



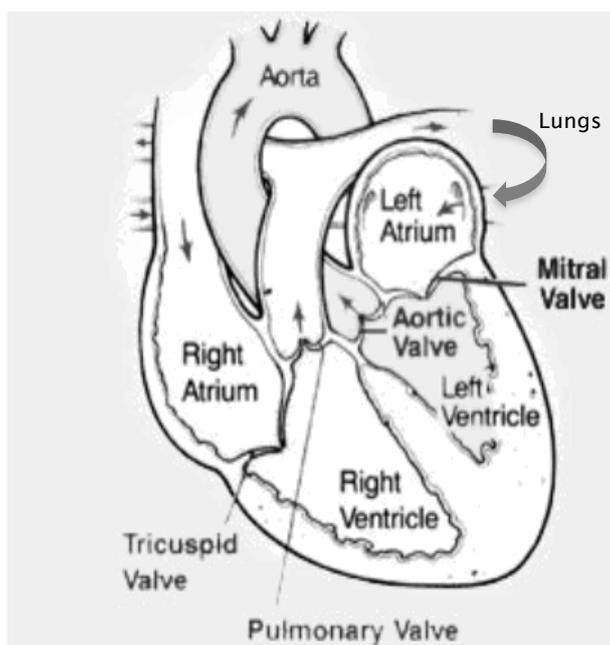
What is myxomatous mitral valve disease?

Mitral valve disease is the commonest heart disease of adult dogs. It is a degenerative disease that affects the mitral valve located on the left side of the heart and also, to a lesser extent, the tricuspid valve situated on the right side of the heart. These valves open and close every time the heart beats – around 120,000 times each day in dogs – and therefore it is perhaps not surprising that as dogs reach middle age, these valves often show signs of ‘wear-and-tear’. This ‘wear-and-tear’ causes the valves to become thickened and, as a result, the valve no longer forms a tight seal each time the heart contracts. The leakage of blood back through the valve creates turbulent flow that we can detect as an audible heart murmur.

Why does valve leakage cause problems?

The purpose of the heart valves is to keep blood flowing in one direction. A leaking mitral valve results in a reduction in heart output that may result in reduced ability to exercise. The flow back through the valve increases the pressure within the left atrium which, when transferred to the lung circulation, can result in fluid accumulation in the lungs (pulmonary oedema) causing breathlessness. Occasionally the tricuspid valve may be affected causing in fluid accumulation in the abdomen resulting in abdominal distension.

The heart adapts to the valve leakage by enlarging which, initially, is helpful but eventually can result in worsening of the valve leakage. This heart enlargement principally affects the left atrium and ventricle (the collecting and pumping chambers respectively).



What are the signs of mitral valve disease in dogs?

It is important to realise that many dogs will tolerate this condition and never show any associated signs or require medication. However a proportion of dogs with this condition may show progressive disease and eventually exhibit signs of heart failure.

Common signs of heart failure caused by mitral valve disease: breathlessness, reduced ability to exercise, lethargy, loss of appetite

Uncommon signs of heart failure caused by mitral valve disease: fainting, distension of the abdomen, coughing

Important differences to human heart disease: Whilst humans with heart disease may experience chest pain, as far as we know, mitral valve disease in dogs is not a painful condition. Sudden death is rare in dogs with mitral valve disease. Additionally, blood clots are rare in dogs with heart disease so there is no need to use drugs such as aspirin.

How do we diagnose and judge the severity ('stage') of mitral valve disease?

Ultrasound of the heart (echocardiography) is a safe and painless means of making a diagnosis without the need for anaesthesia or sedation. At our practice you can stay with your dog to reduce their natural anxiety whilst the ultrasound is performed. All that is required is clipping of a patch of hair from either side of the chest to allow a clear image to be formed. This technique can also be used to take measurements of heart size to enable disease ‘staging’ – a measure of the disease severity.



What does stage B1 mean?

A clinical scale gives us a means of rapidly classifying dogs:

- Stage A dogs are breeds at high risk of heart disease
- Stage B dogs have mitral regurgitation but no associated symptoms and are sub-classified into stage B1 and B2:
 - Stage B1 dogs have normal heart size,
 - Stage B2 dogs have enlarged hearts (specifically the left atrium and left ventricle).
- Stage C dogs have symptoms of heart failure such as breathlessness but respond to standard treatment
- Stage D dogs are resistant to treatment and may require care in hospital and / or additional medication.

How is stage B1 mitral valve disease treated?

There is no evidence currently that treatment of stage B1 mitral valve disease will alter the disease course. Whilst surgical valve replacement and repair has been described, currently the risks associated with the procedure outweigh the likely benefits for the majority of dogs.

Can you tell if my dog will develop heart disease in future?

Many dogs will tolerate this condition and do not progress to the point of developing signs of heart failure. However some dogs will progress to heart failure and we advise monitoring by echocardiography (ultrasound examination of the heart) to identify signs of disease progression such as heart enlargement

What can I do to reduce risk of my dog developing heart disease?

Heart disease in dogs is largely a genetic condition and therefore cannot be prevented.

We would recommend a normal proprietary canine diet. There is no evidence that raw diets or food supplements such as fish oil, hawthorn, turmeric, co-enzyme Q10, carnitine, taurine, etc will influence the progression of this condition. Dogs should be prevented from becoming overweight.

Dogs should be encouraged to do a regular amount of exercise each day. Dogs who are willing can do off lead exercise and also vigorous exercise. Stressful events (such as fireworks) and / or an excitable temperament do not appear to affect disease progression.

It is useful to get into the habit of monitoring the breathing rate and pattern of your dog whilst they are resting. In normal individuals it may be quite hard to see the chest moving, and the breathing rate is usually less than 15 breaths per minute. Persistent increases in resting breathing rate or effort may suggest disease progression and please

What happens next?

We suggest a recheck in 6 months. Ultrasound of the heart will be repeated at this check to assess whether there has been any change in heart size.

Key points

- Mitral valve disease is common and many dogs can live for long periods without treatment. The minority of affected dogs develop clinical signs.
- At present no treatment is recommended for cases with mitral valve disease and normal heart size (stage B1).