



Chronic Low-grade Inflammation and Hooves

By Dr. Odette Suter DVM

Close to 100% of all horses I see and know of, show some signs of metabolic imbalances in their hooves and bodies. Those can reach anywhere from simple thrush, misalignments of the hooves to severe hoof pathologies such as founder for example or simply unexplained soreness. When I first started trimming hooves about 15 years ago, some of the horses' overall health would get better in the process of assisting their hooves to heal. Nowadays, I hardly ever see a horse getting healthier without also providing it with a finely tuned diet that supports and improves the functions of internal organs, digestion, immune system, etc.

Metabolic diseases/syndromes have only in recent years received more attention as the number of laminitic and foundered horses has increased. Research is in the process of catching up with the changes we see, in the attempt to find answers and cures.

Two horses in particular were very influential in teaching me about metabolic challenges. Through them and many that followed, I learned to pay much more attention to 'little' abnormalities than I was taught in vet school. I used to trim a mare who was continuously very sore on practically every terrain. No matter how I trimmed her hooves, she remained quite lame. When taking her for a walk, she would move very slowly and only take very short strides. She was wearing boots 24/7, but even those contributed little to her comfort level. At the time this mare looked like a healthy horse to me. None of the obvious metabolic signs such as a cresty neck and fat deposits were present. The only hint that there might be an underlying metabolic issue was a sarcoid. It fell off on its own after a couple of months of trimming.

After thoroughly questioning my ability as a trimmer I finally realized what was going on. It took me almost a year to accidentally figure out that she had some sort of metabolic issue causing a generalized low-grade inflammation. This mare was only getting grass hay, no grains. Within about 2-3 months of putting her on her very own custom designed diet she improved to the point of being ridden barefoot. She once again joyfully showed off her beautiful long stride.

Her companion too had some hoof issues, but was much less tender. He too was put on a custom designed diet and his emotional well-being improved dramatically. He was always afraid of stepping from one surface onto another, in addition to being quite insecure and anxious. With a change in diet it was as if he was settling into his body and dealing with the environment in a healthy way. The fringe benefit of the change in diet for him was the loosening up of his back. He didn't actually have a back problem that I was aware of, but one day when I rode him, there was suddenly more movement in his lumbar area. His hooves too became less sensitive. He is now ridden on all terrain without any problem.

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The health of hooves and the over-all health of the body can't be separated. There is much more to it than what follows, but it will give you an idea on how closely the two are related.

A compromised body results from chronic intake of environmental or feed based toxins and/or a diet lacking the correct amount, balance and quality of vitamins, minerals, amino acids, essential fatty acids, etc. In this state the body is an excellent host to micro-organisms. A healthy body is capable of fight those off successfully. When the body suffers from some sort of interference, be it toxins, parasites, bacteria, etc. its natural response is to try to get rid of the 'intruder'. As you all know, this is when the immune system kicks into gear. Parts of this response are inflammation and swelling. The mechanism of inflammation is quite complicated, but to simplify, let's just stay with the swelling aspect of it because it explains a lot. During inflammation blood vessels dilate and become more permeable. As a result plasma leaks into the tissue.

In the case of hooves this exudation moves its way into the area in which the corium is connected with the horn. You can compare this to a blister. The horn/protective aspect of the skin becomes detached from the underlying sensitive part of the skin. The space in between is filled with fluid.



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There is very little space for extra fluid in the hoof capsule. Any increase will augment intracapsular pressure and cause compression of the live tissue including nerves. The result is pain. Additionally, the connection of the hoof wall to the coffin bone is split apart to some degree and weaker now. This allows the coffin bone to sink a little within the hoof capsule, causing increased pressure onto the sole. As a result the sole concavity becomes shallower while the corium including blood vessels remain continuously compressed. The limited blood flow will diminish the supply of nutrients to the sole corium, thus reducing the amount of building blocks needed to produce sufficient good quality horn. I'm sure that you have all seen thin soled hooves. Now you know how they were created.

The blood vessels are also supposed to bring the components of the immune system to the area in order to keep the opportunistic micro-organisms at bay. If this defense system is weak, the fungi and bacteria have a smelly feast commonly known as thrush.

You can see that healthy hooves require a healthy body. A correct trim is obviously very important, but we need to address the entire body, not just the hooves.

The best way to achieve this is to "close the door" to those intruders, and strengthen the organs and hormonal glands so that they can do the job they were designed to do. By improving the metabolic capacity of the body, it can then heal itself. It is that simple!

There are people who have been aware of the health decline of horses (as well as humans) for a very long time. This is very different than the traditional western approach to healing, which is mostly based on symptomatic treatment of individual body parts. As we all know, this latter approach frequently just maintains if not also perpetuates the existing imbalance. I'm not writing this to criticize the western medical establishment. As a veterinarian, I highly value this medicine, yet I also am aware its limitations.

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