

Recurrent Airway Obstruction

The equine counterpart of human asthma is called **recurrent airway obstruction (RAO)**. Equine RAO includes diseases characterized by bronchoconstriction (airway narrowing), excessive mucus secretion and obstruction to airflow resulting in reversible breathlessness, wheezing and coughing.

RAO has been referred to as chronic obstructive pulmonary disease (COPD), broken wind and **heaves**. In barn-associated equine RAO the airway obstruction is manifested after exposure to an indoor environment containing excessive dust particles originating from dusty hay and bedding.

Recurrent Airway Obstruction – “Heaves”
• Older horses
• Cough
• Labored breathing
• Flared nostrils at rest
• Wheezing
• Nasal discharge
• Coughing up mucus
• Depression
• Elevated respiratory rate at rest
• Exercise intolerance or poor performance
• Increased movement of abdomen during breathing
• “ Heave line ” visible at abdomen

Management of RAO

RAO is not curable but exacerbations can be prevented or controlled by environmental control and use of corticosteroids and bronchodilators. Initiation of treatment at the earliest stage of disease is essential to prevent airway changes.

Environmental management is crucial.

RAO is managed with a four-pronged approach: diet, environment, prescription medications and supplements. The most important thing an owner can do is reduce the horse’s exposure to organic dust. Keeping horses on green pasture is the **most effective**. If pasture is not available, other means can be used to reduce exposure to dust. Soaking flakes of hay in water for several hours is likely to be effective if hay is fed to the horse in small quantities that do not dry out.

A heaves-affected horse is like the friend who is allergic to cats!

Corticosteroid Therapy

- Corticosteroids do not provide immediate improvement and therapeutic benefit is not detected for 24-72 hours. Aerosolized corticosteroids are effective in horses with mild-to-moderate airway obstruction and clinical signs ranging from exercise intolerance to horses with moderate increased effort of respiration at rest.
- Systemic corticosteroid preparations are inexpensive and easy to administer. In instances of respiratory distress, systemic corticosteroid therapy is superior to aerosolized corticosteroid therapy. **Dexamethasone** relieves airway obstruction within 3 days and the maximal response is observed by day 7.

Bronchodilator Therapy

- Aerosolized bronchodilators provide **immediate relief** of airway obstruction, provide protection against irritant-induced bronchoconstriction, and are an important component of treatment of non-infectious respiratory disease.
- Administration of bronchodilators before exercise may prevent exercise-induced bronchoconstriction and improve performance of horses with mild-to-moderate airway obstruction.

Barn Air Quality

Proper building design is needed to ensure **adequate ventilation**. Barn dust is rich in dust from shavings, sawdust, manure, hay, animal hair and dander, and silica from dirt in indoor arenas. Exposure to horse barns has effects on human health as well – recent works show 55% of people routinely exposed to horse barns report symptoms of lower airway disease. Even the best-kept of “traditional” barns can be injurious to the horse’s lungs. Ammonia levels in enclosed barns are detrimental to equine respiratory health. Horses do not need to be kept in a warm building to stay healthy!!



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