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Two types of heart murmurs

Heart murmurs are extra heart vibrations caused by a disturbance in blood flow. Typically, when a heart murmur develops, the blood in your dog’s heart starts to flow very quickly through both normal and abnormal valves. This sometimes causes audible sounds to the human ear, but most regularly a veterinarian will identify the irregularity through a stethoscope. Depending on the severity and type of heart murmur, some cases can go away on their own, while other cases indicate a more serious underlying condition. Given the wide spectrum of diagnosis and treatment plans, it’s important to understand the signs, symptoms, and causes of heart murmurs in dogs. Grades of Heart Murmurs in Dogs

Normally, when a veterinarian listens to your dog’s heart they’ll hear a “lub” and “dub” sound, just like a human heart. However, when your dog has a heart murmur the “lub-dub” sound will be accompanied by a whooshing sound. Based on the loudness of the abnormal sound, your veterinarian will classify the murmur in one of six grades. These grades do not necessarily correlate with the severity of the heart condition, but rather serve as a grouping system for doctors to characterize the murmur. Grade I - barely audible Grade II - soft, but easily heard with a stethoscope Grade III - intermediate loudness; most blood circulation murmurs are at least a grade III Grade IV - loud murmur that radiates widely, typically heard on the opposite side of the chest Grade V - very loud and audible with the stethoscope barely touching the chest; the vibration is strong enough to be heard through the dog’s chest wall Grade VI - incredibly loud and can sometimes be heard without a stethoscope Dog Heart Murmur Qualities Outside of the six grades, there are four main types of qualities, or configurations, that heart murmurs can have. These include: plateau, crescendo-decrescendo, decrescendo, and machinery. Plateau heart murmurs are characterized by a uniformed loudness. These murmurs are typically associated with aortic valve insufficiency. Crescendo-decrescendo murmurs, like their name suggests, get louder and then quieter. These murmurs are associated with conditions such as aortic and pulmonic stenosis. Decrescendo murmurs start off loud and then grow quieter. They are typically associated with aortic valve insufficiency or a ventricular septal defect. Continuous murmurs are due to blood flow from a high-pressure chamber or vessel to a lower pressure system. These murmurs are also referred to as machinery murmurs. Learning about the four different types of murmurs and the six different grades can be confusing and overwhelming. There is a lot of information and treatment recommendations so you want to be sure to sit down with your veterinarian to develop a treatment plan that works best for your dog. Your veterinarian will be able to provide you with the proper resources and research when it comes to managing your dog’s heart murmur. What Causes Heart Murmurs in Dogs? Heart murmurs can be caused by a number of conditions that lead to irregular blood flow in your dog’s body. Some common causes include: Heart valve deficiencies or blockages Defects in the heart walls Dilated cardiomyopathy (weakening of the heart muscle walls) Heartworm disease Endocarditis (an infection of the heart valves) Tumors These causes are divided up into three different types of murmurs: innocent, extracardiac, and congenital. Innocent heart murmurs have no impact on a dog’s health and usually first appear when puppies are six to eight weeks old. Extracardiac, or functional murmurs, are caused by issues that interrupt blood flow but do not directly effect the heart. Congenital murmurs are heart defects that have been present since birth. Based on the type of murmur your dog has, the treatment will vary significantly. What Structural Heart Problems Cause Heart Murmurs? With structural heart disease, heart abnormalities can be present at birth or can develop over time. Essentially what happens is that there is some sort of abnormal structure or defect that is disrupting the regular flow of blood. This causes turbulence in the blood flow, which is why you can audibly identify the murmurs. There are several abnormalities that can cause a structural heart murmur, which include a leaky heart valve, a thickening or narrowing of a valve or large blood vessel, or an abnormal hole between the heart chambers or between two arteries. Some structural heart murmurs are hereditary and therefore appear from birth. Hereditary heart murmurs, or congenial heart murmurs, include sub-aortic stenosis, pulmonic stenosis, and patent ductus arteriosis. Other congenital heart murmurs that are not typically seen as hereditary include ventricular septal defects, atrial septal fects, and tetralogy of fallor. However, the most common heart murmur in dogs is considered mitral insufficiency (also call mitral regurgitation). Mitral insufficiency develops when the mitral valve thickens and begins leaking. This is most common in smaller dog breeds since they already have smaller valves that can become blocked more easily. Additionally, bacterial infections that localize on the heart valve can cause similar murmurs. These typically develop in older dogs. What Extracardiac Problems Cause a Heart Murmur? Extracardiac problems are referred to as functional heart murmurs because some part of your dog’s blood flow is not functioning properly. Usually these functional murmurs develop from anemia (low levels of red blood cells), hypoproteinemia (low protein levels in the blood), an infection, or obesity. Some of these conditions are temporary while others require consistent medication. With anemia and hypoproteinemia, the blood becomes thinner and creates more turbulence as it flows through the valves. In young puppies, anemia and hypoproteinemia can be caused by a heavy infestation of parasites such as intestinal worms, blood parasites, fleas or ticks. Since these are preventable causes it is important to take care of your dog’s hygiene and attend normal veterinarian appointments to keep your dog’s health in check. In other instances, these conditions can be present at birth. Regardless of when these conditions began, they are manageable with treatment, but are not curable. Symptoms of Heart Murmurs in Dogs Some of these conditions will be accompanied by physical symptoms that will help to better diagnose your dog. These include coughing, difficult or rapid breathing, exercise intolerance, weakness or lethargy, fainting, grey or blue gums, abdominal distention (pot-belly appearance), and collapsing. If you notice any of these signs, you need to call your doctor immediately to schedule an exam. Based on the variety of heart murmur causes, your veterinarian will likely run a series of tests to identify the underlying problem. These include blood tests, chest x-rays, an electrocardiogram (ECG), and an ultrasound to examine the heart structure and function. The important thing to remember with heart murmurs is that they will not always display physical symptoms so getting routine checkups is important in keeping your dog healthy. Are All Heart Murmurs Dangerous? Though heart murmurs aren’t considered to be normal, they are not always a cause for concern. Some young puppies will get low-grade heart murmurs that will dissipate without treatment. These are considered innocent murmurs and are not related to congenital heart conditions (a heart defect the puppy was born with). Innocent murmurs will typically disappear by the time your puppy is four months old. Although in other instances where the murmur does not go away, veterinarians will need to identify the underlying cause of the murmur in order to develop a treatment plan. Thus, looking for the symptoms of heart murmurs is incredibly important because it sometimes reveals other more serious problems that your dog is experiencing. How Are Heart Murmurs Treated? The course of treatment for heart murmurs depends on the underlying condition. For dogs that are displaying no physical symptoms, but are just experiencing irregular heartbeats, your veterinarian may choose to monitor your dog closely until he starts to show more physical symptoms. If he never shows any other symptoms, they may not need an intensive course of treatment. In the case where the murmur is caused by heartworm disease, treatment may be able to resolve the heart murmur completely. If the murmur is caused by a congenital condition (since birth), there are some options for surgery. However, that should be determined on a case-by-case basis. In other situations, the murmur may be incurable, however medication can be prescribed to make your dog more comfortable and promote longevity. Treatment causes can range anywhere from \$1,800 to \$5,000 depending on the cost of living after diagnosis and the severity of the condition. On average, the national cost of treating heart murmurs is \$2,500. Prognosis for Heart Murmurs in Dogs Determining a prognosis is quite difficult when you don’t know what type of heart murmur your dog has. As mentioned before, not all heart murmurs are dangerous and some do not cause any sort of long-term effects. Others are more serious and are going to be something that you’ll have to monitor and treat for the rest of your dog’s life. That being said, the prognosis can range from excellent to difficult. If your dog has an innocent murmur, there should be no impact on your dog’s health and the prognosis is excellent. If the murmur is caused by extracardiac, or functional problems, such as anemia, fever, infection, pregnancy, obesity or emaciation, the murmur should eventually go away with time and proper medication. The prognosis for congenital murmurs is extremely variable. The severity and type of defect plays a significant role in the course of treatment. Some congenital murmurs can be surgically corrected, which makes the prognosis very good, while others require lifetime medicine and focus more on managing symptoms rather than becoming cured. Since each heart murmur case is different, your veterinarian will determine the treatment options as well as discuss the overall prognosis after doing a series of tests. Regardless of the type of murmur, ongoing monitoring and periodic diagnostic testing will be conducted to evaluate the progress of the condition. How to Prevent Heart Murmurs While congenital and some extracardiac murmurs are not preventable, there are certain practices you can take to keep your dog at a lesser risk for heart murmurs. Since some murmurs can develop from parasite infections, you want to keep a close watch on your dog’s health and if you notice any physical abnormalities, take him to the vet as soon as possible. Leaving parasites untreated can be incredibly dangerous and cause lifelong impact such as heart murmurs. Other murmurs develop due to obesity so it is important to keep your dog at his ideal body weight as well as take him to regular vet check-ups. Regardless of whether or not you suspect something is wrong with your dog or not, having routine vet visits are incredibly important in keeping your dog healthy. Managing Heart Murmurs in Dogs Heart murmurs are a manageable condition; however, treating and managing them is a huge responsibility. Regardless of the type of murmur, you will want to keep a close eye on your dog and make sure that any dog sitters or walkers are aware of his health history. Dealing with heart murmurs could mean a lifetime full of medications, so you’ll need to stay on top of daily dosages. Your dog isn’t going to be able to take care of himself, so in order to keep him happy and healthy, you will need to play a large roll in his life. While heart murmurs can be an overwhelming diagnosis it’s important to remember that this is not the end of the road for your dog. Yes, the condition can be a serious one and isn’t the best news to receive, but the condition is manageable with proper treatment. There are still many memories and playtimes to be had, even after the diagnosis. Sources: Fang JC, O’Gara PT. History and physical examination: an evidence-based approach. In: Zipes DP, Libby P, Bonow RO, Mann DL, Tomaselli GF, Braunwald E, eds. 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