INTRODUCTION
Castration is one of the most common surgical procedures performed in equine practice. Although an elective and routine procedure, surgical complications of castration constitute the most common cause of malpractice claims against equine practitioners. Evisceration through the vaginal ring and open scrotal incision is uncommon and potentially fatal. Evisceration generally occurs within 4 hours, but may occur up to 6 days after castration. Evisceration of the small intestine makes up 67% of cases while omental prolapse compromises the remainder. A survival rate of 85 to 100% can be expected where appropriate treatment is carried out.

Post-castration evisceration is always a risk following open castrations, but the risk is increased in certain breeds with large inguinal rings, or after castration of an adult stallion. Standardbreds, Tennessee Walking Horses and Belgians are at greater risk because they have larger inguinal rings. Other predisposing factors include a pre-existing undetected inguinal hernia, presence of visceral structures adjacent to the internal inguinal ring, and increased abdominal pressure after surgery. Palpation of the scrotum and inguinal structures for hernias prior to castration is recommended.

Evisceration of omentum or small intestine can occur and must be appropriately identified prior to treatment. The main objective is to clean and protect the intestine and return it to the abdomen before it is excessively traumatized or contaminated. Prior to the veterinarian’s arrival it is important to instruct the owner to keep the horse quiet. The structure should be supported by a moistened towel in a sling fashion to support the eviscerated structure to avoid further stretching or damage. Examination will quickly reveal what structure is involved so that treatment can be initiated.

TREATMENT
Omental Evisceration
Prolapse of the omentum through the scrotal incision after castration generally is not an immediate emergency but signals the possibility for potential evisceration. A rectal palpation should be performed to ensure that there is no associated small intestinal involvement. Prolapse of the omentum through the inguinal canal can usually be managed using sedation and transecting the prolapsed omentum as far proximal as possible. In more severe cases a short-term general anesthetic is given. The omentum and scrotum are cleaned and prepped, and the omental segment is emasculated. The scrotum is packed with gauze and closed, and the horse is given systemic antibiotics. The packing can be removed after 2 days, and antibiotics are continued for 24 hours after removal of the pack.

Small Intestinal Evisceration
It is important to replace the intestine within the abdomen as soon as possible after evisceration. Delay in repair of the evisceration puts undue stress on the mesenteric vessels leading to avulsion of the mesenteric vessels, thrombosis, and further damage to the intestine proper. In the field, the intestine should be lavaged and where possible placed back within the scrotum which is then sutured.

The horse should be anesthetized immediately to minimize contamination and damage to prolapsed intestine. Intravenous fluids and hypertonic saline should be administered to minimize hypotension. The intestine is copiously lavaged and examined for damage. If avulsion of mesenteric vessels or strangulation has occurred, requiring intestinal resection, the scrotum is sutured closed containing the intestine and the horse is referred to a surgical facility.

If the intestine is clean and appears healthy, it is replaced in the abdomen. To replace the intestine in the abdomen, the internal inguinal ring often must be dilated. Care must be made that the intestine is replaced within the abdomen through the inguinal canal, and not through a separate iatrogenic opening. If the herniation cannot be reduced confidently, or if there is avulsion of mesenteric vessels or strangulation requiring resection, the intestine is replaced in the scrotum, packed with gauze and the horse is referred to a surgical facility. The horse is placed in dorsal recumbency under general anesthesia. A ventral midline celiotomy is used to expose the abdomen for the presence of further damage to the intestine and associated mesenteric structures. To replace the intestine into the abdomen, dilation of the vaginal ring and traction on the intestines through the abdominal incision are usually necessary. Devitalized intestine outside the abdomen is resected and healthy intestine anastomosed prior to replacing the intestine through the vaginal canal and into the abdomen. Lesions involving the ileum may require resection of the ileum and jejunocystomy.

If the herniation can be reduced successfully, the fundus of the vaginal sac is identified if it has not been shredded during the initial castration or reduction of the prolapse. The fundus of the vaginal sac is ligated with absorbable suture and transfixed to the edge of the superficial inguinal ring. This procedure seals the exit of the intestine. The superficial inguinal ring is then closed with double absorbable suture in a continuous pattern. The superficial layers of the wound are left unsutured if the wound is grossly contaminated. Sterile gauze can be packed into the inguinal canal and scrotum rather than suturing the superficial inguinal ring. Care must be taken to avoid introducing gauze into the abdomen. A short segment of gauze is left exposed through the scrotal closure. If the horse progresses well, the gauze packing can be removed in 48 hours, and the antibiotics discontinued 24 hours after removal of the packing. The deep inguinal ring should be palpated per rectum before the packing is removed to confirm that intestine is not adhered to the pack.

Broad spectrum antimicrobial therapy should be initiated, analgesic doses of flunixin meglumine (1 mg/kg IV) administered and the horse immediately referred to a surgical facility to be monitored closely for development of colic or ileus, indicating intestinal devitalization has occurred requiring immediate exploratory celiotomy.

References available from author upon request.