The following is a paper submitted by David Nicholls of the U.K. for his lecture of the same name given at the 2002 “Essential Hoof Care Forum”

**Treating Laminitis: Going the Extra Mile**

By David Nicholls, RSS, AWCF, RJF

Treating laminitis takes time, expertise and sufficient finance to maintain the equine until recovery is complete. The length of treatment is governed by:

1. The severity of the case.
2. Early treatment utilizing both correctly fitted Styrofoam hoof support (First Alert Kit) and veterinary treatment.

“There are people who know the cost of everything but the value of nothing”.

When treating Laminitis it is value for money that is important and with so many treatments on offer it is difficult to discern which treatment is not only the most successful but also represents good value for money!

The following field study was taken from a selection of nine similar cases of laminitis. All nine cases received uniform veterinary treatment from the onset of laminitis.

- 3 cases were treated using steel heart bar shoes. These horses were kept on stall confinement in deep bedding and had frog support pads taped on the feet prior to and following shoeing.
- 3 cases were treated using plastic adjustable heart bar shoes, (“Eustace shoes”). These horses were kept on stall confinement in deep bedding prior to and following shoeing.
- 3 cases were treated using First Alert (Styrofoam support kits) and when appropriate, shod using the Equine Digit Support System. These horses all had access to limited free movement prior to and following shoeing.

All nine horses recovered and returned to their pre-disease work programs but there was a clearly defined pattern of value for money, relevant to the treatments given.

The costs of each case included both the veterinarian’s, farrier’s fees and any long term veterinary care, medication or specialist farriery. At this point I came to a crossroads regarding treatment. To my surprise! Despite the initial start up cost, the Equine Digit Support System came out the cheapest option and the most successful treatment to return horses back to pre disease soundness and in some cases had actually elevated them to a higher level of soundness not previously experienced.

**Financial considerations:** The start up costs for steel heart bar shoes were the lowest, followed by plastic adjustable heart bars and EDSS was the highest start up cost.

The shoeing periods for both types of heart bars was three - four weeks. The shoeing period for EDSS is six - eight weeks. Each time the horse was presented for shoeing “x rays” were taken to assist in shoe placement and monitor progress.

The horses wearing steel heart bars wore these for their lifetime.

The horses shod in plastic adjustable heart bars, wore these until they could tolerate nailing steel heart bars. These horses wore steel heart bar shoes for life.

The horses wearing heart bar shoes were maintained under veterinary care for a minimum of one year.

The horses shod using EDSS were shod for an average of three times, then shod in Natural Balance shoes and returned to the owner’s regular farrier. These horses were maintained in Natural Balance shoes at regular shoeing fees.

**Conclusions:** Treating horses with bar shoes creates dependant pathology, thus making these horses dependant on their continued use, to remain sound.

Both types of heart bar shoes required long term veterinary and farriery input.

The plastic adjustable heart bars have a high start up cost thus making their use the most expensive overall.

Although steel heart bars were a relatively inexpensive start up when veterinary fees and the additional cost of lifetime maintenance of bar shoes, makes this an expensive option.

Equine Digit Support System followed by continued shoeing in Natural Balance shoes yielded the best results at the lowest costs. Despite the high start up cost, veterinary and long term maintenance fees were low in comparison to the heart bar options and offered the best value for money.

**Designing a high yield, financially viable treatment regime.**

**Stall rest:** Stall rest can be destructive to the recovery process. To confine a horse to stall rest is like confining a human to bed rest in solitary confinement. Horses are social animals and when confined in this manor, often suffer depression without the contact with other horses. This depression can lead to horses giving up the will to survive and recovery is often slower. I have many cases that have failed to improve in a stall but when moved from stall confinement into a small coral, have started to improve daily and have returned to pre disease soundness. I now see stall confinement as a retrograde step in a treatment program.

**Stability:** Styrofoam (First Alert), offers a cheap, reliable and efficient treatment for acute laminitis. Providing the horses feet have been supported using a correctly fitted Styrofoam support system (First Alert), it is usual for the horse to have become more ambulatory. This movement and support has been shown vital to the repair process. During this time it is usually possible to reduce the drug input yet, still maintain the stability of the disease process.

Why the Equine Digit Support System?

In my experience, heart bar shoes were a good shoe of their time. Some of the problems associated with heart bar shoes are; they rely on the frog alone as a support mechanism. The very regular shoeing not only increases the cost but also retards recovery when compared with EDSS. Armed with new, up-to-date and scientifically proven information we must move on and utilize a system that addresses the biomechanical needs of the foot for weight-bearing, circulation, physiology and pain response.

**Addresses natural weight-bearing:**

The digit is supported by using only the rear two thirds of the foot through correct hoof preparation and shoe placement. Uniform support throughout the bars, rear sole and frog is achieved by the impression material, which is similar to the way earth packs into the foot of the unshod horse.

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“I thank all the horses I have failed, they have taught me so much and enabled me to assist others.”
Improves circulation and physiology:

De-rotation of P3 behind the tip of the frog reduces pressure on the solar circulation. The design of the pad/shoe unit decreases the direct pressure on the solar circulation. Impression material moulds to all areas of the rear of the foot. I feel this uniform loading and unloading improves circulation, by allowing the (digital cushion/lateral cartilage) system to function as nature intended it to. This is accomplished without local ischemia and pressure necrosis, which often plagues systems which rely on frog support alone. Adjustable heel heights and frog inserts support only during weight-bearing and release when the foot is unloaded. This mimics the frog contact with the ground during the weight-bearing phase of the normal foot.

Allowance for pain response of the digit:

Shoe placement is such that Breakover of the digit is directly below the tip of P3, thus decreasing the lever arm at the point of break-over. Wedge rails elevate the heels to provide relief of static tension on the deep digital flexor tendon during weight-bearing and allows for easier lateral movement. Adjustments using different sizes of wedge rails and frog inserts (for heel height and frog support) can be done without removing the shoe. The design of the shoe/pad unit pulls the pad away from the anterior sole, eliminating contact with painful areas of the sole, especially under the tip of P3.

Acknowledgements:
Gene Ovnicek RMF & All at EDSS Inc.
All at Total Foot Protection Ltd
Mark Spriggs RSS
Mike Williams Dip WCF
The Lipshock Equine Hospital
John Walmsey MRCVS
Pauline Williams MRCVS
The Equine Veterinary Hospital Arundel

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