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A Tradition of Leadership and Excellence in Equine Medicine

Poor performance and clinical sports medicine Timothy Lynch DVM, DACVS

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Lameness is the most common reason for poor performance in athletic horses. Most lameness problems can be diagnosed with a complete lameness examination combined with diagnostic nerve and or joint blocks. The second most common reason for poor performance in horses is abnormalities of the respiratory tract. Upper or lower respiratory tract disorders can dramatically limit the athletic performance of a horse but with the use of endoscopy and radiology most common obvious problems can be addressed. However there remains a small percentage of horses in which the cause of poor performance cannot be elucidated using these common diagnostic tools. That's where the use of sports medicine techniques can be used in evaluating the poor performing equine athlete.

The advent of the high-speed treadmill has revolutionized equine clinical sports medicine. The treadmill has allowed veterinarians to test equine athletes at various speeds that more closely resemble the speeds at which they perform. This controlled environment gives the veterinarian the opportunity to evaluate the respiratory system, musculoskeletal system, cardiovascular system, and thermoregulatory system. Electrolyte balance, hormonal changes and changes in serum chemistry can also be evaluated before and after a standardized high-speed treadmill exercise test.

A standardized treadmill protocol involves a stepwise increase in exercise intensity. The horse is initially schooled to the treadmill, taking it through the different gaits and making sure the horse is able to maintain safe and adequate speeds. This can usually be completed in one to two hours. Then the incremental exercise test is performed. This test has been developed to evaluate the level of fitness and collect exercise related parameters.

When is a treadmill exam needed? A large number of disorders that lead to poor performance can be detected without a high-speed treadmill examination. A treadmill exam is ideal for horses that have undergone several examinations to solve the problem, horses in which a clear abnormality is not evident or if an abnormality is found and is of questionable significance. The treadmill is also useful in determining the affect of a particular abnormality and the effect of surgical treatment. Upper respiratory abnormalities including dorsal displacement of the soft palate, laryngeal hemiplegia and epiglottic abnormalities are the majority of disorders that have been studied with use of the high-speed treadmill. The horse most suited for a high-speed

treadmill is one that is in hard work at the time of the exam in order to increase the likelihood of finding the true problem. A horse that is out of work may not show the true performance-limiting abnormality, may not be fit enough to withstand the maximal exercise test, and is more susceptible to injury. Treadmill exam should not be taken lightly. Trainers should consider the exam similar to a race or strenuous event and they should consider the level of risk that is inherent to a high level of exercise.

A great number of performance limiting abnormalities can be diagnosed without the use of a high-speed treadmill exam. However when the performance limiting abnormality cannot be easily found the high-speed treadmill exam can offer another tool to use to pursue the performance-limiting problem in athletic horses. Peterson and Smith has a high-speed treadmill and can tailor a clinical sports medicine examination for any horse regardless of breed and discipline.