



DANADA VETERINARY HOSPITAL, P.C.

## **Bloat In Dogs**

Bloat is a serious and often life-threatening condition. The scientific name for the condition is gastric dilatation and volvulus, or GDV, because it consists of both gas distention of the stomach and twisting of the stomach on its long axis. The result of this twisting is that blood supply to vital organs is cut off leading to shock (decreased blood pressure) and tissue death.

### ***Prevalence***

Bloat and volvulus can occur in any breed, but it is much more likely to occur in adult, deep chested dogs of large and giant breeds. Some of the more commonly affected breeds include Great Danes, Irish Setters, German Shepherds, and Afghan Hounds.

### ***Causes***

Despite extensive research, the exact cause of bloat and stomach torsion remains unknown. However, many risk factors have been established that increase the likelihood of bloat and volvulus. These include:

Eating meals too quickly

Overeating

Ingesting a large amount of water quickly

Stress

Exercising after eating

Advanced Age

Genetics

Elevated food bowls

### ***Clinical Signs***

An enlarged stomach will cause the abdominal wall to protrude prominently, especially on the dog's left side. The swelling will be very firm and obvious enough to see across the room. Occasionally, this distention is not very apparent. This occurs in dogs that have a large portion of the stomach up under the rib cage. The dog will be very restless, painful, or very depressed. He or she may lie in what is commonly called a "praying position" with the front legs drawn fully forward. Vomiting will eventually progress to nonproductive retching (dry heaves). This sequence of events occurs quickly, over two or three hours in most cases. Additionally, if volvulus occurs, blood supply to vital organs can be restricted and blood pressure can drop resulting in shock. This results in pale gums, mental inappropriateness, and profound lethargy.

## ***Diagnosis***

The presence of a rapidly developing distended abdomen in a large breed dog usually provides adequate evidence to render a tentative diagnosis of GDV. A radiograph (x-ray) is used to confirm the diagnosis of dilatation. It can also identify the presence of volvulus, in most cases.

## ***Treatment***

To understand treatment of bloat, it is necessary to understand the effects of the condition on the body. The distended stomach puts pressure on the large veins in the abdomen that carry blood back to the heart. Without proper return of blood, the output of blood from the heart is diminished and the tissues are deprived of blood and oxygen. This overall decrease in blood pressure is commonly referred to as shock.

Reduced blood output from the heart and high pressure within the cavity of the stomach also cause the stomach wall to be deprived of adequate circulation. If the blood supply is not restored quickly, the wall of the stomach begins to die, and the wall may rupture. If volvulus occurs, the spleen's blood supply will also be impaired. This organ is attached to the stomach wall and shares some large blood vessels. When the stomach twists, the spleen is also rotated to an abnormal position and its vessels are compressed.

When the stomach is distended, digestion stops. This results in the accumulation of toxins that are normally removed from the intestinal tract. These toxins activate several chemicals that cause inflammation, and the toxins are absorbed into circulation (endotoxemia). This causes problems with the blood clotting factors so that inappropriate clotting occurs within blood vessels. This is called disseminated intravascular coagulation (DIC) and is usually fatal.

Treatment consists of multiple steps, but it requires rapid action to ensure the best chance at survival.

First, shock must be treated with the administration of large quantities of intravenous fluids. The fluids must be given as quickly as possible to restore blood volume to the heart and other vital organs.

Next, pressure must be removed from within the stomach (gastric decompression). This may be done with a tube that is passed from the mouth to the stomach. Another method is to insert a large bore needle through the skin into the stomach. A third method is to make an incision through the skin into the stomach and to temporarily suture the opened stomach to the skin. The last method is usually done when the dog's condition is so grave that anesthesia and abdominal surgery is not possible.

After decompression and rehydration, the stomach must be returned to its proper position. This requires abdominal surgery that can be risky because of the dog's condition. During surgery, the stomach wall will be inspected for areas that may have lost its blood supply. Although this is a bad prognostic sign, any devitalized tissue is removed to improve chances of survival.

## ***Prognosis***

The prognosis is guarded. Early intervention improves the likelihood of a good outcome. Other factors related to survival include the severity and duration of the distention, the degree of shock, how quickly treatment is begun, presence of endotoxemia, and the presence of other diseases, especially those involving the heart. Severe to life-threatening arrhythmias can occur at the time of surgery and for several days post-operatively.

Dogs who survive surgery and immediate post-operative period have a good prognosis.

## ***Prevention***

Avoiding risk factors can help limit the likelihood of experiencing GDV. However, the most effective means of prevention is gastropexy, or the surgical attachment of the stomach to the body wall. This will not prevent dilatation (bloat), but it will prevent volvulus in most cases. Gastropexy can be performed proactively at the time of spaying or neutering. It is recommended for all large breeds, deep-chested animals.

Otherwise, gastropexy will typically be performed at the time of surgery to correct the volvulus if GDV occurs.