

# Poor Performance in the Racehorse

Dr Darren P Arnold BSc BVMS  
Morphettville Equine Clinic

Poor performance in the racehorse can be caused by a multitude of factors. Some of these may be circumstantial whilst others may be physical. Common physical conditions include musculoskeletal problems, cardiovascular abnormalities and respiratory conditions. The challenge of the racehorse veterinarian is to try and identify if a physical condition is causing poor performance and then find a treatment that then may alleviate or improve the limiting condition.

A standard protocol for investigating poor performance may include;

A lameness evaluation, blood analysis, cardiovascular examination including Electrocardiography (ECG) and a resting endoscopy of the upper and lower respiratory tract.

If a physical problem is not identified following these procedures and a respiratory condition is suspected then the horse may be a good candidate for high speed treadmill endoscopy.

## High Speed Treadmill Endoscopy

### What is high speed treadmill endoscopy?

Obstruction of the upper respiratory tract is a common cause of poor performance in the racehorse and is often indicated by abnormal respiratory noise during, and prolonged or poor recovery following, exercise.

Traditional resting upper airway endoscopy has been a valuable diagnostic method to determine the presence and/or severity of numerous diseases of the upper respiratory tract in the performance horse for a number of years.

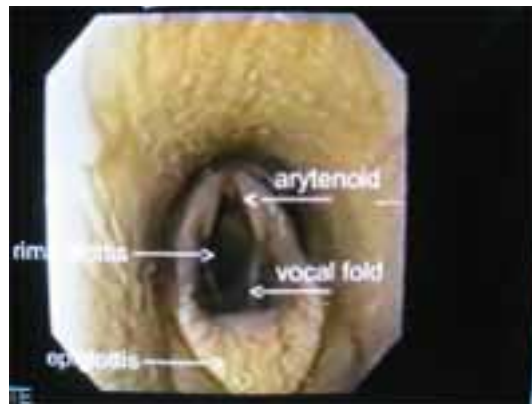
High speed treadmill endoscopy (HSTE) is a service now offered to clients of Morphettville Equine Clinic (MEC). HSTE is an endoscopy which is performed by the Veterinarians of MEC whilst the horse is working through various gaits on a treadmill

HSTE has had a major impact on the Veterinary professions awareness and understanding of the dynamics of the upper respiratory tract and as a profession we are continually increasing our ability to recreate and better understand the dynamics of the upper respiratory tract under controlled conditions.

### Patient selection criteria

If you suspect a respiratory problem the horse will require an initial examination and endoscopy at rest. We recommend performing this initial endoscopy after a gallop to assist ruling out conditions such as exercise induced pulmonary haemorrhage (bleeding).

If no abnormalities are detected (scopes clean) at rest a HSTE can reveal conditions that are only present at high speed exercise.



### What happens next?

The horse must be trained to walk, trot, canter and gallop on the treadmill. This normally takes 2-5 days before a scope can be performed at speed so at least 5 days needs to be allowed for the horse to be resident at the scoping facility.

Generally the procedure of HSTE takes approximately 1-2 hours. The test is performed in three phases. Phase 1. The horse is warmed up on the treadmill working at about 25km per hour for approximately 1600m.



Phase 2. The Veterinarian then scopes the horse at rest when standing on the treadmill and the videoendoscope is fixed in position.



(b)

Phase 3. With the scope in place the treadmill is started and the pace is increased through walk trot and canter to gallop. Work and race conditions can then be achieved with the scope in place speeds up to 50+kms per hour are achieved if possible for approximately 1200-1600m The HSTE is videoed and thoroughly examined in slow motion by the Veterinarian to diagnose the problem and decide on the appropriate treatment.

With the right application HSTE provides the answers that we would not otherwise be able to attain. This is beneficial to horses ,owners and trainers as it means we can treat these disorders much faster and more effectively. This can save valuable time during racing preparations and allow horses to perform to full potential once the airway has been treated and is no longer obstructed.



For further information on this procedure please contact the author at Morphettville Equine Clinic.

## Findings

There are numerous upper respiratory tract disorders that have been diagnosed using the traditional endoscopy method such as left laryngeal hemiplagia (roarer), epiglottic entrapment and arytenoid chondritis, but using HSTE we are now able to diagnose problems such as, bilateral axial deviation (a), soft palate displacement (b)and dynamic pharyngeal collapse which only occur during exercise.



(a)