

Preventing Torsion When Bloating with Prophylactic Gastropexy

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If your dog is prone to a digestive disorder that surfaces suddenly and can kill quickly, there's good news: Veterinarians are increasingly recommending a preventative procedure for this life-threatening medical condition known as gastric dilatation-volvulus (GDV).

Commonly called "bloat," GDV occurs when the dog's stomach fills with gas and twists, cutting off blood and oxygen to the stomach. As the swollen stomach pushes against surrounding organs and large blood vessels, blood flow to the heart eventually stops. Without immediate treatment, shock and a painful death occurs within minutes or hours.

While any dog can develop GDV, large, deep-chested breeds are most affected, including Great Danes, Saint Bernards, Weimaraners, Irish Setters, Gordon Setters, Standard Poodles, Basset Hounds, Doberman Pinschers, Greater Swiss Mountain Dogs and Old English Sheepdogs. "Dogs with vertical chests make are more prone to GDV because the stomach has more room to turn around and stay flipped, than in breeds like bulldogs with broad round chests that keep the stomach in place," explains Clarence Rawlings, DVM, past president of the American College of Veterinary Surgeons.

While GDV's cause hasn't been precisely pinpointed, studies show bloat increases with age and having a first-degree relative with bloat. Eating and drinking rapidly and exercising after eating are additional risk factors. Symptoms often include restlessness, pacing, expanded abdomen, painful abdomen, distress, excessive drooling, rapid breathing and shock.

The outlook for bloat is brightening, with increasing interest in surgery to prevent GDV. Prophylactic gastropexy surgically attaches the stomach to the abdominal wall to prevent twisting. "While some dogs with gastropexy will still bloat, (gastric dilatation), the gastropexy should prevent their stomach

from twisting (volvulus) and the need for emergency surgery,” says Dr. Rawlings. “It’s rare, if ever, for gastropexied dogs to have a life-threatening bloat.”

While gastropexy has traditionally been performed with open (laparotomy) surgery, the availability of new minimally invasive outpatient procedures to prevent GDV offers shorter surgery and anesthesia time, smaller incisions, less scarring and pain and quicker recovery.

“Minimally invasive preventive gastropexy has much less impact on the dog and complications should be rare because it’s done on a healthy, elective dog,” notes Dr. Rawlings, who developed the technique for laparoscopic-assisted gastropexy 10 years ago at the University of Georgia College of Veterinary Medicine.

During preventative laparoscopic-assisted gastropexy, surgeons get a detailed interior view of a dog's body with a laparoscope, consisting of a tube and an attached camera. Images of the abdominal cavity are projected onto a television monitor next to the operating table. Several instruments are threaded through incisions (ports), as a powerful cold light source illuminates the area under inspection. Specialized tools, including laparoscopic scissors, clamps and a suction device, allow the surgeon to perform a multitude of procedures.

Another minimally invasive preventative gastropexy procedure gaining ground is endoscopically-assisted gastropexy, which involves inserting a flexible endoscope into the dog’s abdomen. Sutures are then placed through the body wall and into the stomach to stabilize the stomach. An incision is next made into the abdomen in the region of the sutures and the gastropexy is performed.

Mitch Robbins, DVM, performing endoscopically-assisted prophylactic gastropexy for four years at Veterinary Specialty Center in Buffalo Grove, Illinois, notes: “The theoretical disadvantage of the endoscopic procedure is that the location of the gastropexy relative to the stomach is blind compared to the laparoscopic-assisted procedure. It’s also possible the stomach could be malpositioned with the endoscopic procedure.”

“Both procedures (laparoscopic and endoscopic) accomplish the same objective of creating a permanent adhesion of the stomach to the abdominal wall to prevent the stomach from twisting on its axis if it dilates,” says Lynetta Freeman, DVM, Associate Professor of Small Animal Surgery & Biomedical Engineering at Purdue University. “The difference is that in the laparoscopic approach, an extra incision is made through the umbilicus (navel) to insert the laparoscope for viewing the procedure. This approach has an advantage of direct visualization of the stomach’s position so that it can be corrected if there is already a partial twist prior to suturing the stomach to the body wall.”

Among available preventative gastropexy approaches, Dr. Rawlings views these as the most effective:

- Incisional gastropexy, which involves suturing together the edges of the inside of the right side of the body wall to the outside of the antrum (bottom of the stomach). The inside muscle of the body wall is cut, as well as the outside two of the three stomach layers. The sides of the cut are then sutured between the body wall and stomach. Initially done by open abdominal surgery, this technique is now also done laparoscopically.
- Belt-loop gastropexy utilizes a flap of the stomach to attach the stomach to the right abdominal wall by braiding the stomach flap to strands of the abdominal wall. An argument against this method, used only with open surgery, is it may not help keep the stomach in place as well as some other gastropexy techniques.
- Circumcostal gastropexy, also only used for open surgery, uses a flap of the stomach wall to attach the stomach to the last rib on the right side. The argument in favor of this technique is that the rib is a more rigid and stable part of the anatomy and will likely keep the stomach in place better than the abdominal wall will.

“Contrasted to historical techniques, these three techniques secure muscle surfaces of the right side of the body wall to the bottom of the stomach,” says Dr. Rawlings. “This is the area of the stomach that is most mobile and rotates during gastric dilatation-volvulus. All three techniques are effective, with the choice typically based on the surgeon’s experience and preference. Many surgeons have developed minor technical modifications for these techniques. The differences between the three are minor.”

If you have a bloat-prone dog, but are undecided about preventative gastropexy, the surgery may be worth considering: Studies show dogs with GDV that don’t undergo a gastropexy have recurrence rates of more than 70 percent and mortality rates of 80 percent.

Additionally, precautions to prevent bloat, including resting a dog after eating and swapping one large meal for smaller, frequent feedings, don’t always avert GDV. Emergency surgery isn’t always successful either, resulting in a 15 to 33 percent mortality rate, with emergency costs at least two-and-a-half times the cost of preventative gastropexy.

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