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Case Study of a Metabolic Welsh Pony Mare

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Is shoeing enough to restore laminitic horses to health? Obviously, the answer is no! When working on laminitic horses, it is very important to have a team comprised of veterinarians, farriers and the horse owner. Veterinarian support is critical in terms of conducting appropriate blood tests, offering pain management options and nutritional monitoring among other things. Skilled farriers are of utmost importance to restore hooves to healthy function. Finally, to me the most important factor is the horse owner's participation in following professional advice. I have been working on laminitic horses for the past 22 years and in my experience if the horse owner is not on board with a comprehensive plan for care, which often includes following diet prescription and keeping up with blood tests and medications, there is very little hope of a happy ending for the horse. This is especially true if laminitis is a full-blown metabolic problem such as Cushing's disease. This article is meant to showcase an ideal horse owner, veterinarian and farrier relationship.

Megan Burtness is a Welsh pony breeder I met 15 years ago when her breeding stallion went through a non-metabolic laminitic episode. Over these years Megan and I have become friends. Megan is someone I trust completely with the physical rehabilitation of ponies. Here are Megan's own words:

"I have bred, raised, trained and shown Welsh ponies on a national level for over twenty years. My nutritional knowledge and supplement use is based on this experience. I am not a veterinarian, but I consult with licensed veterinarians on a regular basis."

"Many of the ponies that come to me for care live in Southern California where a predominant form of feed consists of hay pellets due to lack of storage for hay. Most common hay pellets fed to ponies are made up of Alfalfa and Bermuda grass with molasses used as a pellet binder. Always be sure to read the ingredients list! Over the past fifteen years I have been sent numerous Welsh ponies in varying stages of laminitis. Each pony needed dietary alterations to control excessive weight in addition to the mechanical hoof care provided by Monique Craig and the EponaMind farrier team. Harley, a registered section B Welsh pony mare, was sent to me in July 2018 during an acute laminitic episode. Upon her arrival she was blatantly obese and was on a gram of Bute (NSAIDs) both AM and PM. She was extremely uncomfortable standing and walking. My protocol for metabolic or

overweight ponies is to decrease caloric in-take and to provide supplement support and drug therapy upon veterinarian advice. My goal is to get the pony to be willing to walk and move on their own and wean them off NSAIDs as soon as possible. My experience is that offering low caloric hay in a slow feeder allows the fastest caloric decrease. I offer low starch and low sugar hay in a slow feeder net. This allows for the quick caloric decrease in the diet and still lets the pony eat the quantity of hay it needs to feel full. Harley was given a quarter of a thin flake of Alfalfa in the AM and PM. Before making any dietary alterations, I strongly recommend consulting a veterinarian. Harley was immediately started on supplements. I live in California and I use products called MSM, Remission and Heiro. I am sure that there are similar products in Europe. These 3 supplements have proven very effective in my experience and are my 'go-to' every single time. Harley was moving freely and willingly at all three gaits after just 3 weeks of dietary restriction and corrective shoeing. She returned under saddle as a lesson pony in a hunter barn 7 months after her laminitic bout. She is still successfully performing her duties today"

Figure 1. Harley in July 2018 upon arrival for shoeing.

Figure 2. Harley in 2020 with her very happy rider.

My trimming and shoeing approach for laminitic cases is based on the following principles:

My trimming methodology is based on a three-dimensional (3-D) approach to trimming along with the use of composite shoes. I first assess how the capsule has distorted from the bony landmarks of the lower limb. I use two sets of landmarks, one at the distal end of the first phalange and one at the 'coronary gaps' (soft spots along the coronary band). I then project the bony landmarks perpendicularly onto the sole.

Figure 3. Illustration of projecting the 'coronary gaps' down onto the sole to aid in trimming and shoe placement. The images in figure 3 are that of a cadaver leg.

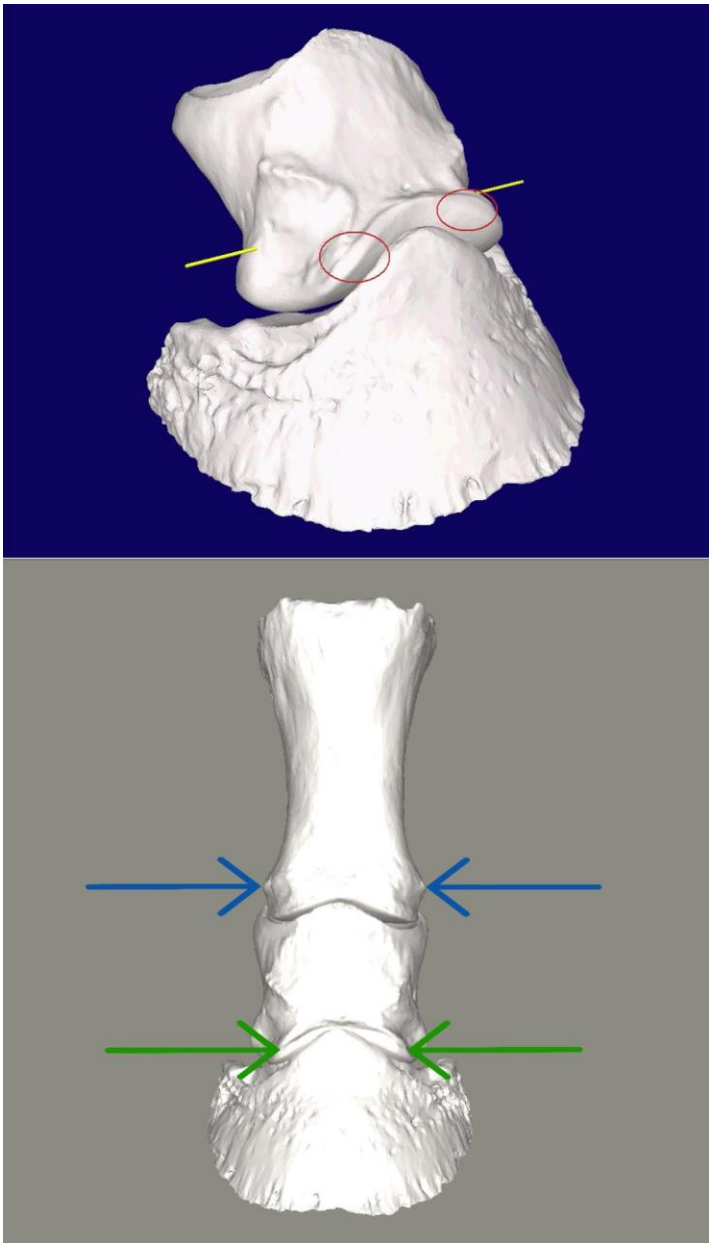

Figure 4. The upper illustration shows the bony protuberances on the P2 bone which move into soft spots in the anatomy which account for the 'coronary gaps'. The lower illustration shows also the alternate points on the distal end of P1 (blue arrows) which can be used.

The full explanation on how to trim and place shoes to the bony landmarks is beyond the scope of this article.

However it is important to point out that the method of 'referencing to the bone' is particularly useful with badly misshapen hooves – when normal 'hoof mappings' may become useless.

Figure 5. Example of a badly misshapen hoof.

My goal with laminitic hooves with abnormally high palmar angles is to lower the heels gradually at each shoeing interval. On average I remove about 2 to 6 degrees with each shoeing, depending on the situation. The idea is to lower the palmar angles gradually so that the muscles and soft tissues have time to readjust and heal without undue stress. If the horse has had very high heels for an extended period and is older, I

tend to be very conservative with lowering the heels. In such a situation, I may shorten the shoeing intervals and take less heel at each shoeing.

The shoe preparation and placement are very important. Most laminitic horses don't respond well to hard support at the sole. It is therefore crucial to assess what a particular horse can tolerate as far as sole support goes. As a rule of thumb, I like to soften the shoes (by selectively thinning them) and add foam under the most sensitive area of the sole. I also create a very large bevel around the entire shoe as well using packing material to support the caudal area of the hoof. Packing the caudal area of the hoof helps support part of the sole arch.

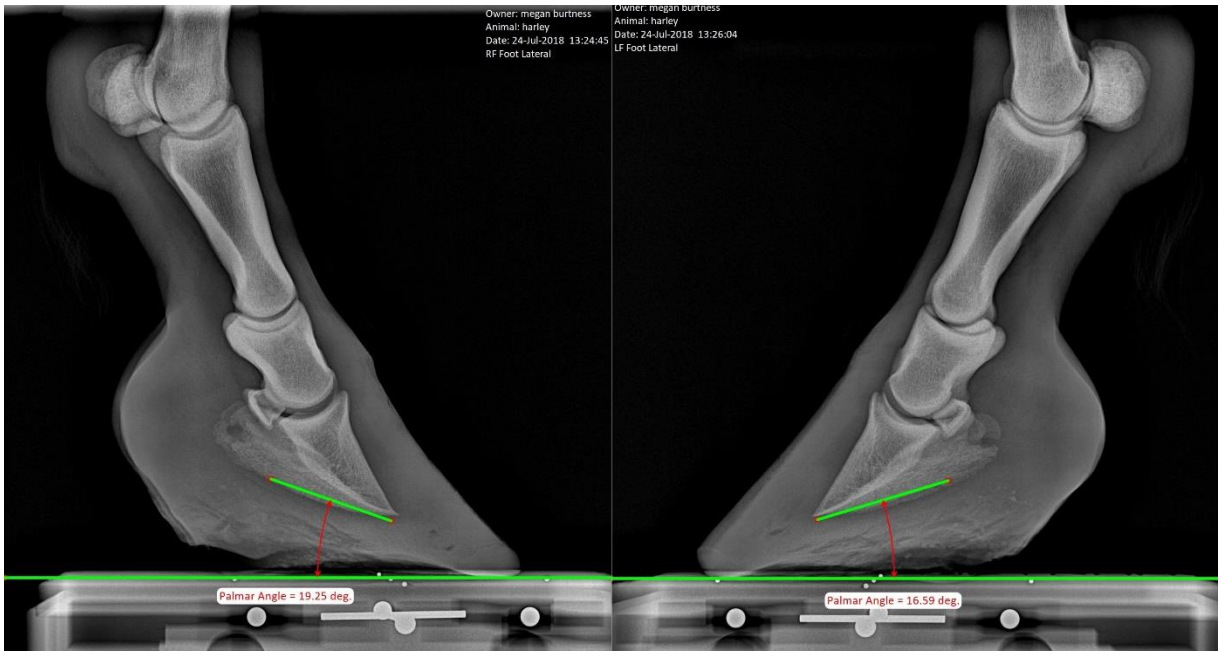

Figure 6. Harley upon arrival in July 2018. The RF palmar angle was 19.2 degrees, and the LF palmar angle was 16.6 degrees.

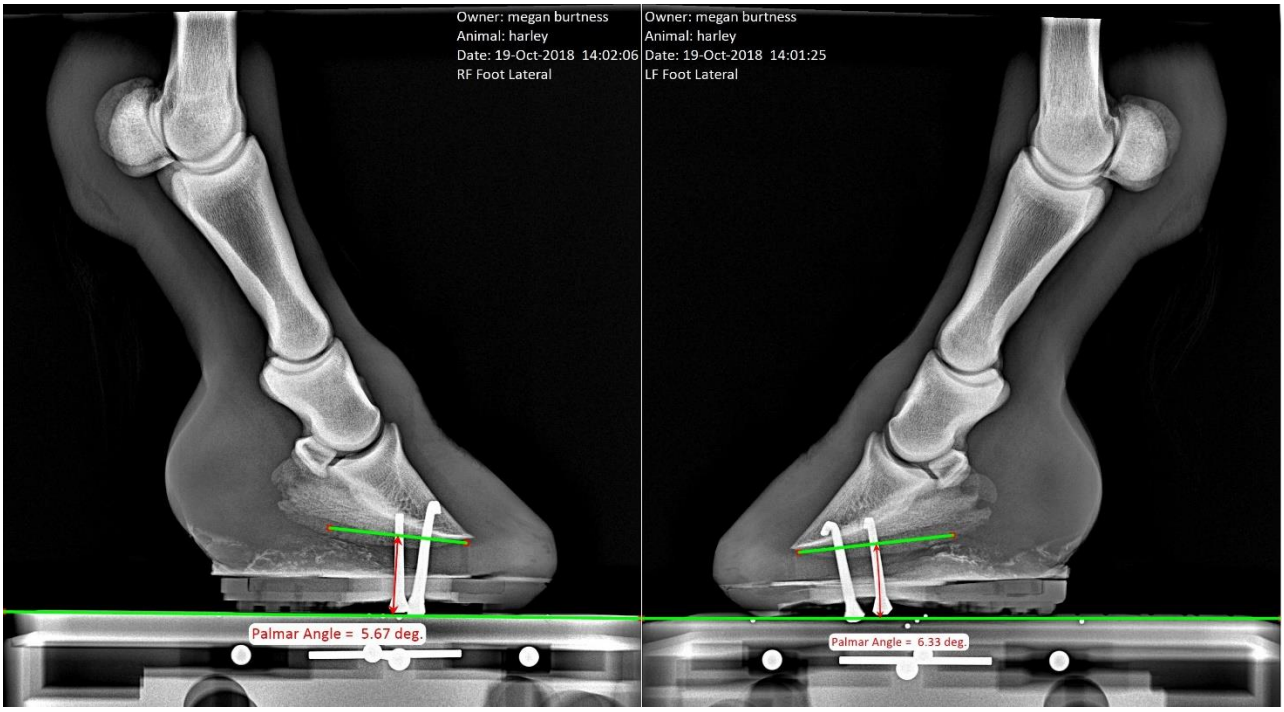

Figure 7. Harley in October 2018. The RF palmar angle is 5.7 degrees and the LF palmar angle is 6.3 degrees.

The shoe placement is based on the projected locations of the bony protuberances (figures 3 & 4). The toe and shoe bevel are customized for each horse. For instance, with horses that tend to grow a lot of toe and not a lot of heels, I tend to set the shoe further back with a very steep breakover. With horses that wear their toes very quickly, I don't set the shoe too far back and don't bevel a steep breakover at the toe. (Note that the EponaShoe is designed to wear at the toe.) This prevents the palmar angle from increasing as the toe wears off. It is truly important to observe wear patterns on horses and adjust shoe placement accordingly. For Harley I

opted to not set the shoe past the heels since her hooves were already 'under the bony column' (figure 7). By conformation and locomotion, Harley is the type of horse which wears her toes faster than her heels. This is the reason why; I opted for a smaller breakover. To 'de-rotate' a pedal bone it is crucial to make sure that palmar angles do not increase over a shoeing cycle. In my experience, I have noticed that too much breakover and heel support on horses such as Harley do not help maintain palmar angles within some normalcy. Harley has always seemed happier with her heels being lowered and with a bit of toe length left. One size does not always fit all.

Whenever possible, I like to shoe the entire horse when dealing with laminitic issues. This comment applies to horses that only have laminitic issues in the front. I like to address the whole horse not just part of it. My goal is to make the horse as comfortable as possible with gaits as normally as possible. Sole and arch support along with correct trimming and shoeing allow for evenly spreading the load across the hoof. The goal is to also avoid compensatory gait issues. When this trimming and shoeing approach is done correctly, hooves tend to restore very fast. It has been rare that I have had to refer to a veterinarian for tenotomies on my laminitic cases. Harley case is not a serious case of laminitic I have seen much worse.

References

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