

## **BRIARPOINTE VETERINARY CLINIC**

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### **HEART DISEASE**

#### **1. Dilated cardiomyopathy**

##### ***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 the large breeds of dogs. These include Boxers, Dobermans, and Great Danes. Occasionally medium sized breeds such as Cocker Spaniels, English Springer Spaniels and German Shepherd Dogs are also affected. Small breeds rarely develop DCM.

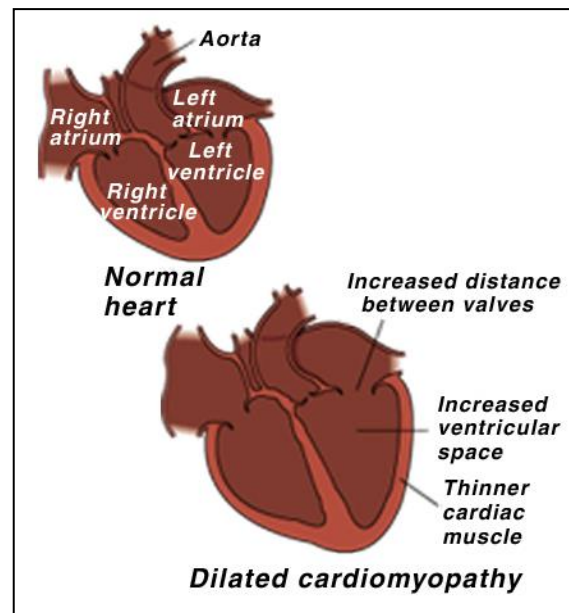
##### ***My dog suddenly seemed to get very slow and the diagnosis is Dilated Cardiomyopathy (DCM). Can this happen so quickly?***

Dilated cardiomyopathy may have a sudden onset of clinical signs. Some dogs may develop severe heart failure 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 used that assess different aspects of heart function. Many times we will refer patients to a local veterinary cardiologist for diagnostic testing.

**Auscultation** which is listening with a stethoscope. This allows us to identify murmurs due to the improper closure of heart valves based on the murmur's location and intensity. In addition, we can detect abnormal heart rhythms (arrhythmias and dysrhythmias) and evaluate lung sounds.



**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.

The combination of many of these tests gives us our best evaluation of heart function.

#### ***What is the treatment?***

There are several drugs used to treat 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 the most 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 benazepril are commonly used ACE-inhibitors in dogs.

**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.

**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. They are effective long term treatments for patients with DCM. ACE-inhibitors have vasodilator activity, and are the vasodilators used most widely in the therapy of CHF due to systolic myocardial dysfunction associated with DCM.



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

**New Medications** - Pimobendan is a new medication that shows promise for heart disease in dogs. In addition to dilating blood vessels, it strengthens heart contractions and improved heart function.

Most DCM patients are treated with two or more medications.

***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. Most pets with DCM do well; however, some dogs will never resume a normal lifestyle. We will guide you through the diagnostic and treatment process to ensure that your pet receives the highest standard of care.

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*Edited by John S. Parker, DVM August, 2007*  
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