

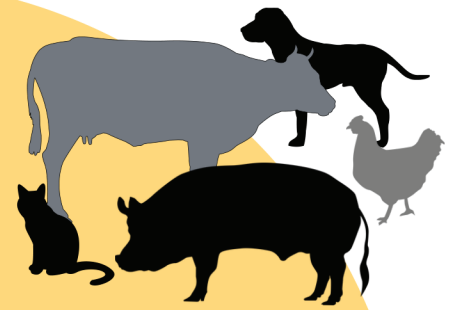


**TECHNOLOGICAL  
ADVANCES IN VETERINARY  
DIAGNOSTICS:**

**WHAT'S HERE AND WHAT'S  
ON THE HORIZON?**

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### **Sudden death of racehorses in California: what is new?**

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Sudden death of racehorses in California and elsewhere adversely affects racehorse welfare, jockey safety and public perception of horseracing. A definitive cause of death could not be established in approximately 50% of the cases of sudden death historically, although heart failure is suspected to be responsible for a large number of these deaths. Two separate studies were performed to determine if i) there is an association between sudden death and microscopic heart lesions in racehorses, ii) these lesions and/or death are associated with high values of cobalt, vitamin B12 and/or levothyroxine (T4) and iii) there is a difference in exercise history between sudden death and control horses. In the first study, microscopic examination of the heart of 27 horses with sudden death and 19 control horses revealed that non-inflammatory myofiber injury was present, with almost twice the prevalence in horses with sudden death than in controls. No significant differences in cobalt, vitamin B12 or T4 concentrations were found between study and control horses. Although the cause of sudden death in these horses was not determined, possible causes include inherited or spontaneous cardiac arrhythmias, which may be exacerbated by exercise. In a second study, an analysis of exercise history of sudden death cases and matched controls found that sudden death horses had been exercised less intensely in the month prior to death. These horses may have shown prodromal signs, indicating that they were less tolerant to strenuous exercise. Determining those signs could help prevent sudden death.