



# Vet's Casebook



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## Our big-hearted horses



**Neil Frame**, of Frame, Swift and Partners, explains, in simple terms, how the enormous equine hearts work and why most murmurs and rhythm irregularities are nothing to worry about

**O**ne of the more useless factoids I remember from my anatomy lectures is that Eclipse, the legendary race horse, had a heart that weighed 14 pounds (6.4kgs).

After several anatomy dissection classes I realised this was not that exceptional and most equine hearts weighed about 0.7 per cent of total body weight.

While at rest, the horse's heart beats away at about 30 or 40 beats per minute, shifting monstrous amounts of blood; and we tend not to spend any time worrying about it – no cholesterol or alcohol worries, no effects of nicotine and tar.

However, everyone takes a strong interest in the vet's comments on the heart as part of a vetting for sale report.

It is not at all unusual to have something to mention about the heart in my reports and, quite often, one senses that the buyer is suddenly no longer interested in the horse as soon as the word 'heart' is mentioned.

Careful explanation is sometimes required to rescue the sale of a perfectly good horse. A mature clinical approach is needed to separate the non-significant from potentially significant cardiac findings and then translate it into plain English.

I would estimate I can detect a heart murmur in about 20 per cent of horses I listen to with my stethoscope. Virtually all of these are of absolutely no significance.

A murmur is caused by turbulence in the flow of blood through the chambers of the heart. When the heart valves close, sometimes the 'seal' is not absolutely perfect and when the heart muscle contracts to squeeze the blood out to the body and lungs some of the blood 'back-flows' through the valve. This turbulent flow can be heard with the stethoscope.

Unless your horse is racing at Ascot it is never going to need anything remotely approaching 100 per cent efficiency and so



**Detection:** Performing an ultrasound scan of a horse's heart and, inset, fluid accumulation between the forelimbs due to heart failure

horse and rider are blissfully unaware.

Occasionally the murmur can sound a bit unusual and more information is needed before coming to an opinion. We bring such cases into the veterinary centre and examine the heart by ultrasound.

Our scanner has a Doppler facility which gives fast, laminar blood a different colour on the

screen to slower, turbulent blood. This allows us to visualise the scale of the leaky valve or, in some cases, a hole in the heart muscle or a growth on the heart chamber wall.

Changes detected in the rhythm of the heart – a disruption in the regular 'lu-lub de-dup' sound of valves crashing open and closed – can hold more significance.

Horses at rest often miss out

whole heart beats just because they are fit and the heart can take a rest and still shove out enough blood to keep circulatory pressure sufficiently high to stop the horse fainting. These missed beats, if they disappear on exercise, are of absolutely no significance. Other irregularities in the rhythm, particularly if they persist after exercise, are always treated with caution. Some cases in this group

really can drop dead without warning. We strongly encourage owners to bring such cases in for an ECG.

A paper trace of the electrical conductivity of the heart is produced, so the defect can be diagnosed and appropriate treatment undertaken.

These cases are quite rare in ponies, but more common in horses with big hearts – like Eclipse.