

## GASTRIC DILATATION AND VOLVULUS (GDV) AND GASTROPEXY

Gastric dilatation and volvulus is commonly known as bloat. It is a life threatening surgical emergency that typically affects giant and large breed, deep chested dogs. Patients with GDV have a gas filled bloated stomach that is twisted. It is unknown if the stomach bloats then twists or if it twists and then becomes bloated. Breeds such as Great Danes, German Shepherds, Dobermans, and Standard Poodles are commonly affected, but this condition can affect any breed ranging from Golden Retrievers, Labradors, Doodles, to dachshunds as well.

Initially patients with GDV have non-productive retching. Owners will describe that their pet is acting like they want to vomit but nothing is coming out. In other instances, owners will describe that their dog's belly has swollen and it is as tight as a drum. The exact cause or trigger is unknown. Patients with GDV will typically have a dilated stomach that is rotated or twisted 180 degrees. This rotation traps the gas within the stomach but also kinks off the blood vessels to the stomach. In some cases, the spleen can also be rotated/twisted and lose its blood supply as well. Left untreated the stomach wall will die due to lack of blood supply. GDV is diagnosed by an X-ray of the stomach confirming the abnormal location of the pylorus.

Like other serious disease conditions, damage may not be limited to the immediately affected organs (stomach and spleen). As the stomach becomes enlarged, it can compress the blood vessels to other organs or to the lower half of the body. This may prevent the heart from pumping adequate amounts of blood around the body and induce shock ( hypovolemic shock). It can also lead to blood clotting abnormalities ( coagulopathy, Disseminated Intravascular Coagulation) and abnormal heart rhythms ( ventricular tachycardia and or fibrillation).

Treatment of a gastric dilatation and volvulus is **prompt surgical intervention**. The patient will need to be quickly diagnosed and stabilized with fluids prior to surgery. The stomach must be deflated and manually flipped back into its normal position. To prevent recurrence of volvulus, the stomach is then permanently attached/ sewn (**pexied**) to the body wall. Once the stomach is pexied or sutured into place, the risk of twisting is lessened. The patient may continue to have episodes of bloating but would avoid twisting of the stomach. In rare cases pexies can break down over time with repeat stresses but this is a rare findings. Similar to a seat belt in cars, gastropexy can help decrease the chances of severe injury and harm from GDV but may not protect you completely.

The biggest complication seen with GDV is death of the stomach walls. Some dogs can have the majority of their stomach wall die within 45 to 60 minutes for the initial retching or bloating. Prompt medical attention and surgical intervention can help increase the chances of

saving the stomach and the pet. Small amounts of dead stomach wall can be removed during surgery but if the majority of the stomach is black/dead at the time of surgery, the patient will need to be put down. The spleen is a non-essential organ and even if it is dead, it can be removed. Patient presenting in shock, having abnormal heart rhythms, and or bleeding problems have a higher risk of complications and death. Apparently healthy stomach at surgery can go on to develop ulcers, holes, or allow bacteria to pass through them. When bacteria are able to leave the stomach and enter the blood stream, patients can develop whole body infections or sepsis.

**Post-operative monitoring and treatment** involve continued IV fluid administration with or without electrolyte supplementation; continuous EKG monitoring with possible treatment of arrhythmias; broad-spectrum antibiotic therapy; medications to reduce nausea, stomach acidity and vomiting; incisional care as needed; pain management. Generally, the patient is not offered anything by mouth after surgery. Water is first offered in small amounts and eventually very small amounts of food is offered. If no vomiting results, the amounts are gradually increased. Once the patient is drinking and eating enough to support itself (without vomiting), mobile, showing no signs of sepsis and relatively comfortable, he/she is sent home for the remainder of recovery.

Prevention of GDV can be accomplished by surgical intervention ( gastropexy) at the time of spay or neuter as well as life style changes. Prophylactic gastropexy is recommended in giant breed and deep chested puppies. During spay or neuter puppies can have their stomach sutured into place. This surgery provides a firm anchor for the stomach and prevents the stomach from twisting even if it becomes bloated. There are several different surgical methods to anchor the stomach. At EMEVC an incisional gastropexy is performed with every GDV surgery. A 1 to 4 centimeter incision is made superficially into the abdominal wall muscle and into the outer layer of the stomach. The two incisions are then sutured together and over time, the body will create scar tissue to keep the stomach in its proper location. Complications from the surgery can include infection, vomiting and or reflux if the pexy site causes the stomach to rest abnormally in the body cavity. This complication is rare and often outgrown by the patient. Very rarely the scar tissue may not be strong enough to withstand severe bloating and repeat waxing and waning events.

Life style changes can also decrease your pet's chances of developing GDV. Feed large dogs from elevated feeders and feed them small frequent meals. Do not allow your pet to drink large quantities of water quickly. If your pet eats very quickly, invest in a bowl with prongs or a barrier where they must eat slowly and around the barrier. Waiting 45 minutes after eating or drinking large amounts to exercise can also decrease your pet's risk of GDV. Avoid having your pet roll over from one side to another on its back.

Despite our best intentions, giant breed and deep chested dogs are at a higher risk of developing GDV. Prompt recognition and immediate veterinary intervention can be life saving for your pet. Never delay seeking medical therapy if you suspect GDV. Please consider having the gastropexy procedure or obtaining pet health insurance for your pet.

