Hernias

A true hernia is defined as having a hernia ring, sac, and contents. Hernias of the abdominal wall are common in all domestic species and include umbilical hernias and inguinal or scrotal hernias. Hernias may be direct (through a rent in the body wall) or indirect (through an already existing ring, such as the inguinal ring or umbilical ring). Congenital hernias tend to be indirect, although direct, traumatic hernias may arise during dystocia or obstetrical manipulations. **Umbilical hernias** vary in size and may contain only fat or omentum, or in more severe cases, intestinal loops. In dogs, Weimaraners, Pekingese, Basenjis, and Airedale Terriers are overrepresented. In many cases, umbilical hernia is seen in dogs with concurrent cryptorchidism. Hereditary etiology is suspected but not proved. In cattle, the Holstein Friesian breed is overrepresented.

Congenital umbilical hernia, foal, surgical approach

Congenital umbilical hernia, foal, opening hernia sac

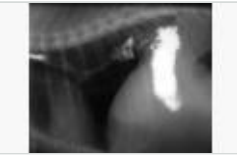
Congenital umbilical hernia, foal, hernia contents (small intestine)

Diagnosis in all animals is by observation of the hernia sac, palpation, ultrasonography, and possibly radiographs. Surgical closure of the body wall defect is indicated in most cases to reduce risk of future intestinal incarceration.

Inguinal or **scrotal hernias** are common in pigs, horses (particularly draft breeds and warmbloods), and many breeds of dogs and are suspected to be hereditary. Inguinal hernias can occur in bitches and may involve the uterus. Clinical signs vary from nonpainful inguinal or scrotal swelling to acute colic in horses or vomiting in dogs, particularly if the small intestine is strangulated. In horses, palpation per rectum can diagnose intestinal loops in the vaginal ring, which can be gently removed to provide relief before transport to a surgical facility. Any devitalized bowel is resected via midline celiotomy. In stallions, testis-sparing laparoscopic closure of the inguinal rings has been performed in both standing and recumbent horses with good outcome and subsequent fertility. In foals and calves, medical management through reduction of the hernia and placement of a figure-eight bandage has been successful in some cases. Hernias that do not spontaneously resolve early in life should be surgically corrected to prevent later complications.

Abdominal hernia, foal

Hiatal hernia, radiograph, dog



Congenital inguinal hernia, colt, gross appearance

Congenital inguinal hernia, colt, surgical approach

Congenital inguinal hernia, colt, hernia contents (small intestine)

Hernias between the abdominal and thoracic cavities that involve the diaphragm are of several types and can be congenital or acquired (traumatic) in origin. Congenital **pleuroperitoneal hernias** have been described in small animals, horses, and calves. In horses, a specific type of hernia, a retrosternal or Morgani hernia, has been described in which a hernial sac protrudes into the thorax in the left dorsal tendinous portion of the diaphragm. The sac is characterized by a pleural covering and a peritoneal lining. In described cases, the presenting complaint was colic, and the diagnosis was made during exploratory celiotomy. Defects can be surgically repaired using mesh products to reduce risk of recurrence. The hernial sac is usually left in situ. In cases of direct herniation, clinical signs include dyspnea, exercise intolerance, lethargy, and weight loss. In cattle, herniation of the reticulum into the thorax has been described, with a right-side diaphragmatic defect. Clinical signs include anorexia, scant manure, tympani, and decreased or no rumination. Diagnosis is by radiography or ultrasonography. **Peritoneopericardial hernias** are defined as an embryologic defect in the failure of fusion of the septum transversum during diaphragmatic development, allowing communication between the abdominal cavity and pericardial sac. Weimaraners and domestic long-haired cats were overrepresented in one study. Clinical signs reflect the contents of the hernia, which may include omentum, liver, gall bladder, or small intestinal loops, and include cardiac tamponade, dyspnea, tachypnea, exercise intolerance, coughing, vomiting, and GI obstruction. In many cases, the diagnosis was an incidental finding during imaging or celiotomy for other reasons. Other congenital defects were found in many cases, including umbilical hernia, cryptorchidism, cleft palate, portosystemic shunt, and sternal or vertebral abnormalities. Animals with clinical signs were treated with

surgical herniorrhaphy, whereas animals with no clinical signs tended to be closely monitored. **Hiatal hernias** occur through the esophageal hiatus and are classified into four types. Type I, the sliding hernia, is the most common in small animals and is characterized by intermittent displacement of the lower esophageal sphincter and gastric fundus into the thoracic cavity. Type II is less common and involves only the displacement of the gastric fundus. Brachycephalic breeds are overrepresented, with a hereditary nature suspected in Shar-Peis. Clinical signs include dysphagia, regurgitation, vomiting, ptyalism, and esophagitis due to decreased function of the lower esophageal sphincter. Diagnosis is by radiography or fluoroscopy; however, the intermittent nature can make diagnosis challenging. Medical treatment of esophagitis is required. Surgical correction is by combination of hiatal plication, esophagopexy, and left-side gastropexy.

Last full review/revision September 2015 by Lisa K. Pearson, DVM, MS, PhD, DACT