

## Gastric Dilatation and Volvulus Syndrome in Dogs

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Gastric *dilatation* and volvulus syndrome (GDV), more commonly referred to as *gastric* torsion or bloat, is a disease in dogs in which the animal's stomach dilates and then rotates, or twists, around its short axis. A number of emergency conditions may result as a consequence of this gastric rotation, including progressive distension of the stomach, increased pressure within the abdomen, damage to the cardiovascular system, and decreased *perfusion*. Perfusion is the process of delivering nutrients via blood in the arteries to the body's tissues. Insufficient perfusion may lead to cellular damage and even organ death.

### Symptoms and Types

Symptoms of GDV include anxious behavior, depression, abdominal pain and *distention*, collapse, excessive drooling, and vomiting to the point of unproductive dry heaving. Further physical examination may also reveal an extremely rapid heart beat (known as *tachycardia*), labored breathing (known as *dyspnea*), a weak pulse, and pale *mucus* membrane (the moist tissues lining the body's orifices, such as the nose and mouth).

### Causes

The exact causes of GDV are unknown. A variety of factors, including *genetics*, anatomy, and environment, are most likely to blame. For example, dogs that have a first relative with a history of GDV have been shown to be at higher risk. Additionally, large and giant-breed dogs may be at higher risk, especially deep-chested breeds such as great Danes, German shepherds, and standard poodles. Although GDV has been reported in puppies, risk does increase with age.

Some factors that are believed to contribute to the development of GDV include ingestion of excessive amounts of food or water, delayed emptying of the *gastrointestinal* system, and too much activity after eating. In some cases, dogs affected by GDV have a history of gastrointestinal tract problems. It should be noted, however, that these characteristics do not necessarily occur with all cases.

### Diagnosis

A primary method of diagnosing GDV is imaging techniques, such as x-rays of the abdomen. Other tests may include a urine analysis and testing concentrations of lactate substance in the plasma.

If GDV is not to blame, other possible causes of the patient's symptoms may include bacterial infection, *gastroenteritis* (which is the inflammation of the gastrointestinal tract involving both the stomach and small intestine), or "food bloat" due to overeating.

## Treatment

GDV is an emergency condition requiring patients to be hospitalized and aggressively treated. If secondary cardiovascular problems are apparent, they will need to be immediately treated. After the heart is stabilized, gastric decompression can be performed, preferably with *orogastric intubation*, a process by which a tube is inserted through the patient's mouth into the stomach. After these processes are complete and the patient is stabilized, surgical measures may be taken to return internal organs (such as the stomach and spleen) to their normal positions. Additional treatment may be needed to address any organ damage. A permanent *gastropexy*, in which the patient's stomach is surgically secured to prevent future improper rotation, may be done to prevent recurrence of GDV.

## Living and Management

General care after initial treatment includes administration of painkillers, along with any other necessary medications. Activity should be restricted for approximately two weeks, especially after surgery.

## Prevention

While the exact causes of GDV are unknown, there are a number of risk factors that can be addressed, namely avoiding strenuous exercise after eating and drinking. Slowing the rate of food consumption may also help, as well as feeding frequent small portions, rather than infrequent larger portions.