



# NATURE'S HOOFPRIINT

*The second article in our continuing series on the hoof features the new generation Cytek horseshoe - one of the 'hoof care' options available to horse owners.*

**A** radical new horseshoe is causing horse owners to question traditional horse shoeing techniques.

Cytek is a strange name for a horseshoe, but there is nothing strange about the theory behind the shoe.

The horse's foot plays an integral role in the whole equine anatomy. It's a complex unit of bone, tendon, cartilage, blood vessels, tissue and membranes that collectively affect the overall well-being of the horse.

How the hoof moves, rests, interacts with the ground, twists, turns and performs has an impact on the whole horse and any impediment, no matter how small, will force the horse to compensate resulting in musculoskeletal stress.

Why is the hoof development, health, growth and foot function of horses in the wild superior to their domestic cousins?

Studies on wild horses, under a variety of climatic conditions have illustrated that the shape and wear pattern of the natural unshod hoof has a distinct anatomy, in particular the breakover point - the point at which the hoof 'turns over' at the toe as it is lifted to take the next step - is entirely different from that of the domestic traditionally shod horse.

The breakover point is located further back from the toe in wild horses, directly resulting in a more centralised point of balance in all gaits at all times as compared to domestic horses.

Wild horses have naturally rolled toes where the foot curves upward at the front, like an athlete's running shoe. All hooves are circular in shape and upright with wide heels and short toes. By comparison the domestic, traditionally shod horse tends to suffer from flat feet characterised by an elongated shape, long toes and narrow, collapsed heels.

Domesticated horses' hooves require trimming regularly to maintain correct shape, size and balance because hooves, like human nails, grow continually. Whilst correct trimming is essential for normal function, shoeing isn't, but it certainly helps to prevent excessive wear of the feet and provide protection and grip. However, bad shoeing will create problems.

Continual expansion and contraction of the heels upon movement is necessary for

healthy hoof growth and normal blood flow through the foot.

The most common site of lameness in the horse is in the foot and anecdotal evidence suggests that improvement in shoe design alone can significantly benefit the horse, its foot function and overall movement, no matter the age, breed, or discipline.

Cytek claim that their cold shoeing system is producing real benefits in some horses because the design and fit of their shoes is based on the wild horse's foot.

The key to understanding the Cytek horse shoeing system is to recognise the role of the toe and the breakover point in movement of the horse. All horses, shod or unshod show that the point of most wear is at the toe. Traditionally shod horses are prevented from wearing their toes in the way nature intended because of the design and fit of the shoe.

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As a result the toe becomes long, leading to stress within the hoof. This can be expressed in a number of ways; widening of the white line at the toe caused by the sensitive and insensitive laminae being under constant pressure and leading to bruising, distorted hoof shape, and uneven horn growth often seen as flat feet splaying outwards. Tripping and stumbling is another tell tale sign.

Long toe configuration creates abnormal mechanical forces within the foot that will eventually lead to lameness. When the toe is free to grow and wear naturally it remains short and hoof integrity and strength are not compromised.

The long held belief that the horseshoe must be made to fit the foot is not strictly correct. The natural, integral hoof is structured to exploit the benefits of conical strength. Traditional farriery techniques usually involve trimming and rasping of the toe to re-balance the foot. This weakens the hoof structure because it reduces protection of

the pedal bone at the toe - in effect, it thins the hoof wall. If the toe is free to grow and wear naturally - as it can with Cytek shoes because they are fitted further back on the hoof - the toe remains short, minimising pressure within the hoof.

The shape and functionality of the foot can be influenced and improved by fitting a shoe designed to encourage the foot to grow to an 'ideal' shape. Conversely if the shoe conforms exactly to the shape of the foot when the horse is shod, the foot will soon overgrow the shoe causing the shoe to migrate inwards, resulting in bruising at the seat of the corn.

Cytek believes its shoe is the ideal shape and that many lameness problems, especially those related to laminitis and hoof deformity are overcome using their shoes.

## **CYTEK'S ROLE IN HOOFCARE**

Shoeing is carried out for two basic reasons: to prevent undue wear of the hoof as this can result in damage to the foot, leading to pain and lameness; to spread the load around the hoof wall.

The Cytek shoe allows the hoof to be maintained between shoeings because the shoe has no toe or quarter clips. This means the shoes are fitted back from the toe, allowing the hoof to wear more naturally. Their fit also provides ongoing heel support.

Research has shown that the front of the hoof wall is not a primary weight bearing section of the foot; it's the sole - between the apex of the frog and the front wall - that bears much of the horse's weight and is responsible for supporting the pedal bone. The unique broad toe design of the Cytek shoe promotes soil compaction between the sole and the shoe. This is desirable because it means the sole becomes weight bearing, which in turn stimulates maximum blood supply throughout the hoof capsule. The soil build up also supports the foot enabling the frog to perform as a shock absorber.

Whilst Cytek believe soil build up in the sole cavity is desirable, they are not suggesting that hooves should be left unchecked for stones or other debris that may cause irritation or lameness.

## **DIVIDED OPINIONS**

Opinion on this shoeing system is divided; however, Nick Roe, (BVSc) and Director Horse Business Management - Marcus

Oldham College says there is sound scientific evidence supporting the Cytek concept, but believes successful conversion to Cytek shoes is dependent on the knowledge of the farrier fitting the shoe.

Victorian master farrier, Ron Barrow is convinced that the Cytek shoeing system has a role to play in a farriers overall armoury of hoof care, but qualifies this by saying the Cytek shoe is not a panacea for all foot related conditions. Ron only recommends their use therapeutically.

***"I'm not advocating for a minute that we throw out the traditional method totally."***

"It's still early days but results to date are positive," says Ron. "The major point of difference I'm finding - which becomes evident early on following conversion to Cytek - is the positive change in the horse's movement and gait; there's a willingness to lengthen each stride and a more fluid, smooth movement.

"I'm not advocating for a minute that we throw out the traditional method totally and replace it with Cytek; but it's comforting to have an alternative and to be able to offer clients a choice."

If Ron has any concerns about the Cytek shoe it's that some farriers are making incorrect hoof assessments and using Cytek shoes when it's not necessary.

"Understanding the underlying cause of foot problems is essential; for example, the effect that a high protein, imbalanced diet has on a horses feet. This example doesn't necessarily warrant fitting of Cytek shoes, but rather modification to the horses diet.

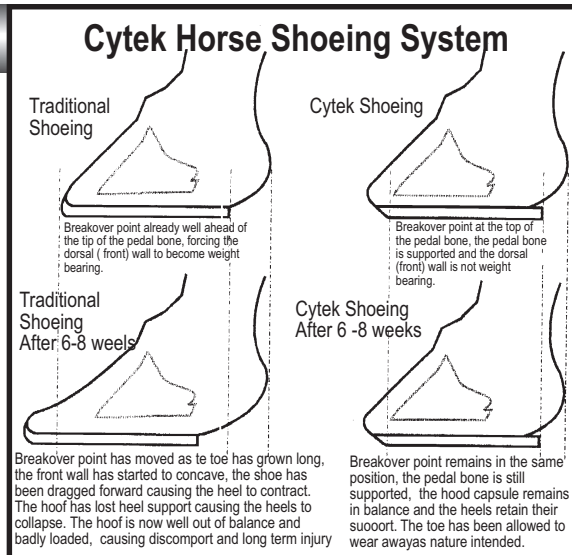
"It's important that farriers fitting Cytek shoes know what they are doing and have been formally accredited."

Eric Rosier, another master farrier agrees. As Cytek Australia's recently appointed Training Farrier it will be Eric's job to train and accredit professional farriers in this shoeing system.

Recently returned from a trip to the UK to witness for himself the results Cytek have been achieving over the last five years, Eric is convinced that the Cytek shoeing system is right.

"Designed to improve hoof health through better blood circulation, the results speak for themselves. I'm finding horses fitted with Cytek shoes are presenting with fewer cracked hooves, abscesses, seedy toe and corns.

"It's the application and fit of the shoe that makes them work. Because the Cytek fit is in line with the bony column of the horse, they allow the horse to achieve optimal balance, providing total heel support and greater comfort for the horse and rider."



## CONCLUSION

The jury is going to be out for some time on the Cytek decision; however, if the UK experience is any gauge, Cytek is here to stay. It makes sense to study the horses in the wild to understand the relationship of the natural hoof shape to the horses movement, balance and gait. It's also logical to try and replicate a system of hoof care for the domestic horse that mirrors that of the wild horse; and Cytek sees nothing wrong with challenging traditional practices provided the challenger has something of value to offer.

*by Helen Ward*

For more information on Cytek shoes contact:  
<http://www.cytekhorse.com>

# hoofbeats

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