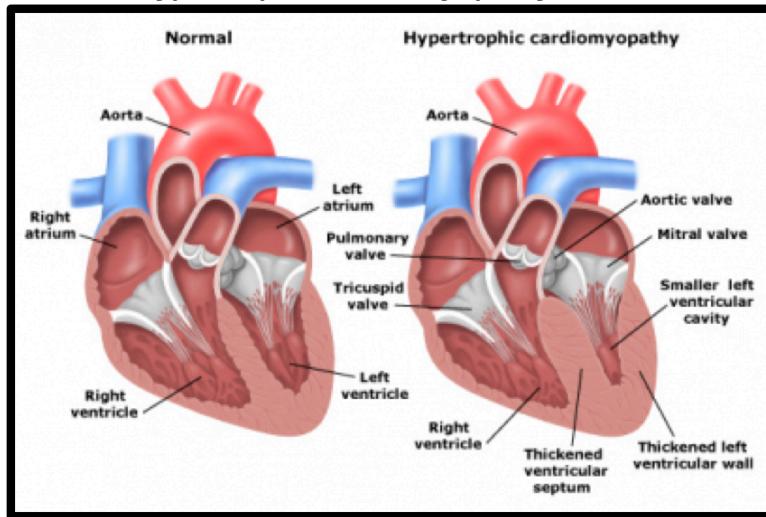




## Hypertrophic Cardiomyopathy (HCM)



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One of the most common heart diseases seen in cats, HCM is a disease that causes the heart muscle to abnormally thicken. The thickening primarily affects the muscle of the left pumping chamber (called "left ventricle") and does so in a variety of patterns. Some cat's muscle is diffusely thickened while others only have focal areas of thickening.

In order to understand how this disease may affect your pet, it is important to understand normal circulation in the heart. Blood drains from the body into the right collecting chamber (called "atrium") where it passes through the tricuspid valve and into the right pumping chamber (called "ventricle"). From here, blood is pumped into the pulmonary artery and subsequently to the lungs where it picks up oxygen. The oxygenated blood then drains passively into the left atrium, through the mitral valve, and into the left ventricle. The left ventricle then pumps the blood through the aorta and back to the body.

When the left ventricle becomes severely thickened, it cannot fill properly. This results in increased pressure in the left ventricle, and enlargement of the left atrium. In severe cases, this can result in congestive heart failure. Imagine pouring water into both a thick and thin walled balloon. The thinner walled balloon is easily distensible and would fill readily. In order to fill the thick walled balloon, the water pressure would need to be turned up. This is analogous to a stiff left ventricle. Left atrial pressure must rise in order to fill it. This causes the left atrium to enlarge and the pressure to back up further into the lungs.

Many cats with HCM are only mildly affected and never experience clinical problems with the disease. However, some cats slowly progress over time. Unfortunately, it is impossible to predict the progression of disease. As the disease progresses, scar tissue replaces the thickened muscle. This muscle eventually becomes very stiff as well as too thick.

There are three potential complications that can occur from severe HCM.

1. **Congestive Heart Failure (CHF).** This is the most common outcome in cats with severe HCM.
2. **Aortic Thromboembolism (ATE).** An ATE is the result of abnormal clot formation in an enlarged left atrium. Once formed, it is often released into the blood stream and lodges in the blood supply to the hind legs. The most common signs of ATE are sudden inability to use the hind limbs, vocalization, and pain. If your pet demonstrates any of these signs, they should be evaluated by a veterinarian immediately. In rare cases, the clot can lodge in the front legs, with similar signs, or travel to the brain, causing signs of a stroke such as abnormal behavior and seizures.
3. **Sudden death.** This is a RARE but possible outcome.

## Diagnosing Hypertrophic Cardiomyopathy

The best test for HCM is an echocardiogram. Echocardiography enables visualization of the heart structure and function. Special testing can also be performed to assess the ability of the heart to relax and fill. If your cat has signs of heart failure, a chest x-ray may also be recommended to assess for evidence of fluid in the lungs. Unfortunately, a chest x-ray alone is typically not very good for evaluating the severity of disease.

## Treatment for Hypertrophic Cardiomyopathy

If your cat has only mild disease, there is limited risk of CHF and a very small risk of clot formation. The risk of sudden death is minuscule and medications are rarely necessary.

If your cat has moderate or severe disease, there is risk for both heart failure and clot formation. These cats should be monitored for any change in breathing (too fast or labored). If this occurs, a chest x-ray should be taken as soon as possible to evaluate for the presence of CHF.

Unfortunately, there is no proven therapy available to slow progression of this disease. There are many medications that have theoretical basis in slowing progression. When and if heart failure develops, there is also medication to help control fluid buildup from heart failure.

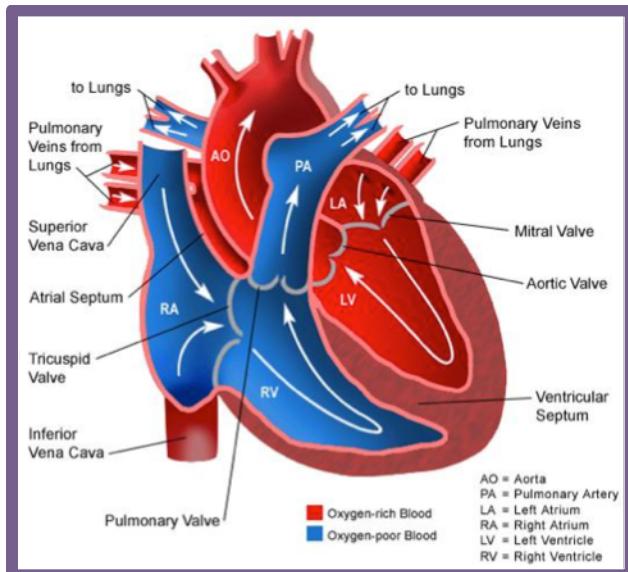
Plavix (clopidogrel) is a medication that is used to prevent platelets, the clotting components of blood, from sticking together. Plavix may be prescribed when the left atrium becomes enlarged, because cats with increased left atrial size are at increased risk of clot formation. Recent studies have shown that Plavix is more effective than Aspirin at preventing clots. Unfortunately, it is not always effective, and cats receiving medication can still experience an ATE.

Enoxaparin (Lovenox) is a different type of medication called low molecular weight heparin, which can also be used to try to prevent clot formation. This medication requires regular injections.

Regular monitoring with echocardiography is recommended to monitor your cat for signs of progression of heart disease, or evidence of clot formation in the left atrium. Based on the findings of regular monitoring, appropriate therapy will be prescribed.

## How will this disease change my pet's quality of life?

Most cats with HCM have an excellent quality of life and don't realize they are sick. It is important to remember that many afflicted cats never develop problems with HCM.



Flow of blood through a normal heart.