Important “Do”s and “Don’t”s with Hoof Care

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There are a few simple things ‘to do’ as well as some things ‘not to do’ for optimizing your horse’s hoof health.

- Manage moisture in the hoof – find ways to keep them dry.
- Recognize how to assess hoof stance. Do not try to force hooves into an ‘ideal’ conformation.
- Take preventative radiographs – that is, take radiographs every so often when your horse is not lame and is moving well.
- Pay attention to nutrition – it can affect the hoof.

Paying attention to these points may help you avoid issues and keep your horse healthy and sound.

Manage Moisture at the Hoof

Moisture in moderation can be beneficial for hooves, but in general, excessive moisture is not a friend of the hoof. Barefoot, booted, or shod – too much moisture is not helpful in any system of hoof care.

The hard part of the hoof capsule is made up of keratin. Keratin is a fibrous structural protein that is found in human skin as well as the hoof. By nature keratin tends to be somewhat sensitive to moisture. This lies in the design of the keratin. The alpha keratin protein is made up of a double helix that has hydrogen bonds (figure 1.) When moisture is present at the hoof these bonds tend to break. The more the moisture the less hydrogen bonds. It’s a bit over-simplified, but think of the alpha keratin has a ladder with rungs (the rungs represent the hydrogen bonds), the less the rungs in the ladder the more the ladder will bend. By connecting and disconnecting rungs, the keratin modulates its stiffness.

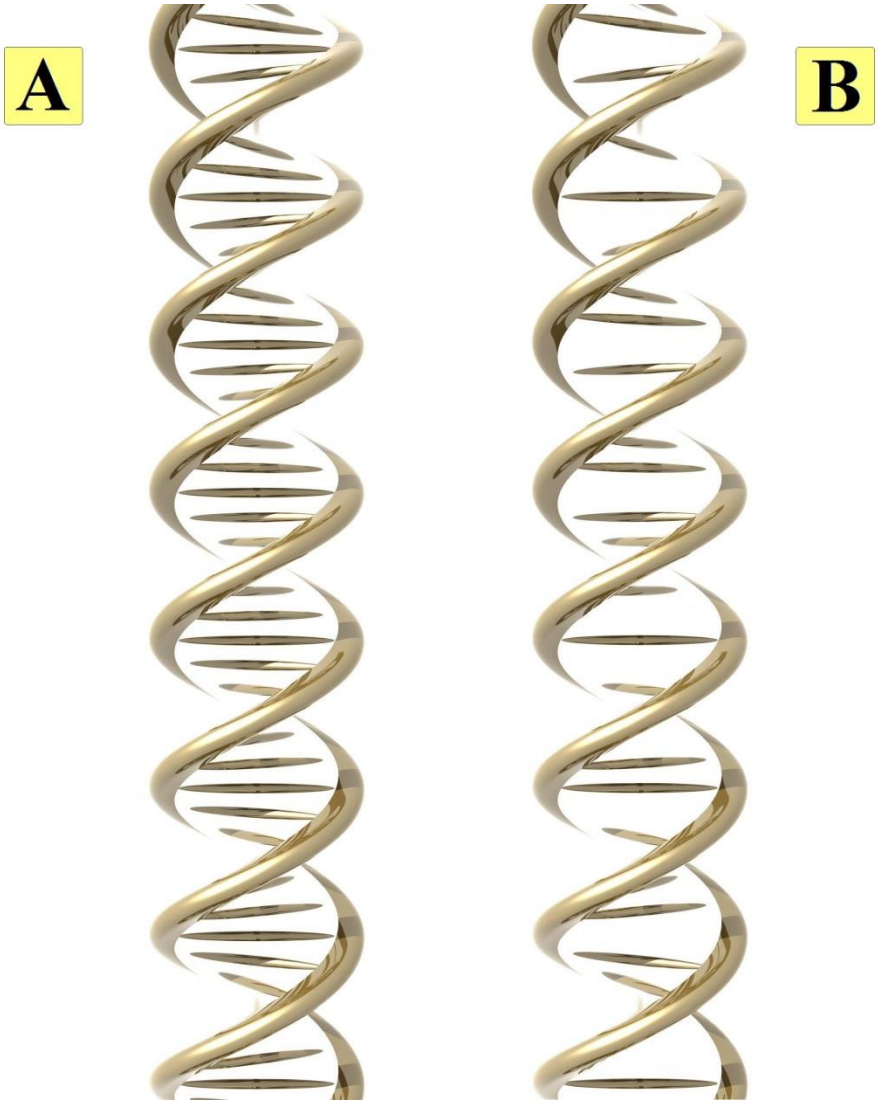

Figure 1: The keratin in (A) is stiff, because there are lots of hydrogen bonds. The Keratin in (B) is much less stiff, because hydration has removed many of the hydrogen bonds.

When there are too few rungs on the ladder it will lose its structural integrity and the ladder will collapse. The hoof keratin is well designed to adjust to reasonable change in moisture, it is excess moisture than can be detrimental to the structural integrity of the hoof. It is therefore important to be diligent with managing moisture at the hoof.

Here are a few tips on what you should and should not do when moisture is present. When the rainy season is upon you, it would advisable to have a dry area

where your horse can stay some part of the day. This will give the hoof a chance to maintain its structural strength.

Figure 2: In the wet season, hooves are inevitably wetter.

Adjust trimming and shoeing methods for the rainy season. I tend to very careful about removing sole in general but it is especially important to be 'zen' with the sole and other part of the hoof (frog, bars and walls) especially when the hoof is in a wet environment. The hoof capsule is less hard when moist and the keratin tends to 'swell' with moisture. When trimming the hoof, this may give the false impression of having excess hoof to work with. The entire sole is part of the support system for the pedal bone, and if the sole loses its integrity it may contribute to the pedal bone sinking within the capsule.

If a horse spends most of the day in a moist and lush pasture, do not expect its hooves to adjust to harder surfaces immediately. This statement is valid no matter whether a horse is wearing shoes or not. It is very important to condition

the hooves for the working environment they are intended to work in. Start by providing a dry area for the horse to stay in some part of the day and condition the hooves by gradually working your horse on harder surface. By all means do not start conditioning a wet hoof on abrasive dry ground. In all likelihood, it will cause hooves to exfoliate too fast and cause lameness issues due to lack of sole depth.

Figure 3: A covered pen so footing can remain dry in the winter is a big help.

When dealing with hoof abscesses, I prefer to not soak hooves for prolonged periods of time. I soak the hoof briefly until the abscess is resolved. If your horse allows it, blow dry the hoof after soaking.

Learn to assess what is a 'Normal' Hoof Conformation

If hooves are trimmed correctly, they should stand ‘under the bony column’ even if the hooves do not have a perfect conformation.

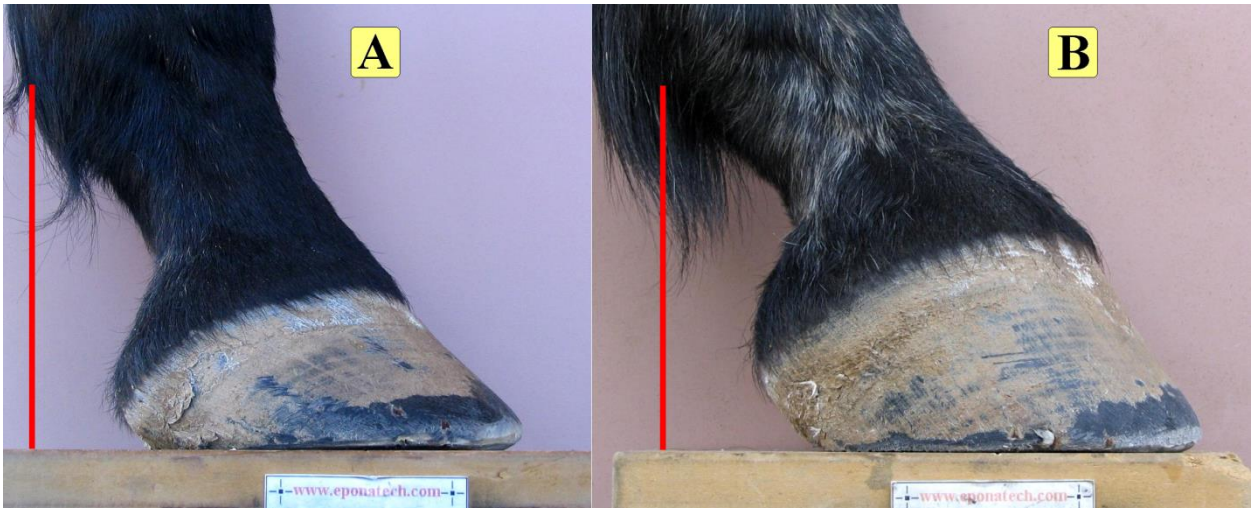

Figure 4: Hooves from two different horses. These hooves are not similar in conformation – but both may be OK. It is important to pay attention to your horse’s hooves and to get familiar with what is ‘normal’ for each animal. Both hooves in A and B are ‘standing under the bony column’ – meaning these hooves are not standing too far from a plumb line from the fetlock to the ground, shown with the red line.

Do not try to make hooves look like you think they should look. Hooves have different natural conformation (figure 4.) It would be unwise to force them to look identical. Trimming and minimal shoeing may assist in reducing some of the conformation discrepancies but hoof care should not be applied to force hooves into some dogmatic ideal. The hoof capsule is a reflection of the shape of the pedal bone (figure 5.)

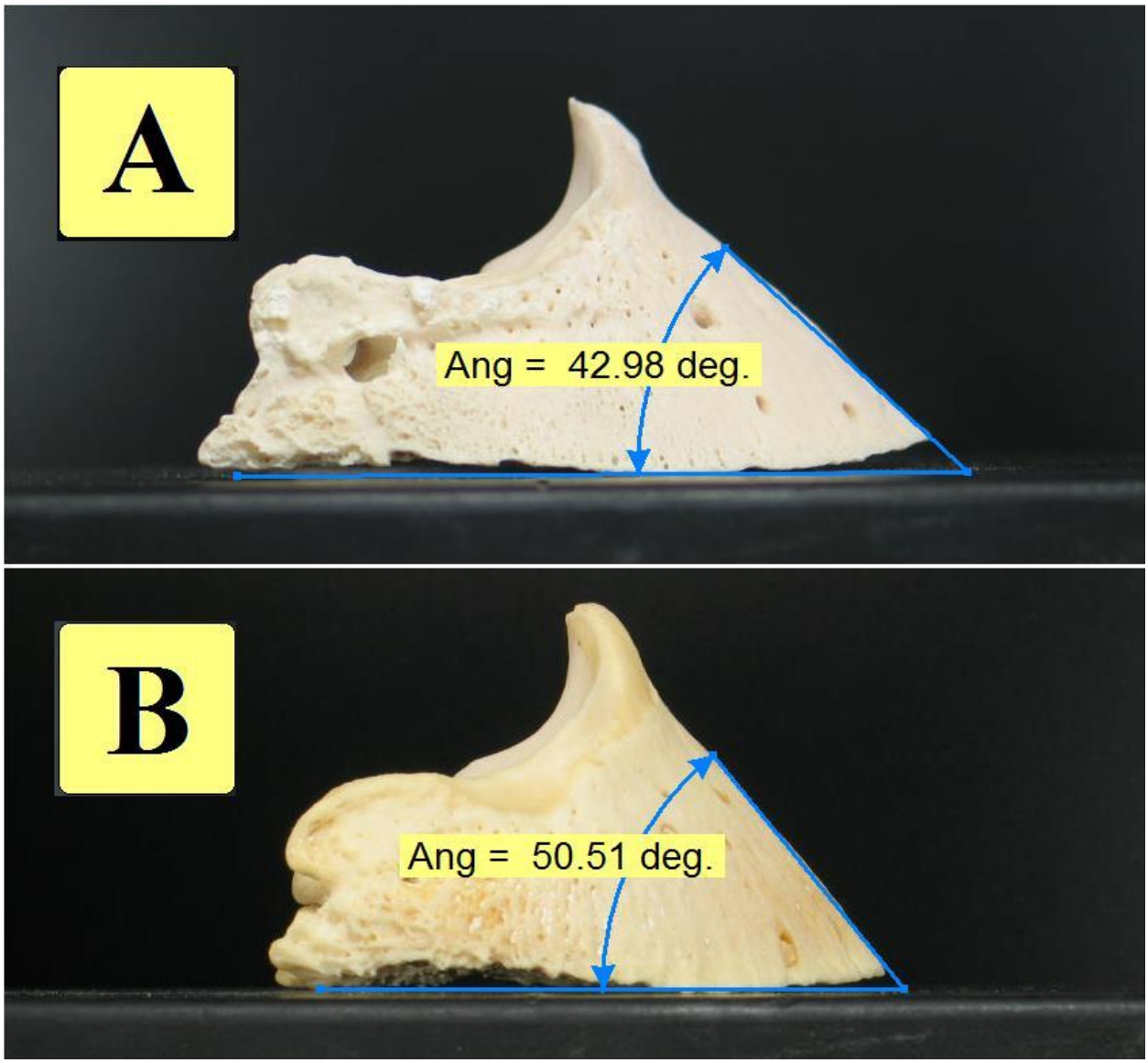

Figure 5: The pedal bone in A is more upright than the pedal bone in B. It is very likely that the pedal bone in A would have a hoof capsule like the one display in figure 4A and vice versa.

There is no way that trimming or shoeing can make up for differences in pedal bone morphologies, and that is why I believe the hoof should not be forced to an ideal.

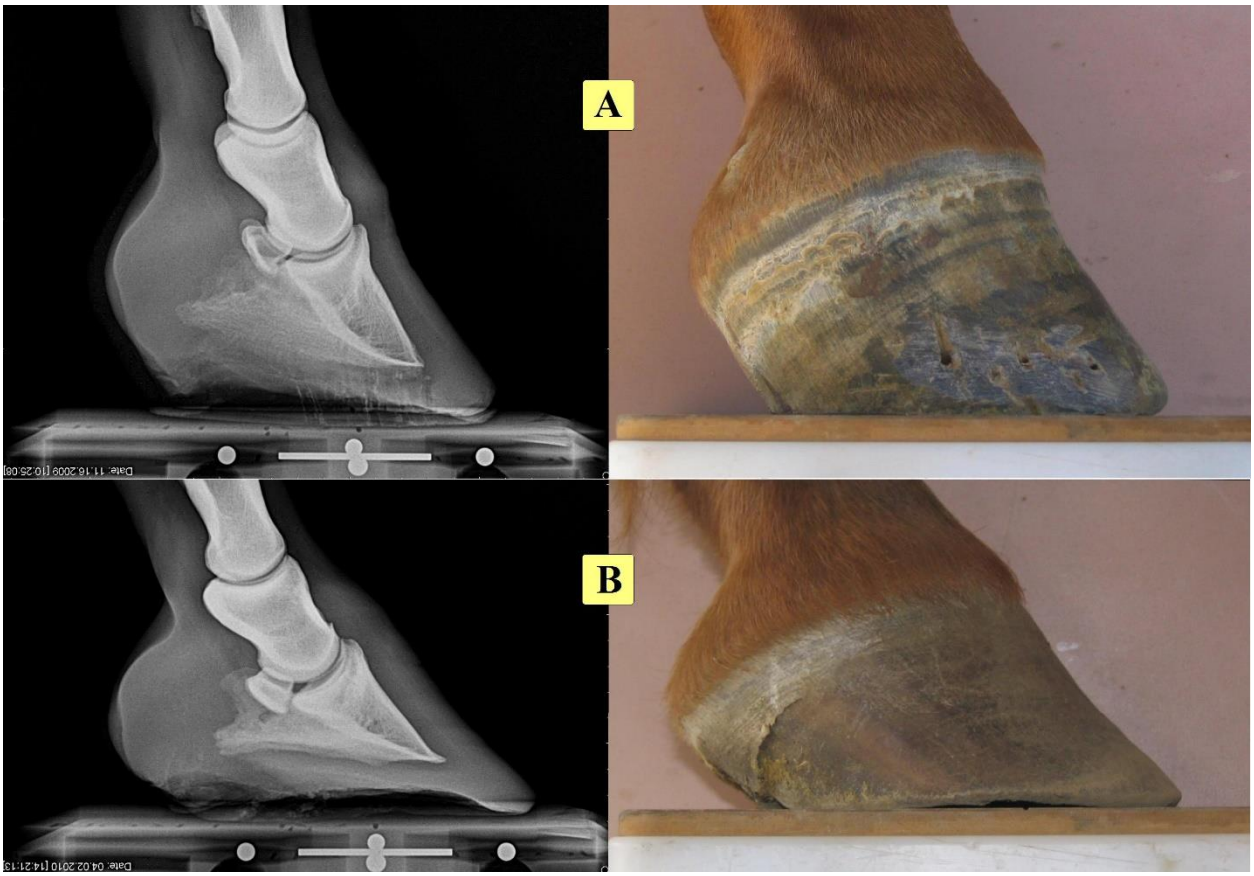

Figure 6: The hoof in A is with high walls. This is not a true club hoof in this instance. I had just removed the metal shoe and this hoof was not trimmed yet. However this hoof is a high walled hoof, the pedal bone is also more upright. The hoof in B does not have high heels and its pedal bone is on a flatter side. The hoof in B was not trimmed either.

Take Preventative Radiographs

I highly suggest that horse owners occasionally take 'preventative radiographs'. Have your veterinarian take preventative radiographs. Do not wait until your horse has hoof related lameness issues to ask for radiographs. The optimal time to take preventative radiographs is when your horse is sound and its hooves are at their best. Give access to these preventative radiographs to your farrier or hoof trimmer. Radiographs give valuable information about a hoof: like the exact shape of the pedal bone, current sole depth, toe length and much more (see

figure 7.) Preventative radiographs are a good reference to come back to if hoof related lameness issues arise.

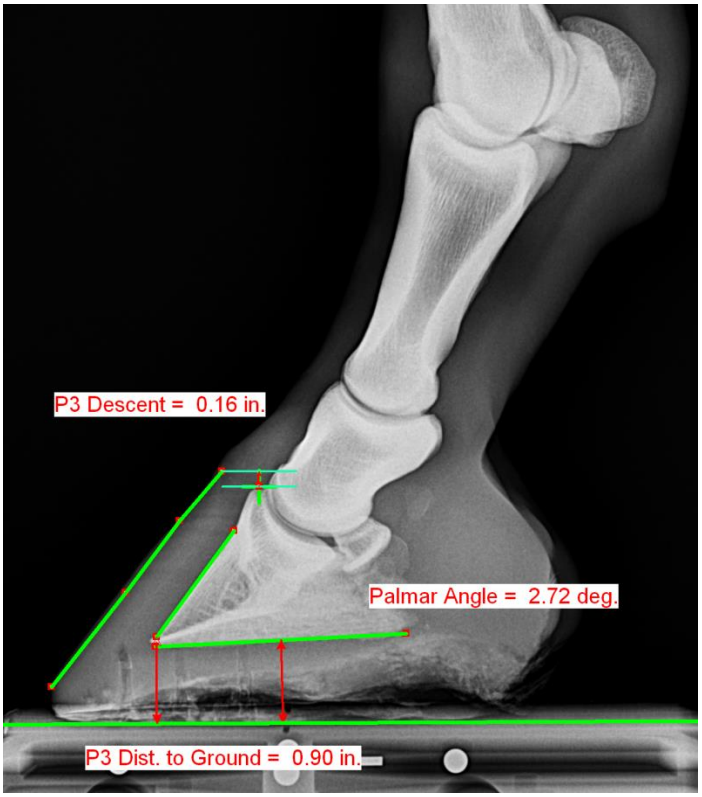

Figure 7: A preventative radiograph can be a great aid to hoof care. Better yet, a radiograph which has been accurately measured as in this example. The 'Palmar Angle' is an important measurement which gives the angle formed between the ground and the underside of the pedal bone. My rule of thumb is that it should be in between 1.5 degrees and 6.0 degrees. The 'P3 Descent' measures how far the pedal bone is falling below the top of the hairline – this is ideally a small value – less than half an inch for an average sized hoof. Radiographs also help the farrier assess the thickness of the sole – in this image the 'P3 Distance to Ground' give a measurement of sole thickness at the tip of the pedal bone. Ideally this value is greater than half an inch for an average sized hoof.

Pay Attention to Nutrition

Nutrition is very important. Do not overfeed your horse. It is hard to maintain healthy hooves if a horse is obese. Obesity may eventually lead to metabolic problems. These could induce laminitis: from mild to serious episodes. If you need to find vitamins and other supplements for your horse, start first by assessing your current feeding protocol. Sometimes a simple change in hay can help with improving hoof health. If you provide a pellet feed formula for your horse, read the labels carefully. Most pellet formulas already contain vitamins. You may actually hurt your horse by over-supplementing its feed. I am not against feeding vitamins, herbs and other supplements but I am very careful how I dispense them.

Monique Craig is founder of the Epona Institute (www.Epona-Insitute.org) and the developer of the EponaShoe (www.EponaShoe.com) and has just published a book entitled "A Modern Look at… The Hoof" (www.EponaBook.com).