



What is degenerative valve disease?

Degenerative valve disease (DVD) is the progressive deterioration of any of the four heart valves. Over time, this condition causes an affected valve to thicken in certain areas, especially along the free margins, and become “floppier.” As a result, the valve does not seal tightly, so blood leaks in the reverse direction; this is called regurgitation. As the disease worsens, the volume of blood leaking becomes more severe. Most commonly, this condition affects the mitral valve and is called mitral valve disease. The mitral valve controls blood flow from the left atrium to the left ventricle. The valve closes when the ventricle squeezes, so that blood is pumped to the aorta, supplying oxygen and nutrients to the body. A leaky mitral valve lets blood flow backwards into the left atrium, causing the left atrium to enlarge over time. Eventually, pressure in the atrium forces fluid to leak into the lungs; this is called pulmonary edema or left-sided congestive heart failure (the mitral valve is on the left side of the heart).

What dogs are affected?

DVD is the most common cardiac disease among dogs, accounting for about 75 percent of all cardiovascular cases. It’s an acquired disease that shows up as dogs age, so it’s most frequently diagnosed in older dogs. There is a genetic component to the development of this disease so certain breeds are much more likely to develop this problem. Cavalier King Charles spaniels are very likely to have mitral valve disease, and their disease tends to start earlier and may progress more quickly. Other breeds commonly affected by DVD include cocker spaniels, miniature poodles, dachshunds, and miniature schnauzers.



The Cavalier King Charles spaniel is one of the breeds more likely to be affected by mitral valve disease.

What are the symptoms?

Early in the disease process, there are almost no obvious and clear symptoms an owner could identify. The first likely observation—that your dog is slowing down—is very easily confused with arthritis or aging. Later in the disease, your dog may exhibit exercise intolerance—a decline in stamina, speed, or enthusiasm for usual activities. Other signs as DVD progresses are difficulty breathing, coughing, or collapse. If your dog has developed a cough or has any collapsing episodes, you should have him evaluated by your veterinarian.

How is the disease diagnosed?

The first clear evidence of the disease usually shows up in a routine physical exam. By listening with a stethoscope, a vet can identify the presence of a heart murmur and/or any abnormal lung sounds that would indicate fluid in the lungs. Most, but not all, murmurs in adult dogs are related to valve disease, and they can often be detected years before the disease becomes serious.

Routine work-up for a dog with a new heart murmur typically includes x-rays. These provide useful information about the heart’s size and shape and help determine the presence of fluid in the lungs. If the x-rays are normal, usually a recheck of the pet will be recommended in several months to one year to follow any progression of the disease. If the heart is enlarged or if there is fluid present in the lungs, further work-up may include an ultrasound of the heart, or an echocardiogram.

An echocardiogram is considered the diagnostic tool of choice for confirming the cause of a murmur and evaluating the heart’s structure and function. Doppler echocardiography refers to an echocardiogram that uses Doppler technology to assess the direction and velocity of blood flow. (continued...)



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DEGENERATIVE VALVE DISEASE & MITRAL VALVE DISEASE

There are many echocardiographic variables such as velocity of blood flow, amount of blood flowing back across the damaged valve, and chamber size that are used to gauge disease severity and the chance that your dog will develop heart failure.

An electrocardiogram (ECG or EKG) is sometimes utilized to evaluate an animal's heart rate and rhythm. This is typically recommended for larger breed dogs or for any patient where an irregular rhythm was detected during exam.

How is the disease treated?

Early stages usually need no treatment, but as the disease progresses, several heart medications may be used to alleviate clinical signs or to delay progression of the disease. A plan of treatment is tailored to each dog. Options include diuretics (water pills), vasodilators, ace inhibitors, calcium channel blockers, and others. Because some heart medications affect kidney values, your dog may need routine lab tests to monitor blood values. Unfortunately, no medication can reverse or stop the disease process.

What is the prognosis with mitral valve disease?

The prognosis varies depending on the severity of disease. Some dogs with slowly progressing disease never display any symptoms of heart disease in their lifetime. Others may develop heart failure and only live a few months. X-rays and an echocardiogram can help stage the disease and give a better idea about prognosis.