What does the heart do?
The heart is a large muscle located in the chest. The right side of the heart pumps blood to the lungs to pick up oxygen. The left side of the heart receives blood from the lungs and pumps it around the body. The left and right sides of the heart each consist of 2 chambers; these are separated by valves which ensure that body flows only in one direction.

What can go wrong with the heart?
Rarely dogs and cats are born with heart defects such as ‘hole in the heart’. These conditions may be noticed when puppies and kittens examined for vaccinations. Sometimes these ‘congenital heart conditions’ may only become evident as animals age. More commonly heart diseases develop as animals’ age and the heart muscle starts to wear out. As cats and dogs now live longer, heart disease is becoming more common.

You may have heard of angina and heart attacks. These occur when the supply of blood to the heart muscle is reduced or totally blocked. Whilst heart attacks are common in humans they rarely occur in other animals. Indeed dogs develop different heart conditions from cats, and within species heart conditions can occur more frequently in certain breeds.

Heart disease in dogs is usually caused by damage to the valves or stretching of the muscle. ‘Valvular heart disease’ most commonly occurs in Cavalier King Charles Spaniels. The valves become leaky allowing blood to flow back into the heart and reducing blood supply to the body. In ‘dilated cardiomyopathy’ the heart swells and the contractions become weak, reducing blood supply to the body.

Dilated cardiomyopathy most commonly occurs in large and giant breeds particularly Doberman’s, Great Danes and Irish Wolfhounds.

The heart muscle of cats can become abnormally thickened with age. This is called hypertrophic cardiomyopathy. The thickened walls reduce the capacity of the chambers and therefore the volume of blood delivered to the body.

It has been suggested that hypertrophic cardiomyopathy may be due to thyroid or kidney problems. It most commonly occurs in Persian cats. The heart muscle of cats may also stretch in a manner similar to dogs. This stretching has been linked to low dietary levels of taurine. The condition is now rare as most pet foods are now supplemented with extra taurine.

How do you know if your dog or cat has heart disease?
Dogs tend to show similar signs of heart disease regardless of the actual condition. They may have reduced energy levels and be reluctant to exercise, this can be mistaken for general aging changes. In more severe cases weight loss, poor appetite and water retention may occur. Build up of fluid in the lungs can cause panting and coughing. Rarely, heart conditions can lead to seizures.

Cats can be very good at concealing ill health. Heart conditions may therefore be quite advanced by the time they are noticed. The signs are also similar to general aging changes e.g. poor appetite, reduced activity and increased resting. Reduced oxygen delivery can cause a bluish tinge to the tongue. Water retention can lead to panting, weight loss, coughing, fainting, restlessness or swelling of body parts.

How does a vet diagnose heart disease?
The most useful tool for the vet is a stethoscope. A change in normal sounds can indicate heart disease. In disease the heart rate may be increased (or occasionally decreased). An irregular or unusual (murmur) noise may be heard. X-rays can show that the heart is enlarged or that fluid is present in the lungs. In some cases a vet may require ultrasound to image the heart or an ECG to look at the heart’s electrical activity.

It is good advice to ask your vet to examine a new puppy. You may want to return to the breeder a puppy born with a heart defect. Alternatively it may be possible to correct a condition surgically before any symptoms develop.
**How is heart disease treated?**

There is no need to treat dogs in early heart disease when no symptoms are present. Unfortunately however the disease does get worse. Treatment can slow the rate of progression.

**Treatment includes:**
- Lifestyle changes increasing controlled exercise
- Drugs to increase the strength of the heart beat or change the rate of heart beat
- Drugs to remove retained fluid
- Dietary changes may also be of benefit.

In the cat, medication may also slow the progression of heart disease. Again the disease can unfortunately not be stopped

**Treatment includes:**
- Lifestyle changes to eliminate stress
- Drugs to increase the strength of the heart beat or change the rate of heart beat
- Drugs to remove retained fluid
- A vet may prescribe aspirin to reduce the chance of blood clot formation. However even low levels of aspirin can be dangerous to cats as it lasts much longer in the body. You must not give aspirin without specific veterinary advice.
- Treating any underlying conditions such as thyroid problems.
- Dietary changes may also be of benefit.

Heart disease is not the same as heart failure. Many animals with heart disease lead relatively normal lives without medication. However, heart disease is progressive and once symptoms develop, treatment will probably be needed for the rest of an animal's life

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**What is the prognosis for dogs and cats with heart disease?**

This is an impossible question to answer. Whilst some animals can live normal lives with no symptoms, others may die quickly despite treatment. A vet may be able discuss prognosis on a case by case basis. The most important factor is obviously the quality of life which your pet enjoys. If you have concerns that medication is not helping or that your pet seems unwell, you should contact your vet.

Complications of heart disease include increased blood pressure which can lead to blindness or clot formation which can lead to hind limb paralysis in cats. The latter is often misinterpreted as the result of a road traffic accident.