

## **Bloat and Digestive Trauma in Dogs: An Article By Jane R. Bicks, D.V.M.**

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**Links Referring to Bloat Research by Larry Glickman, VMD, PhD, of Purdue University:**

<http://www.vet.purdue.edu/epi/bloat.htm>  
<http://www.geocities.com/Petsburgh/2788/bloat.htm>  
<http://www.cbrs4me.com/chesapeake/Bloat.html>

**[Click Here for an Article Summarizing Bloat Research Findings by Dr. Glickman](#)**

### **Bloat and Digestive Trauma in Dogs**

**By: Jane R. Bicks, D.V.M.**

Simply stated, bloat in dogs is a digestion related trauma that can be serious. It occurs most often in large and giant dogs or deep-chested dogs, but can occur in other breeds.

#### **This complex disease consists of one or more components:**

First, the dog's stomach fills with gas and expands. A dog with this first component will belch, pass wind, vomit, and be unsettled due to the discomfort. The gas filled stomach can then twist, cutting off circulation to the stomach and creating a life threatening trauma.

#### **Causes of bloat in dogs:**

Genetic predisposition; overeating; fast eating, which results in the dog's gulping air; exercise on a full stomach; too much water at one time; calcium supplementation, which causes the stomach to empty slower than usual.

#### **Prevention of bloat in dogs:**

Don't supplement with calcium. Free feed, portion control, or at least two meals daily. **Feed a high quality food so that the quantity is limited.** Limit physical activity for at least an hour after meals. Give access to fresh water at all times. Feed dogs separately if they tend to race each other to finish. Feed dogs from dishes that are shoulder height so that they don't have to raise and lower their heads, which increases the amount of air they consume.

#### **Common myths about bloat in dogs:**

It is no longer believed that foods containing a high quantity of cereal, including soy, created bloat because of the fermentation or that bloat can be caused when dry food expands in the stomach (implying that moistening it or feeding canned was better).

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## **RESULTS OF BLOAT RESEARCH AT PURDUE UNIVERSITY**

**BY Malathi Raghavan, DVM, MS; Lawrence T. Glickman, VMD, DrPH;  
Nita W. Glickman, MS, MPH; Diana B. Schellenbert, MS. 1994-1998.**

**Adapted by Donna Linsley, March 2004**

An in depth study of gastric dilation-volvulus (GDV) in dogs has been completed. Over 1,900 dogs of 11 breeds were measured and followed over a five year period. The breeds studied were: Large breeds, Akita, Bloodhound, Collie, Irish Setter, Rottweiler, Standard poodle, and Weimaraner. Giant Breeds, Great Dane, Irish Wolfhound, Newfoundland and St. Bernard.

GDV or bloat is the second leading cause of death in large breed and giant breed dogs. When dogs bloat, 25% of cases are fatal. It also tends to happen again unless the stomach is stapled (gastropexy) This reduces recurrence by 95%.

Some factors that increase the risk of bloat cannot be changed. If a dog's siblings, parents or offspring have bloated, chances of bloating were increased by 63%. Bloat risk also increases as dogs grow older by 20% with each year of age. The ligaments which support the stomach stretch and allow the stomach to volvulus or twist or torsion when the stomach is weighted with food. Dogs who eat faster have greater risk in the large breeds, including Irish Setters, however for the Giant breeds, fast eating lowers the risk factors for bloat. Someone said that old timers used to put a piece of tire chain with large links in the dog's food bowl to slow them down. Someone else said very large rocks did the trick.

If your dog is a gulper you will need to study the warning signs of bloat and be prepared. " GDV is characterized by rapid accumulation of air in the stomach, malposition of the stomach, increased intragastric pressure and often cardiogenic shock. " The dog becomes restless and paces. The abdomen becomes hard. If you suspect bloat, rush your dog to a vet. Surgery needs to be done quickly before the soft tissue is injured and dies. Gastropexy or stapling will prevent a recurrence in 95% of cases. Some experienced dog people carry a large tube in their kits and insert it down the throat of a bloating dog to let the air out before the stomach torsions. This is not for the novice or the faint of heart.

While we can't choose our dogs relatives or prevent them from aging, there are some simple management things owners of dogs at risk can do to lessen the probability of bloat striking their dog:

- One factor is that happy dogs tend to bloat less than nervous and fearful dogs.

A second is that raised feeding stations or raised food bowls increase the risk of bloat. Of 625 dogs who ate with bowls flat on the floor, only 18 bloated. Of the 249 who ate with a raised bowl or feeding station, 85 bloated.

- Dogs whose owners restricted access to water before and after meals had a much greater tendency to bloat.

Restricted dogs, 123...47 bloated. Unrestricted dogs 766...20 bloated. In large breed dogs like Irish setters, "having a rural residence, restricting exercise before and after eating, and moistening dry dog food prior to feeding increased the risk of GDV, whereas attending dog shows decreased the risk of GDV."

- Dogs who eat only one meal a day have a higher risk than those who eat 2 or more meals a day.

The risk of bloat goes up 170% when dogs consume dry dog food containing FAT among the first four ingredients on the label.

- The risk of bloat goes up 320% in dogs eating dry dog food containing CITRIC ACID if the food is moistened prior to feeding by the owners. (Citric acid is not Vitamin C.)
- The risk of bloat goes DOWN by 53% if it contains a rendered MEAT MEAL with BONE among the first four ingredients.

The study found that 30% of all cases of GDV in this study were attributed to eating a dry dog food with fat as one of the first four ingredients on the label, while 32% could be attributed to consumption of owner moistened dry foods that

also contained citric acid. These findings can be used by owners to reduce their dogs risk of GDV:

Keep your dog's bowls flat on the floor. They swallow less air that way. If you have a raised feeding station, no matter how expensive it was or how attractive it is, either change it into a flower pot holder or get rid of it. Do NOT give it away to another dog owner. Using a raised feeding station is a major factor in causes of bloat. Using one seems to make the dog swallow more air instead of less as was previously thought before the study was done. Have water available to your dog at all times. Restricting water increases the chance of bloat. Read the dry food labels very carefully. Avoid any which have fat as one of the four first ingredients. Using dry food when fat is a major ingredient raises the chance of bloating by 30%. If the food has any citric acid in it, you must NEVER moisten it. This is not as one of the top four ingredients only, but if there is ANY citric acid in the food. Check the label all the way down to the bottom. If you are not sure, call the dog food company and ask them.

Look for dry foods with rendered meat meal with bone as one of the first four ingredients. Feeding this food would LOWER your dogs risk of GDV.

And by all means attend lots of dog shows and above all else, make sure your Irish Setter is a HAPPY dog!

**This information comes to you from Professor Lawrence T. Glickman, epidemiologist at Purdue University. He spoke on this subject at the health symposium at the ISCA National in Lancaster, Pa in 2001. It can be verified at his website [www.vet.purdue.edu/epi](http://www.vet.purdue.edu/epi) . Choose [Research Programs](#) and then choose [gastric dilation-volvulus](#) for a list of articles written about this exhaustive five year study in which 231 Irish setters participated, along with 9 other breeds of dogs.**

**Postscript from Donna: While it is tempting and fun to allow a dog to drink from a hose or from a bathroom faucet, it is not a good idea. Aislin used to love to do this when she was a puppy. Then a dog person who saw us doing it warned me, as I am warning you. There is a lot of air in running water. Since air in the stomach is a major cause of bloating, drinking running water is contraindicated.**