

## **Prophylactic Laparoscopic-Assisted Gastropexy**

Gastric dilatation-volvulus (GDV) is a common condition in dogs that is characterized by rapid accumulation of air in the stomach, twisting of the stomach, and subsequent shock and systemic compromise that is fatal in most cases if left untreated. Surgical treatment is required to return the stomach into its normal position. At the time of surgery, the stomach is sutured to the inside of the abdominal wall (called gastropexy) which prevents recurrence of the twisting. However, even with surgical treatment the death rate is approximately 15 to 20 percent according to large clinical studies. For this reason, prophylactic gastropexy (meaning to perform a gastropexy in a healthy dog to prevent GDV) is recommended for dogs that are at high risk. Prophylactic gastropexy can be performed via a standard approach (incision along the midline of the belly), a so called grid-approach (incision on the side of the abdominal wall) or laparoscopic-assisted.

Laparoscopic-assisted gastropexy involves placing two cannulas (5 and 10 mm diameter) through the abdominal wall. A camera is then introduced through one of those cannulas to view the stomach; the other cannula is used to insert a grasping instrument. The stomach is then grasped and pulled out through the cannula. The incision is enlarged to ~ 3cm (since this is the required size to make the gastropexy strong enough) and the stomach is sutured to the abdominal wall exactly the same way it is done if done from the inside. However, the laparoscopic-assisted gastropexy results in much smaller incisions, less pain and quicker recovery. Animals can go home the same day if the procedure is performed in the morning. Pain is minimal after this procedure, however, to ascertain a strong gastropexy site animals will have to be restricted in their activity to leash-walks only (no time-limit) for two to three weeks after surgery.

A wide variety of risk factors for GDV have been identified and include increasing age, size of the dog, a deep and narrow chest, a family history of GDV, breed, a nervous temperament, a faster speed of eating, feeding from a raised food bowl, feeding once daily, and feeding a large volume of food per meal. Purebred dogs are three times as likely as mixed breed dogs and males are twice as likely as females to have GDV. Since German Shepherd Dogs are at increased risk for GDV and due to the high value of working dogs, many owners of working dogs opt to perform prophylactic gastropexies on all their animals. It has been shown that laparoscopic-assisted gastropexies are as strong as the ones performed via the routine approach. Besides the need for anesthesia (which is usually not a problem for a young dog but required for any type of gastropexy), prophylactic laparoscopic-assisted gastropexy offers advantages over the routine approach by being minimally invasive and resulting in a quicker recovery. The cost for the gastropexy is approximately a 3rd of the cost of the cost for an emergency surgery which makes it also financially attractive. Lastly, laparoscopic-assisted gastropexy can be life-saving.

It is important to realize that gastropexy (either routine or laparoscopic-assisted) fixes the stomach to the body wall to prevent it from twisting; however, it can still dilate. Gastric dilatation may be associated with mild to moderate clinical symptoms but is usually not life-threatening. However, in cases with moderate symptoms evaluation by a veterinarian (and radiographs) is recommended to ascertain that the gastropexy site has not broken down (very rare).