Dynamic Respiratory Videoendoscopy in Ridden Sport Horses: Effect of Head Flexion, Equitation, and Airway Inflammation in 129 Cases

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Dynamic upper airway obstruction (UAO) is a cause of respiratory noise and sometimes poor performance in sport horses. Riding, head flexion, and airway inflammation may affect upper respiratory tract stability during exercise. Author’s address: Equine Sports Medicine Practice, Avenue Beau Sejour 83, 1410 Waterloo, Belgium; e-mail: emmanuelle.vanerck@skynet.be. © 2011 AAEP.

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1. Introduction
The aim of this study was to evaluate upper airway mechanical behavior in ridden sport horses, using over-ground endoscopy and the effect of head flexion, rider intervention, and underlying airway inflammation on the pharynx and larynx.

2. Materials and Methods
Resting and exercising videoendoscopic recordings during ridden exercise were obtained in 129 cases of sport horses referred mainly for respiratory noise, poor performance, or routine evaluation. The rider modified poll flexion and way of riding during the test, and associated changes in UAO were recorded. The presence of upper and lower airway inflammation was also assessed.

3. Results
Dynamic UAO was diagnosed in 91% (64/70) of the horses referred for respiratory noise and in 58% (29/41) of horses referred for poor performance. Pharyngeal instability was the most frequently diagnosed problem. However, differences were observed between dressage horses and show jumpers. Rider interaction and head flexion exacerbated upper airway instability and promoted the occurrence of complex UAO. Both inflammatory airway disease and pharyngeal lymphoid hyperplasia were associated with pharyngeal instability but not with any other UAO.

4. Discussion
Rider intervention during ridden exercise (i.e., the various movements a horse might be asked to perform) influences upper airway morphology and function and, in cases of upper airway dynamic obstruction, can contribute to increasing laryngeal and/or pharyngeal instability in sport horses. Because these are changes that would not usually be seen with treadmill videoendoscopy, ridden videoendoscopy should be the preferred method for evaluation of the upper airway in sport horses.