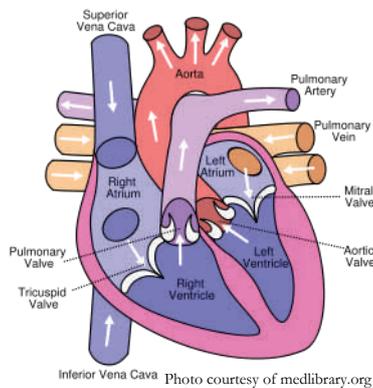




Heart Murmurs

What is a heart murmur?

A heart murmur is an extra heart sound (in addition to the normal “lub-dub” sound) that is produced as a result of turbulent blood flow, which eventually produces an audible noise. In most cases, the noise can only be heard with a stethoscope during chest auscultation. Heart murmurs can be classified as systolic (the sound is present during heart contraction) or diastolic (the sound is audible during heart relaxation). They can also be classified as “regurgitant” murmurs, when a heart valve is meant to be fully closed but it is not, or “stenotic” murmurs, when a heart valve is meant to be fully open but it is not. Finally, murmurs are also classified based on their loudness, using a scale from 1 (very soft) to 6 (very loud). In general, the loudness of the murmur is associated with the severity of the condition, but it is not always the case. For example, there are some heart defects where the



What is an “innocent murmur”?

Innocent murmurs are functional (physiologic) murmurs, commonly heard in puppies, but less commonly in kittens. They occur early in systole (at the beginning of the heart contraction) and may vary in intensity with a change in heart rate or body position. Sometimes they are intermittent, and they are only audible under certain circumstances, such as stress or ex-

intensity of the murmur is inversely proportional to the severity of the defect.

What should I do if my pet has a heart murmur?

As briefly mentioned above, it is important to know the origin of the blood turbulence which is responsible for the murmur. The history and details of your pet (species, breed, gender and age), as well as the loudness, timing, and point of maximal intensity of the murmur, are all important elements that can assist your veterinary surgeon to identify a possible origin of the problem. However, the only definitive diagnosis is based on Doppler echocardiography. This is an ultrasound scanning that allows the assessment of your pet’s heart structure and function. A small area over each side of the chest may have to be clipped free from fur in order to provide better contact with the skin, allowing a clearer image of the heart. In rare cases, when the patient is uncooperative, sedation may be required to perform the test. In most cases, echocardiographic examination performed by an experienced cardiologist will provide a definitive identification of origin and severity of the murmur.



What are the causes of heart murmurs in puppies & kittens?

The presence of a heart murmur in a puppy or a kitten can represent a very challenging clinical situation. Some murmurs can be the consequence of a congenital defect, which is a heart abnormality present since birth. Such abnormalities may have dramatic consequences, which can lead to heart failure or even sudden death. Some other defects can be mild and are compatible with a full normal lifespan. Finally, some severe and potentially lethal defects can be corrected surgically (either with traditional surgery or with advanced key-hole interventions). Therefore, it is highly advisable to have a puppy/kitten with a heart murmur examined by a cardiologist.

citement. A functional murmur is a heart murmur that is primarily due to physiologic conditions outside the heart, as opposed to structural defects in the heart itself. However, in many cases, it is difficult to identify the exact origin. The murmur may be due to increased blood flow velocity and turbulence in the right or left ventricular outflow tracts. In

other cases, the murmur is associated with a small valve leakage without convincing evidence of valvular malformation. These murmurs are associated with a good prognosis and, in some cases, they may disappear in the early adult life. Once again, the only objective diagnosis of functional murmur is based on Doppler echocardiography.

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)