



Heart murmurs in adult dogs

What is a heart murmur?

When the vet listens to your dog's heart, they can usually hear two sounds. These sounds ("lub" "dub") are the sounds of the heart valves closing.

In some dogs, additional sounds can be heard. These sounds are heart murmurs, and are vibrations caused by a disturbance in the blood flow through the heart. Heart murmurs are given a grade from 1 – 6 depending on how loud the murmur is.

What causes heart murmurs?

Puppies may be born with "holes in the heart" or abnormal vessels and heart valves, all of which may cause heart murmurs.

In adult dogs that develop a heart murmur where previously they did not have one, there are three main possibilities:

1. There is no problem with the heart – the murmur is an "innocent" murmur. Some very athletic dogs may have quiet murmurs that come and go and just represent the blood moving quickly through the heart. Dogs with anaemia may also have a murmur as the blood flowing through the heart is more watery.
2. There may be a leak in one of the heart valves. The most common cause of this is endocardiosis (age-related thickening of the valves so that they do not close tightly any more). This is most common in small to medium breeds of dog, but all breeds and sizes can be affected. Much less commonly, infection of the heart valves can cause a similar problem (this is known as endocarditis).
3. There may be a disease of the heart muscle, causing the heart to become enlarged and floppy. This is known as dilated cardiomyopathy (DCM).

What should we do if we hear a heart murmur?

If a heart murmur is heard in an adult dog, we need to look at the size, shape and structure of the heart and to watch the way it is beating. This should enable us to tell the difference between innocent murmurs, leaky heart valves, and dilated cardiomyopathy. We do this by performing an ultrasound examination of the heart (echocardiogram, or heart scan).

What does a heart scan involve?

A heart scan is almost always performed without any sedation or anaesthesia as it is a completely non-painful test.

Dogs have a small patch of fur clipped from behind the right elbow, and need to lie on their sides on a special table with a hole cut out of it. The vet can then put the ultrasound probe on the clipped skin over the heart and see pictures of the beating heart on the screen.

What if the murmur is caused by a leaky valve?

The heart scan may show that your dog's murmur is caused by a leaky valve. In humans, leaky heart valves may be replaced before they start to cause a problem. Unfortunately, this is not yet possible in dogs. They have to manage with the leaky valve.

Dogs with leaky heart valves will often live perfectly happily for months or years without any problems. However, as time goes on, the heart may start to enlarge and struggle to pump the blood correctly around the body. Eventually, the heart may begin to fail. If this happens, fluid may gather in the lungs (and sometimes in the tummy and around the legs). When this happens we say that the dog is in congestive heart failure. Dogs in congestive heart failure usually pant a lot or seem breathless, may be reluctant to exercise or to eat, and can even collapse.

To decide how best to manage dogs with leaky heart valves, we classify them into several stages:

Stage A: Dogs with no murmur or symptoms but those who are at risk of developing valvular heart disease in the future. These include Cavalier King Charles Spaniels and other small breeds.

Stage B1: Dogs with a murmur but no symptoms and no enlargement of the heart on a heart scan

Stage B2: Dogs with a murmur and no symptoms but with enlargement of the heart on a heart scan

Stage C: Dogs with a murmur and symptoms of congestive heart failure (breathlessness, crackly breathing, lethargy, collapse). They will also have an enlarged heart on the scan.

Treatment for the different stages

Dogs in stage A should have their hearts listened to with a stethoscope every 6-12 months so that if a heart murmur develops, we are aware of it.

Dogs in stage B1 do not need any treatment but should have an echocardiogram performed every 6 months to make sure that they have not moved onto stage B2.

Dogs in stage B2 should begin treatment with a drug known as pimobendan. In recent years, research has shown that starting this group of dogs on pimobendan before they show any symptoms of breathlessness etc delays the progression into stage C by approximately 18 months. This is 18 months of symptom-free life. Pimobendan is given twice daily, on an empty stomach, and will be continued for life.

Dogs in stage C should continue on pimobendan. They also require treatment with a diuretic (water tablet) to help clear the fluid from their lungs, and a combined tablet containing spironolactone and benazepril which also help the heart to work effectively. These tablets are continued for life once started, but the dose may be adjusted depending on response.

What if the murmur is caused by dilated cardiomyopathy?

Dilated cardiomyopathy is mostly seen in large breed dogs (particularly Dobermans), although it is quite often seen in Cocker Spaniels as well.

Dogs may have dilated cardiomyopathy for months without any symptoms. But over time, the heart is likely to begin to tire and signs of congestive heart failure (breathlessness, lethargy, poor appetite, collapse) may develop.

In Dobermans with dilated cardiomyopathy we have good evidence to show that starting treatment with a drug called pimobendan before symptoms of congestive heart failure appear, will delay the development of congestive heart failure and thus allow a longer period of normal life. Therefore, if your Doberman is diagnosed with dilated cardiomyopathy we recommend that treatment is commenced with pimobendan (given twice daily on an empty stomach) and continued for life.

We assume that the same is true for other breeds of dog, so at Acorn House we recommend that any dog diagnosed with dilated cardiomyopathy is treated with pimobendan.

Pimobendan is also suitable for dogs with dilated cardiomyopathy once they have developed congestive heart failure. They also require treatment with a diuretic (water tablet) to help clear the fluid from their lungs, and a combined tablet containing spironolactone and benazepril which also help the heart to work effectively. These tablets are continued for life once started, but the dose may be adjusted depending on response.

How can I monitor my dog's progress at home?

It can be very helpful if owners are able to measure and record their dog's breathing rate on a regular basis at home. Choose a time when your dog is sleeping peacefully on his side and the room is not unusually warm. Count the number of times that your dog's chest rises in one minute. You can record this in a diary or can download the Cardalis App which helps you to count and record the breathing rate and will save all of your results in a graph to show changes over time. Your vet may ask you to call if the breathing rate exceeds a particular

number. It is also very helpful if you can bring in your breathing rate results to your regular health check appointment.

Summary

Dogs with heart murmurs should have a heart scan every 6 months. If there are signs of heart enlargement on the scan, they should start treatment with pimobendan. If signs of heart failure develop, additional medication is required. Medication is continued life-long once started.