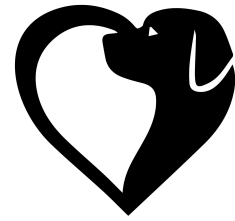




# Heart Disease in Dogs



Just like their pet parents, our canine comrades can be susceptible to heart disease. Heart disease refers to any condition that affects your dog's heart or blood vessels and interferes with their normal functions. Heart disease in dogs is like many progressive diseases where symptoms can take a long time to develop. If your pup displays any of the following signs or behaviors, schedule an appointment with your vet to have them checked out:

1. A persistent cough that follows physical activity or intensifies at night
2. Shortness of breath or increased respiratory rate
3. Restlessness when sleeping
4. Rapid weight loss (over just a few weeks)
5. Fainting – which can look like a seizure
6. Potbelly caused by fluid build up
7. Decreased stamina or fatigue

These symptoms of heart disease in dogs may be more likely to appear in certain breeds or dogs of a particular size or age, but like people, any dog could be at some level of risk. It's crucial to keep in mind that since so many types of cardiac conditions can be inherited, heart disease in young dogs is not unheard of—yet another reason annual veterinary check-ups are so important.

In general terms, heart disease in dogs can be divided into two categories: congenital and adult onset.

With congenital heart disease, the heart defect is present at birth. Signs of congenital disease are often seen at a young age, but in some cases, it can go undetected for many years. Congenital heart disease may be caused by a developmental problem that causes malformation of the heart as the embryo develops. This type of congenital heart disease may affect only a single pup in the litter. It may also involve a genetic or hereditary disorder, in which case the problem may develop in more than one pup in the litter.

Most adult-onset heart disease occurs due to degeneration of the mitral valves over time, resulting in abnormal function. Some adult-onset heart disease can be due to a hereditary condition that progresses as the dog ages, eventually causing problems. There are many factors that can contribute to adult-onset heart disease; genetics and lifestyle (weight, physical activity, and diet) may play an important role.

Approximately 1 in 10 dogs will develop heart disease in their lifetime. The two most common types of heart disease in dogs are mitral valve disease and dilated cardiomyopathy or DCM.

Mitral valve disease results from a degenerative thickening of the mitral valve between the upper-left heart chamber (left atrium) and the lower-left heart chamber (left ventricle). Blood flow becomes turbulent as blood leaks backwards through the faulty valve, resulting in the sound of a heart murmur. As the valve leaks, the heart has to work harder to supply blood to the rest of the body. Over time, the heart can become stretched and enlarged from having to handle the extra blood flow caused by the regurgitation, and congestive heart failure can develop. Mitral disease is most often diagnosed in small-breed dogs that are middle-aged to older. Common breeds affected are Cavalier King Charles spaniel, dachshund, cocker spaniel, poodle, and chihuahua.

Dilated cardiomyopathy (DCM) is a disease in which the heart muscle degenerates and becomes thin and weak. As a result, the heart is unable to properly contract and pump blood, often leading to congestive heart failure. Signs may be sudden or progressive in onset. This disease is more commonly seen in larger breeds such as doberman pinschers, Portuguese water dogs, Irish wolfhounds, and Great Danes.

Most dogs display no clinical signs until the disease is advanced. Often, it may be detected when a veterinarian hears a heart murmur during a physical examination.

The most common signs of heart disease in dogs are:

- coughing and difficulty breathing
- exercise intolerance (easily tired on walks or when playing)
- weakness and/or collapse
- weight loss
- lethargy
- swelling or bloating of the abdomen (belly)stunted growth (puppies)

Depending on the murmur and the degree of clinical signs, further testing may be advised to determine the cause. The additional testing generally involves X-rays, electrical recording of the heart (ECG), and ultrasound examination (echocardiography).

Adult-onset heart disease is often treated with medications to support heart function and treat abnormal heart rhythms. It is essential that the instructions for your dog's heart medication are followed closely. For drugs given more than once daily, doses should be spread out over the day as evenly as possible. Some heart medications can have serious adverse effects if stopped suddenly, so it is important that your dog receives the medication regularly and that prescription refills are requested ahead of time.

Your veterinarian may also recommend regular recheck examinations, laboratory testing, and imaging such as X-rays or echocardiograms. It is important to follow these recommendations to ensure the best management of your dog's heart disease.

# Canine Cardiac Medications



**Vetmedin** is a heart medication used to treat dogs with congestive heart failure (CHF), usually caused by either dilated cardiomyopathy or valvular insufficiency.

- ❖ FDA Approved veterinary inodilator that aids in dilating veins and arteries.
- ❖ It also works to increase cardiac output, which lightens the workload of your dog's heart.
- ❖ Given every 12 hours, the unique dual action of Vetmedin dilates the blood vessels carrying blood to and from the heart—reducing the preload and afterload on the heart—while simultaneously improving contractility of the heart muscle.
- ❖ Pimobendan, Vetmedin's active ingredient, reduces stress on the heart while increasing cardiac output, without raising oxygen or energy consumption.
- ❖ Vetmedin helps dogs engage in the daily activities they enjoy.
- ❖ These chewable tablets are available in four convenient dosing sizes (1.25 mg, 2.5 mg, 5 mg, and 10 mg).
- ❖ The most common side effects of Pimobendan are poor appetite, lethargy, diarrhea, shortness of breath, weakness, and ataxia (loss of muscle control/coordination).

**Furosemide** (brand names: Lasix®, Salix®, Frusemide®, Disal®, Uritol®) is a loop diuretic used to treat conditions such as congestive heart failure, lung fluid retention, and certain kidney diseases.

- ❖ It's a proven diuretic—a medication that helps remove excess fluid from the body—and saluretic—a medication excess sodium from the kidneys.
- ❖ By relieving the body of excess fluid and sodium, it helps to relieve inflammation and its unpleasant symptoms.
- ❖ Common side effects can include: dehydration + excessive thirst, with increased urine production; electrolyte imbalances with rapid heart rate, weakness, depression, vomiting, and restlessness.
- ❖ Most commonly available in tablets, but can be found in liquid forms as well.

**Enalapril** (brand names: Enacard®, Vasotec®, Glioten®, Lotrial®, Pres®, Renitec®, Reniten®, Xanef®, Epaned®) is used to treat heart failure, high blood pressure, or proteinuria (protein in the urine). It is also used in the treatment of chronic kidney disease.

- ❖ Works by blocking a substance in the body that causes the blood vessels to tighten. As a result, enalapril relaxes the blood vessels, lowering the blood pressure and increasing the supply of blood and oxygen to the heart.

- ❖ The most common side effects are decreased appetite, stomach upset, lethargy, and incoordination. Hypotension (low blood pressure) can also occur. Signs of low blood pressure include weakness/collapse, other kidney problems, increased drinking/urination, slowed heart rate, and a weak pulse.

**Atenolol** (brand name: Tenormin®) is a beta-blocker heart medication used to treat certain types of heart disease, high blood pressure, and abnormal heart rhythms in dogs.

- ❖ Beta blocker used to treat hypertension and arrhythmias; slows the heart rate to help it work more efficiently.
- ❖ Lowering the blood pressure lowers the risk of fatal and non-fatal cardiac events, such as strokes and myocardial infarctions.
- ❖ Side effects include: tiredness, diarrhea; low blood pressure, which can cause faintness, weakness, or dizziness.