

The Trouble with Donkey Hooves

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There seems to be an ever increasing number of donkeys kept in Australia, not for riding, but as family pets or, increasingly, as livestock warriors on farms - mostly to protect sheep from dogs and foxes. Donkeys are enigmatically very good at both jobs.

Pet or warrior?

It is probably a good thing that donkeys are rarely, if ever, ridden because it seems that most domestic donkeys in Australia have hoof problems. This is not an exaggeration; it's just that most punters wouldn't notice anything wrong with their donkey's hooves.

The trouble with donkeys is that they are much more stoic than horses. They don't complain or limp unless they are really in strife. Besides, if a donkey doesn't want to move - because it has sore hooves - it's not lame, it's just a stubborn old 'mule'.

Is ignorance born of such asinus stoicism also the reason so many donkeys have neglected hooves?

The author sees many donkeys in his travels, but rarely sees one with the fully functioning healthy hooves that would pass muster as normal hooves for the breed. It could even be argued that the donkey 'industry' - owners and hoof trimmers alike - has a skewed view of what normal hooves should look like. Typical donkey hooves, which are considered normal, are actually pathological.

What then is the correct 'normal' for donkey hooves?

Donkeys are desert country animals. Their hooves are engineered to endure tough, dry footing and lots of miles as they wander and browse over large distances, day in and day out. A good Australian example is the population of feral donkeys that inhabit the rocky ranges of the red centre (See Images 2A & 2B on Page 62).

Such an environment is far removed from the relatively soft and often lush surroundings that domestic donkeys are kept in. This is why hoof problems are so prevalent... A donkey is more than just a horse with long ears!

Whilst donkey hooves function the same as horse hooves - after all, they share the same ancestors, and a hoof is a hoof - donkeys have specific adaptations and subtle differences that arise from evolving as a rocky range desert animal as opposed to the horse which is a prairie animal. Rock versus soil.

Quite noticeably, donkey hooves are smaller, steeper and more flexible, but tougher than horse hooves. They are built to break rocks. What's more, the hoof wall is thick right to the heels, the sole is relatively thicker and more concave, and the frog extends further rearwards than the hoof capsule - all of which provide maximum impact protection so the above mentioned rocks don't break the hooves.

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back of the hoof capsule. This means there may be closer to half of the ground weight-bearing surface in front of the frog on a donkey hoof, compared to only a third or less on a horse hoof - presumably an adaptation to enable greater frog contact when the hoof hits rocky ground (See Image 1 on Page 62).

The frog on a normal donkey hoof is also a greater proportion of the overall ground surface area than the frog on a horse's hoof and is quite bulbous. With such a large, effective frog, wild donkeys are incredibly sure-footed when galloping across even the rockiest of terrain.

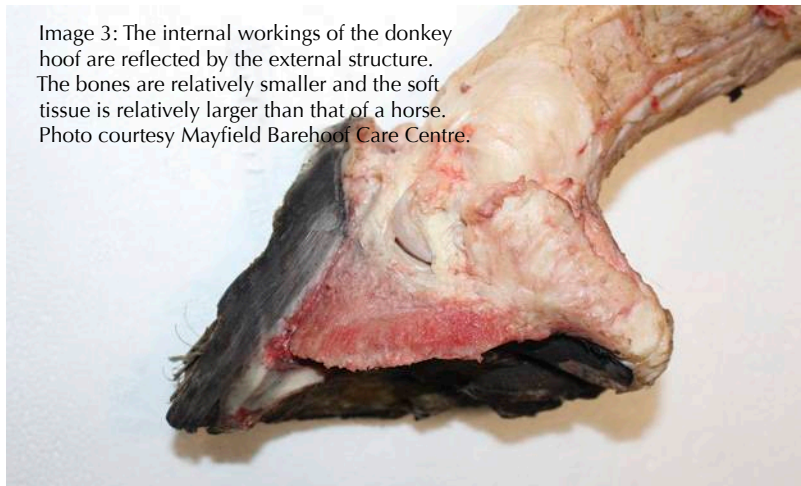
Please note that normal is not the upright, boxy and contracted hooves with a non-weight-bearing frog so often seen with domestic donkeys.



Image 1: In a normal horse's hoof such as this one, the heels finish at the widest part of the frog, whereas on a donkey hoof, the widest part of the frog should be well past the back of the hoof capsule. Photo courtesy Mayfield Barehoof Care Centre.



Image 3: The internal workings of the donkey hoof are reflected by the external structure. The bones are relatively smaller and the soft tissue is relatively larger than that of a horse. Photo courtesy Mayfield Barehoof Care Centre.



“Unlike horses, if donkey hooves overgrow, the sole will likely keep pace with the walls and won't exfoliate. This means that the visible sole plane cannot be used as a definitive guide.

It has long been a misconception that donkeys should have high heels and no frog contact. This is linked with the previously mentioned skewed perception of 'normal', and has probably arisen from frogs commonly being diseased and sensitive and, therefore, considered to be better off away from ground contact. If only frogs could function thus.

Similar to horses, when a hoof is viewed from the side, the angle of the capsule should match the angle of the pastern. This indicates that the heels are low enough and the bones are correctly aligned.

What about inside a donkey's hoof?

The internal workings of the donkey hoof are reflected by the external structure. The bones are relatively smaller and the soft tissue is relatively larger than that of a horse. Again, built to withstand rocky impact (See Image 3).

Although this donkey has a typically diseased hoof with an overly thin sole, the pedal bone is relatively small compared to the frog, digital cushion and lateral cartilage. Notice also how thick the hoof wall is.

Trimming donkey hooves

Regular trimming is needed to counteract the inevitably unsuitable environment that doesn't produce natural wearing. The trimming process is quite simple, but needs to take into consideration the unique features of donkey hooves. It should start with a thorough cleaning out of detritus from the hoof, followed by debridement of loose flaky sole and overgrown frog tissue to determine how much overgrowth there is.

The wall can then be trimmed down to sole plane the whole way around the hoof. Hopefully this will restore the frog to ground contact - although be mindful that the frog may be overly sensitive if it is diseased. Palpation will determine this.

The author has most success at producing healthy hooves on donkeys when trimming the outer wall at 45 degrees so it is fully removed from ground contact (See Image 4 opposite).

Donkeys probably should walk on the very outer rim of sole, the laminar line and just a sliver of inner wall.

The finished hoof should look neat and well-rounded, and be free from any diseased tissue.

Whilst trimming may not need to be done as often as is needed with horses, it needs to be done often enough to prevent hooves from overgrowing. This is probably every six to eight weeks.

Dealing with hoof deformity

Unlike horses, if donkey hooves overgrow, the sole will likely keep pace with the walls and won't exfoliate. This means that the visible sole plane cannot be used

OPPOSITE Images 2A & 2B: Donkeys are desert country animals. Their hooves are engineered to endure tough, dry footing and lots of miles as they wander and browse over large distances, day in and day out. Photos courtesy of Anya Lavender www.angelfire.com/al4/anyashoofcare.

Image 4: The trimming process is quite simple, but needs to take into consideration the unique features of donkey hooves. Photo courtesy Mayfield Barehoof Care Centre.



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Image 5: Overly long walls can lead to the sideways collapse of the entire hoof capsule. If a hoof does collapse sideways, it can take a long time and many trims to rectify. Photo courtesy Mayfield Barehoof Care Centre.

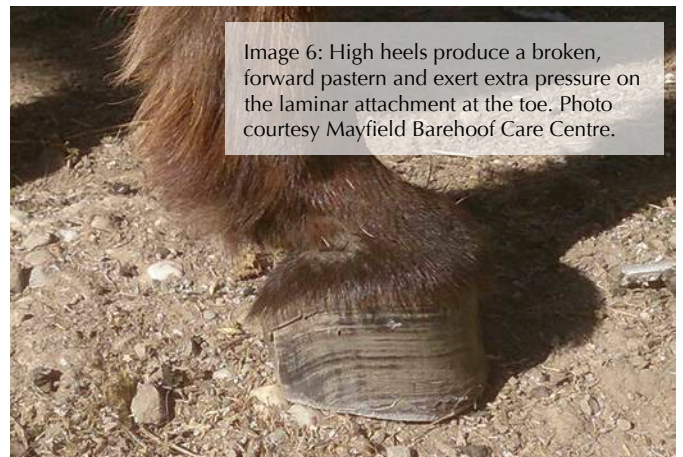


Image 6: High heels produce a broken, forward pastern and exert extra pressure on the laminar attachment at the toe. Photo courtesy Mayfield Barehoof Care Centre.



Image 7: Similar to horses, when a donkey hoof is viewed from the side, the angle of the capsule should match the angle of the pastern. Photo courtesy Mayfield Barehoof Care Centre.

as a definitive guide. If hooves grow long, excess old sole will need to be removed, in which case the collateral groove depth can be used as a guide. Any depth greater than about 20 mm indicates an overgrown hoof.

Often the toes will remain short and only the heels will grow too long, resulting in high heels with contracted and dysfunctional frogs. High heels produce a broken, forward pastern and exert extra pressure on the laminar attachment at the toe; further weakening it and allowing pathogens easy access into the inner hoof wall (See Image 6 opposite).

Overly long walls can also lead to the sideways collapse of the entire hoof capsule (See Image 5 opposite). This is obviously not good for the joints or the connective tissue and should be avoided. If a hoof does collapse sideways, it can take a long time and many trims to rectify.

Pathogenic invasion is also more common in donkeys than horses, due to the hoof wall being more open and less dense, coupled with the seemingly ubiquitous laminitic weakness of domestic donkey hooves. Seedy toe, white line disease and thrush are the usual suspects.

Any such pathogens should be rigorously pursued, firstly with removal of diseased tissue, but then with the topical application of effective 'bug' killers.

For seedy toe control, peroxide (3%) makes an effective knockdown killer, but it needs to be followed up with a penetrating residual, such as Black Heeler. White line disease may need a stronger agent, such as phenyl, and frog thrush may respond to a softer treatment, such as cider vinegar.

Seedy toe areas should never be left untreated and any suspicious black lines should be fully resected back to healthy tissue - a job for the professional if cavities are significant.

Managing a donkey's environment

It ultimately doesn't matter how good the trim is, if the environment is not correct donkeys will not have healthy hooves. Donkeys are desert animals and need to stand on dry ground, at least for some portion of the day. If you live in an environment that is constantly wet, a dry area should be provided so that donkeys can at least be shut in at night to dry out their hooves - ideally with a roof overhead and a deep footing of roundish river pebbles.

Create movement

Movement creates healthy hooves. Fortunately, donkeys have an innate desire to keep moving and in domestic situations they seem to thrive

in loop paddocks which allow continual movement, whilst restricting pasture access, especially if they have other donkeys in with them.

Rocky passes can also be created and these will be traversed regularly as donkeys continually move around a loop.

Feed a donkey a donkey's diet

Diet is also a very important part of hoof management. Donkeys are more efficient at digesting food than horses are and have a greater tendency to become insulin resistant. This is why many common rules of horse feeding are actually detrimental to donkeys.

A donkey diet is simple. Get a good supply of plain grass hay and feed it out generously. Donkeys much prefer munching hay than grazing lush pasture. In addition, maybe toss some branch trimmings into their living quarters at regular intervals so they can chew twigs and bark.

Remember, next time you are leaning with all your weight into the lead rope and your donkey just won't budge, maybe its stubbornness is the donkey way of stoically telling you its hooves are sore.



Remember, the next time your donkey refuses to move from the lead rope, it could be a sign that they are experiencing pain or discomfort in the hooves. Photo courtesy Cristina Wilkins.



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