# noise and exercise intolerance

the usual signs of dynamic airway obstruction

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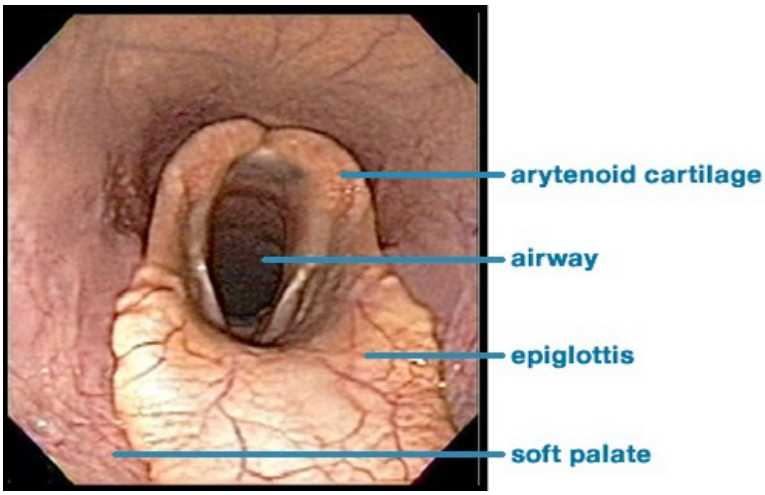
Upper airway abnormalities generally don't bother the horse when he is resting, only during exercise. This makes these conditions difficult to diagnose in the standing horse. During exercise, the horse must breathe hard, when forces a lot of air through the upper airway. These forces change the upper airway, making the abnormalities apparent.

The majority of performance-limiting abnormalities occur near the back of the throat. Specifically, the "big three" conditions are;




## dorsal displacement of soft palate

The soft palate normally sits underneath the epiglottis (a cartilage that forms the larynx) and therefore is not in the way of airflow. When the soft palate becomes displaced on top of the epiglottis it disrupts airflow - much like a sail in the wind, obstructing the flow of air during exhalation.

## laryngeal hemiplegia (roaring)

The condition occurs due to paralysis of the left side of the larynx; this allows laryngeal tissue called the arytenoid cartilage and vocal cords to protrude into the airway, obstructing airflow and affecting the horse's ability to breathe correctly. This results in upper respiratory tract noise and exercise intolerance. It is a common problem in large-breed horses, and long-necked horses appear to be predisposed.

## epiglottic entrapment

The epiglottis--the movable, leaf-shaped cartilaginous structure located at the base of the tongue and above the soft palate--serves as a "diverter valve" during swallowing. That is, during swallowing, the epiglottis covers the opening of the larynx to ensure that food and water do not enter the trachea, but instead pass into the esophagus. When a fold of tissue, called the aryepiglottic fold, abnormally enfolds the epiglottis, the epiglottis is said to have become "entrapped."


Because of the current limitations in diagnosing upper respiratory tract disorders, determining the underlying cause of poor performance (be it real or perceived) remains a challenge. Direct visualization of the upper respiratory tract with endoscopy at rest and immediately post exercise is considered the gold standard, however in some cases, dynamic obstructions are not seen except during exercise. In these cases, endoscopy can be performed using a high-speed treadmill or a portable endoscope. So if your horse starts making noise while exercising, or he's failing to live up to his previous competition standards, it's time to do a thorough examination, including the upper respiratory tract.