

CRACKING THE CASE

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A horse's feet quite literally carry it to a championship, yet a lack of due diligence in caring for issues like quarter cracks still plagues the industry.

Horses are connected to man's existence at all stages — they've been the mode of transportation, the means to make a living and have carried us onto the battlefield. Today, our equine partners are often the primary means for competing. With so many years of knowledge under our belts, the task of properly caring for a horse's hoof shouldn't be a mystery, yet it is still an area horse owners overlook. Aside from regular shoeing, that lack of attention to hoof care can lead to major issues.

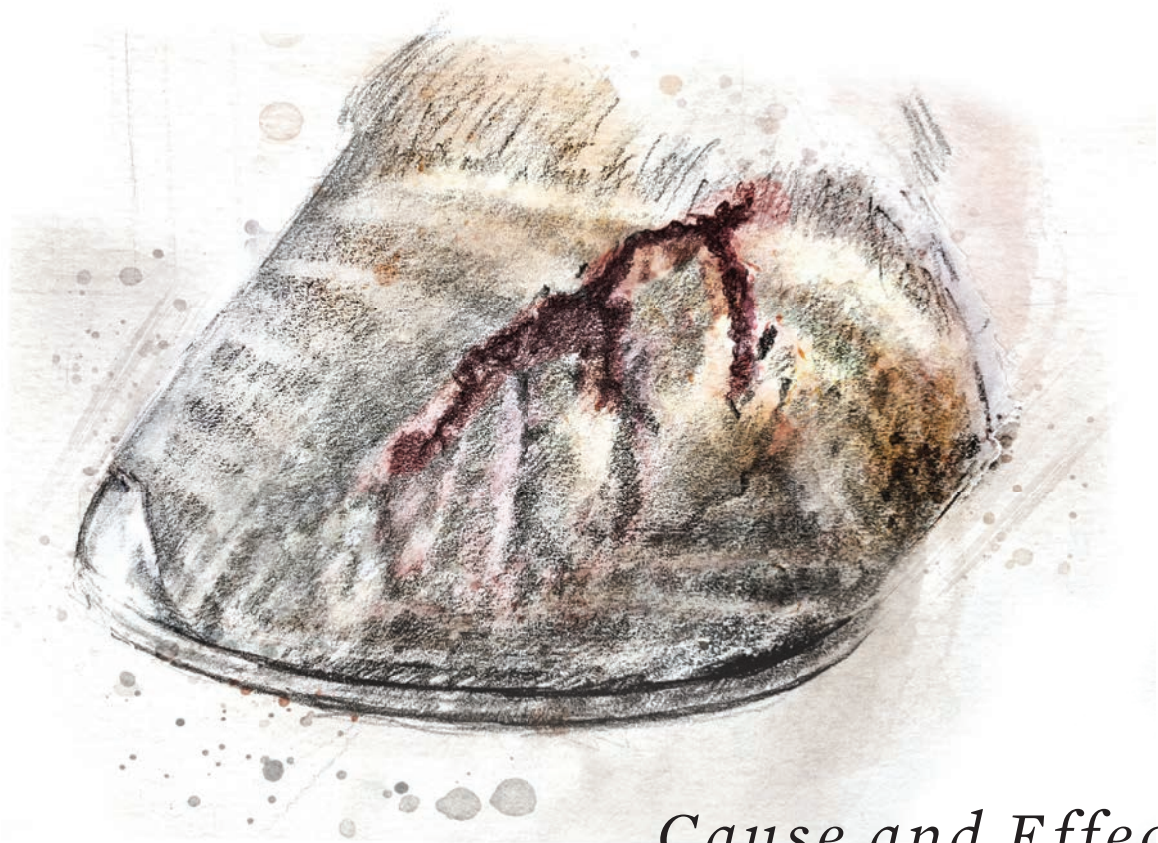
"Most blacksmiths want a shoe to stay on 30 days, and they feel they've done their job," says Ian McKinlay, who continues the work started by his father more than 40 years ago of lacing quarter cracks together like a stitch. "That is where all the problems come in with hoof lameness."

Proper feed, regular vaccinations and timely farrier appointments are the basics for most horse owners. Yet, when a competitive horse is aiming to make a run for a big title, be it the Kentucky Derby for Thoroughbreds or the National Cutting Horse Association's Futurity for Quarter Horses, trainers and owners tend to up the ante on care. Massages, ice baths, swimming to increase stamina and more become the norm, but what about the hooves?

As horses work harder, their feet hit the ground more often. When a horse is working with an unbalanced hoof, an owner or rider can expect problems to arise, starting with soreness. Then, a potentially painful and training-detering quarter crack can sideline a potential champion.

"There are so many young veterinarians and farriers involved in the Western performance world, and when they are presented with a case of a quarter crack and research it online, there is way more bad information than good," says Tom Curl, who has been shoeing horses since 1972 and was inducted into the International Horseshoeing Hall of Fame in 2006. "There are specialists in this world for hooves, just like there are for veterinary areas. When it gets down to it, we spend a lot on our show horses, and it amazes me what horses will sell for in the Quarter Horse world, so why not put out enough of an effort to ensure their feet carry them?"

Hoof experts McKinlay and Curl, as well as long-time performance horse veterinarian Alan Donnell, DVM, based in Pilot Point, Texas, weigh in on the various causes of quarter cracks, the repair quarter cracks may require and the issues many farriers are facing in correcting horse hooves.



Cause and Effect

CAUSE AND EFFECT

First, to understand the cause of quarter cracks, horse owners need to know what it is. Dr. Donnell explains that a quarter crack is a crack along the medial or lateral wall of a hoof, splitting it like a “V” and exposing the hoof inside the wall. Often, it starts at the coronet band.

“The large percentage of horses [who experience a quarter crack] are lame from the crack and can’t perform. If they are bleeding [from the crack] they are obviously going to be lame,” he explains. “A hoof sits in muck all day — shavings and mud — so what is the rate of infection from that? Eventually, they will be infected, and [quarter cracks] will be a lot worse from that.”

Due to the serious problem in racehorses, who are chronically affected by this ailment, California farrier William R. Bane patented the first patch for correcting or aiding a quarter crack in

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1964. The patch, which used a synthetic rubber called Neolite, covered the exposed area.

“It worked great but took 8 to 12 hours to dry, set up and be in place,” Curl says. “It was hard to get more than a couple horses done in a day. Then, in the mid-’60s, J.C. McKinlay, Ian McKinlay’s father, came up with lacing the inner wall on quarter cracks and incorporated a patch on it, somewhat like the Neolite, but that is where the system really turned. Successful horses at the racetrack didn’t need to go to the farm to rehab, but with this laced-in patch, [they] could keep going. It changed the Standardbred and Thoroughbred sport.”

McKinlay, of North East, Maryland, has made a living correcting quarter cracks using the same lacing technique he learned from his father, which requires drilling into a hoof and wiring the split together.

BRED TO BREAK

“My dad was a farmer, but horse racing was a hobby. He and a local dentist who had a horse prone to quarter cracks started messing with it, and the lacing came around,” McKinlay recalls. “My dad lost his hand in an accident, so I would hold up the foot for him. I watched him do hundreds of [these quarter cracks]. When I graduated college, he volunteered my services in Detroit to the Standardbred world, then I ended up at the New York tracks.”

McKinlay noticed two things when he arrived at the racetracks: Thoroughbred horses had the thinnest hoof walls he’d seen, and the surface they ran on had changed around the same time more quarter cracks appeared.

“In 1985, I was introduced to the Thoroughbred world. I never dreamed they had problems because they were running in 3 inches-deep [track], but they changed from dirt to stone-dust base,” McKinlay says. “In a few years, the sand [on top] will break down and horses are not made to handle that. I would have 10-20 horses in the process of correcting quarter cracks and they would all be running on worn out surface and the stone-dust [composite material] comes through on racetracks. It was all about the track’s surface and stacked up heels and the impact of running. Quarter cracks are prevalent all the time when a horse isn’t trimmed, balanced or is running on these hard surfaces with bad feet.”

McKinlay’s observation in the ’80s still rings true with Curl today. The surfaces of jumping horses, cutting horses, reining horses and racehorses dramatically impacts the quality of horse’s hooves.

“They have changed the footing and the shoes so much [in this industry] to try and accommodate what the trainers and riders want, but it isn’t helping the horse,” Curl says. “The old saying is, ‘We don’t patch slow racehorses.’ That’s because they aren’t going fast enough to tear up anything. The show world is much different. They are moving on these arena surfaces, and the concussion is impactful.”

While a horse with good feet, but a trim that isn’t perfect, can overcome that challenge to compete, a horse that starts off with a poorly constructed foot barely stands a chance. However, breeders and horse buyers don’t always look at the shape of the hoof before making a decision to buy or breed.

“I think Tom and Ian both will agree that, as we breed performance horses, we’ve bred the foot off of them,” Dr. Donnell says. “We don’t look at a horse that has offset heels in a pre-purchase exam — the buyer will still buy the horse. In the breeding refinement, we’ve lost their feet. I see more quarter cracks because of the feet conformation these days than I saw in the early ’90s. As long as the horse can perform, the buyer and the breeder don’t care what the feet look like.”

The mindset is that farriers and veterinarians can help keep the horse in the show pen, in spite of poor conformation that may create soreness.

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“It is all about the genes,” McKinlay says. “You would have what we call a mealy foot, not a healthy foot. A healthy foot has a tight wall. Certain stallions pass bad feet on to horses and it is more prevalent. There were stallions — in the Standardbred you can artificially inseminate — that bred to hundreds of mares, and you’d see a bunch of their offspring with quarter cracks. It carries through for generations.”

The cost of quality horses is often high enough that a pre-purchase exam is done. That is the first place Dr. Donnell will notice if a buyer falls into one of three categories.

“We all have a set of customers that say, ‘Whatever needs to be done for the horse, do it.’ Then we have middle-of-the-road customers that can spend less money, then a lower-end that don’t want to spend the money whether they have it or not,” Dr. Donnell says.

“Doing a pre-purchase exam, I can relate to farriers not having the leeway on being able to obtain the money needed to correct an issue,” he continues. “On a \$100,000 horse, I’ll [plan to do] a \$2,000 pre-purchase exam, and the buyer says they can’t spend that kind of money. First of all, they’ve bought the \$100,000 horse, given \$10,000 to the agent, but won’t spend \$2,000 to make sure the horse is sound. That isn’t very logical.”

No matter the horse’s cost or desired competitive arena, proper care for the hoof will make or break its worth for most owners.

FINDING THE BALANCE

Without condemning farriers, but rather pointing out a flaw in the education of those who work with hooves for a living, McKinlay, Curl and Dr. Donnell all point out a lack of understanding for the balancing of a horse’s hoof as the primary cause for multi-



Correcting Cracks

ple issues, including quarter cracks.

“I started X-raying feet for farriers in the 1990s to show them what we were dealing with, and I continue to do that today in 2023,” Dr. Donnell says. “We still haven’t been able to completely resolve the balance of the trim. [For] a horse with lameness that blocks out to the foot, the first thing a veterinarian should do is X-ray the foot. Unless you see the medial/lateral balance and the hoof-pastern angle, it is hard to determine how to correct a hoof that is blocking to lameness. A horse may be one centimeter higher on the outside than inside, but that can contribute to a potential quarter crack.”

Balance in a hoof requires a farrier

to look at the hoof on a flat, hard surface and ensure the angles match. It sounds simple, but many farriers do not take the extra step to do so or have not been taught to do so.

“I’ve heard [farriers] brag about how fast they could shoe one,” McKinlay recalls. “Walk it down the shedrow in deep dirt, so the farrier has no idea about how the foot is hitting and doesn’t measure anything before ripping off the shoe. Then, trims, fits the shoe, nails it on and goes to the next one. That farrier never stepped back to see if it was balanced at all.”

Balance isn’t something McKinlay was taught, though, when he started farrier work. It was when he met Curl

in the ’90s that McKinlay began to understand how to balance a foot “down to the floor.”

“As Tom says, it is how a foot loads when the problems will arise,” McKinlay says. “Sit the hoof on the floor — a flat surface — and balance on that coronet band. It changed the way I looked at feet.”

Curl involvement in the Western performance world is mostly in the Western pleasure arena to shoe and work with horses trained by his daughter, Shannon, and son-in-law, Chris, at Holbin Show Horses in his hometown of Vero Beach, Florida. He also works on reining horses and cutting horses across the U.S.

For Curl, watching the farrier and assistants fly through a barn of 30 to 40 horses quickly identifies the problem.

“Young farriers are going faster than ever before,” Curl says. “If one guy is shoeing a horse start to finish, a leading farrier may have three helpers under him, and there are a lot of hands on one foot. Things go astray easily. I’ve tried to explain to farriers, veterinarians, everyone that change needs to be made.”

It was through a horse in Texas that Curl met Dr. Donnell, whose La Mesa veterinary practice sees predominantly Western performance horses. Curl says that Donnell has proven, through X-ray, that imbalance in the foot causes quarter cracks.

“In my world, and when I get Tom and Ian involved, it’s starting with the trim of the foot,” Dr. Donnell says. “You have to trim a foot balanced. I see a few [quarter cracks] from trauma, but it is from the initial trim, then shoeing, that is not balanced and puts extra pressure on the inside of that foot.

“[With] some of the reiners and cutting horses, I will see a lateral quar-

ter crack, and I believe those are trauma-related,” Dr. Donnell continues. “Medial cracks are primarily related to poorly balanced shoeing.”

According to Curl, “Once you trim a foot and have it imbalanced, then lock that in and put a shoe on it, the horse is imbalanced for four or five weeks. The horse can’t wear off to rebalance while in that shoe; the hoof capsule is locked while it is going to grow.”

Today, many trainers are opting to keep a horse barefoot on its front feet to allow its hoof wall to expand, contract or reshape itself to the work it does. For Dr. Donnell, advising horses go barefoot is one way to avoid quarter cracks as well as self-correct unbalanced hoof trims in the front feet.

“We do not see quarter cracks in horses that go barefooted,” Dr. Donnell says. “My reiner clients, a lot keep them barefoot and only shoe them to a specific event when the ground is different. If a horse has a good hoof wall, and can stay barefoot, they are leaving them barefoot unless they need to be shod for a special show. This allows a horse to correct an imbalanced hoof through wearing off.”

While that advice can aid the horses, for Curl and McKinlay, it doesn’t address the lack of education that is currently impacting farriers across the nation when it comes to correctly balancing a hoof. Their shared goal is to educate and share knowledge on how to correct issues, like a quarter cracks, for the good of the horse.

CORRECTING CRACKS

When a horse doesn’t have the good fortune to either go barefoot or have a superbly educated farrier that can balance its hooves, quarter cracks can appear. Then it is time to call in a specialist to avoid a lengthy — and, for the horse, painful — recovery.

“There are a lot of people trying

to [solve] quarter cracks,” Curl says. “There are simple ones and really complex ones. There are people in the world you can call for help; fly them in. I have [shod] in 15 countries with 3 million air miles. With the McKinlay patch, you put the hoof wall back together, and it is going to be two or three times stronger than it was before.

“There is no need for a change in shoeing them, but many in the veterinarian community want to put a big package on the bottom of the feet [like a bar],” he continues. “In the show world, in any discipline, that makes a big difference in how the horse moves. In the race world, you can’t put those big packages on the feet. They can’t get down the fence after a cow or down the racetrack with hardware like that.”

Properly addressing quarter cracks is a growing problem Curl sees in the show world, while McKinlay believes it is a recurring issue in racehorses that hasn’t fluctuated up or down as of late. The changing surfaces in jumping arenas and reining arenas could be the culprit, but regardless of whether a quarter crack is caused by trauma in the arena or an unbalanced foot, it must be addressed.

“I’ve had cutters, reiners and more calling me about this problem, and they talk about how much the horse is worth but then balk at the price to have a specialist, like me, fly out to fix the problem,” Curl says. “Instead, they get [the hoof medicated] so they can show.”

Donnell has had many clients want to put a radiator band around the hoof and continue to show the horse instead of patching it in a way that will allow the hoof wall to come back quickly and, often, stronger.

For McKinlay, correcting a quarter crack is something that is not done once and left alone, but requires follow-up attention.

“The vast majority [of horses] will get one and come back,” McKinlay says. “The ones that are prone to cracks, they’ll continue to be a problem. Most

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Stabilizing the Hoof

though, they grow out on a hoof. As a crack grows out, down to five-eighths [of] an inch [from the original], I suggest strengthening the hoof with some glue. Then they don't crack. I've had horses race for a couple years without a crack after remedying one. You give the horse something they don't have — artificial integrity to the wall."

For the welfare of the horse and the longevity of its career, more attention needs to be given to the health of the hoof.

"Ten years ago, people said that lacing a quarter crack was detrimental," McKinlay says. "A quarter crack, you'll lose that entire quarter [of the hoof], but lacing them and stabilizing the hoof is

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Hoof problems can create more issues in a horse's ability to do its job. With the availability and affordability of X-rays, veterinarians can aid a farrier in correcting a potential problem by checking balance. However, when an imbalance persists, the advanced technology employed by a specialist to correct and recover a horse from a quarter crack is needed.

"Once I was told, if you get a good blacksmith, you won't need a veterinarian other than regular shots," McKinlay says. "That same person said all secondary lameness stems from sore front feet. A good farrier will focus on the front feet, and we can help the entire horse." 🐾