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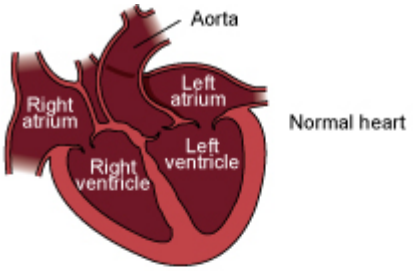
# Dilated Cardiomyopathy in Dogs

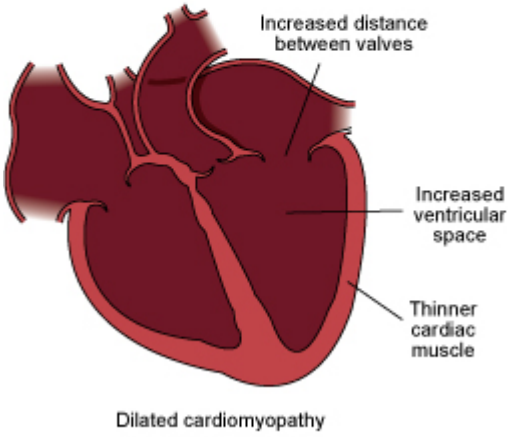
## What is dilated cardiomyopathy?

*Cardiomyopathy* is defined as degeneration of the heart muscle. As a result of this degeneration, the muscle becomes thinner, particularly the thick muscle wall of the left ventricle. The pressure of the blood inside the heart causes these thin walls to stretch resulting in a much larger heart. This condition is described as **Dilated Cardiomyopathy (DCM).**




## How common is the condition?

Dilated cardiomyopathy is the most common cause of heart failure in certain large breeds of dogs. These include Boxers, Dobermans, and Great Danes. Occasionally, German Shepherd Dogs and some medium sized breeds such as Cocker Spaniels, English Springer Spaniels are also affected. Small breeds rarely develop DCM.

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## My dog suddenly seemed to develop Dilated Cardiomyopathy (DCM). Can this disease happen so quickly?

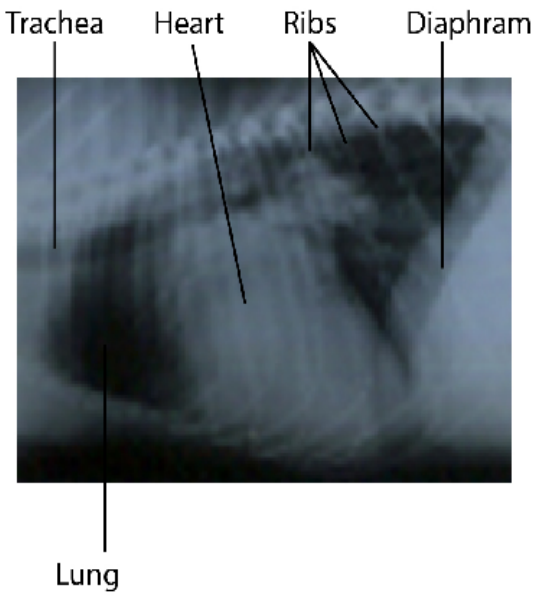
"Dilated cardiomyopathy may have a sudden onset of clinical signs, although the heart disease has been developing slowly and insidiously."

Dilated cardiomyopathy may have a sudden onset of clinical signs, although the heart disease has been developing slowly and insidiously. Some dogs may develop severe congestive heart failure (CHF) in only a few hours. Rapid, heavy breathing, a blue tongue, excessive drooling or collapse may be the first signs.

## How is the condition diagnosed?

Before a diagnosis of dilated cardiomyopathy is made, several tests are performed to assess different aspects of heart function.

**Auscultation.** Listening to the chest with a stethoscope allows the veterinarian to identify murmurs due to the improper closure of heart valves. The murmur's location and intensity helps determine its significance. Heart rhythm is also assessed during auscultation, and if there are concerns, the veterinarian may simultaneously palpate or feel the pulse to determine its strength and rhythm. Auscultation is also used to evaluate the lungs.




Blood and urine tests. We are especially concerned about liver and kidney function because these organs are often impaired in heart disease.

**Chest X-rays.** Chest radiographs allow us to examine the lungs and measure the size and shape of the heart. Dilated cardiomyopathy usually causes obvious enlargement of the heart, particularly the left side.

**Electrocardiogram (ECG).** This is an assessment based on the electrical activity of the heart. It allows us to accurately determine heart rate and to diagnose any abnormal rhythms.

**Ultrasound examination (echocardiogram).** This gives the most accurate determination of each heart chamber's size and thickness of the heart walls. Measurements of the heart contractions can be taken to evaluate the heart's pumping efficiency.

## Can't you treat my dog without these tests?

The combination of many of these tests gives us our best evaluation of heart function. **An accurate diagnosis gives us a much better guide to the severity of the disease and the extent of treatment that is necessary.**

## What is the treatment?

There are several drugs used to treat the symptoms of dilated cardiomyopathy. Initial stabilization depends upon the use of:

**Diuretics** – These are drugs that stimulate the kidneys to remove excess fluid from the body. Furosemide and spironolactone are two commonly used diuretics.

**Angiotensin Converting Enzyme (ACE) inhibitors** – ACE-inhibitors work by lowering blood pressure and reducing the after-load or resistance to blood flowing out of the heart. They are one of the most powerful and commonly used classes of drugs for heart disease in both humans and pets. ACE-inhibitors are the only drugs proven to extend life expectancy in both people and dogs. Enalapril and benezepril are commonly used ACE-inhibitors in dogs, although new ACE-inhibitors continue to be developed and may prove useful for treating canine patients.

**Digitalis glycosides** – These drugs improve heart function in several ways. They slow the heart rate and strengthen heart contractions so the blood is pumped more effectively. Digoxin is the most common digitalis glycoside used in veterinary medicine. Because of the potential for toxic side-effects., the dose must be closely regulated and monitored through routine blood tests and ECG analyses.

**Vasodilators** – These drugs dilate the arteries or veins of the body so that the heart does not have to work so hard to pump blood to the body. ACE-inhibitors have vasodilator activity, and are the vasodilators used most widely in the therapy of congestive heart failure associated with DCM.

**Bronchodilators** – These drugs make breathing easier for dogs experiencing DCM. Bronchodilators include theophylline and aminophylline.

**Pimobendan** – This is a new class of drug for the treatment of heart failure in dogs. It is an *inodilator* (an inotrope and vasodilator) and is also a calcium sensitizer as well as a PDE III inhibitor. Calcium sensitizing agents increase contractility of the heart muscle. This new drug does not appear to induce arrhythmias like other inotropes.

## As a result of all these tests and treatment, is there any guarantee that my dog will live much longer?

Unfortunately, there are no guarantees in medicine. DCM is a serious disease that must be accurately diagnosed and aggressively treated. Some dogs with DCM do well with treatment; however, some dogs will never resume a normal lifestyle. Dogs that have developed clinical signs of heart failure have a worse prognosis than those that are put onto cardiac medication in the early stages of the disease. Your veterinarian will guide you through the diagnostic and treatment process to ensure that your pet receives the highest standard of care.

*This client information sheet is based on material written by: Ernest Ward, DVM*

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