



Chronic valve disease

How does the heart work?

The heart is responsible for maintaining the circulation of blood within the body. It is a four-chambered organ containing right and left atria (upper chambers) and ventricles (lower chambers). The right side pumps deoxygenated blood returning from the venous system in the body into the lungs. From the lungs, oxygenated blood enters the left side of the heart where it is pumped out into the tissues of the body through the arteries.

What is chronic valve disease?

Chronic degenerative valve disease (CVD) is also called myxomatous mitral valve disease or valvular endocardiosis. CVD refers to a noninfectious degeneration of the heart valves which is common in older dogs. In dogs, the most commonly affected valve is the mitral valve (on the left side of the heart), followed by the tricuspid valve (on the right side of the heart). For reasons we don't completely understand, the valve leaflets become abnormally thickened and nodular over time. This impedes the ability of the valve to form a tight seal, resulting in a leak.

Cavalier King Charles Spaniels, Miniature poodles, Cocker Spaniels, Miniature Schnauzers, and Terrier breeds are most commonly affected with CVD although it can be seen in any breed. Cavalier King Charles Spaniels tend to develop CVD earlier in life with a faster progression than other small breed dogs.

How is chronic valve disease detected?

The abnormally thick valve does not close properly, causing some of the blood in the ventricle (lower heart chamber) to leak back into the atrium (upper heart chamber) with each heartbeat (known as regurgitation), and causes a heart murmur. This murmur is often detected in an otherwise healthy dog during a routine examination.

Rarely, the first signs of valve disease would be signs of congestive heart failure such as breathing difficulties, exercise intolerance, general fatigue, or syncope (fainting). Definitive diagnosis is made using echocardiography (cardiac ultrasound). Progression of disease is monitored with chest x-rays once or twice a year.

What is the prognosis and are there treatment options for chronic valve disease?

Chronic degenerative valve disease can have variable progression, so it is difficult to predict prognosis. Many patients diagnosed with CVD may have mild and slowly progressive disease that may have no effect on their quality of life. However, with more rapid disease progression the leaks become more severe and the heart has to compensate for the additional workload. The heart muscle becomes larger until it can no longer compensate, at which point congestive heart failure (CHF) is the result. CHF (fluid accumulation within the lungs) due to CVD usually presents as coughing, shortness of breath and rapid breathing.

Unfortunately, no drugs have proven effective in either preventing or slowing progression of CVD. If the disease progresses to CHF, average survival time is less than 12 months. However, most animals are able to be managed with medications and can enjoy a good quality of life. Treatment of CVD centers on eliminating signs of congestive heart failure. Please see the congestive heart failure brochure for more information.

What should I watch for at home?

It is important to become familiar with your dog's normal resting breathing rate and effort. An increase in either of these is one of the first signs of fluid in the lungs and should be monitored regularly. When your dog is at rest, watch their sides rise and fall as they breathe normally. One rise and fall cycle is equal to one breath. Count the number of breaths they take in 15 seconds, then multiply this number by 4 to get total breaths per minute. For example, if you count 8 breaths in 15 seconds, that is equal to 32 (8 x 4) breaths per minute. A normal dog at rest should have a respiratory rate less than 40. If you notice this number increasing consistently, or notice an increase in the effort it takes to breathe, contact your veterinarian. You can also monitor for any lethargy, collapse, exercise intolerance, coughing or decrease in appetite. Your veterinarian will monitor for progression of disease by assessing the heart size on chest x-rays.

If you have any other questions, please do not hesitate to contact us. Thank you for visiting the Cardiology Service at the Ryan Veterinary Hospital.