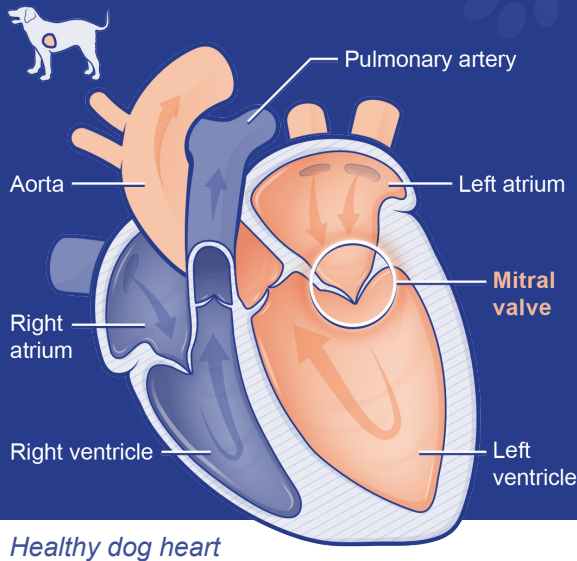


Heart health and your dog

MITRAL VALVE DISEASE (MVD)



Healthy dog heart

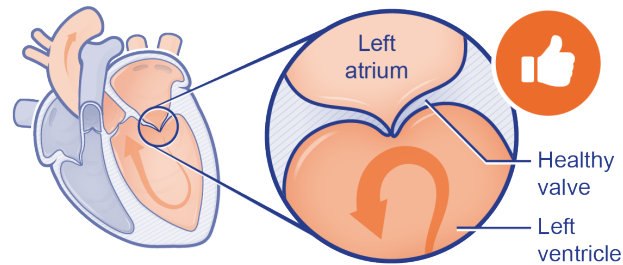
1. What is MVD?

Myxomatous mitral valve disease (MVD) is the most common heart disease in dogs. It generally affects small breeds, aged 8 years or older. However, in some breeds, such as Cavalier King Charles Spaniels, it can be detected at a younger age. Less frequently, MVD can also affect larger canine breeds.

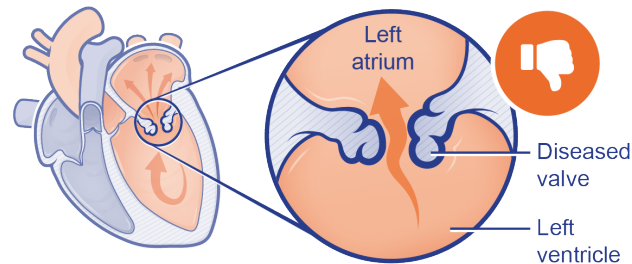
The **mitral valve** is one of four valves in the heart. It separates the left atrium from the left ventricle. Blood flows from the lungs into the left atrium, through the mitral valve, and into the left ventricle. The mitral valve then closes to prevent blood flowing backwards in the wrong direction.

When a dog develops MVD, the mitral valve becomes thickened and cannot close properly, allowing blood to leak backwards into the left atrium. This condition is progressive which means that the amount of blood leaking backwards across the mitral valve increases over time.

A. A healthy mitral valve closes to prevent blood flowing backwards in the wrong direction



B. A diseased, thickened mitral valve cannot close properly, allowing blood to leak backwards into the left atrium



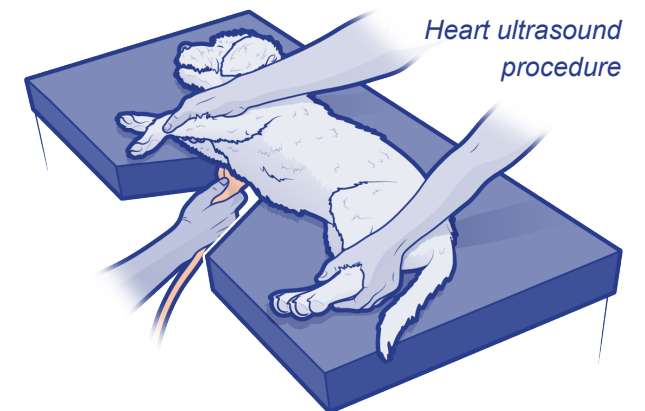
2. What are the symptoms?

Dogs in the early stages of MVD do not show any symptoms (this is called the 'pre-clinical' or 'asymptomatic' phase), but dogs in more advanced stages of MVD can develop faster or heavier breathing, a cough, decreased energy levels, weakness and sometimes collapse.

3. How is MVD diagnosed?

MVD is typically suspected because your vet detects a **heart murmur** with a stethoscope.

The only way to confirm the exact cause of the murmur and to determine how advanced (or what 'stage') the MVD is, is with **echocardiography (heart ultrasound)**, which enables a detailed assessment of the heart valves and chambers. A heart ultrasound is a completely painless procedure; some pets even fall asleep during it! Your pet will need to lie on their side and remain still, so a mild sedation can be given to help them relax. This sedation is especially chosen to be suitable for pets with heart disease. The fur on both sides of your pet's chest needs to be clipped and some gel is applied →





How can VVS help?

During a Virtual Veterinary Specialists (VVS) heart work-up your pet's heart is scanned by your vet together with an experienced VVS Cardiology Specialist. Your vet will let you know about any findings from the heart ultrasound and ECG. Your vet will explain the diagnosis and recommended treatment options, and talk you through your pet's prognosis, as well as any other tests, for example blood tests, that may be required. Your vet will also receive a full written report from the VVS Cardiology Specialist within a few days.

Your own vet will remain completely involved in your pet's care by working alongside a VVS Cardiology Specialist, and there is no need to travel to a referral centre, your pet is seen at your normal practice in familiar surroundings.

Learn more here



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→ to the skin so that the ultrasound image is clear. The procedure usually takes up to 60 minutes and your pet will be closely monitored throughout, including monitoring their heart rate and rhythm with an ECG.

4. Why is it important to know my dog's MVD Stage?

It is important to investigate heart murmurs and perform a heart ultrasound to stage MVD in dogs, even if they do not have symptoms, as they may still benefit greatly from starting heart medications.

Studies have shown that starting a specific medication called **pimobendan** at a specific time point called **Stage B2**, can slow progression of the MVD and keep your pet free of symptoms for an additional 15 months (on average), therefore significantly increasing your pet's lifespan. Starting medications at an earlier stage (**Stage B1**) is not recommended.

Since dogs with both Stage B1 and Stage B2 MVD will be free of outward symptoms of heart disease and will appear completely normal to their owners, a heart ultrasound is necessary to provide a detailed examination of the heart to determine if your pet is Stage B1 or Stage B2.

As MVD continues to progress and the heart continues to enlarge, eventually your pet will develop symptoms of difficulty breathing associated with fluid accumulation in the lungs (which is called '**congestive heart failure**'). They may also have a cough, reduced energy levels, weakness or collapse. This is called **Stage C** MVD. However, your pet's symptoms can still be improved by adding additional heart medications which will increase lifespan and improve your pet's overall quality of

life. Your pet will need to receive these medications daily for life to control these symptoms.

5. How will my pet's MVD be monitored?

It is very important for you to monitor your pet's **sleeping respiratory rate (SRR)** at home by counting the number of breaths your pet takes in one minute (see separate sleeping respiratory rate handout for guidance). Monitoring the SRR provides very useful information on how stable your pet is.

Normal SRR for dogs is under 30 breaths/min. Consistently elevated SRR of over 35 breaths/min in pets with underlying heart disease can suggest that your pet has fluid in the lungs. They may need changes to their heart medication doses to manage this. Please contact your vet if your pet's SRR is consistently over 35 breaths/min or if you notice a marked increase in your pet's breathing effort.

X-rays of the chest may also be recommended. X-rays are important to detect the presence of fluid in the lungs (called '**pulmonary oedema**'), which we can see with more advanced stages of MVD (Stage C). If fluid in the lungs is detected your vet may add in additional medications or adjust doses of their current medication.

As MVD is a progressive condition, with many dogs progressing from Stage B1, to Stage B2 to Stage C over a period of time, **follow-up heart ultrasounds** are typically recommended every 6–12 months to monitor your pet's MVD, and to ensure that medications are started at the right time to keep your pet comfortable and free of symptoms for as long as possible. ■