**Complications and Prognosis**

Complications of equine castration are uncommon, but they can be life threatening to the horse and of great concern to the surgeon. To minimize postoperative complications, good communication with the client is required.

A few possible complications may arise following castration, such as:

1. Severe hemorrhage is usually associated with inadequate emasculation of the testicular artery of the spermatic cord, but considerable hemorrhage can occur from one of the branches of the external pudendal vein in the scrotal wall or septum, if accidentally ruptured, or in the transected external cremaster muscle.

If the source of haemorrhage is the testicular artery, ligation using a synthetic absorbable suture material may be required. This procedure may warrant general anaesthesia if the horse is difficult to manage. Curved forceps, such as Mixter curved hemostatic forceps. Standing laparoscopy can be used to look for intraabdominal bleeding.

1. Excessive swelling of the surgical site can arise because of inadequate drainage or inadequate exercise, or a hydrocele may form because of collection of fluid in a common tunic that has been inadequately resected.

Horses should be checked for temperature rise because it may indicate impending infection. To help re-establish drainage, a sterile surgical glove is doned, and the scrotal incision is opened cautiously. Parenteral antibiotics, such as procaine penicillin G, may be indicated, as well as a conscientious program of forced exercise. Phenylbutazone may be indicated to reduce soreness and to encourage pain-free movement. Long-standing chronic infections with abscess formation in the inguinal canal may need surgical exploration and abscess drainage.

A hydrocele or vaginocele is an idiopathic, painless, fluid-filled enlargement in the scrotal area that may occur weeks or months after castration and is a result of the accumulation of sterile, amber-colored fluid in the vaginal sac. Fluid fills the vaginal cavity once occupied by the testis.

1. Evisceration may occur through an inguinal hernia.

The offending viscera is cleaned by lavage of balanced electrolyte solutions. The incision and scrotal area are prepared for aseptic surgery. Fluid therapy should be instituted, as well as other adjunctive therapy for shock, such as flunixin meglumine. The prognosis following eventration is always guarded.



**Picture above showing Protrusion of greater omentum through the scrotal incision after castration.**

1. Acute wound infection and septicemia may occur; scirrhous cord formation is due to chronic infection and generally can be related to poor technique and inadequate exercise or drainage.



**Picture above showing the exteriorized portion of the spermatic cord is thickened and hardened from infection. The demarcation between normal and abnormal portions of the cord is obvious. A thick, hard, infected cord after castration is commonly referred to as a scirrhous cord.**



**Picture above showing a spermatic cord chronically infected with pyogenic bacteria is commonly called a scirrhous cord. The only sure treatment of this condition is removal of the infected tissue.**

1. Persistent masculine behaviour of false rig can occur following removal of two normal testes.

Has been attributed to failure to remove all epidydimal tissue during castration or if a stallion is “cut-proud” (a small quantity of epididymis was not removed during surgery). Limiting social interaction with other horses or imposing stricter discipline may be more successful in eliminating or diminishing undesirable masculine behaviour gonadotropin (HCG). Also, if suspects that testicular tissue is still present in a gelding, suggest measuring testosterone levels 30–100 minutes after injecting 6000–12,000 IU of human chorionic.

1. Septic Peritonitis Subclinical, non-septic peritonitis occurs in many horses after castration because the peritoneal and vaginal cavities communicate. Postoperative, intra-abdominal haemorrhage may be responsible. Non-septic peritonitis may result from irritation of the peritoneal cavity by blood.

Signs of septic peritonitis include colic, pyrexia, tachycardia, diarrhoea, weight loss, and reluctance to move. Treatment of horses for septic peritonitis includes administration of antimicrobial and nonsteroidal anti-inflammatory and analgesic drugs, supportive therapy, peritoneal lavage and removal of source of peritoneal contamination, such as contaminated ligatures on the cord.

Proper drainage of the scrotum must be established. The occurrence of septic peritonitis after castration is rare, perhaps because the funicular portion of the vaginal process is collapsed as it courses obliquely through the abdominal wall and because mesothelial cells of the vaginal process are phagocytic.

7. Penile damage usually occurs when the surgeon is unfamiliar with genital anatomy and the surgical procedure. The penis can be mistaken for an inguinal testis. Laceration of the urethra may result in urethral stricture and urethral fistulae.



**Picture above showing Stump of penis emerging from a scrotal incision. Much**

**of the shaft of the penis was inadvertently removed during a standing**

**castration.**

1. Penile paralysis (paraphimosis), a rare complication. It is usually seen when phenothiazine tranquilizers have been used. If the penis is flaccid and does not retract in 4 to 8 hours, mechanical support of the penis is indicated.

Priapism is an abnormally prolonged erection of the penis, not associated with sexual desire. It also has been associated with the use of phenothiazine tranquilizers; but fortunately, it is an even rarer complication of castration. Priapism has been treated medically using an anticholinergic agent, benztropine mesylate. The condition has also been treated by drainage and irrigation of the corpus cavernosum penis, along with creation of a vascular shunt between that structure and the corpus spongiosum penis.

1. Clostridial infection of the castration wound is particularly severe, because tissue necrosis and toxemia produced by clostridial organisms may lead to death within several days.
2. A long-term complication may be adhesion of bowel to the inguinal ring. Adhesion is uncommon, but they are serious and require surgical management. Adhesions of small intestine may occur following ascending infection.

**References:**

1. **Equine Medicine, Surgery and Reproduction, 2nd Edition by Tim Mair, Sandy Love, Jim Schumacher, Roger Smith and Grant Frazer.**
2. **Equine Surgery 3rd Edition by Auer and Stick**
3. **Turner and Mcllwraiths’s Techniques in Large Animal Surgery 4th Edition by Dean A. Hendrickson and A.N. Baird.**