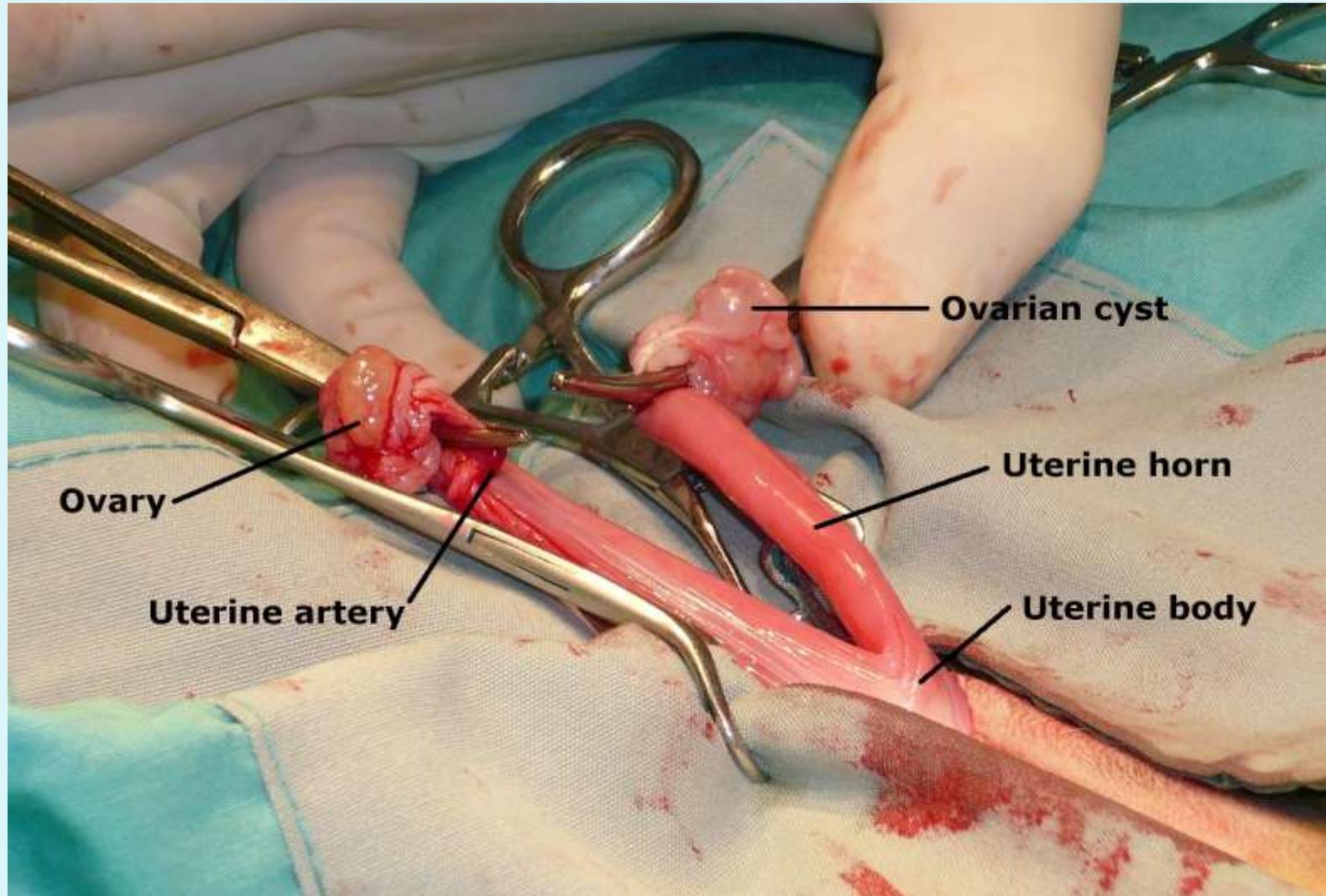
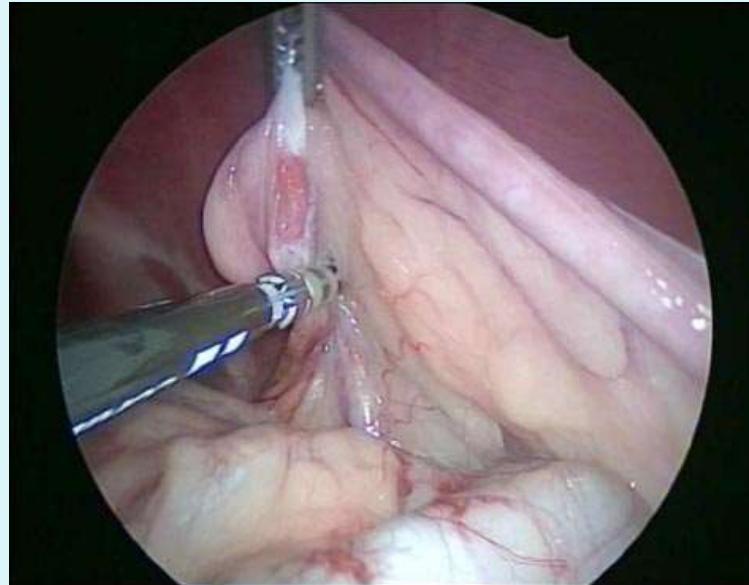


Fig. 1. Portals for laparoscopic ovarioectomy via the left flank in a standing cow. Cran = cranial, Caud = caudal, Tc = tuber coxae, 1 = endoscope portal, 2 = first instrument portal, 3 = second instrument portal.

Ovariohysterectomy in the bitch



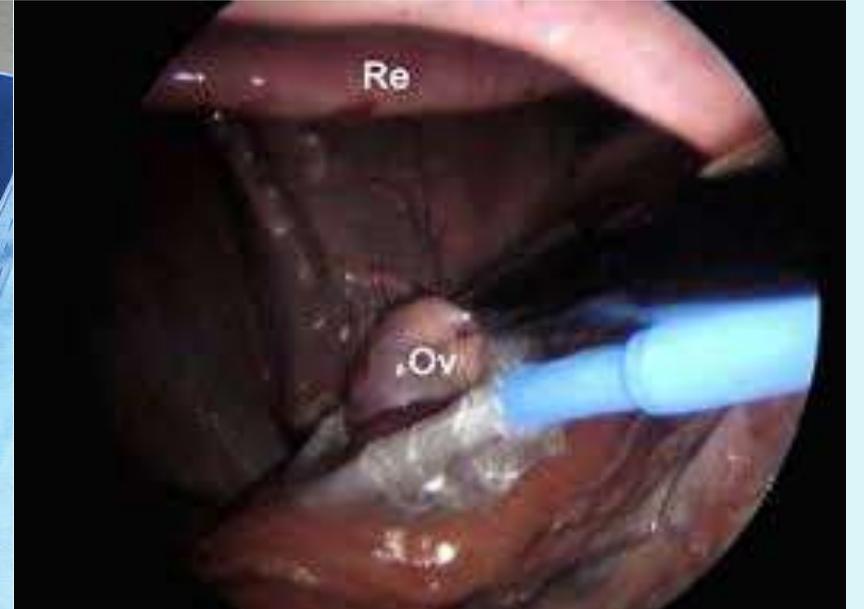
Laparoscopic ovariectomy in the bitch “lap spay”, “keyhole spay”



Ovariectomy in the mare

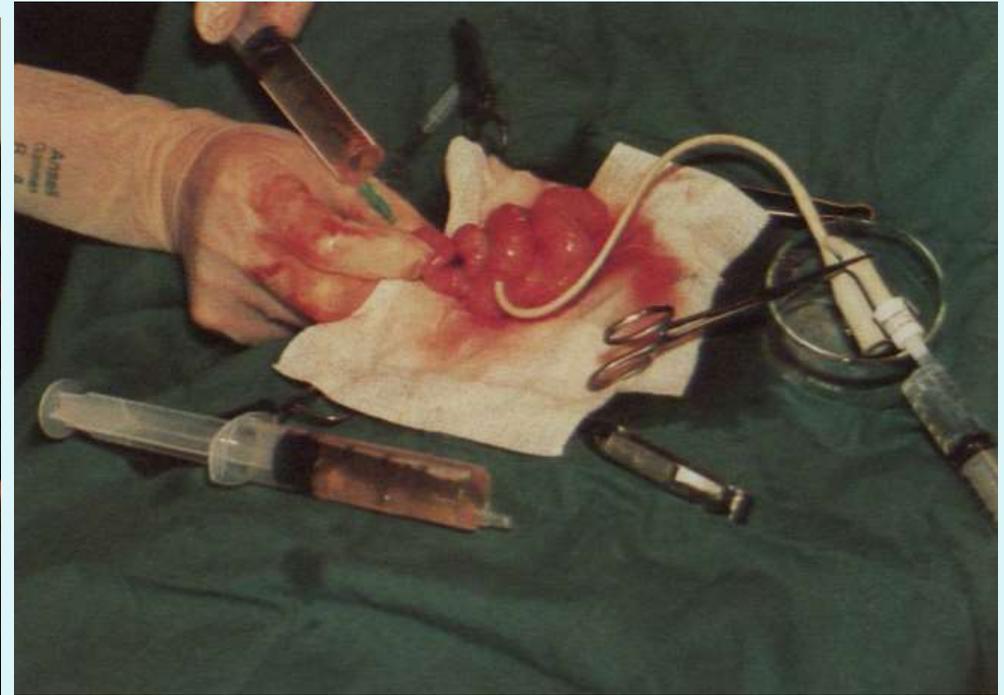


Laparoscopic ovariectomy in the mare



Surgeries of the fallopian tubes

Performed rarely in animals for embryo recovery in small ruminants or Gamete Intra-fallopian transfer



Surgeries of the uterus

Include hysterotomy (cesarean section), hysterectomy and Ovariohysterectomy. Hysteroscopic removal of uterine cysts by Laser Photoablation have been mentioned for mares.

Laser surgeries have also been done for removal of pelvic adhesions

Hysterectomy:

Hysterectomy is surgical removal of the uterus and is suggested for removal of uterine tumors when it is performed on one horn (unilateral).

Complete hysterectomies are rarely indicated in cattle and buffaloes in cases of chronic prolapses with necrosis and gangrene of the uterus when it is performed vaginally

Complete hysterectomies are indicated for obtaining disease free pigs

Hysterectomy can be performed via flank laparotomy or vaginal approach. For vaginal hysterectomy epidural anesthesia is given and a longitudinal incision is given on the dorsal surface of the uterus between the rows of caruncles, the uterine arteries and veins and broad ligaments are ligated, the vaginal end is sutured and the uterus and possibly the ovaries are removed.



Surgeries of the cervix

Cervicotomy: done for Bandl's ring dystocia, protracted cases of prolapse but only in useless invaluable animals under epidural anesthesia and one or more incisions or complete removal of cervix is done.

Cervicorrhapy: done in cows and mare after cervical tears occur at parturition. Surgical repair needed only if more than 50% of the cervix is involved. More important in the mare and the surgery is done only 6-8 weeks after injury. General anesthesia and specialized instruments are required for the mare. The devitalized tissue is removed and the tissues repaired in 3 layers.

Removal of Cervical tumors are uncommon but seen in cows and goats and removed under epidural anesthesia **fibroma** is the most common tumor.

Cervicopexy: (Winklers operation) is a technique of **fixing the cervix** with the **prepubic tendon** for the prevention of recurrent prolapse in dairy cows.

Animals are restrained in standing position, the Perineal area is prepared aseptically and the feces are removed. The animal is given epidural anesthesia. Catheter is placed in the urethra and a specialized needle is used to tie the tie the cervix below the caudal vaginal floor with the prepubic tendon. Alternatively the same procedure can be done by approach through the flank celiotomy.

Vaginal surgeries

Vaginoplasty: vaginal reconstruction surgeries are commonly performed in mares and cows for urine pooling, whereas they are performed in the bitch and cat for repair of strictures, vaginal septum, persistent hymen. The operation is performed under general anesthesia in the mare and bitch. **Shires technique** in the mare include removal of a part of vaginal floor and **urethral extension** so that the urine does not accumulate on the vaginal floor.

Some tumors of the cervix and vagina in the bitch and goat



Removal of vaginal tumors

Vaginal tumors are uncommon in animals except the dog and cat. Leiomyoma, fibroma and TVT are the common tumors in the dog. Bitches with tumors often evidence dysuria, bleeding, tenesmus and swelling. Surgical excision under general anesthesia is suggested.

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Surgeries of the perineum (Perineorrhapy, perineoplasty)

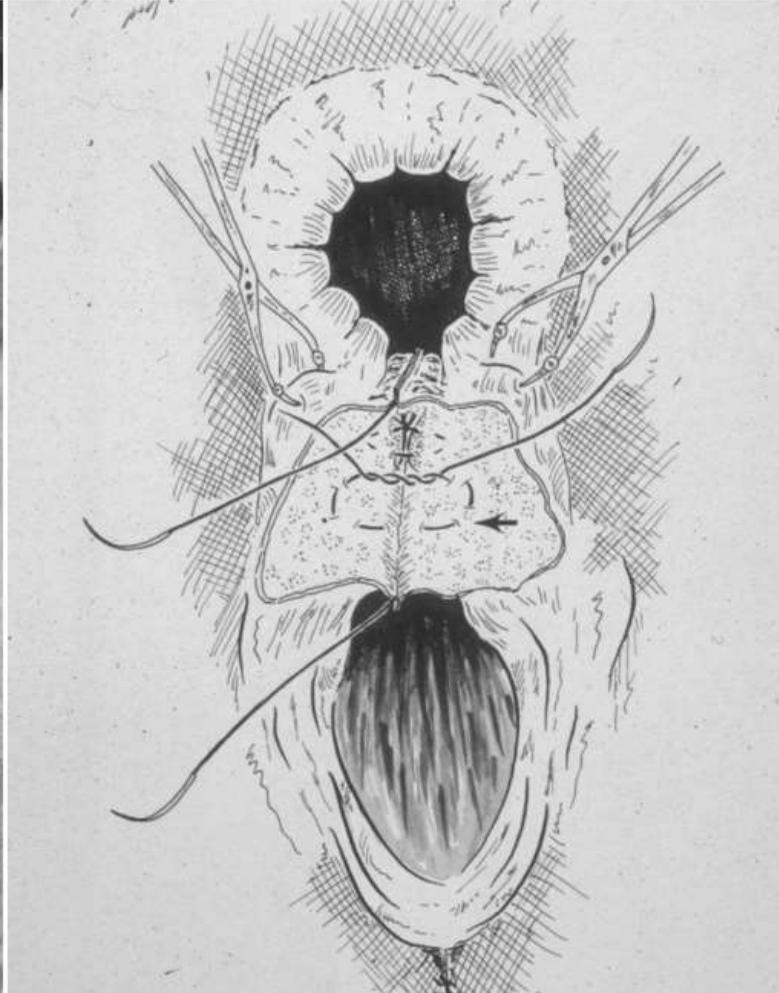
Perineoplasty is performed in mares with a very loose vulvo-vaginal sphincter along with a cranially positioned vulva, because episiotomy may not prevent pneumo-vagina in such mares.

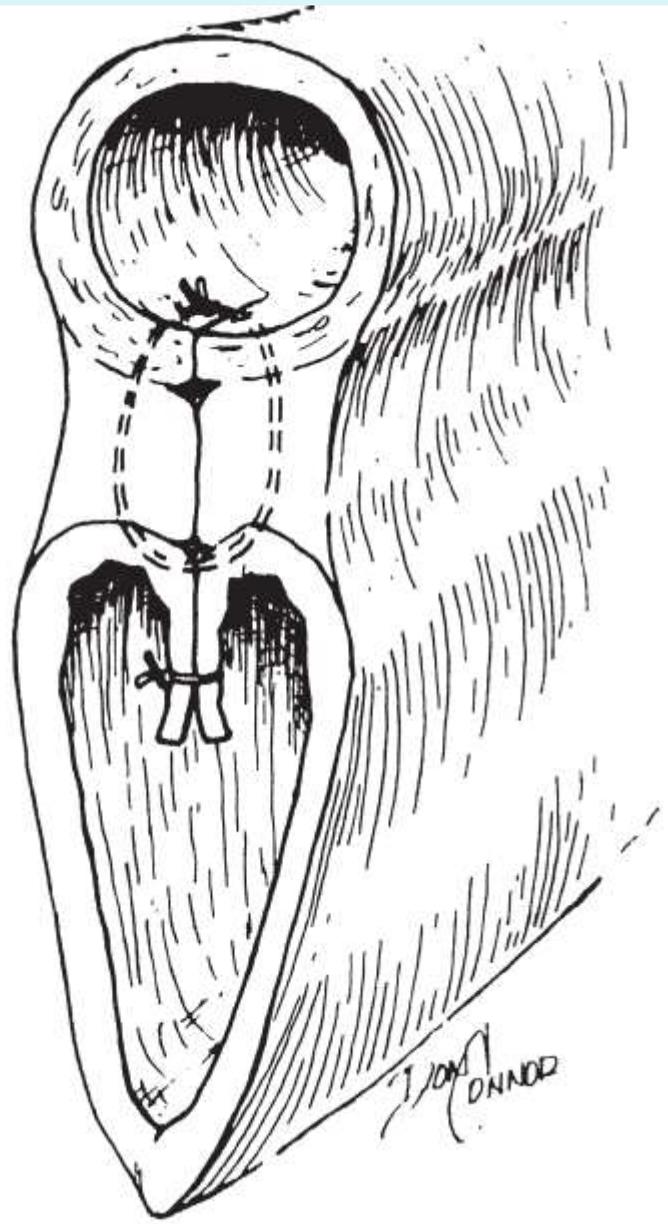
Perineorrhapy is performed usually in mares and less commonly in cows for repair of perineal lacerations that occur during dystocia. Both these surgeries are performed under general anesthesia and require specialized retractors and other instruments and surgical skills.

Perineoplasty









- **Vaginopexy (Minchevs operation):** Fixation of vagina to prevent a recurrent vaginal prolapse. Infiltration anesthesia with 10 mL of 2% lidocaine injected into the gluteal region 5 cm lateral to the fourth sacral vertebra on both sides have been suggested. The gluteal region is clipped and prepared aseptically. A 1 m section of umbilical tape or No 5 polyamide is threaded through a 10 cm serpentine needle. The free ends of the suture material are threaded through a prolapse button and the ends are tied. The needle is passed through the vagina to the external skin at the gluteal region. The free end of the suture is passed through another prolapse button and after tension on the suture the ends are tied in the form of a bow. The procedure is repeated on the opposite side of the hip. The two resulting stay sutures appose the retroperitoneal surface of the vagina and the peritoneum of the pelvic cavity, inducing adhesion formation thus preventing prolapse recurrence.

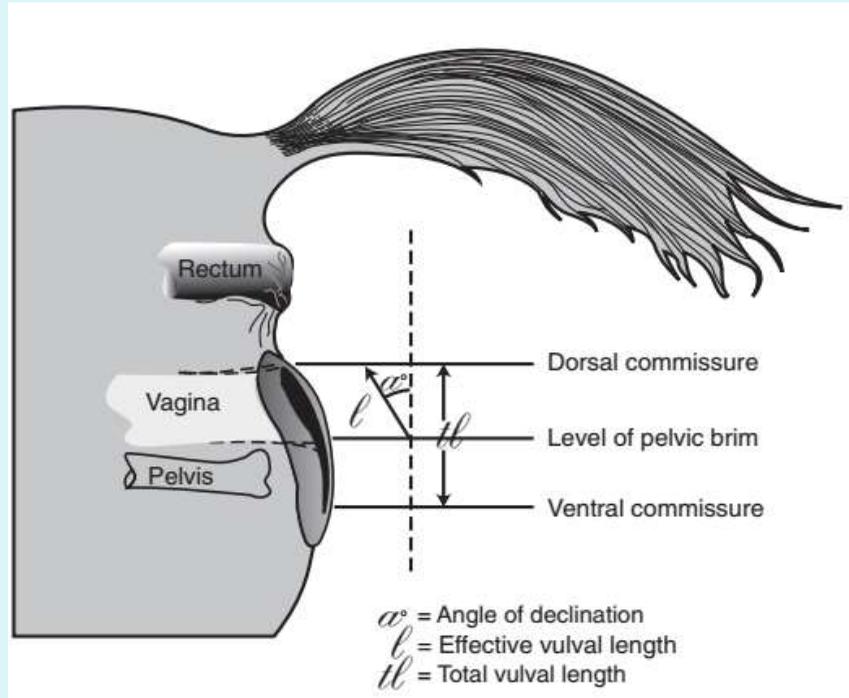
Surgeries of the vulva include episiotomy, episoplasty and removal of tumors

Episiotomy: Cutting of the vulva is required infrequently in domestic animals during a dystocia.

Congenital abnormalities including vulvar stenosis, vulvo-vestibular cleft and vulvar atresia in bitches may require episiotomy. Bitches affected with vulvar stenosis often experience **pain at coitus (dyspareunia)** and are caused by imperfect joining of the genital folds.

- **Episioplasty (Caslicks operation)** means cutting of parts of the vulvar lips followed by their suturing. **This is the most common surgery** performed on broodmares. Ideally over 80 percent of the vulvar labia should lie in a vertical plane below the ischiatic arch of the pelvis. Dorsal positioning of vulvar lips in relation to the ischiatic arch predisposes the mare to pneuemo vagina, particularly in multiparous mares. With each pregnancy, the labia are pulled further forward, predisposing to aspiration of air and fecal contaminants into the vagina.

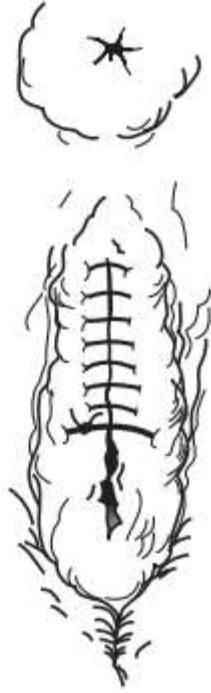
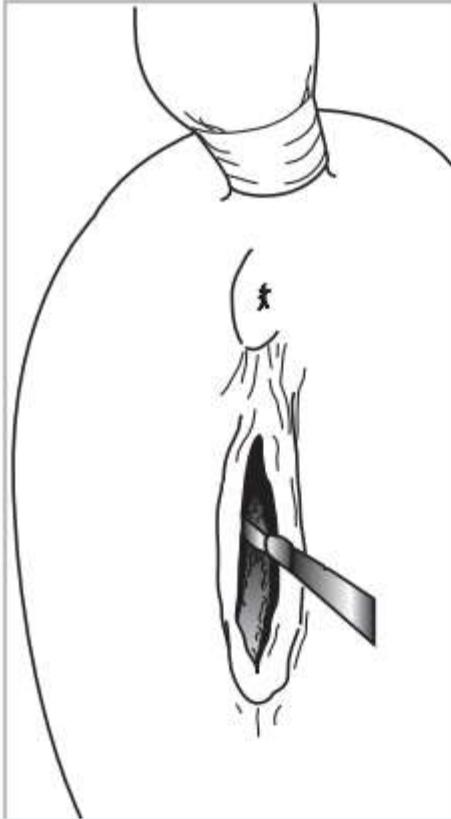
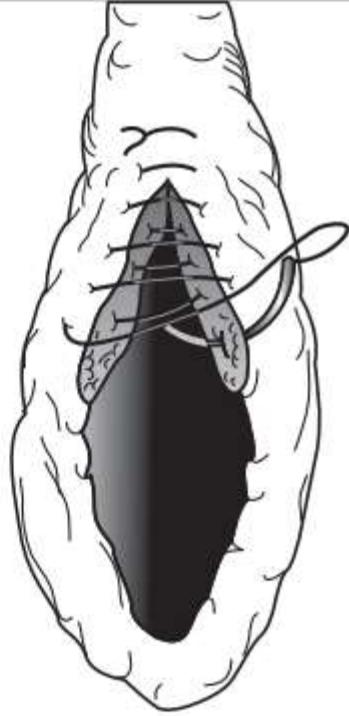
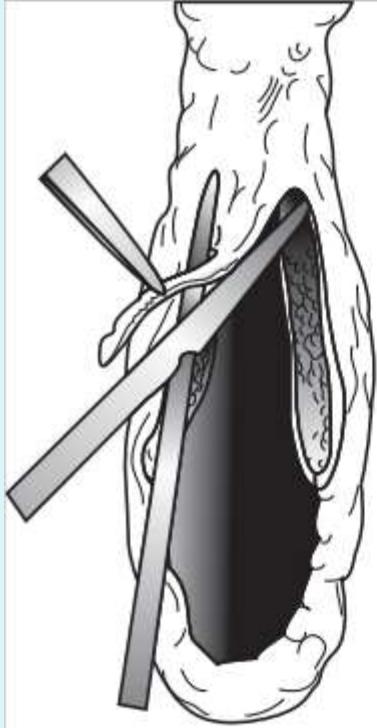
Angulation of vulva and Tonometer



- The operation can be performed easily in a standing mare restrained in a chute. Local infiltration anesthesia is sufficient for most mares however some mares may require mild sedation. A 22 gauge needle is introduced along the planned incision line at the muco-cutaneous junction of the labia. Approximately 5-10 mL of 2% lidocaine is deposited while the needle is withdrawn. The same quantity of anesthetic is deposited on both side labia.

Operative procedure

After placing traction on the vulvar lips in a ventral direction, scissors are used to remove a narrow strip of tissue at the mucocutaneous junction. No more than 1 cm of the tissue should be removed. The length of the cut may be 3-4 cm and approximately 3-4 cm should be left intact. The edges are sutured using absorbable material to avoid the need for suture removal. A continuous or interrupted suture pattern can be used to appose the tissues. Tetanus prophylaxis should be given and antibiotics may sometimes be indicated if there is an infection.



Mares with normal (1) and abnormal vulvar conformation (2-4) and the Caslick Operative procedure (5-8)



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