



Get a grip

by Andrew Bowe
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It's a fine line

If a horse doesn't have enough grip on the surface it is travelling over, it is likely to slip. Obviously this can result in a fall for horse and rider.

Too much grip on the other hand, especially when moving at speed or turning or jumping, and there can be some serious long term implications for a horse's soundness.

There used to be a simple answer to an easy question. Horses were left barefoot until ridden and then they were shod. If they were jumping for competition, studs were put in the shoes for extra grip.

Whilst this is still the norm for horses in high level eventing competition, the edges have become a bit blurred elsewhere.

Nowadays, horses are not always routinely shod. They are often ridden barefoot and the use of shoes is somewhat circumspect. Not only are there other forms of effective hoof protection available now that do not disable hoof function, but the horse owning population has an increased understanding of the link between long term shoeing with its unavoidable loss of hoof function and the onset of chronic lameness such as

navicular, ringbone, sidebone and coffin joint degeneration etc.

In addition, as the years pass and horses come and go (all too often breaking down prematurely), there has been a realisation that excessive grip is quite damaging.

Whilst the author is very mindful of the need for safety for horse riders, he has also been around the industry for long enough to have seen countless horses absolutely trashed in their rider's pursuit of 'blue velvet'.

Grip through a horse's eyes

Before we talk about the issue of grip for riders of horses, a quick word about what grip means for a horse.

A primary function of the hoof is to facilitate agility. Horses evolved as a prey animal that was on the lunch menu for many big carnivores, so to survive it not only needed to be very fast but it needed to be agile. Agility relies on grip. This is why equine hooves do not have a flat weight-bearing surface. Rather, they are concaved in the sole and curved through the quarters in order to grab the ground.

However, the flipside to this subject is that when a large animal is moving at speed, huge forces are generated and these need to be dissipated. This translates to the need for controlled deceleration. In other words, a small amount of slippage. Hooves are not meant to just stop dead on the ground. They actually need to slip forward a small amount to take shock out of deceleration.

With domestic horses, this need for a small amount of 'slippage' is increased by the added weight of saddle and rider and then further magnified when a horse lands after a jump. If the hooves are pulled up too quickly without any slippage, all of the foreleg joints (especially the knees and elbows) get 'smashed'.

Likewise, horses twisting on loaded hooves need them to slip laterally a small amount so as to avoid 'torqueing' the hinge joints of the lower leg.

The issue of too much grip has become more prevalent with the advent of artificial riding surfaces in both the racing and dressage worlds that are quite 'sticky'. Great for the rider, but not so good for the horse.

So reliant are horses upon their innate need to correctly grip the ground, not too little, not too much, their hooves grow to suit the ground they are spending most of their time on. On harder ground they tend to have flatter hooves, whereas on softer ground they tend to develop more concavity and curve through the quarters.

Grip through a rider's eyes

Grip from a rider's perspective is a bit different because the effect of excessive grip would rarely be considered from the saddle. Instead, it is all about avoiding slipping to maintain safety and confidence for both rider and horse. Fair enough too!

If horses are being ridden without shoes, it is important that they are trimmed to have the right amount of grip for the work they are doing.

Trimmed specifically to go barefoot, the equine hoof's inbuilt concavity is utilised. This is combined with hooves that are left to grow a bit longer with a prominent heel corner that can act as a 'pseudo' stud.

The trimmer can use the rim of functional sole plane as a guide (it is actually the external skin on the bottom of the hoof that directly reflects the shape of the underlying pedal bone) and then trimming the hoof wall a consistent height above it, especially following the shape of the solar curve in the quarters. In addition, the outer wall (that component of hoof wall that grows down from the coronet band) should be rasped off at 45 degrees, thus leaving a sharp rim of inner wall to grab the ground.

Years ago, the author used to shoe dozens of little ponies that would have been slipping over at pony club rally if they weren't shod. But the reason for their slippage, especially on the frosty grass of north east Victoria was not the ponies' genetic inability to grip the ground under saddle, but it was how they were getting trimmed.

They were getting trimmed exactly how the farrier had learned at trade school; quite flat as if they were to have a shoe attached, but were left bare foot. The resultant flat hooves had very little grip. If all of those little ponies had been trimmed specifically to run barefoot, they most likely would not have needed shoeing.

(One of the most common questions the author gets asked is what would the difference between a 'barefoot' trim and a traditional 'farrier' trim be? Maybe that's a story for another day?)

It is usually not possible to create too much grip with an unshod hoof. Problems mostly arise when a bare hoof doesn't have enough grip, especially when horses are turning or jumping at speed.

Scenarios that may contraindicate bare foot riding may include (but are not limited to) high level event riding, trail riding on muddy mountain tracks and dressage or show jumping competitions on short, frosty grass.

These are times when hooves may need more grip than can be supplied by a bare hoof.

The obvious place to start is simply by shoeing; adding a sharp steel edge to the hoof. If it wasn't for the issues that arise with long term shoe use, the grip story would end here. Just put shoes on the poor thing!

Before shoeing is discussed, it is prudent to mention two other options with more favourable long term outcomes that may provide adequate grip in certain situations.

Hoof Boots

Hoof Boots can have studs screwed into the ground surface of the boot which may work quite well.

Why boots? They can be taken off after riding and a horse can remain barefoot in the paddock.



Hooves can be trimmed to have the right amount of grip for the work they are doing. The hoof's natural concavity is utilised, they are left to grow a bit longer, and are combined with a prominent heel corner that can act as a 'pseudo' stud.



Tips have been used successfully in situations requiring controlled grip such as trail riding on slippery mountain trails, stock work, campdrafting, pony club games, show jumping and eventing up to about one star level. For high level competition riders pushing the limishoes and studs may be required.



A word of caution - whilst hoof boots are an enormous development for keeping ridden horses sound long term, when it comes to needing grip, the wrong boot can be dangerously slippery on certain surfaces. It is best to contact your hoof boot fitter who can assist you to choose wisely for your given situation.

Tips

Another increasingly popular option that increases grip but still maintains hooves in a functional state are tips; especially the new style that has a stamped-in groove around the rim. Tips protect the toe whilst allowing the all-important frog to remain fully functional.

Tips have been used for race horses for many years and possibly ever since racing began. More recently the author 'reincarnated' tips as an effective compromise between a barefoot and a shod foot for hard working hunters that need to work at pace but then stop and prop and jump fences. These hunters were middle aged soldiers that had numerous niggling lameness issues that were threatening to end their careers. The sport of hunting was just too rigorous for a bare hoof, but tips provided sufficient grip. Interestingly, the lameness issues disappeared subsequent to shoe removal and the use of tips instead.

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Shoeing

High level competition riders, who are pushing a horse beyond its biological design, need to create a ground surface on the hoof that is mechanically beyond what the equine hoof is capable of.

Shoes may be needed.

When it comes to shoes for grip, the type of shoe chosen is important, with a sharp concave shoe by far the best. There are several good brands available.

Shoes can also be set up to accommodate screw in studs which will keep horses and riders safe in the most slippery of conditions. Most farriers offer this service.

Studs come in varying shapes and sizes so they can also be tailored to individual course conditions. Just don't forget to take them off immediately after the competition. Not after the float trip home!

In the end it comes down to safety.

A couple of precautions relevant to the grip story

Having a barefoot horse jumping safely and effectively depends on the horse itself. Some horses are naturally sure footed. Some are not so gifted.

If you have a bumble footed mount, with poor proprioception, don't be tempted to just plaster over the problem with a set of gripping shoes. A fall may be waiting ahead for you.

If you are shoeing for grip, avoid the temptation to refit old shoes. They can get quite polished and slippery. In addition, don't make the mistake of just shoeing the front hooves for grip. The equine motor is in the hindquarters and that is where grip is extremely important.

Bitumen roads are notoriously slippery for shod hooves.

Ultimately it is the jockey who is in the best position to determine how well a horse is gripping the ground it is travelling over. That means no sleeping in the saddle!

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Full details available on www.barehoofcare.com/trimming.html
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