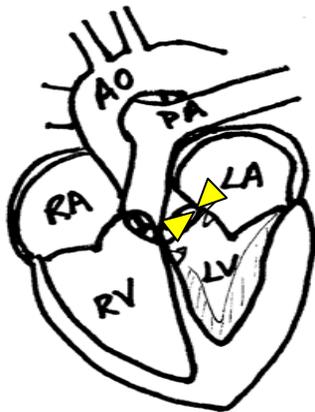




How is SAS managed?

The prognosis for SAS depends on the severity of the stenosis as measured by the pressure gradient using echocardiography and the presence or absence of other concurrent cardiac disease.



Puppies with mild murmurs (Grade I or II) and low pressure gradients on echocardiography will likely plateau in severity of their SAS by one year of age and often lead normal lives. In general, louder murmurs correlate with more severe disease, but exceptions do exist. Puppies diagnosed with SAS should be reevaluated at one year of age to assess any changes in their cardiovascular status. As SAS is likely genetic, dogs with SAS should not be used for breeding.

What is the long term prognosis for SAS?

Dogs with moderate pressure gradients may remain asymptomatic or rarely progress to congestive heart failure (CHF). These dogs will require medical management for their CHF which can prolong quality and length of life. To learn more about the management of congestive heart failure, please read the CHF pamphlet.

In addition, these dogs are prone to developing ventricular arrhythmias, which can result in sudden death. These patients should be monitored closely for signs of weakness or fainting. Dogs with severe SAS are expected to have shortened life expectancies, usually due to cardiac arrhythmias. Beta blockers may be prescribed to reduce the heart's oxygen requirement.

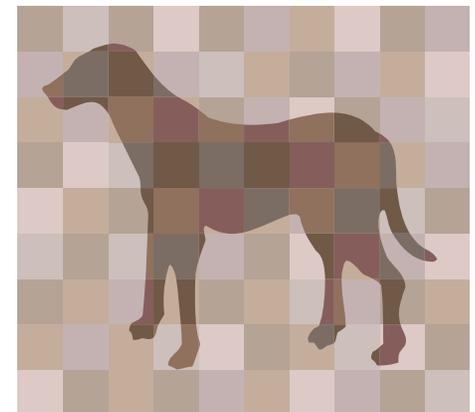
If you have any other questions, please do not hesitate to call us. Thank you for visiting the Cardiology Service at the Ryan Veterinary Hospital.



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Understanding Canine Subaortic Stenosis

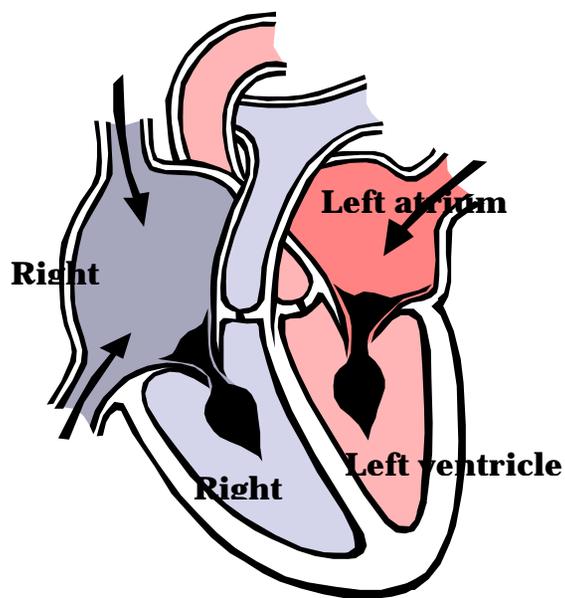


Many Species. One Medicine.

Subaortic Stenosis

How does the heart work?

The heart is the organ 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 subaortic stenosis (SAS)?

Stenosis means narrowing: subaortic stenosis (SAS) is a term that refers to a narrowing of the area just below the aortic valve, usually due to the presence of an abnormal fibrous band of tissue. This fibrous band can be present from birth (congenital) or develop early in the postnatal period. The narrowing causes pressure overload in the left ventricle. Other types of aortic stenosis exist, but SAS is by far the most common and represents more than 95% of the cases.

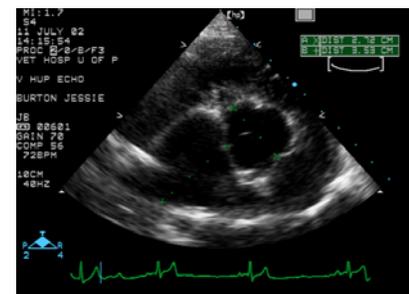
Studies have confirmed that SAS is inherited in the Newfoundland, and it is likely that SAS is inherited in other breeds that have a high prevalence. Other common breeds affected include Golden Retrievers, Rottweilers, Boxers, German Shepherds, Samoyeds, and Bulldogs.

How is SAS detected?

SAS patients are often identified when a heart murmur is detected at the left heart base during a routine physical examination of an otherwise healthy puppy. In severe cases, the arterial pulse quality may be weak, but generally puppies appear bright, alert, and happy. Some breeders screen their puppies for murmurs at an early age. Dogs can be cleared of SAS for breeding after 12 months of age. If no murmur is detected, SAS can be ruled out.

In older animals, clinical signs such as exercise intolerance, general fatigue, and syncope (fainting) may be noted. In the most unfortunate cases, dogs with SAS can die suddenly following development of severe ventricular arrhythmias.

Definitive diagnosis is made using echocardiography to measure the pressure gradient between the left ventricle and the aorta. In dogs with SAS, the pressure gradient is abnormally increased and correlates with the severity of the stenosis.



Are there surgical options for SAS?

Surgical excision of abnormal subaortic tissue is the procedure of choice in children; however, this procedure is rarely performed in veterinary medicine because there have been no studies proving surgery resulted in prolonged survival. Balloon dilation can be successful in reducing pressure gradients, especially in severe SAS, but, unfortunately, improvement is often not long lasting.