

## **History, Physical Exam & Diagnosis**

A presumptive diagnosis of laryngeal hemiplegia is made on the basis of history and the findings of a physical examination. Horses with left recurrent laryngeal neuropathy have a history of upper airway obstruction during exercise that includes an abnormal inspiratory respiratory noise, characterized as a whistle or a roar, and exercise intolerance. The noise is the result of air turbulence created as air passes over the affected vocal cord, and over the ventricle, which acts as a resonator. Physical examination should include palpation of the neck and larynx, because horses with complete paralysis of the left arytenoid cartilage will have palpable atrophy of the cricoarytenoideus dorsalis muscle. The larynx should also be palpated for congenital malformation and evidence of arytenoid chondritis. If there was previous laryngeal surgery and a laryngotomy was performed, there is usually a linear scar on the ventral aspect of the larynx, over the cricothyroid membrane, which can be palpated. Laryngoplasty and laryngotomy scars can be identified visually after clipping the hair over the incisions. A definitive diagnosis is made on endoscopic examination when there is a loss of abductor function on the affected side of the larynx a four/ five-point laryngeal function grading system has been adopted to more precisely describe arytenoid cartilage activity as assessed on endoscopic examination in resting horses.

- Grade 1 - Movements on both sides of the larynx are synchronized
- Grade 2 - Major movements of the larynx are usually synchronized, but transient inconsistencies may occur
- Grade 3 - One side of the arytenoid cartilage, usually the left, has reduced functionality; the affected arytenoid can be pressed back into action by holding the nostrils closed, but it is only temporary
- Grade 4 - The paralyzation of the arytenoid cartilage that is affected is nearly complete and occasionally the cartilage from the other side of the larynx may sometimes cross the midline when compensating for the inaction of the paralyzed side
- Grade 5 - This is the complete paralyzation of the arytenoid cartilage

An exercise test can be carried out and endoscopy performed immediately after cessation of exercise. A more reliable alternative is to perform videoendoscopy during exercise on a treadmill, observing for dynamic collapse of the arytenoid cartilage and the associated vocal cord. The video image can be recorded and reexamined in slow motion later.