

# Hypertrophic Cardiomyopathy (HCM) in Cats



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## What is hypertrophic cardiomyopathy?

Hypertrophic cardiomyopathy (HCM) is a common heart disease of cats, affecting up to 15% of all cats during their lifetime. HCM is diagnosed when thickening (hypertrophy) of the heart muscle is identified in the absence of a known cause (such as high blood pressure or an overactive thyroid gland). HCM is either known or suspected to be caused by genetic mutations in certain cat breeds, but the disease is found in all breeds of cats, including mixed breeds. Genetic tests for HCM screening are available for Maine coon, Sphinx and Ragdoll cats. In HCM, heart muscle relaxation and contraction are abnormal. These abnormalities can lead to enlargement of the atrial (top) chambers of the heart, congestive heart failure (CHF, fluid in the lungs or chest cavity), fainting, irregular heart rhythms and formation of blood clots within the heart. Sudden death can also occur with this condition.

## How is HCM diagnosed?

Screening for HCM can be challenging, and may be recommended if abnormal heart sounds are identified in a cat with no clinical signs, or if your cat is showing any abnormal signs that might indicate heart disease (for example, difficulty breathing or unexplained weight loss). Your veterinarian may recommend further evaluation of any abnormal heart sound, such as a murmur, by echocardiography ("echo", ultrasound of the heart). However, many cats with heart murmurs may have a physiologic (functional, benign) murmur, and many cats with HCM have no abnormal heart sounds. Your veterinarian may also use a blood test for a biomarker called NT-proBNP to assess the need for further diagnostic testing. The diagnosis of HCM requires accurate echo measurements to determine the ventricular wall thickness, and to determine the left atrial size. Depending on your cat's age, general health, and echo findings, additional tests may be performed (e.g., blood pressure, thyroid evaluation, chest x-rays, electrocardiogram, or genetic testing).

## How is HCM treated?

The early stages of HCM may not require treatment for years. Your cardiologist will evaluate many factors affecting your cat before making any treatment recommendations. Prior to CHF, most cardiologists agree that cats with severe left atrial enlargement should be on a medication to prevent blood clot formation, such as clopidogrel, to reduce their risk of developing blood clots in their heart that may eventually lodge in blood vessels. Other medications may also be used in the preclinical stages. Cats with HCM, especially those on medication to reduce blood clotting, should ideally stay indoors (due to bleeding risk with injury) and avoid stress. CHF caused by HCM requires additional medications, often including furosemide, angiotensin-converting enzyme (ACE) inhibitors (for example, enalapril or benazepril) and pimobendan. Some cats can develop fluid outside their lungs within the chest cavity (pleural effusion) that may need to be drained. Some cats may require hospitalization to treat heart failure. Medications only control the clinical symptoms of heart failure and do not treat the primary condition, which often continues to progress in spite of treatment.

## How is HCM monitored by my veterinarian and my cardiologist?

Monitoring a cat with HCM depends on the severity of their disease, the presence of complications and the nature of the cat. Mildly affected cats that are not stressed in the hospital will most commonly be monitored with recheck echocardiograms. Cats that have experienced a complication of CHF or thromboembolism are commonly monitored with lab (blood) testing, echocardiography, and/or radiographs every 3-6 months; however, the frequency will depend on a variety of patient factors, including response to medications and development of complications.

## How can I tell how my cat is doing at home?

Home monitoring is important to identify early signs of progression and early heart failure. Signs of heart failure often include shortness of breath, not eating, collapsing spells, or a sudden onset of lameness – these signs should prompt a call and usually a vet visit. Monitoring the breathing rate during sleep or complete rest provides a sensitive indicator of possible early heart failure – sleeping respiratory (breathing) rate for cats while sleeping is less than 30 breaths per minute, and rates above 40 should prompt evaluation by a veterinarian. There are two smart phone apps that simplify obtaining and tracking the breathing rate (“Cardalis”, “My Pet’s Heart2Heart”); these can be downloaded from your app store.

## Is diet important?

While some salt restriction (e.g. avoidance of high salt treats) is ideal for most cats with significant heart disease, and moderate salt restriction aids CHF treatment, it’s most important that your cat’s appetite remains good. It is equally, if not more, important that his or her caloric and protein needs are met. Vegetarian, vegan, and single ingredient (for example, meat only) diets are not advised, as these can lead to other cardiac problems in animals.

## What is the prognosis of HCM?

The prognosis for cats with HCM varies with the stage of disease and rate of progression. Some cats with HCM will never develop signs of the disease and live normal lives. Regular monitoring helps detect disease progression that warrants medication. In one study, 20% of cats developed CHF within 5 years of diagnosis, and 9% experienced a blood clot during that time. Once a cat is diagnosed with CHF survival is variable, with an average of about 12 months with appropriate therapy and monitoring. Close monitoring and communication with your regular veterinarian and cardiologist provide the best chance possible for your cat to maintain good quality of life during this time.

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