

# HORSE&HOUND

## Equine asthma (also known as IAD/RAO/COPD/heaves): how to help your horse

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21 September, 2021 08:24



Horses with equine asthma are unable to breathe as well as a healthy horse. Credit: Alamy Stock Photo

### Respiratory problems

Horses with equine asthma suffer from inflammation and/or obstruction of the lower airway so are unable to breathe as well as a healthy horse. An accumulation of excessive mucus in their airways causes them to cough from time to time and affects their ability to exercise, while severe cases show a clear increased effort to breathe while at rest, commonly referred to as heaves.

This condition, which has previously been described as chronic obstructive pulmonary disease (COPD), is now widely referred to within the veterinary community as 'equine asthma' as research has shown it is more closely aligned to this condition in humans than it is to COPD,

which is typically caused by chronic smoking or exposure of the human lungs to other damaging substances.

Equine asthma<sup>1</sup> can be mild to moderate, when it is termed inflammatory airway disease (IAD), or severe, when it is described as recurrent airway obstruction (RAO). IAD is typically seen in young to middle aged horses, although it can be found in horses of any age. RAO is most often seen in horses over seven years of age.



This article has been edited and approved by Karen Coumbe MRCVS, H&H's veterinary advisor since 1991.

## Signs of equine asthma

In mild to moderate cases (IAD) a horse will cough occasionally both at rest and during exercise for four weeks or more and a loss of performance will be seen.

This loss in performance may be subtle, and may go unnoticed, especially in mild cases where the horse is not in hard work. Some cases will improve following changes to management while others will require treatment, but the risk of recurrence is low as long as the necessary management changes are maintained.

In severe cases of equine asthma (otherwise referred to as RAO) the coughing will be more frequent, the ability to perform will be more significantly impacted and a clear effort to breathe at rest will be seen. The severity may vary over time and may last for weeks to months before being diagnosed. Signs of RAO usually improve with strict environmental control and/or treatment, but the condition cannot be cured.

Not all cases of IAD will become ROA, although an untreated case of IAD could develop into ROA over time. These conditions have the potential to be debilitating and performance-limiting and are reported to affect 14% of horses in the northern hemisphere.

New research is being done to look at the different allergens that are involved in severe equine asthma<sup>2</sup> and also biomarkers<sup>3</sup>, which are measurable substances in the body, particularly the blood. The hope is that over time these can be used to correctly identify affected horses.

## What causes equine asthma?

Stable dust, as well as fungi, mold spores, bacterial products and other irritant particles found in forage and bedding, is a primary cause of equine asthma. When horses at pasture are affected, the stimuli are most commonly pollen and dust particles. Some horses show more obvious signs when the weather is hot/humid or when pollen levels are high.

## How is it diagnosed?

Your vet will diagnose equine asthma based on the horse's history, management and clinical signs.

The obvious clinical clues are a cough at rest or at exercise (especially on gait changes), a white nasal discharge, a raised breathing rate and poor performance, particularly rapid fatigue and a prolonged high breathing rate after exercise.

Airway endoscopy—most commonly standing at rest or while exercising either on a treadmill or more likely via exercise endoscopy—can be used to ascertain the severity of the condition.

Fluid sampling of the discharges within the airways enables the severity of the airway inflammation to be assessed. This can be done by:

- Either a tracheal wash, where fluid is sampled from the trachea
- Or bronchoalveolar lavage, when a sample is collected from the lower airways.

Healthy horses have either no or very little mucus in their airway. Poor performance can occur with a tracheal mucus score of 2/5 in racehorses and 3/5 in sports horses. The fluid can then be analysed under the microscope and the different cells checked, particularly neutrophils, eosinophils and mast cells.

In mild to moderate equine asthma, bronchoalveolar lavage is recommended. If there is a neutrophil percentage of more than 6% in racehorses or 10% in sport horses, it can be sufficient to affect performance. Correctly identify affected horses.

## Management and treatment

Dealing with equine asthma effectively is likely to require both day-to-day management changes and medical treatment.

It is important to try to prevent exposure to causal factors, such as dusty hay and bedding. Choosing a dust-free bedding option and soaking hay for at least 30 minutes or feeding haylage will be beneficial. Steaming hay with a Haygain steamer or other effective steaming system is useful, but rinsing hay is not sufficient and homemade steamers are unlikely to work effectively. Horses that are stabled part or all of the time should be kept in well-ventilated areas with dust-free bedding, such as good quality shavings or paper. A well-ventilated stable should have at least one square metre of open space, achieved by using door chain or bars, opening or removing windows. This ventilation space should start below the horse's muzzle level.

If a horse is badly affected when the weather is hot/humid or when pollen levels are high, exposure to these conditions should be avoided as far as possible. It is hard to make recommendations other than to keep the horse in the windiest field or bring them in. Environmental management is essential in all cases. The two key aspects are to reduce exposure to allergens in the air and improve ventilation.

Medication is also used. Oral bronchodilators (inhaled medication to open up the airways) in conjunction with steroids are the basis for initial treatment. Inhaled medication, very much like in human medicine, can be administered via an inhaler or nebuliser. If the horse is due to compete or race, check with your vet whether the medication is allowed under FEI or BHA rules.

There is a wide range of nutritional respiratory supplements on sale that have been formulated purporting to help support healthy airways in order to maximize equine health and performance. However, under Veterinary Medicines Directorate rules, nutritional supplements cannot claim to treat an established medical condition.

## Prognosis

Once diagnosed, most horses with equine asthma will regain their ability to exercise at their former level once they have undergone treatment and their management has been adjusted to suit their needs. However, the condition will not disappear and will need to continue to be monitored and management changes made as required.

## References:

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4913592/>  
– Inflammatory Airway Disease of Horses—Revised  
Consensus Statement – March/April 2016

<https://www.nature.com/articles/s41598-019-51820-7> –  
Antigen array for serological diagnosis and novel allergen  
identification in severe equine asthma – October 2019

<https://www.ncbi.nlm.nih.gov/pubmed/31099114> –  
Investigation of blood biomarkers for the diagnosis of mild  
to moderate asthma in horses – July 2019



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Our equine veterinary expert has more than 30 years experience in practice. She is an FEI vet and has attended the past three Olympic and two World Equestrian Games in her role. She has a particular interest in anaesthesia, pre-purchase examinations, ophthalmology and dermatology amongst other clinical concerns. She has been Horse & Hound's official veterinary advisor since 1991. Karen is part of the Bell Equine team.