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Dr. Emma Seitz-Cherner is originally from New York City but also grew up living in Mexico, Puerto Rico, and France. In an attempt to continue to satisfy her travel bug, she attended veterinary school at the University of Sydney, Australia. After completing an internship at Rood and Riddle Equine Hospital in Lexington, Kentucky, she joined the Peterson and Smith team to pursue her goal of becoming an Equine Surgeon. She enjoys all aspects of equine surgery but is especially interested in orthopedic and colic surgeries. In her free time she continues to travel, and enjoys paddle boarding and exploring the many springs in the Ocala area.

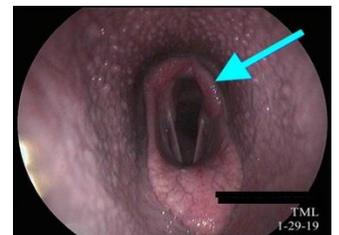
Common Surgical Upper Airway Disorders of the Equine Athlete Dr. Emma Seitz-Cherner

Entrapped epiglottis. Roarer. Dorsal displacement of the soft palate. Chondritis. Maybe you've heard one of these terms, or you've heard a horse making an upper airway noise while exercising and wondered why. Horses are obligate nasal breathers, and cannot effectively breath through their mouth. Therefore, any lesion affecting airflow through the nasal passages and larynx can significantly impact a horse's athletic career and sometimes even their quality of life.

Entrapped epiglottis was recently brought into the public eye when Kentucky Derby favorite Omaha Beach scratched from the race due to this condition. The epiglottis is a flexible leaf-shaped cartilage that is responsible for covering the airway (laryngeal rima glottidis) when the horse swallows to prevent aspiration of feed into the trachea. When the tissues beneath the epiglottis cover this cartilage they impede normal function and alter airflow. The cause is unknown but it has been hypothesized that primarily inflamed subepiglottic tissues may swell and cover the epiglottis. An underdeveloped or degenerative epiglottis may be prone to entrapment, and may prevent resolution of the problem. However in most cases the epiglottis is normal. This disease can present as a cough, exercise intolerance, upper airway noise, or can be discovered during a routine upper airway endoscopic exam. Treatment involves surgical transection of the entrapping tissue (aryepiglottic fold) with a laser or a hooked knife. The prognosis is good but reoccurrence can be an issue in up to 15% of horses.

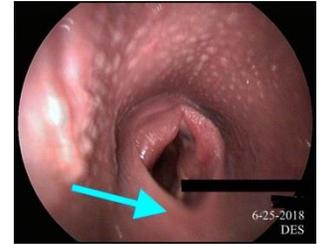


“Roarer” is the colloquial term for Left Laryngeal Hemiplegia, also known as Recurrent Laryngeal Neuropathy. This is a progressively degenerative disease of the Left Recurrent Laryngeal nerve that results in denervation of muscles on the left side of the larynx, notably the only muscle that is responsible for abducting the arytenoid cartilage and thus opening the airway. While exercising affected horses, the left arytenoid cartilage and often surrounding soft tissue structures get “sucked” into the airway on inspiration, impeding adequate airflow and creating the characteristic hollow whistle of roarers. Treatments include “tie-back” surgery where a prosthetic suture is used to mimic the action of the paralyzed muscle by fixing the arytenoid in a permanently abducted position, or reinnervation of

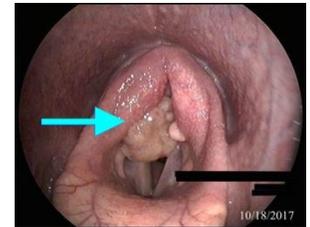


the affected muscle by harvesting a healthy nerve from the horse's neck and grafting it to the affected muscle. Either of these procedures can be paired with excision of certain soft tissue structures in the larynx, which may be prone to obstructing the airway due to altered airflow. This is usually performed in a minimally invasive manner via endoscopic laser surgery. Prognosis for successful return to exercise after surgery is about 70% in racehorses but is higher for horses in other disciplines.

Dorsal displacement of the soft palate is a condition where this soft tissue structure permanently or intermittently dislocates to sit above the epiglottis. In normal anatomy the epiglottis overlaps and sits above the soft palate. The displacement impedes normal airflow through the nasopharynx and larynx, and actually enables the horse to "mouth breathe". Unlike in other animals, this way of breathing is very inefficient due to unique anatomy and results in exercise intolerance and a characteristic inspiratory and expiratory snoring/gurgling noise during peak exercise. Surgical treatments are geared towards attempting to bring the larynx forward to increase the overlap of the epiglottis over the soft palate and prevent the upward displacement of the soft palate. With treatment up to 80% of horses have improved performance.



Arytenoid chondritis is inflammation of one or both of the arytenoid cartilages. It is thought to originate as an infection via laryngeal mucosal injury due to a respiratory tract infection or trauma. The affected cartilage becomes thickened and/or immobile and can eventually obstruct airflow. Treatment in the acute phase is medical with antibiotics and anti-inflammatories, however surgery to remove the arytenoid may be required if the cartilage becomes very thickened. When only one arytenoid cartilage is affected with chondritis, it can be surgically removed. Racehorses have an 80% chance of returning to racing after this surgery. With bilateral chondritis, both cartilages can be removed as a salvage procedure but most surgeons prefer to perform a permanent tracheostomy. This creates a direct opening into the horse's trachea to ensure unobstructed airflow to the lungs. Horses can race with a permanent tracheostomy, but only in some states.



Next month's newsletter will go over what to do if you suspect your horse may have an upper airway lesion that is affecting his or her performance, and how your veterinarian will go about investigating and reaching a diagnosis.

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