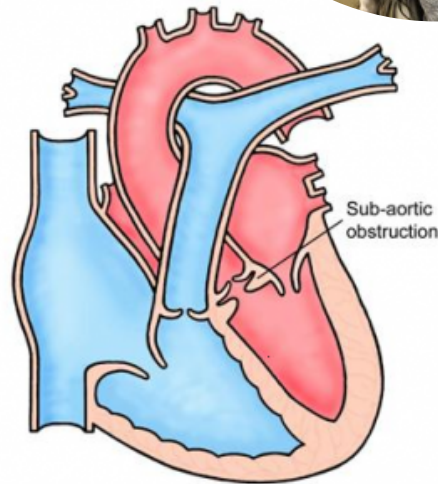


What is a Subaortic Stenosis?



Dogs with SAS have a narrow region of tissue just below the aortic valve that causes an acceleration of blood flow. This abnormal blood flow is what causes the heart murmur. Because the outflow tract is abnormally narrowed, the pressure the left ventricle (pumping chamber) must overcome to pump blood through the aorta (out to the body) is elevated. This change in pressure is termed the pressure gradient – the degree of elevation of the pressure gradient is how SAS is classified. The left ventricular muscle thickens in order to overcome the increase in pressure. The thickened muscle is inadequately perfused by the coronary circulation and becomes damaged. This damaged heart muscle can cause rhythm disturbances and also eventually lead to congestive heart failure.



In normal dogs, the pressure gradient across the aortic valve is less than 20mmHg. In dogs with mild SAS, the pressure gradient is between 20 and 50mmHg. Dogs with moderate SAS have a pressure gradient between 50 and 80mmHg and dogs with severe SAS have a pressure gradient greater than 80mmHg.

An echocardiogram is used to make the diagnosis of SAS and to classify its severity. Many dogs with SAS also have aortic insufficiency (leaky aortic valve) as well as an abnormally formed mitral valve (mitral valve dysplasia). Dogs with mild SAS have a good prognosis and generally live a full life.

Dogs with moderate to severe SAS typically demonstrated clinical signs including exercise intolerance and syncope (collapse with exercise). Dogs with moderate SAS have a good prognosis in the short term and fair to good long term. A small percentage of dogs with moderate SAS die suddenly. Dogs with severe SAS are at a high risk for sudden death.

There is no definitive therapy for SAS. Medical therapy with a beta blocker appears to reduce the incidence of sudden death in dogs with severe SAS. Interventional therapy (cutting balloon) has also been described as a palliative treatment in patients with severe clinical signs.

Long term monitoring includes echocardiography to assess cardiac function, as well as Holter monitoring to assess for rhythm abnormalities.