

Dilated Cardiomyopathy in Ferrets

Drs. Foster & Smith Educational Staff

What is dilated cardiomyopathy?

Dilated cardiomyopathy is the most common heart disease in ferrets. In cardiomyopathy, for some reason, muscle cells in the heart start to die. As a result, the heart starts to weaken and cannot pump efficiently. With each contraction of the heart, some blood stays in the chamber as more blood enters. As a balloon wall becomes thinner as you add more air, the wall of the heart starts to stretch and become thinner and the size of the heart increases. This makes the heart even less able to pump and the disease continues to progress. As blood flow decreases, the fluid portion of the blood tends to leak out of the blood vessels and accumulate in the chest or abdomen.

There is another, less common, type of cardiomyopathy seen in ferrets, and it is called hypertrophic cardiomyopathy. In that disease, the heart also enlarges but it is because the wall of the heart actually becomes thicker. The chamber of the heart becomes smaller, so less blood can be pumped. The hypertrophic form is treated with different medications than the dilated form. This is why it is important to determine what type of cardiomyopathy a ferret may have.

What causes dilated cardiomyopathy?

The cause of dilated cardiomyopathy in ferrets is unknown. Dilated cardiomyopathy in cats has been linked to a taurine deficiency in the diet. In dogs, there appears to be a genetic component since certain breeds such as Doberman Pinschers and Boxers have a higher incidence. What role, if any, nutrition and genetics play in the development of dilated cardiomyopathy in ferrets is still to be determined.

What are the signs of dilated cardiomyopathy?

Ferrets with dilated cardiomyopathy are usually 2 years of age or older. They will develop an increased respiratory rate and may have a cough. By the time signs appear, there has already been considerable damage to the heart. As the disease progresses, the ferret may have a decreased appetite, lose weight, and become lethargic. Ascites (fluid accumulation in the abdomen) may occur, giving the ferret a pot-bellied appearance. Fluid may also accumulate in the chest, and breathing becomes more difficult.

How is dilated cardiomyopathy diagnosed?

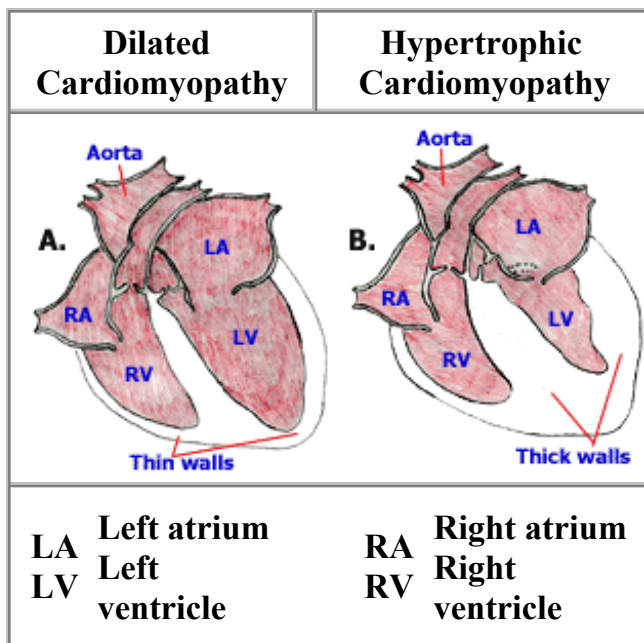
A ferret with the above signs would be suspected to have heart disease, although in the early stages, the disease may be difficult to diagnose. The veterinarian may be able to hear a heart murmur. [Radiographs \(x-rays\)](#) will show an enlarged heart and possibly fluid in the chest and/or abdomen. [Ultrasound](#) may also be used to visualize the heart. A special test called echocardiography may be needed to confirm the diagnosis. It can distinguish if the heart is enlarged due to thinning of the walls (dilated) or thickening of the walls (hypertrophic). An EKG may be performed to further evaluate the health of the heart. A heartworm test is often performed to rule out heartworm infection as the cause of the heart disease. Basic laboratory tests such as a [complete blood count \(CBC\)](#) and [chemistry panel](#) will be performed to look for any underlying disease or a contraindication to using the usual medications during treatment.

How is dilated cardiomyopathy treated?

There are two basic components to treatment. One is to decrease the fluid accumulation, and the other is to increase the blood flow and oxygen to the body.

Decrease fluid accumulation: The ferret will often be placed on a reduced-salt diet to reduce the amount of fluid produced in the chest and abdomen, though many ferrets find these diets unpalatable. It is important to not give the ferret any treats, herbal medications, or supplements with a high salt content. The ferret will be given a diuretic such as [Lasix](#), which will help remove any fluid that does accumulate.

Increase blood flow and oxygen: If the ferret is in respiratory distress, he may be given supplemental oxygen during the initial treatment. Bronchodilators such as [aminophylline](#) may also be given to help relieve the difficult breathing. Medications such as [digoxin](#) may be given to increase the strength of the heart contractions. Other medications such as [enalapril](#) may be



given to dilate the blood vessels, which makes it easier for the heart to pump the blood.

It is important that ferrets with dilated cardiomyopathy not be stressed. They may be more prone to heat stroke, so monitor the environmental temperature carefully. A ferret with this disease may need to be housed separately from other ferrets so he can receive enough rest and the proper food. Do not let your ferret over-exercise. If the ferret is overweight, a weight reduction diet should be considered under careful supervision of your veterinarian.

What is the prognosis for a ferret with dilated cardiomyopathy?

If diagnosed early, and treated properly, ferrets with dilated cardiomyopathy can live for months and up to 2 years.