

CHRONIC COUGH, "HAY DUST ALLERGY", AND HEAVES IN HORSES

What Treatment Options are Available?



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UNDERSTANDING CHRONIC COUGH: ORIGINS AND DEVELOPMENT

The incidence of respiratory diseases in horses continues to rise. While symptoms may appear similar, the underlying causes can vary significantly, often requiring different treatment approaches.

The Respiratory System: From Nostrils to Lungs

A horse's respiratory system begins not in the lungs, but in the nostrils. As air enters, it passes through the ethmoid bone - a spongy structure extending into the nasal passages at eye level - as well as the frontal and maxillary sinuses. During its passage, the air is warmed, moistened, and filtered. Only then the inhaled air passes the larynx and continues through the trachea and bronchi into the lungs, finally reaching the alveoli where oxygen exchange occurs.

This evolutionary-refined system effectively filters pathogens from incoming air, trapping them in the mucous-covered mem-

branes. This design is particularly efficient, as it allows for easier drainage of mucous and infectious material from the upper airways, compared to the lungs.

Many horses presenting with cough symptoms actually show issues in their upper respiratory tract - specifically the paranasal sinuses, ethmoid bone, or larynx - but not necessarily the lungs. Chronic inflammation of the airway mucous membranes can develop either from persisting pathogens or a weakened immune system. When those horses inhale dust particles, such as those from hay, it triggers a cough reflex, which in turn can worsen inflammation.



UNDERSTANDING THE CAUSES OF CHRONIC COUGH

Many horse owners assume that persistent coughing indicates a lung problem. However, most horses actually experience issues in their upper respiratory tract - specifically the paranasal sinuses, ethmoid bone, or larynx. These areas can harbor pathogens, leading to chronic infections similar to those in humans. Such infections cause ongoing irritation and inflammation of the respiratory mucous membranes, making them more susceptible to new pathogens.

Common Misconceptions "About Hay Dust Allergy"

Even when veterinarians observe an inflamed and reddened larynx and diagnose a "hay dust allergy", this may not be the actual cause. True airway allergies are relatively rare in horses. More commonly, hay dust acts as a trigger for coughing, while the underlying cause can be found elsewhere.

Chronic Sinus Inflammation

An inflamed larynx often results from chronically inflamed or infected paranasal sinuses. Notably, these conditions can exist without visible nasal discharge or coughing. Treatment should primarily focus on addressing this chronic infection. While veterinary care is essential, some cases may benefit from additional therapies such as inhalation with 6% saline, combined with craniosacral treatment, particularly when antibiotics and irrigation procedures prove insufficient.

Air Quality Considerations

Air quality plays a crucial role in respiratory health. Given that horses evolved as steppe dwellers, their respiratory systems are particularly sensitive. The combination of humid air, dust particles, and ammonia in stables can be harmful to equine airways. Even in seemingly well-maintained stables, air quality can be poor. To understand this, spend time sitting on the ground in an unmucked stable - you'll quickly notice how your own respiratory system reacts to dust and ammonia. The presence of moldy hay or straw and the act of mucking out significantly increase dust levels. Therefore, it's advisable to keep horses outside during stable cleaning and sweeping.

Protein and Air Quality

High protein levels in feed contribute to elevated ammonia levels in stables. Many horses receive excessive protein through concentrated feed, which their bodies cannot convert to muscle mass and must instead excrete as urea via the kidneys. Soil microorganisms on the ground convert this urea into ammonia. Regular treatment of stable floors with EM-A can help manage this issue by gradually replacing ammonia-producing microorganisms. You'll notice improvements in both stable air quality and your horse's manure, which will become less acidic with reduced ammonia odor when protein levels in feed are appropriately adapted to the horses' needs.

Cardiac Considerations

The respiratory system is closely linked to heart function. Left-sided heart disorders, particularly common in older or former sports horses, can cause blood to back up into the lungs, increasing pressure on the alveoli. This leads to fluid entering the alveoli from the bloodstream, resulting in what's known as 'cardiac cough'. Therapeutic support that strengthens the heart muscle can help affected horses, reducing cough symptoms.

The Colon Connection

A lesser-known but significant factor is the relationship between the large intestine and respiratory health. Traditional Chinese Medicine recognizes lungs and large intestine as part of the same functional system: Disturbing the hindgut will lead to airway issues over time. Modern physiology supports this connection: when the large intestine is compromised, inflammation of the intestinal mucosa occurs and liver function becomes impaired. This depletes the body's sulfur reserves, limiting production of cysteine - a crucial component for respiratory tract mucus production. The resulting "dry" mucous membranes become susceptible to inflammation, bacterial infection and phlegm accumulation.

Coughing horses often respond well to ACC (acetylcysteine) treatment, particularly when administered via inhalation. Feeding organic sulfur (MSM) like **OKAPI Sulphur Plus** may also support horses with airway issues that are rooted in hindgut dysbiosis.

This interconnection between hindgut and airways explains why chronically coughing horses should avoid haylage, though symptomatically it seems to solve the problem. While haylage might temporarily reduce coughing by eliminating dust exposure, it disrupts the hindgut microbiome long-term, leading to colitis (colon inflammation), ultimately worsening respiratory issues. Many horses develop heaves or equine asthma after several years of haylage consumption.



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Your horse's ancestors were steppe dwellers. So offer them air that is as dry and clean as possible!



TREATING RESPIRATORY ISSUES: PRACTICAL STEPS

The primary focus should be on improving air quality, which is why horses with chronic cough are often moved to open stables or paddocks with a shelter. Simple adjustments to stable management can already make a significant difference. These include spraying the floor with EM-A, avoiding hay shaking, providing wet or steamed hay, dampening the ground before sweeping, and removing horses during mucking out. Such modifications are feasible in virtually any stable environment and can substantially enhance air quality.

Bedding Considerations

Avoid using straw bedding for horses with chronic cough or respiratory sensitivity, as it often harbors mold. Instead, opt for dust-free alternatives such as shavings, hemp, or Miscanthus.

Optimizing Feed Management

After optimizing environmental conditions, it is essential to improve feeding practices and restore intestinal health to ensure that respiratory issues are not being maintained by underlying digestive tract problems. Any changes to the diet should be implemented gradually over two to four weeks, followed by an intestinal restoration protocol. For detailed guidance on this process, please refer to our information sheet "colon Restoration".

Metabolic Health Assessment

As a second step, have your horse tested for Kryptopyrroluria (KPU). This metabolic disorder frequently underlies cases of chronic cough, though it may not be immediately apparent. For more detailed information about KPU, please refer to our dedicated information sheet. If your horse tests positive for KPU, we can assist you in finding a qualified therapist.

Promoting Mucous Membrane Regeneration

Support your horse's respiratory tract with a three-week course of **OKAPI Liquorice Extract**, which has anti-inflammatory effects on mucous membranes while stimulating membrane regeneration. Alongside this, administer **OKAPI Sekretosan** for six weeks - a herbal blend specifically developed for horses with chronic cough that provides long-term inflammation relief.

While **OKAPI Cough Herbs** are primarily formulated for acute coughing episodes and common colds, they can be beneficial when chronically coughing horses develop additional respiratory infections. In such cases, **OKAPI Sekretosan** and **OKAPI Cough Herbs** can be alternated weekly over an extended period. Additionally, inhalation therapy using 0.9-7% saline solution helps facilitate mucus drainage.

Supporting the Immune System

Support your horse's immune system during therapy with a six-week course of **OKAPI Immuno Herbs**. Administering **OKAPI Zinc Plus** for two to three months provides additional support for both immune function and mucous membrane regener-

ation, helping to resolve chronic inflammation effectively. **OKAPI Sulphur Plus** aids in building the respiratory tract's natural protective barrier.

Strengthening the Heart

In some horses, a weak heart can be the underlying cause of chronic cough. Conversely, chronic cough and particularly equine asthma can place excessive strain on the heart. Affected horses, as well as older horses with cough symptoms, benefit from **OKAPI L-Carnitine Plus** to strengthen their heart muscle. Administer in cycles of 4-6 weeks, with 3-4 week breaks between treatments.

Optimizing Mineral Supply

All horses with chronic cough should receive optimal mineral supplementation. Depending on your soil quality, you can provide one of the **OKAPI mineral supplements**, alternating with **OKAPI seaweed**, which have a positive effect on mucous membrane regeneration.

DIETARY ADJUSTMENTS FOR HORSES WITH CHRONIC COUGH

→ Check Protein

Hay contains on average 600 g - 900 g of protein per 10 kg of hay! Alfalfa, soy, and peas should be avoided in the feed. For sport horses, the increased protein requirement can be met through **OKAPI Sainfoin**, or specific amino acids like lysine, methionine, and threonine can be provided for muscle development, for example through **OKAPI Lymeth**.

→ Avoid Chaff

Check your compound feed for chaff (green fibers), as these plant fragments can prolong fermentation time in the colon and potentially compromise digestive health.

Please contact us before starting any therapy. We will be happy to connect you with a qualified therapist from the Sanoanimal network who can create an individualized treatment plan for your horse: office@sanoanimal.com.