Dynamic disorders of the upper respiratory tract in warm-blooded and cold-blooded trotter racehorses

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(Medical Xpress)—Eric Strand's doctoral research shows that these genetically distinct breeds are predisposed to different types of upper airway problems, and this indicates that certain physical traits can be the cause of different forms of collapse in the upper respiratory tract. Strand

has also developed and standardised a new diagnostic treadmill protocol for disorders of this kind, which has resulted in more accurate diagnosis and the discovery of new disorders.

All over the world, disorders of the upper respiratory tract are a frequent reason for referring horses to equine hospitals. These disorders result in increased airway resistance through the upper respiratory tract, which will have a negative effect on the horses' performance. There are two main categories of upper respiratory tract disorders: those that can be diagnosed while the horse is resting (static disorders) and those that can only be diagnosed while the horse is under exertion, for example on a treadmill (dynamic disorders).

Eric Strand demonstrated that cold-blooded trotter racehorses are predisposed to dynamic disorders around the larynx, while warm-blooded trotter racehorses are predisposed to dynamic collapse of the pharynx. The flexion (bending) of the head and neck that occurs when racehorses are on the bit exacerbated most of the dynamic disorders. Strand's thesis describes dynamic laryngeal collapse in conjunction with poll (head/neck) flexion as a serious new upper respiratory tract disorder and the most common throat disorder in cold-blooded trotter racehorses. Some racehorses have gone down while racing because there is too little passage of air through their laryngeal opening, which has collapsed due to this disorder. The Norwegian School of Veterinary Science is undertaking further research into this problem, with the aim of breeding healthier cold-blooded trotter racehorses.

The purpose of this doctoral research project was to improve the current method of diagnosing disorders of the upper respiratory tract and to increase our understanding of dynamic airway disorders. During the course of the project, Strand developed and standardised a new diagnostic treadmill protocol for endoscopy with video transmission, and also established a grading system for newly discovered types of collapse

of the respiratory tract in racehorses.

Strand found that cold-blooded and warm-blooded trotter racehorses had different predispositions to six disorders of the upper respiratory tract. In both breeds, dynamic disorders were more common than static disorders.

Eric Strand carried out his doctoral research at the Equine Clinic at the Norwegian School of Veterinary Science.

DVM Eric Strand defended his PhD research on 20th-21st June at the Norwegian School of Veterinary Science with a thesis entitled: "A study

of upper respiratory tract obstruction during exercise in 3 breeds of racehorses."

Provided by Norwegian School of Veterinary Science