



# BLOAT

Bloat is the second main cause of premature dog deaths, after cancer. Large chested dogs seem to be more prone to bloating compared to other breeds. One of the most alarming aspects of bloat is that it has been known to kill in less than a hour. Unfortunately, actual physical bloating is not always observed, delaying diagnosis.

The technical name for bloat is "Gastric Dilatation-Volvulus" ("GDV"). It is often related to swallowed air, but food and fluid can be present. This can happen when an abnormal amount of air, fluids and/or foam build up in the stomach. The buildup of gas can cause the stomach to twist, blocking off the means for gas to escape. Take note that twisting does not have to occur for bloat to take place. As the gas pressure expands the stomach, it presses against veins in the abdomen, leading to low blood pressure, shock, and damage to the internal organs because they have been starved of blood.

There are numerous symptoms that a dog may have bloat. As with many medical conditions, bloat does not always present itself with the same set of symptoms. There are a number of websites that list symptoms, preventive measures you can take, and indicators in a dog's personality that put them at higher risk. From what I have gathered, most of the "contributing causes" listed on these sites come from studies carried out by Purdue University. These studies consisted of statistical analysis of data collected through random interviews and information gathered from analysis of veterinary records, not from well controlled laboratory studies. Conclusions drawn from these types of studies are often based on anecdotal evidence, do not account for all variables, are subjective in nature, and are open to the authors' interpretation. Lacking a control group, such conclusions can provide valuable information and guiding principles, but we need to acknowledge that they later prove to be incorrect.

One website I visited was critical of the Purdue studies and gave an example of why one must be cautious when drawing conclusions. The Purdue studies concluded that elevated food bowls were a contributing factor. The counter argument was that since most participants in the study used elevated food bowls, the data was skewed. Comparing two populations where one group used elevated bowls and the other group did not would have yielded more accurate results. There was not a large enough sampling of dogs fed from non-elevated bowls to validate the authors' conclusion. I would tend to go along with the Purdue conclusion based on nature. Wolves and wild dogs eat off the ground in a standing or laying down position. The idea that elevating bowls makes it easier for large breeds to eat says to me it allows them to eat faster. Eating fast increases the risk of bloat. Gulping down food without adequately chewing can lead to excessive intake of air, poor digestion of the food, and possible over eating, all risk factors for bloat.

One thing most everyone seems to agree on is that how well a dog is able to digest its food and avoid the formation of gas is a major factor in the development of bloat. Stress affects the digestive process as well as

how fast a dog eats and drinks, which in turn affects the amount of air ingested. As such, stress is also a major factor.

I am going to list what I have found in the way of causes, preventive measures, and symptoms of bloat.

## **Contributing Causes**

### **Stress**

Dog shows, mating, whelping, boarding, change in routine, new dog in household, etc., are all examples of what might seem to be minor events to a human but can be very stressful to your dog.

### **Activities that result in excessive air intake**

Exercise before and especially after eating, drinking too much water too quickly, rapid eating, and elevated food bowls. All of these can cause gulping of air.

### **Foods**

Most of these are factors that cause poor digestion resulting in the generation of gas: Insufficient pancreatic enzymes, such as Trypsin (a pancreatic enzyme present in meat); Dogs with untreated Exocrine Pancreatic Insufficiency (EPI) and/or Small Intestinal Bacterial Overgrowth (SIBO) generally produce more gas and thus are at greater risk; Dilution of gastric juices necessary for complete digestion by drinking too much water before or after eating; and Eating gas-producing foods (especially soybean products, brewer's yeast, and alfalfa).

Repeated studies examining vet records indicated that feeding dry foods containing citric acid as a preservative and dry foods that contain fat among the first four ingredients were risk factors, but no explanation was given for why these were a concern or how they increased the risk for bloat.

### **Heredity**

A family history of bloat is especially important if the dog had a first-degree relative who has bloated.

### **The dog's build & physical characteristics**

Older dogs, large dogs, deep chested dogs, males, and being underweight are increased risk factors.

**Disposition:** Fearful or anxious temperament, history of aggression toward other dogs or people, and characteristics that in general indicate the dog is prone to stress.

## **Advice for Reducing the Risk of Bloat**

### **Avoid highly stressful situations**

If you can't avoid them, try to minimize the stress as much as possible. Be extra watchful. Examples of possible stressful situations: A visit to the vet, dog shows, mating, whelping, boarding, new dog in household, or a change in routine. Make meals a peaceful, stress-free time. Do not use an elevated food bowl. Do not exercise the dog for at least an hour (longer if possible) before and especially after eating. Particularly avoid vigorous exercise in this time window and don't permit your dog to roll over, which could cause the stomach to twist. Avoid allowing your dog to become excessively hungry by feeding 2 or 3 meals daily instead of just one.

Do not give water one hour before or after a meal, but allow access to fresh water at all other times. Water dilutes the gastric juices necessary for proper digestion, which leads to gas production. Don't permit excessive, rapid drinking, especially a consideration on hot days. When switching dog food, do so gradually, allowing a transition period of several weeks.

### **Consider a raw diet instead of feeding dry dog food only**

Although it goes against conventional wisdom as regards to TMs, the studies suggest that you feed your dog a high-protein (>30%) diet, particularly of raw meat. The thought is that dogs are carnivores in nature and their diet would consist almost exclusively of raw meat and bones. If feeding dry food, select one that includes meat with bone product among the first four ingredients. In other words, feed your dog a high quality dog food. Whole, unprocessed foods are especially beneficial. Feed adequate amounts of fiber (for commercial dog food, at least 3.00% crude fiber). Avoid brewer's yeast, alfalfa, and soybean products. Add an enzyme product to your dog's food to aid digestion and reduce gas and/or include herbs specially mixed for pets that reduce gas. Promote an acidic environment in the intestine. Some recommend 1-2 tbsp. of Aloe Vera Gel or 1 Tbsp. of apple cider vinegar given right after each meal. Promote "friendly" bacteria in the intestine, e.g. from probiotics such as supplemental acidophilus. It is especially a concern when antibiotics are given since antibiotics tend to reduce levels of "friendly" bacteria. [Note: Probiotics should be given at least 2-4 hours apart from antibiotics so they won't be destroyed.]

### **Symptoms**

**One of the most common symptoms is when a dog repeatedly attempts to vomit** (usually unsuccessful); this may occur every 5-30 minutes. "Unsuccessful vomiting" means either nothing comes up or there may be foam and/or mucous that comes up. It has also been reported that it can sound like a repeated cough or unproductive gagging.

**A dog not acting like his usual self is perhaps the earliest warning sign and may be the only sign that almost always occurs.** Significant anxiety and restlessness is one example of acting abnormally. Another example is a dog that keeps wanting to go outside in the middle of the night. If this is combined with frequent attempts to vomit, and if your dog doesn't typically ask to go outside in the middle of the night, bloat is a very real possibility.

**A fairly frequent occurrence is the dog with a "hunched up" or "broached up" appearance.**

**A distended or tender abdomen is a classic sign.** Many dog owners report that after putting their ear to their dog's tummy, there is a lack of normal gurgling and digestive sounds in the abdomen. A bloated abdomen may feel tight (like a drum). Thumping the abdomen may produce a hollow sound. However, despite the term "bloat," many times this symptom never occurs or is not apparent.

**Check the dog suspected of bloat for pale or off-color gums;** dark red in early stages, white or blue in later stages.

**Other things to watch for are heavy salivating or drooling, foamy mucous around the lips, or vomiting foamy mucous,** unproductive attempts to defecate, whining, pacing, licking the air, seeking a hiding place, looking at their side or other evidence of abdominal pain or discomfort, refusal to lie down or even sit down, standing spread-legged, curling up in a ball or going into a praying or crouched position, attempts to eat small stones and twigs, drinking excessively, heavy or rapid panting, shallow breathing, and cold mouth membranes.

**In advanced stages, expect apparent weakness, inability to stand or a spread-legged stance,** accelerated heartbeat with the heart rate increasing as bloating progresses, followed by a weak pulse and finally collapse.

I think the worse things about bloat are the speed at which it can happen and that there are no early warning signs. Once the symptoms start, bloat has already occurred and there is a relatively small window of time in which the dog can be saved.

I have had recent personal experience in losing a TM to bloat that prompted this article. I wish I could stop it from ever happening to another TM. Hopefully, this article has educated you to the danger of bloat and will help you to recognize its symptoms early if it ever does occurs in your TM.

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