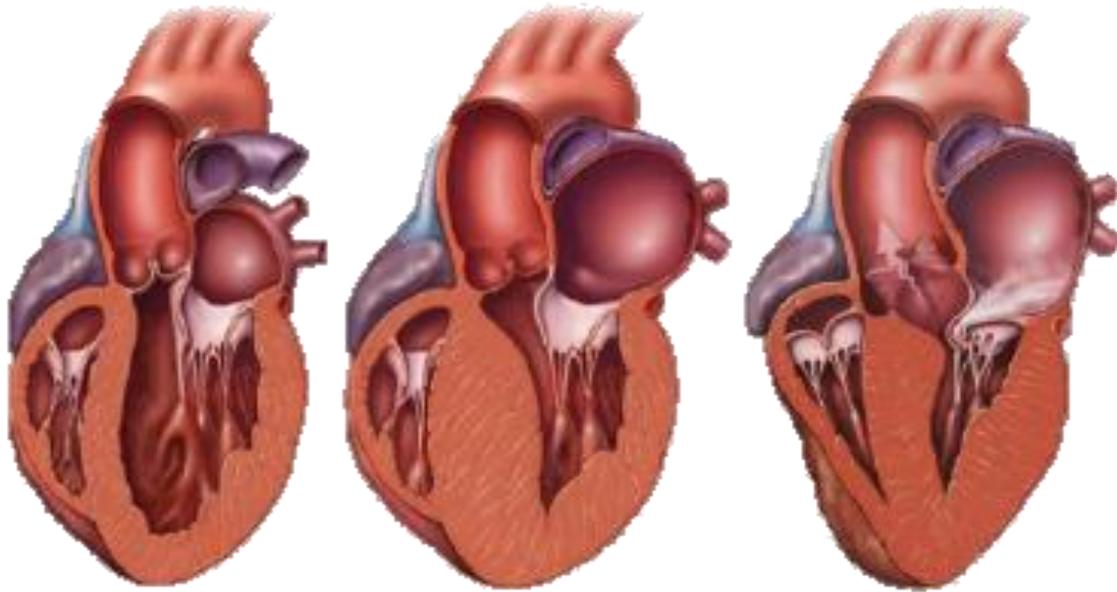


Cardiomyopathies in Cats, Including Hypertrophic Cardiomyopathy (HCM)

Cardiomyopathy is disease of the heart muscle and feline heart disease is common. An echocardiogram (heart ultrasound) is often required to confirm if disease is present and to classify the disease so that treatment can be optimized. Feline cardiomyopathies are divided into 4 etiologies: hypertrophic cardiomyopathy, dilated cardiomyopathy, unclassified or restrictive cardiomyopathy, and arrhythmogenic right ventricular cardiomyopathy.

Hypertrophic cardiomyopathy (HCM) is the most commonly diagnosed cardiac disease in cats. It is rare in dogs. HCM is the result of one or more specific genetic defects that results in abnormal heart muscle proteins. This eventually leads to heart muscle thickening, usually affecting the left ventricle of the heart. The result is the left ventricle cannot relax normally. This leads to elevated pressures within the heart, and can result in secondary heart chamber enlargement, congestive heart failure and even clot formation. HCM can be seen in any breed, but some breeds (Maine Coon cats, Ragdolls, Devon Rex) have a higher risk. HCM is usually a genetic, irreversible condition, but other reversible disease such as hyperthyroidism and elevated blood pressure can also cause heart muscle thickening similar to HCM. Blood pressure measurement and a blood thyroid hormone test should be done to exclude these secondary causes when cardiac hypertrophy (thickening) is diagnosed. A variation on HCM is called hypertrophic obstructive cardiomyopathy (HOCM) where the heart muscle thickening or abnormal motion of the anterior leaflet of the mitral valve causes a partial obstruction of blood flow out the outflow tract of the left side of the heart. The obstructive form of HCM is characterized by turbulence and increased velocity of blood flow across the left ventricle outflow tract (LVOT).



A normal heart is pictured on the left, hypertrophic cardiomyopathy is depicted in the middle, and hypertrophic obstructive cardiomyopathy with systolic anterior motion of the mitral valve obstructing flow out the outflow tract is shown on the right.

The prognosis for cats with HCM is quite variable. Many cats with cardiomyopathy may be asymptomatic for years. In severe cases, signs of congestive heart failure including labored or rapid breathing, open-mouth breathing, and lethargy are evident. These signs occur when fluid accumulates in lung tissue (pulmonary edema) or around the lungs (pleural effusion) secondary to elevation of left atrial pressure. Cats with cardiomyopathy are at risk for a sudden, devastating complication termed a “saddle thrombus” or arterial thromboembolism. Thromboembolism refers to the development of a clot in the heart (promoted by left atrial enlargement), with ejection of the clot to the body, cutting off blood flow. Acute hind limb paralysis and pain in the hind limbs or sudden death may be observed.

Treatment goals for feline cardiomyopathies include controlling heart rate, alleviating pulmonary congestion, removing pleural fluid (if present), and decreasing the likelihood of thromboembolism.