Specialist Veterinary Cardiology Consultancy

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Ventricular Septal Defect

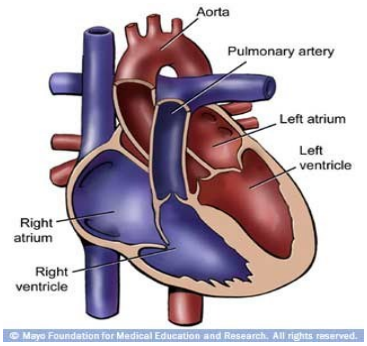
What is a Ventricular Septal Defect?

A ventricular septal defect (VSD) is a congenital defect (present since birth) that occurs due to incomplete formation of the interventricular septum, the wall that separates the left and right ventricles. VSDs are most commonly located in the upper portion of the septum, just beneath the aortic cusps on the left, and just below the tricuspid valve on the right. Due to this defect, blood shunts from the left ventricle to the right ventricle through the VSD due to larger pressures in the left ventricle.

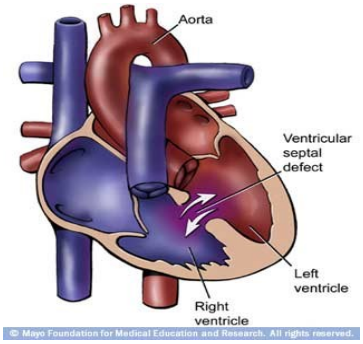
Blood that is shunted from the left to the right is re-circulated through the lung vessels and the left heart chambers, which can eventually cause enlargement of these structures due to volume overload. In some cases with increased right sided pressures, the blood shunts from the right ventricle into the left ventricle and causes more severe clinical signs such as weakness and cyanosis (seen as blue mucous membranes).

The significance of the VSD depends largely on its size. Small

Normal Heart



Heart with a VSD



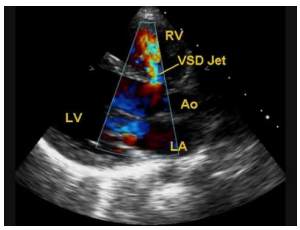
defects are often tolerated, but large defects cause more severe problems and often result in clinical signs. However, smaller defects, even though less clinically significant, often cause a louder murmur that may lead to earlier detection.

The most common consequence is left-sided congestive heart failure (CHF) or fluid accumulating in the lungs. With CHF, you may see exercise intolerance and laboured breathing.

VSDs are diagnosed with a cardiac ultrasound (Doppler echocardiography) performed by a qualified cardiologist following detection of a heart murmur, often heard at first vaccination. You

veterinarian may also recommend chest x-rays to observe changes in the size of the heart or presence of fluid in the lungs.

VSDs can be seen in both young cats and dogs. The most commonly affected dog breeds in-



What Happens Next For Me and My Pet?

Some pets can live a full normal life with a ventricular septal defect depending on size and location of the defect, the magnitude and direction of the shunt, and whether additional abnormalities are present based on echocardiographic findings. Many pets will not require any treatment for this defect. Although uncommon, some VSDs may close spontaneously with age. Therefore, in most cases, the prognosis tends to be favourable. However, in very severe cases treatment, such as surgical closure, a patch, or a restrictive band around the pulmonary artery may be considered. These pets may also be managed with diuretics if congestive heart failure develops.

In cases that can potentially develop CHF, the cardiologist may request to monitor your pet's sleeping respiratory rate to allow early detection of clinical signs. Due to the fact that VSD could represent an inherited disease, we recommend not breeding your pet and suggest asking your breeder to screen other puppies or kittens from the same litter.

This handout provides a general overview on this topic and may not apply to all patients.
Please do not hesitate to contact us if you require any additional information (www.cardiospecialist.co.uk)