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## Heart disease in Boxers

Boxers are unfortunately more prone to certain types of heart disease than other breeds of dog. The main disease seen in Boxers is known as “Boxer Cardiomyopathy” or Arrhythmogenic right ventricular cardiomyopathy (ARVC). This is genetic and blood tests are now available to detect the genetic mutation. It is very common and in one study 50% of boxers were positive for the gene which causes ARVC.

They are also more prone to congenital aortic and pulmonic stenosis. Aortic stenosis is the most common congenital heart disease in dogs. The stenosis restricts the blood flow from the left side of the heart into the aorta, reducing the amount of blood flow to the rest of the body, especially during exercise. If the stenosis is severe the muscle of the left side of the heart thickens and may eventually compromise its blood supply resulting in arrhythmias (abnormal rhythm). The narrowing of the vessel results in turbulent blood flow which can then be heard when listening to your dog’s heart. A heart murmur is an abnormal noise heard in addition to the normal heart sounds and can arise due to problems with the heart valves or outflow tracts.

### Arrhythmogenic right ventricular cardiomyopathy (ARVC)

In ARVC, the normal muscle tissue is replaced by fibrous or fatty tissue. This disturbs the electrical system of the heart, usually resulting in an irregular heartbeat.



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This may not cause any symptoms if it is only causing mild rhythm disturbances, however clinical signs can include exercise intolerance, collapse (especially during or after exercise) and worse case sudden death.

It is possible that your vet may detect a fast heart rate or abnormal rhythm when listening to your dog's chest. However, the rhythm abnormalities can be intermittent and so in some cases they are only picked up by an ECG or a halter monitor (which can be worn by the dog and the heart rhythm recorded for a few days).

Treatment for boxers with ARVC generally consists of only antiarrhythmic agents, unless there is evidence of systolic dysfunction and or congestive heart failure. Although treatment does decrease the number of collapse episodes there is no evidence that it affects long term survival. Generally, if the dog is not showing symptoms, then the decision to start treatment is based on the number of abnormal rhythms they are having in a 24 hour period. The medication does have side effects so the decision to treat is based on a case by case basis. If the disease is causing congestive heart failure, then treatment should be started straight away. Updated May 2017

## Congestive heart failure

Congestive heart failure in Boxers may result from any of the diseases mentioned above or if they have a problem with their heart valves. The treatment is for Boxers with CHF is the same as



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other dog breeds and is discussed in detail on the information sheet entitled "heart disease in dogs".

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