

Heart Disease

What to do if your pet's ticker isn't running at its best.

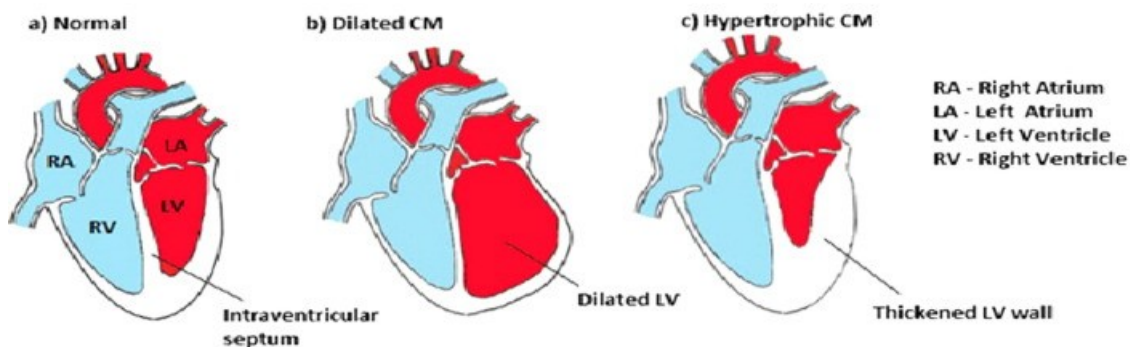
The heart's job is to pump blood around the body; it acts as an oxygen delivery system. It takes in freshly oxygenated blood from the lungs and pumps it out with enough force to reach all over the body, from the liver to the brain to the feet and everywhere in-between. At the same time, it takes back the de-oxygenated blood that the body has used, and sends it through the lungs to pick of a new load of oxygen. Heart disease, or *cardiomyopathy*, is a disorder whereby the muscle fibres of the heart become unable to perform their job properly. The result is that parts of the body don't receive enough oxygen to function properly. As the cells in these areas are in-effect suffocating, they send a desperate message back to the heart to work harder to get them more oxygen, putting increased stress on the already failing heart, and only facilitates their demise as the heart becomes less and less functional.

There are three main types of heart disease in pets: *dilated cardiomyopathy (DCM)*, *hypertrophic cardiomyopathy (HCM)*, and *restrictive cardiomyopathy*.

By far the most common type of heart disease seen in vet clinics is DCM in dogs. It occurs when the heart gets stretched from overwork, like a balloon that has been over-inflated. It is then unable to return to its former size, and therefore unable to completely contract and completely pump the blood from one chamber to the next. Old blood (de-oxygenated) mixes with new (oxygenated), and the end result is that the blood that reaches the tissues is only carrying a partial load of oxygen, and the cells don't get as much as they need.

HCM is primarily a disease of cats, though since the advent of balanced commercial cat food with added *taurine* (an amino acid), veterinarians don't see this disease as often any more. The heart muscles become thickened from overwork, similar to a body-builder lifting heavy weights. While a buff heart may *sound* like a good idea, it's actually a big problem. The heart muscle becomes so thickened that the chambers on the inside get smaller, and unable to hold as much blood as they should. This means the heart has to pump twice as hard to move the same amount of blood around the body.

Restrictive cardiomyopathy is a rare condition and is mainly seen as an emergency situation. The symptoms are similar to other types of end-stage heart failure, but the treatment is entirely different and generally does not require on-going management by the pet owner. It will not be covered in this handout.



What does heart disease look like?

In the early stages, heart disease has no symptoms.

- The body is able to compensate for the heart's shortcomings
- changes appear on blood-work, chest X-ray, and/or ultrasound (echocardiogram)
- disease is generally detected only on screening tests such as an ECG before anesthetic
- starting treatment at this stage results in the best outcome and longest life-expectancy for your pet

Later on, symptoms develop but your pet may still look happy

- unable to walk or run as long as they used to without taking a break
- coughing
- less energy than before
- panting more often
- decreased appetite
- treatment greatly improves quality and quantity of life

In the end stages, your pet is struggling for survival and very uncomfortable.

- Increased breathing, often with a big effort for every breath
- bloated abdomen
- pale gums
- inability to walk far
- collapse; may look like seizures
- frequent coughing
- decreased appetite
- treatment will greatly improve quality of life, but quantity of life will not increase as much

How can it be managed?

Proper diagnosis and monitoring of heart disease is essential for safe and effective treatment.

First, the type and stage of heart disease must be determined. This is done by thorough physical examination of your pet, chest x-rays, and monitoring blood pressure. Your pet may also need a heart ultrasound, called an *echocardiogram*, as well as blood tests or an ECG to determine exactly what's going wrong with it's heart.

Why does my pet need so many tests before the disease can be treated? Because there are different types of heart disease, different stages of each type of disease, and different treatments for each type and stage of heart disease. It would be dangerous to your pet to give medication to treat one type of disease if it has another. It would be a waste of time to treat a pet for early stage heart failure if they are actually in a more advanced stage – treatment would not be very effective and would not succeed in increasing the quality or quantity of your pets life very much.

Most pets with heart disease require medication which increases the effectiveness of the heart beat. This type of medication makes the heart contract more normally, so that the blood in the chambers is pumped completely out, allowing new blood to enter the chambers when the heart relaxes. This means that more fresh blood, and therefore more oxygen, reaches the tissues, and that the old blood gets to the lungs quicker to pick up more oxygen. Your pet may need medication to manage high blood pressure, which puts stress on the heart and kidneys if not treated. Other medications may be necessary to remove excessive fluid from the lungs, so that your pet can once again breath in a normal amount of air. Dietary changes may also be required to properly manage your pet's heart condition. For some rare conditions, your veterinarian may recommend seeing a heart specialist about surgical correction of a heart problem.

Your pet will need regular monitoring to ensure that the dose for medications remains safe and effective. Though medication can manage and slow the

Did you know?

Like in people, not all murmurs lead to heart disease. If a normal heart is treated for enlargement based on a murmur, there is a high risk of serious side-effects!

This is why cardiologists recommend X-rays or Ultrasound for heart changes before starting treatment.

progression of heart disease, it cannot stop progression entirely, so your pet is likely to need changes to its treatment regimen over time. Additionally, changes to weight, diet, and activity level can change the required dose of medication. Your veterinarian will let you know how often your pet should be seen for proper management of its heart condition. If something changes and you think your pet needs to be seen before its next scheduled recheck, we would be happy to see you and get your pet back on track.

Some pets will notice a few side effects when they first start taking heart medication. Most side effects are mild and go away after a couple of weeks as your pet adjusts to the medication. Side effects can often be managed by giving your pet a treat with its medications, so they aren't given on an empty stomach. Serious side effects are extremely rare, but if you are concerned about your pet, please call and ask to speak with a veterinarian; while it is important that you do not suddenly stop giving medications to your pet without a veterinarian's advise, it is also important that you don't keep giving something you think may be making your pet sick.

How to prevent heart disease in your pet

While there is nothing that can be done to guarantee your pet will never develop heart disease, there are several steps you can take to lower the chances of it happening.

1. *Keep your pet's teeth clean!* The number one preventable cause of heart disease is dental disease. An infected mouth leads to an infected heart, which deforms the heart valves and leads to heart disease. Brush your pet's teeth daily, bring them to the vet for an annual physical examination including a full oral assessment, and get preventative professional dental cleanings at a veterinary clinic whenever recommended.
2. *Manage your pet's weight.* Just like people, overweight animals have a greater chance of developing heart disease. Having trouble keeping a svelte figure on Fido or Fluff-Ball? Ask your veterinary team for advise, they may be able to tailor a diet to your pet's metabolic needs to keep the extra pounds at bay.
3. *Exercise!* It doesn't just keep their legs toned, it also keeps their ticker running smoothly. The heart is a muscle too, and regular exercise is the best thing to keep it fit. Don't forget – cats need exercise too. This doesn't mean you need to take your feline friend for a jog around the block. Cats will get exercise through active play. Provide toys to chase, encourage your cat to bat at hanging or hand-held toys, and provide a variety of surfaces to jump and climb on. If your pet doesn't seem enthusiastic about exercise, bring them to the vet's for a check up. Heart disease isn't the only thing that slows a pet down; arthritis, intervertebral disc disease, knee problems, impaired hearing or vision, as well as a slew of other issues can make your pet less than keen to work out.
4. *Feed a healthy diet.* Feed your pet appropriate food. Nutritional imbalances, especially in cats, can lead to heart disease. Be wary of trendy diets. Remember the tapeworm diet in the 70's? Today's high protein, acai berry stuffed, gluten-free kibbles are likely to look just as insane 10 years from now. Your pet is not a wolf or lion, and it does not have the same nutritional requirements. Through selective breeding, pets are much different than their wild counterparts. Furthermore, wild animals that do hunt and eat raw meat also eat the stomach contents of their prey (i.e. grass and grain). They also don't live nearly as long as their domestic counterparts. Confused about conflicting labels in the pet food aisle? Your vet can help. Veterinarians have extensive nutritional training and can offer sound advise about your pet's nutritional requirements.

If you have any questions, please call Cascade Vet Clinic at (250) 295-0312.

Your veterinary team is ready to help!