

Different causes of heart murmurs_.txt
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What we hear as a heart murmur when auscultating a heart is a turbulence of some kind in the blood flow. There are many causes for that, main causes can be divided into changes in the heart and vessels (including blood pressure), and changes in the thickness of the blood.

Here are some causes of murmurs:

Anemia - the blood will become much thinner, so there is a change in velocity, which may cause turbulence, and a murmur may be audible.

Low blood pressure - as above - change in velocity may create a murmur.

Anesthetics and any drugs that affect the heartrate and blood pressure may either create or mask a murmur (depending on what was there in the beginning) for instance if you have a boxer with AS and a grade 4 murmur, which then is sedated the murmur may not be audible because the heartrate and bloodpressure will sink. Think of a garden hose with water flowing through it - if you turn down the water it will flow through the end of the hose nice and calm (murmur gone), if you either turn up the water (higher blood pressure) or narrow the opening of the the hose, the water will come through the opening in a very different manner (murmur present).

Hypothyroid dogs may have a low heartrate - which like above can mask a murmur - or even create one - because there is a change in blood velocity - and this can create a murmur if it causes turbulence.

Stress - causing the blood pressure to rise will often enhance a murmur which will be soft and barely audible in a calm dog (think of the garden hose)

But - when you have a boxer in front of you, it is apparently healthy, and on auscultation you hear systolic murmur over the aorta of any grade - the most likely cause of that is SAS, in more than 9 of 10 cases it will be, other causes of murmurs in boxers are pulmonic stenosis - but the incidence is very low (90% of the murmurs will be AS/SAS and 10% pulmonic stenosis). A dilated cardiomyopathy may also cause a murmur, but further back. It may be difficult to locate a loud murmur because it will be heard all over the chest, but a dog with a dilated cardiomyopathy and a grad 5 murmur will often have other symptoms as well - and a dog with SAS/AS may be without other symptoms of cardiac disease upon clinical exam.

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