GSDCA
GERMAN SHEPHERD DOG COUNCIL OF AUSTRALIA Inc

BLOAT (Gastric Dilation/Torsion)

Bloat is a dilation and/or torsion (twisting) of the stomach which is usually accompanied by gas build up. Bloat can be accompanied by, and often caused by, a torsion of the spleen. It is a very rapidly developing and serious condition, which if not treated immediately as a ***medical emergency***, can (and often does) result in death of the animal.

Bloat is unfortunately a relatively common condition seen in the older GSD. Breeds of dogs with deep and narrow chests are far more prone to bloat.

Signs of Bloat:
The dog is usually found groaning with a swollen rigid abdomen which, when tapped, sounds hollow, like a drum. The dog is very distressed and the breathing very rapid and shallow. The mucous membranes are very pale to blue in colour, indicating a failing circulation system. Often, within 1-4 hours, it can cause death due to stress. What actually kills the dog is excessive pressure from the bloated stomach pushing up against the diaphragm, causing pressure on the heart. The average dog, particularly an older animal, can only endure this kind of stress for a very short time before the circulation collapses and the animal dies.

If noticed in the early stages, the dog may be seen hunched up, vomiting small amounts of frothy liquid, and often attempting to drink quantities of water, which it promptly vomits back.

Structural and Physical Risk Factors affecting the incidence of bloat:
Circumstances relating to bloat cases are many and varied, however there are common factors, which are listed below:

- Usually seen in older dogs (eight years and up) but it can occur at any age. It is unlikely to occur in a puppy. The older the animal, the poorer the muscle tone of the stomach and the muscles of the abdomen which increases the risk of the condition occurring.
- Dogs that have poor muscle tone secondary to a debilitating disorder eg. pancreatic insufficiency. Many bloat cases tend to have a concurrent medical problem eg. pancreatitis, where there is poor muscle tone of the stomach, and/or gastritis (irritated gut), where there is increased motility of the gastrointestinal tract. Because of this, there is increased water consumption. Other factors include generalised poor muscle tone in old age, and debilitating diseases such as cancer.
- Bloat is more common in deep chested breeds, especially in the excessively deep and/or narrow chested individuals. Affected breeds include German Shepherds, Irish Setters, Great Danes, Bassets, Borzois and the larger breeds.
- Temperature and sudden variations - Bloat is seen more frequently during the hotter months of the year, when more water is ingested. Bloat cases tend to increase after sudden temperature changes like a hot spell, followed by cooler nights (spring and autumn weather) where there can be rapid and large temperature diurnal changes.
- Feeding immediately after excessive exercise and/or excitement, or exercise just after feeding can also increase the chance of bloat. Dogs that are still very excited from running are more likely to drink large quantities of water immediately after their main meal. With dogs that are allowed to run after a meal, the risk that the stomach or the spleen will swing around and twist and so cause bloat, is much higher.
- Overexercised/overexcited dogs in hot weather. It may also be seen in dogs that are suddenly having far more exercise than they have been used to. In consequence, these individuals often have a sudden increase in demand for water and electrolytes. The increase in exercise may occur because they have been put near other dogs and are running up and down the fence, when previously they may have been house dogs.
- Post whelping (reasonably uncommon but does occur) – Bitches have loose ligaments after whelping, triggered hormonally (elastin) by the whelping of the litter. Any excessive excitement or heavy exercise in the early post whelping period could trigger the development of bloat in breeds that are already at risk.
- Dogs that bolt their food – Dogs that guts their food down extremely rapidly are more likely to bloat, particularly if any of the other risk factors are also present eg. hot weather/excitement/poor muscle tone etc.
- A less commonly seen group can occur secondary to prolonged surgical operations and/or prolonged recumbency.

Often, older dogs that bloat have a combination of at least 3 or 4 of the contributing factors.

Younger dogs that bloat are more likely to be affected by excitement, heat and bolting their food.

Early Bloat Secondary to Dog Shows
Early stages of bloat can be seen occasionally on hot days at dog shows after prolonged gaiting and/or excessive excitement which leads to excessive panting followed by gulping of air in an attempt to lower elevated body temperature. If these dogs are immediately cooled down so that the respiration rate falls to normal levels, most dogs settle down and usually burp up the excess air. Others may continue on to full blown bloat cases, particularly if put back into trailers before they have cooled and/or calmed down sufficiently to relax their respiration rate. Dogs lacking in electrolytes are more prone to stressing as the combination of heat, excitement and poor electrolyte balance which can certainly tip the scales the wrong way with very little effort.

Immediate treatment is to cool the dog down, ideally in a wading pool with cool water being poured over the dog, particularly around the head, neck and belly areas. Cooling the dog usually takes 5-15 minutes depending on the degree of heat stress present. If the dog's abdomen is slightly swollen, ***once they have cooled sufficiently***, give them some oil, peppermint tablets or charcoal tablets to stop gas production. Gently massage the stomach from the rear and most dogs will burp up the excess air fairly easily once they are relaxed. Once the dog has settled, give small drinks of water often, ideally laced with electrolytes to replace salts and sugars lost from exhaustion.

If they do not degas and remain stressed, you should get immediate veterinary attention. Keep the dog cool, restrict water access until properly assessed.

Some dogs can settle down and then bloat later (usually within 8-12 hours) as they are still too low in electrolytes and often have a continuing acidosis from overexercise.

(See also the Heat Stress later in this Chapter).

Common Food/feeding related contributing factors of Bloat Cases:
1. Bloat is most commonly seen after a large meal, especially if the dog is the type to eat its food very quickly. Some dogs may bloat within 5-15 minutes of eating a large meal, particularly if they run and jump about. The problem of bloat occurring immediately after a meal appears to be volume and time related ie. how much arrives in the stomach and how fast.
2. The type of food can be a contributing factor. Some people find that large amounts of dry food in the diet may be the causative agent, as the dog may drink a large quantity of water after a meal. The dry food swells considerably after ingestion and this can cause bloat. A dog that is fed a high proportion of dry dog food in a diet will usually have no trouble, especially if locked up before and after feeding, then kennelled with adequate but limited amounts of water.
3. Sudden changes of dry foods and or food types can be contributing factors in a considerable percentage of bloat cases. This can cause gastric irritation by changing the bacterial balance in the gut etc. It may also occur secondary to the sudden feeding of large fatty meals.
4. High levels of soya bean meal in the dry dog food seems to predispose dogs to bloat as the bean meal ferments rather rapidly. Hydrolysed soy protein is not a problem.
5. Low levels of manganese (or low bio-availability of this in the diet) seems to increase the number seen.
6. If the salt content of the food is too high the dog will drink more water than normal. Never exceed 2% salt in the diet (this refers to straight salt or sodium chloride; electrolytes are a slightly different).

General Treatment of Bloat Cases
The initial aim of treatment is to stabilise the circulation and treat the shock. Decompression of the stomach is the first priority, usually by releasing the excess gas via a large gauge needle through the wall of the stomach. The profound shock (hypotension) must be treated next with fluids, correcting any electrolyte imbalances, addressing the pain and shock (short acting cortisone) all to get the dog stabilised as quickly as possible so the dog can undergo surgery. The

vast majority of cases are opened up once the dog has been stabilised.

Where a dog has gassed up without torsion of the stomach, a tube may be able to be passed down into the stomach to relieve the build up of gas. These cases are rare, over 75-80% have twisted the stomach and without surgical intervention there is a very high re-occurrence of the bloat, often within several hours. If the tube cannot enter the stomach successfully, the dog has to be opened up and the problem surgically corrected. In many cases the stomach and/or the spleen are obviously twisted and tubing is usually not attempted. Dogs that are already severely compromised (ie.in shock) can be killed by the additional stress of trying to tube them.
The twisted stomach is often heavily bruised and sections of its wall may have to be removed because of infarction (lack of blood supply). As the stomach torsions, the blood supply to the stomach twists also. When the spleen has undergone torsion as well, the ligament and blood supply from the stomach wall is twisted and can be damaged. Damaged areas of the stomach wall are obvious at the time but, occasionally the heavily bruised areas can develop additional blood clots subsequently and, in turn, reduce the blood supply to areas of the stomach wall.

Because of the recurrent nature of bloat, most veterinarians elect to suture part of the stomach wall to the wall of the abdomen in an attempt to prevent further bloat attacks. Quite often the spleen has twisted as well and is heavily engorged from the build-up of pressure from the twisted stomach. If the spleen has been compromised (the blood vessels leading to it have thrombosed or clotted) it is often removed during the operation to further reduce the chance of a recurrence.

Fluid therapy with high doses of antibiotics is the normal ongoing support therapy after the operation. Additional use of drugs such as Zantac*, Maxalon* and Carafate* are usually given for several days post operatively to prevent secondary complications. The possibility of clots developing in stressed blood vessels may have to be assessed and treated.

Despite the best of veterinary care, the success rate is not always high. The earlier treatment is initiated the better. Different veterinarians have varied regimes of treatment for bloat and the circumstances surrounding bloat cases can and do vary greatly. Those that survive the first 48 hours and steadily improve are unlikely to relapse.

Aftercare of Bloat Cases at Home
This can be nearly as important as all the work the veterinarian has done to save your dog.

For the next few weeks, give small meals often.
Ideally, older animals and those with continuing medical problems should go onto a fairly rigid routine for the rest of their lives. This includes giving 2-3 small feeds a day, reduced exercise before and after meals and not having large buckets of water available. Additives to the diet should be given to try and reduce gas build up.

Additives to help prevent re-occurrences include:

i. To prevent gas build up - charcoal tablets, 1-3 tablets with every meal or you can use Tympanyl* (a peppermint based anti-bloat product).
ii. Some form of oil should be added to each meal to help prevent rapid fermentation of food. About 1-2 tablespoons per meal for large breeds.
iii. A good quality vitamin and mineral source will fill any deficiencies in the diet and hopefully improve the muscle tone. B group vitamins, vitamin E, a low dose of selenium once or twice a week are useful. Elderly and or debilitated dogs may benefit from a low dose of anabolic steroids several times a week.
iv. Acidophilus tablets/powder or other gut bacteria replacers (eg. Protexin*) to ensure that the gut bacteria stay stable.
v. Other helpful hints include removing un-hydrolysied soya-bean meal from the diet, ie. check on the bags of dry dog food. If you wish, change to a rice based dry food or a natural food type diet. Those with permanently poor muscle tone could benefit from the addition of anabolics into their system, even if only given periodically.

Prevention of Bloat

1. If the weather is hot, feed the dog late at night, after it has cooled down. This can be as late as 10-11pm. If necessary, give a reduced meal and do not leave large amounts of water around. It is most important to lock the dog up in a confined area.
2. If the weather is hot and the dogs are having more exercise due to training, electrolytes should be given. Ideally give these in the food as, if given in the water, you cannot be certain the dog will obtain a sufficient dose. By giving extra electrolytes, the dogs cope with the heat better, particularly if required to perform in the heat. (see Heat Stress below).
3. If the dog is elderly or in poor physical and muscle condition, feed twice daily and soak the dry dog food. This way, smaller amounts are eaten in any one meal.
4. If the dog has muscle wasting and has lost weight lately (ie. following illness) feed small meals often and limit the exercise after feeding. Build up the dog's muscle tone gradually over several weeks but don't suddenly increase the dog's exercise.
5. Avoid any rapid changes of the dry food base of the diet: do this slowly over 1-2 weeks and if there is any sudden increase of water intake as a result of the change, revert back to the original dry food.
6. Avoid excessively salty food, usually 2% in the diet is a maximum. Corned beef and food preserved in brine should not be fed. Ham and ham bones in particular should not be fed.
7. If paranoid about bloat, some of the suggestions above in the aftercare of bloat cases such as adding oil etc can be used routinely in older animals or those that seem to be high risk category due to health or training.

Above all:

Do not allow the dog to exercise heavily before or after meals, particularly in hot weather. If your dog eats too quickly, feed twice daily and leave limited amounts of water – with due regards to hot weather. With the taller breeds it can be beneficial to raise the food bowl so that the dog has to stretch its neck up, and hopefully the rate of ingestion will be slowed.

With heavy exercise in hot weather be extremely careful, give electrolytes while training and increase the amounts on the hotter days.

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