

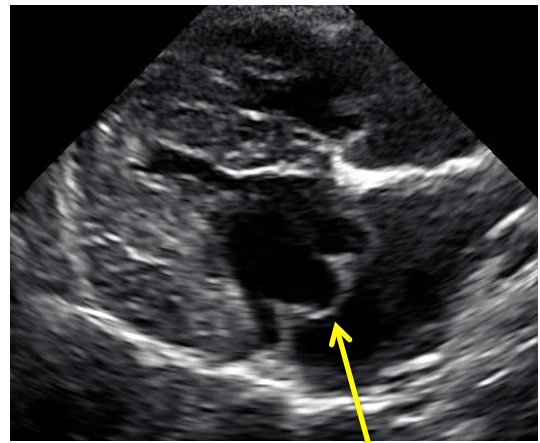
## Degenerative Mitral Valve Disease

Degenerative Mitral Valve Disease (MVD) is the most common type of heart disease that develops in aging dogs. The mitral valve is one of the four valves present inside the heart and it separates the upper (atrium) and lower (ventricle) chambers on the left side of the heart. MVD leads to thickening and weakening of the mitral valve leaflets. In many cases the leaflets also prolapse, or bow backwards, into the upper chamber of the heart. As the leaflets become thickened and misshapen they fail to seal appropriately and a leak develops. This leak results in backflow of blood inside the heart. When the leak becomes substantial, heart enlargement can develop. Advanced cases of MVD often lead to the development of congestive heart failure (CHF). CHF associated with MVD causes fluid to accumulate inside the lungs. This leads to shortness of breath, coughing, lethargy, exercise intolerance and in some cases, fainting spells.

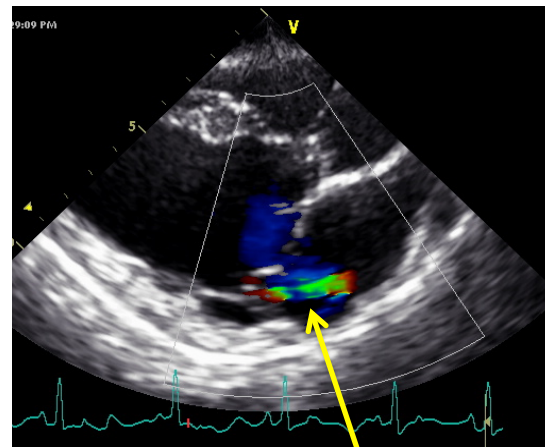
MVD tends to be a slowly progressive disease that gradually worsens over a period of years, though each dog with MVD progresses differently. In some cases the disease progresses slowly enough that the patient never develops clinical signs of their disease. In other cases, CHF eventually develops and must be treated with several medications. Prior to the development of CHF there are no medications that have been proven to slow the progression of MVD, though in some situations different medications may be discussed prior to the onset of CHF.

The diagnosis of MVD is confirmed using echocardiography (cardiac ultrasound) after a pet is found to have a heart murmur. This test allows the cardiologist to directly visualize the mitral valve and quantify the severity of the mitral valve leak. It also provides information on the severity of heart enlargement, the pumping strength of the heart, and whether the pressures inside the heart are likely to be elevated. All of this information can then be used to gauge the severity of each pet's MVD, assess prognosis, and help direct the treatment plan.

Many patients with MVD will also need to have x-rays of their chest from time to time, especially if they are exhibiting shortness of breath or cough. The x-rays are used to determine whether or not a pet is accumulating fluid inside the lungs due to the onset of CHF.



Prolapsing mitral valve due to MVD



Color Doppler displaying a mild mitral valve leak (green jet).