



Canine Bloat

Canine bloat, or gastric dilatation-volvulus (GDV), is the number-one cause of death for several large and giant breeds. This condition occurs when the stomach becomes twisted, and quickly becomes life-threatening as gas builds up but cannot escape. As the stomach fills with gas, it compresses nearby blood vessels, preventing normal blood flow. As a result, the stomach itself may die from inadequate blood flow. Toxins that accumulate in the dying tissues can spread through the body causing havoc in other organ systems.

Affected dogs drool because they cannot swallow. Also, they cannot belch or vomit which would help relieve the mounting pressure from the stomach gases. The pressure causes the abdomen to become distended. When tapped, the abdomen can sound like a drum.

RISK FACTORS

The breed with the highest average lifetime likelihood of a bloat episode is the Great Dane, at 42.4%. Other breeds at higher-than average risk include the Bloodhound, Irish Wolfhound, Irish Setter, Akita, Standard Poodle, German Shepherd, and Boxer. Other deep-chested breeds and deep-chested mixed-breed dogs are also at higher risk.

In a study of over 1,900 dogs representing 11 different breeds at the Purdue University School of Veterinary Medicine, several risk factors were identified.

The dogs with the greatest risk of developing bloat have chests that are deep and narrow.

Lean dogs were found to be at higher risk than overweight dogs, possibly because a lean dog has much more room in the abdomen for the stomach to move around than a fat dog. This does not mean, of course, that overweight dogs are generally healthier than lean dogs.

Risk is also higher for older dogs. For large breeds, the risk of developing bloat goes up 20 percent each year after the age of 5. For giant breeds, it goes up 20 percent each year after the age of 3. First degree relatives (i.e., parents, littermates, or offspring) of dogs that have had bloat have a 63 percent greater risk of developing bloat themselves. Dogs that eat quickly have a 15 percent higher risk of developing bloat.

One traditional preventative has been to raise the height of food and water bowls, but this was found to actually increase risk by 110 percent.

The study also found that fearful, nervous, or aggressive dogs had a much higher incidence of bloat than did dogs perceived by their owners as having happy temperaments. Stress can also be a precipitating factor, and many dogs bloat after recent kenneling, or a recent long car ride.

Several diet-related factors were associated with a higher incidence of bloat. These include feeding only dry food, or feeding a single large daily meal. Dogs fed dry foods containing fat among the first four ingredients had a 170 percent higher risk for developing bloat. Dogs fed dry foods containing citric acid and were moistened prior to feeding had a 320 percent higher risk for developing bloat.

Conversely, feeding a dry food containing a rendered meat-and-bone meal decreased risk by 53 percent in comparison with the overall risk for the dogs in the study. Mixing table food or canned food into dry food also decreased the risk of bloat.

During the past 30 years there has been a 1,500 percent increase in the incidence of bloat, and this has coincided with the increased feeding of dry dog foods.

As for feeding one large meal a day, this can weigh down the stomach and stretch the hepatogastric ligament, which helps maintain the stomach's normal position in the abdomen. Dogs that have bloated were found to have a much longer hepatogastric ligament; it is thought that this is due to chronic stretching. This could also explain why bloat risk increases with age.

Several popular theories regarding bloat were not substantiated during the study. There was no correlation of bloat risk to exercise before or after eating, as most dogs bloated in the middle of the night with an empty, gas-filled stomach. There was also no correlation to vaccinations, to the brand of dog food consumed, or to the timing or volume of water intake before or after eating.

TREATMENT

Approximately 30 percent of dogs that develop bloat die or have to be euthanized. This can be due to shock, to cardiac arrhythmias (fatal irregular heart beats), or to rupture or death of the stomach wall.

Emergency treatment of bloat begins with alleviating the gas pressure by passing a rubber tube down the mouth into the stomach. If the tube cannot be passed due to the twisted position of the stomach, the insertion of a hypodermic needle through the side of the abdomen can help relieve the pressure. If a dog survives decompression but the stomach remains twisted, emergency surgery is required to straighten it. Some dogs may also require removal of a damaged spleen which is attached to the stomach, or a portion of the stomach wall.

The most important aspect of bloat surgery is a “gastropexy.” This procedure attaches the stomach wall to the body wall and prevents it from twisting in the future. Studies have shown that 76 percent of dogs that do not have a gastropexy will bloat again.

For breeds that are at high risk we now recommend having a preventative gastropexy performed instead of waiting for an episode of bloat. This surgery is usually performed at the time of neutering or spaying, but can be done at any time in a dog's life. At our hospital we have been performing this procedure using laparoscopy since 2003, which requires only two small incisions on the side of the abdomen. The procedure results in permanent fixation of the stomach to prevent the stomach from twisting, and allows a dog to recover far quicker and with less discomfort than traditional surgical gastropexy procedures.