

COLON RESTORATION

For a Happier Belly



HOW DO INTESTINAL PROBLEMS ARISE?

Alongside musculoskeletal issues, digestive problems are among the leading reasons horses lose their performance. To understand the causes, it's essential to first understand how the horse's digestive system functions.

The Digestive System in Horses

Horses have evolved as steppe and tundra dwellers, adapted to cover long distances —up to 50km a day— at a leisurely pace in search of food. Their diet primarily consists of nutrient-poor, tough-to-digest plants.

To extract nutrients from such forage, horses rely on microorganisms in their large intestine. These microorganisms live in symbiosis with the horse, thriving in the warmth, moisture, and food the horse provides. In return, they break down

otherwise indigestible structural carbohydrates and supply the horse with essential nutrients, including valuable vitamins and amino acids.

For this ancient balance between horse and hindgut microbiome to function properly, horses require forage that is low in sugar and protein but very high in structural carbohydrates, particularly cellulose.

Small Intestine

The small intestine in horses is relatively small compared to their body size, and food passes through it quickly. Within 1.5 hours of entering the small intestine, food is released into the large intestine (in humans, this takes up to 8 hours!). In this stage, easily digestible nutrients such as starch, protein, and fat are processed, and minerals and vitamins are mostly absorbed.

The short time food remains in the small intestine indicates that easily available nutrients are not a typical part of a horse's natural diet. While feral horses occasionally consume nutrient-rich fruits, nuts, or plant seeds, the majority of their diet consists of fibrous plants, whose structure cannot be broken down in the small intestine.

Large Intestine

The large intestine, which includes the caecum and the colon, is much longer and has a larger capacity compared to the small intestine. Food moves through it more slowly, allowing for the digestion of complex, fibrous carbohydrates.

Unlike in humans, where dietary fiber passes through the digestive system unchanged, horses can effectively utilize it. Remarkably, horses excrete only about 15% of the food they consume, absorbing approximately 85% as nutrients. This efficiency makes them excellent feed converters, capable of extracting vital nutrients even from low-quality, fibrous forage.

Immune System

The intestinal mucosa hosts a significant number of immune system cells. These cells defend against harmful microorganisms while supporting the balance of intestinal flora.

Intestines Can Easily Become Imbalanced

The horse's intestine is a complex and sensitive ecosystem. Disruptions such as the introduction of microorganisms like lactic acid bacteria from haylage, changes in pH levels. Also, alterations in the speed at which food passes through can quickly lead to intestinal disorders.



EFFECTS

Problems in the digestive tract can manifest as follows:

Digestive Disorders Such As:

- Faecal Water
- Diarrhoea
- Bloating
- Colic
- Stomach or Intestinal Ulcers

Issues During Training Such As:

- Stiff walking
- Extended warm-up periods needed before riding
- Non-specific lameness and issues in the musculoskeletal system
- Reduced flexibility

Metabolic Diseases Such As:

- Equine Metabolic Syndrome (EMS)
- Insulin Resistance / Dysregulation
- Pseudo-Cushing's Disease
- Laminitis
- Sweet Itch
- Mud Fever / Mallenders / Sallenders
- Thrush

And Behavioural Problems Such As:

- Flehmen response
- Head shaking
- Sensitivity in the abdomen, hooves, or joints
- Resentment or avoidance of human interaction

POSSIBLE TRIGGERS



Feeding Haylage

Haylage introduces an excessive amount of lactic acid bacteria into the hindgut, causing acidification. This leads to inflammation of the intestinal mucosa and the mass death of beneficial intestinal microorganisms. The inflammation weakens the cell structure of the mucous membrane, creating holes that allow pathogens and toxins from the intestine to enter the body.

Oil

Horses lack a gallbladder and therefore cannot produce sufficient bile to emulsify oil in their feed. As a result, oil is not properly digested but instead coats the food pulp, preventing digestive enzymes from working effectively to break down nutrients. Additionally, undigested oil that reaches the large intestine is toxic to the hindgut microbiome.

Chaff

Green stalks, often alfalfa, are added to the bucket to extend eating time. However, these stalks are frequently swallowed without being properly chewed. The long fibers slow intestinal transit, causing the food to ferment in the large intestine for up to a week. This fermentation leads to gas production, mucosal inflammation, and a shift in the microbiome, favoring decomposing bacteria.

Frozen Grass

In cold temperatures, plants convert sugars into fructans—storage carbohydrates that cannot be digested in the small intestine and instead pass into the large intestine. Here, they cannot be utilized by the hindgut microbiomes but are consumed by lactic acid bacteria. This leads to an overgrowth of lactic acid bacteria, acidification of the intestine, inflammation of the intestinal mucosa, and the death of beneficial microbes. The consequences can include colic or laminitis.

Feeding Breaks

Studies show that stomach ulcers can develop quickly when horses are deprived of forage. Forced fasting also adds to stress reaction and aggression in horses. Additionally, during fasting periods, the hindgut microbiome decreases dramatically, from 500×10^7 to 5×10^7 —a hundredfold reduction.

Endophytes

Endophytes are fungi that live within plants and proliferate significantly when grass is under stress—such as during cold or dry conditions, overgrazing, or year-round pasture access. Their presence can cause intestinal issues and laminitis, particularly in autumn and winter.

Just Straw Feeding

Overweight ponies are often fed pure straw as a substitute for hay. However, straw contains little cellulose and instead is composed mainly of the wood fiber lignin, which acts as an indigestible dietary fiber for horses and cannot be used for energy production. As a result, the hindgut microbiome begins to die off, as they are unable to digest lignin and lack the necessary nutrients to sustain themselves. It is starving the horse on a full stomach!

Mouldy Forage

Mould is commonly found in almost every bale of haylage due to its production process, although it may not be visible because of the high moisture content. Mouldy forage, like mouldy bedding, has no place in horse care. Mould produces mycotoxins that are toxic to horses and can lead to dysbiosis of the hindgut microbiome. Furthermore, exposure to mould increases the risk of developing allergies and air way issues.

Sand

In autumn and winter, horses often ingest sand, which can accumulate in a cavity in the large intestine, located beneath the right kidney. This buildup can lead to severe sand colic. Sand eating often results from a lack of hay.

Beet Pulp

Although often praised for its high fiber content, beet pulp is not suitable for horses. Its fibers are primarily composed of pectins rather than cellulose. Pectins contribute to hindgut acidification and disrupt the balance of the microbiome, leading to dysbiosis.

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.



COLON RESTORATION

Before beginning colon restoration protocol, the horse's feed should be adjusted to approximately 1.5–3 kg of hay per 100 kg of body weight, supplemented with a suitable mineral feed. Concentrate feeds should only be fed if necessary. This dietary change should be introduced gradually over a period of two to four weeks.

Regeneration

To restore intestinal balance, we recommend combining **OKAPI Liquorice Extract**, which reduces inflammation in the mucous membrane and promotes regeneration, with **OKAPI Bitter Herbs**, which have a stabilizing effect on the microbiome as well as the mucosa. For severe dysbiosis, consider adding **OKAPI Lapacho Bark** to further support hindgut microbiome balance.

Note: **OKAPI Liquorice Extract** should not be given for more than two weeks at a time. Do not feed **Liquorice Extract** to horses that are prone to laminitis!

For Faecal Water

Administering **OKAPI ColoProtect forte** has proven effective for regenerating the intestinal environment and mucosa. Additionally, psyllium seeds or husks should be provided as they absorb faecal water like a sponge, breaking the cycle of faecal water and intestinal mucosa inflammation.

For Mouldy Forage or Haylage

If mouldy forage or haylage is being fed temporarily, adding **OKAPI EndoProtect** can help bind mycotoxins and support the metabolism. **OKAPI Spirulina** and **OKAPI Prodic** can be alternated weekly to further assist metabolic stabilization. Sainfoin, with its beneficial condensed tannins, is a grain-free concentrate alternative that supports the intestinal environment as a base feed.

For Constipation Due to Chaff

OKAPI Psyllium Husks, combined with **OKAPI Bitter Herbs**, regulate peristalsis and help prevent intestinal decay.