

Canine Dilated Cardiomyopathy (DCM)

Canine dilated cardiomyopathy (DCM) is a disease of heart muscle that results in decreased contractility and marked heart enlargement. Genetics is thought to be responsible for most cases. Breeds predisposed to DCM include the Doberman Pinscher, Newfoundlands, Irish Wolfhounds, Portuguese Water Dogs (PWDs), Mastiffs, Great Dane, the Boxer, and the Cocker Spaniel. Less common causes include nutritional (taurine and carnitine) deficiencies and infectious causes. In addition to causing problems with the mechanical pumping of the heart, it can also affect the electrical system of the heart and cause the development of abnormal beats or arrhythmias, primarily ventricular premature contractions. Dogs go through a preclinical phase where changes can be seen on either a heart ultrasound (echocardiogram) or on a recording of the heart rhythm (either a short electrocardiogram/ECG or a 24 hour long Holter monitor). These dogs that have changes are termed to be in the “occult” stage and will not show clinical signs. This occult phase can last from 1-4 years in the Doberman Pinscher. Eventually, the heart disease worsens and these dogs go into a clinical phase termed heart failure. The first sign may be sudden death from a fatal arrhythmia. It can also manifest as coughing, progressive exercise intolerance, and breathing difficulty. Dogs have a short survival time once they enter the clinical phase, often measured in weeks to months. Arrhythmias may develop and affected dogs can experience collapse or sudden death. Congestive heart failure can also result.

Treatment of DCM is directed at improving systolic (pump) function of the heart, dilating the peripheral blood vessels to decrease ventricular workload, eliminating pulmonary congestion if present, and controlling heart rate and cardiac arrhythmias if present. These treatment goals are addressed by the administration of cardiac medications, which may be delivered by injection in emergent situations, or orally in patients that are more stable.