

Aortic stenosis

Aortic stenosis is one of the most common birth defects in dogs (also known as a congenital abnormality). There is a narrowing where blood is leaving the heart on the left side, usually just underneath the aortic valve. The blood has to flow faster through the defect, causing turbulent flow that which we can hear with a stethoscope, called a **murmur** (“whooshing sound”) which is usually present from birth.

Mostly this is diagnosed in puppies and young dogs, but occasionally an acquired narrowing of the aortic valve leaflets can start in middle aged or older dogs.

Affected breeds include Boxers, Newfoundlands, English bull terriers, Golden retrievers, Rottweilers, German shepherd dogs and Great Danes.

Animals may appear to be completely normal, or may show the following **clinical signs**:

- Reduced exercise ability, slowing down or collapsing after exertion.
- Sadly sudden death can be the first sign

It is important not to breed from affected dogs (even if mild) as this may be passed on to future generations.

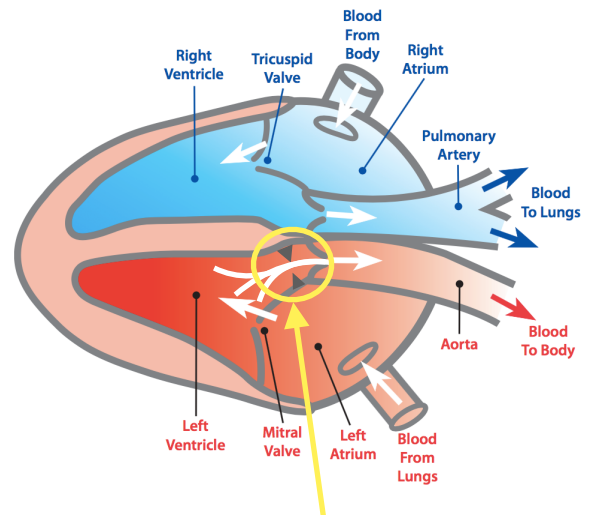
How is it diagnosed? **Echocardiography (cardiac ultrasound scan)** is the gold standard diagnostic test, allowing real time measurements of heart size, assessment of the valves, with **Doppler** colour mapping and flow measurement to show and grade abnormal narrowed valves. It is painless and non-invasive, and may not even require sedation. A small amount of hair clipping is usually necessary.

An **ECG (electrocardiogram)** may be needed if there is also an irregular heart rhythm, but more commonly the dangerous heart beats occur at exercise. A portable ECG (known as a **Holter monitor**) is fitted to screen for this over 24 hours in more severe cases.

Can it be treated? There is not a proven surgical treatment in dogs as yet, since trying to stretch the valve open carries high risks with little long term benefit. Medical treatment with beta-blockers can help reduce the stress on the heart in severe cases. Sometimes specific anti-arrhythmic drugs are needed to control the dangerous heart rhythms which can lead to “heart attack”. However sadly, this disease carries a risk of sudden death and can sometimes lead to heart failure in the medium to longer term.

Affected dogs should receive **antibiotics** for any wounds or general infections, as there is a risk of valve infection (endocarditis) with this condition.

Can I screen for aortic stenosis? Yes, **pre-breeding screening** is strongly recommended in dogs of affected breeds. There are established programmes in **Boxers** and **Newfoundlands** with strict criteria involving auscultation (listening with a stethoscope) and Doppler echocardiography, both of which must be performed by an approved cardiologist on the Veterinary Cardiovascular Society panel. For more information please see: <https://www.vet-cardio.co.uk/heart-testing/>



A narrowed aortic valve makes it harder to put blood out of the heart