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FOUR POINT TRIM

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Horses are inherently born with good quality feet with rare exceptions. The genetic architecture that sculpts the feet during gestation also provides a natural self preservation mechanism for life. The self-correcting mechanism maintains a strong, durable horn capsule and protects the internal sensitive structure in spite of environmental conditions and terrain. This intricate design is not dependent on man and it behooves us to closely examine the handicaps we have placed on our modern day foot.

Most all daily maintenance regimes apparently alter the natural sensing mechanism that regulates horn response. The ill effects of shoes and nails have been discussed throughout the literature for many years and as a rule, the benefits outweigh the side effects. Side effects are cumulative and must be continuously weighed against the benefits.

Dysfunctional horn is the product of a multitude of variables. Regardless of breed, location, environment or daily maintenance programs, most all poor quality feet have similar characteristics:

- **weak heels**
- **underrun or folded forward heel tubules**
- **thin broken bars**
- **thin horn walls at the ground surface**
- **flat, thin soles**
- **shallow digital cushion**
- **visually large frog, but quite sensitive and thin**
- **shelly or brittle hoof walls**
- **traumatized white line**
- **toe cracks**
- **quarter cracks**
- **dished capsule**
- **surface crack**

And most all are very soft and extremely flexible, apparently due to high water content. Even though a multitude of variables influence balance and mass, it is the opinion of the author that water plays a major role with born deformation and degradation. Coupled with cumulative ill effects associated with mechanical horn removal, shoe fit and attachment, the horn capsule can become dysfunctional within weeks. The rapid loss of balance and mass is often overlooked by experienced horsemen, as well as professionals. Most athletic animals continue to perform successfully, in spite of the growing risk of horn failure. The survival instinct apparently offers a reserve cushion for some time following collapse of the normal hoof shape. Unfortunately, subsequent lameness soon follows. Consistent trauma to sensitive areas void of adequate protection invariably produce very unfavorable results at the most important stage of the athlete's career. Lameness diagnosticians worldwide feel that foot problems are responsible for many of the lameness problems associated with the upper lit and surely this is correct.

For years the focus of shoeing has been to correct an existing deformity or lameness, seeking immediate results. Veterinarians, as well as farriers, are asked to reduce pain and increase performance potential with quick fix techniques. Unfortunately, lasting results are seldom experienced and the real problem of horn dysfunction continues.

A reliable technique that consistently alters the ill effects of horn dysfunction and imbalance is desperately needed throughout the horse world. Most shoeing techniques force the hoof capsule to appear balanced, regardless of conformation, mass, or quality of horn. "If it looks good, it must be", this is the slogan often heard and is sincerely felt in the heart of most farriers, as they desperately try to make a spit polish job with every foot.

Balance remains a very important topic and hopefully we are slowly beginning to understand the basic principles and how it relates to soundness. The author feels mass of horn must always preclude balance to assure soundness of function. Mechanically creating desired balance with cosmetic form, unfortunately offers short term results. Within days of shoeing, clinches are raising and horn begins to push out over the shoe. The heel tubules often become more crushed in spite of egg bars, wedges and all the accessories that theoretically provide adequate support. Why? What happened? Stop one moment and answer these basic questions. Imagine the best horse with the worst foot on your regular shoeing schedule. Are you satisfied with the shoeing job when finished? What will it look like in four to six weeks? **Better? About the same or worse?** Is it not humbling to realize that most all feet receiving consistent care under apparently immaculate conditions, deteriorate daily and often are pathetic by the next reset? There is no logic to this madness when it is common knowledge worldwide that most bad feet are consistently corrected by Mother Nature if turned out a year with total neglect.

THE FOUR POINT TRIM

The four point concept has solved this dilemma for me, as well as others. It offers a very consistent, reliable means of correcting horn dysfunction and produces long term favorable results. My four point method is based on principals of balance and load forces described by my good friend, Dave Duckett. The mustang trim described by John Ross helped me understand the image I was looking for. Grant Moon and Gene Cvnicsek emphatically emphasize trimming to the widest point of the frog as an aid to restoring heel tubules. Billy Neville of Australia has pushed heels back, loading the posterior pillars for years, as a means of strengthening heels. My farrier friends in Belgium consistently maintain tremendous mass of foot, regardless of pathology, with constant loading of the pillars. Cowboy farriers that mimic the image of range horses seldom ever experience dysfunctional horn. I am grateful for the influence of our friends worldwide. Together, our thoughts and concepts will continue to evolve.

To prevent the degrading process from one shoeing to the next we must develop a new image. It is quite easy to know when the focus of this image is correct, as all feet, regardless of pathology, steadily build and or maintain mass and balance.

I find three basic types of feet that emphasize strength, durability and relative soundness. They are quite different in appearance but have very similar characteristics. Strong, unshod feet are a much better example of the ideal image than shod feet. They have the ability to consistently maintain mass and balance apparently due to the interaction with the ground surface. This unique sensitive mechanism is severely handicapped or lost with application of a rigid therapeutic



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device, regardless of the type of attachment. The scope of this paper will describe only the most desired and cosmetically acceptable image.

Barefoot Type I -- Maximum mass and acceptable balance. Horn wall carries majority of load, except along the quarters. Bars are heavy, sharing the load along the posterior third, white line lies, protected from trauma, well below the load surface of the wall. Maximum mass is best described as the following:

1. Horn wall 1/2 inch at the toe, 3/8 inch in the quarters, slightly thinner medial quarter, strong, wide wall as it forms the angle.
2. Dense, tough horn, ground contact except quarters that are just slightly unloaded.
3. Strong, upright bars, approximately 3/8 inch width, support load along the posterior margin.
4. Point of angle just slightly forward of the widest point of the frog.
5. Full thickness sole that seldom needs to be trimmed. Exceptions are seen following deep flexor tenotomies and long term use of therapeutic shoes that drastically reduce deep flexor tendon tension.
6. The frog has a density, similar to that of a rubber tire. Adequate width and depth to support the heels and quarters. Heels contract when this valuable wedge is dysfunctional.

The water content of the horn capsule will be quite low, creating a tough, durable shell with excellent recall and unique capability as an energy sink.

All feet have unique characteristics that clearly distinguish them from others and they also have basic similarities that help us better understand balance. Given time and total neglect, the hoof capsule builds mass, then slowly re-establishes balance.

The ideal hoof capsule is naturally asymmetrical, the medial branch is quite straight compared to that of the lateral. The frog lies slightly to the medial side of center line and break-over occurs center of toe or slightly lateral of center. The apex of the frog lies approximately 1-1/2 to 2 inches inside the center of toe. The toe shape is blunt with the widest point of the foot being slightly in front of the apex. The white line lies well protected below the ground surface of the wall on one side and full thickness dense sole on the other. The outer horn wall has a very smooth, polished appearance and a smooth burnished appearance along the load surface. The sole along either side of the frog and approximately one inch posterior of the apex rises well above the natural cup surface forming dense, raised modules (1/2 to 2 cm in diameter.) This area has been referred to as the bridge and apparently plays a major role as a support device for the arch of the capsule. Hoof angle measured along the upper 1/4 of the horn wall will be, front feet 55 to 56 degrees and one to two degrees steeper behind in most mature horses. Horses less than two years of age seldom have a stronger angle behind than in front. The foot just described would be free of major pathological disease and grade 2 or better conformational deformity. This type foot has a very small variance scale and requires little mechanical maintenance to assure cosmetic, as well as balanced appearance. The author views consistent self maintenance a prerequisite for normal balance. Feet that meet the above characteristics do not need shoes to be sound. They grow very little excess horn and are immune to most acquired problems, such as gravels, bruises, quarter cracks, toe cracks, corns and wall separations.

Shoeing the strong, healthy foot has inherent risks. These risks seem to be magnified by the effects of increased water content. Once the horn is saturated, its ability to withstand load and have recall is drastically reduced. The concept that feet must be soft and ice cold to be healthy is

prevalent among speed horse trainers and owners today. The author feels, the practice of putting mud in the foot to cool it out, simply destroys mass and balance quicker than all other ill effects put together.

The first criteria that must be met for the four point trim, is a stiff, tough horn capsule, which has a very low water content. The hoof capsule in its debilitated state is very vulnerable to rapid increase and loss of water. The first step in creating a healthy foot is to increase stiffness and maintain a consistent, durable horn capsule, this is required, whether shod or barefoot. The four point method applied to the tough hoof capsule, apparently enhances the sensing mechanism that regulates natural hoof growth.

Basic points to consider with the four point trim:

1. Lower the heel to the widest point of the frog, starting at the heel and working forward to the apex. This is very important, as the natural response for most farriers is to work from the toe to the heel. Starting at the heel, helps to preserve the anterior pillars that are found at approximately the first and second nail area.
2. Square the break-over, not the toe. Push the break-over back to within $\frac{3}{4}$ to one inch of the apex of the frog. This is a bit overkill, but it gets you mass very quickly. Keep a low profile with the rasp and stay perpendicular to the long axis of the frog.
3. Remove the sole between the pillars ever so slightly. A $\frac{1}{16}$ of an inch clearance is all that is necessary to prevent loading this area and stimulating the pillar formation.
4. Lower the quarters from pillar to pillar, being careful not to destroy the pillars.
5. Leave the frog, bars, sole and bridge intact.
6. Create a smooth radius on all horn that has ground contact. This prevents peeling and chipping.

Helpful hints: To produce sound, tough bare feet the author suggests to toughen the feet for several weeks prior to pulling the shoe. Pull the shoes at the end of a very long reset period. Leave all horn on the ground surface, except the area to be four pointed. Touch up all initial four point trims every two weeks for the first two to three trims and every three weeks for the next couple trims and then they can easily go to four to six week maintenance schedules. Allow the flares to form along the second and third nail hole area for the first two to three trims. This flare is very important, as it creates mass and apparently bridges the quarters, strengthening the horn tubules in the heel area. To control the width and thickness of the flares, continue to remove load contact surface through the quarters and sculpture the outer edges of the flare gradually over several trims. Ease the four point off once maximum mass and balance has been re-established. Always protect the white line from load with either tucking behind a strong wall or unloading with no wall. Keep the quarter slightly relieved, even when shod. Use the four point trim designed shoe to maintain strong feet.

Learn to read the foot before you touch it. Take nothing it needs and leave nothing that is detrimental -- **Good Luck!**

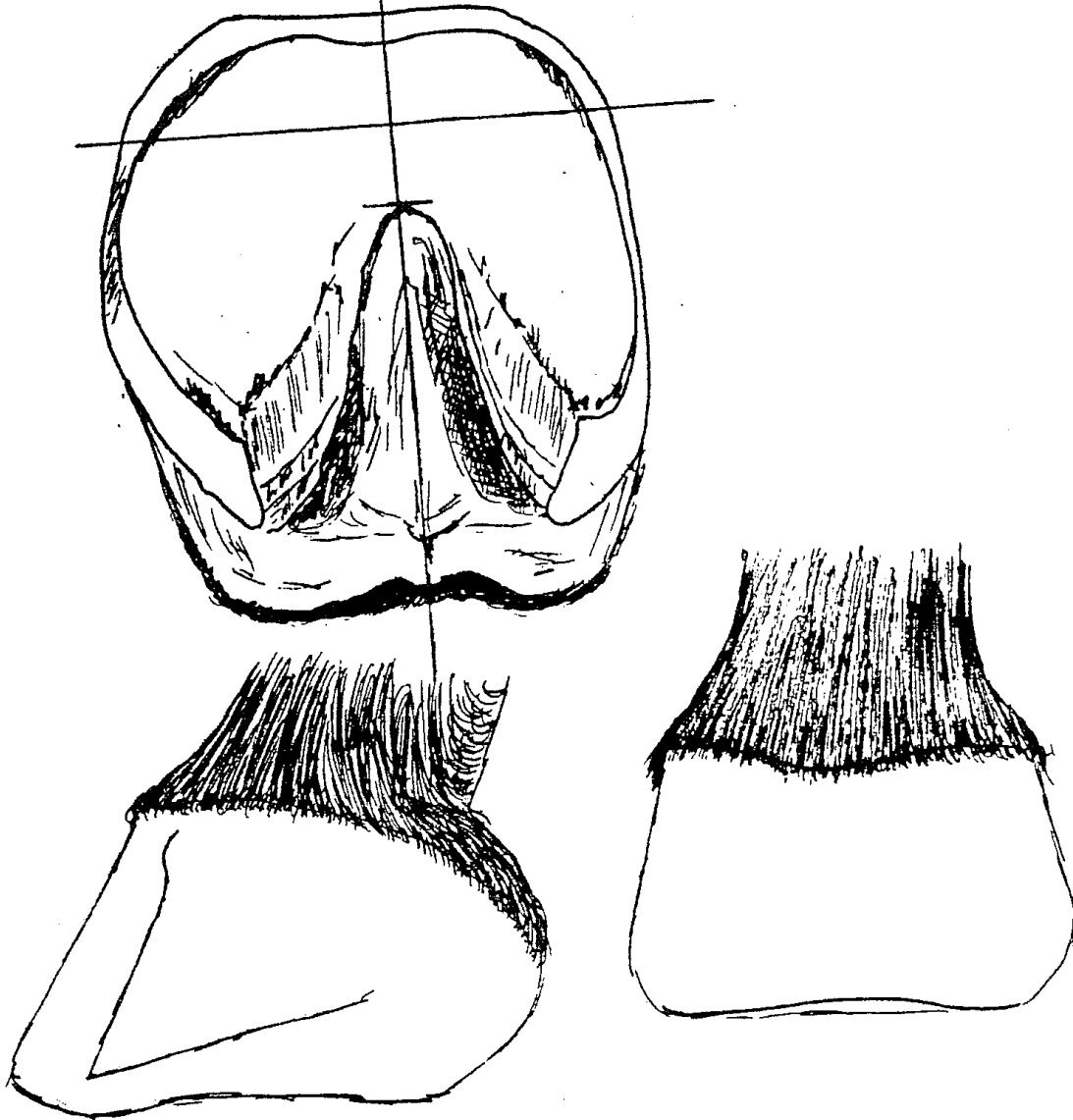


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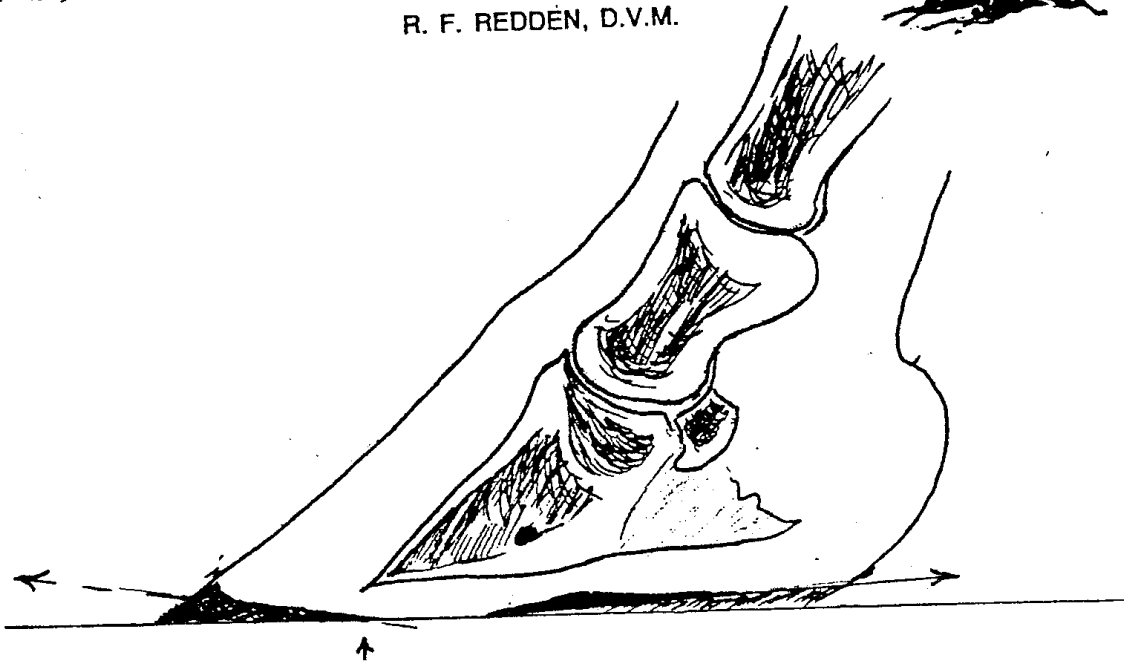


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1. Trim heel to widest point of frog
Start at the heel and work forward
Stop at the apex of frog
2. Push breakover back to within 3/4 to 1 inch of frog
Leave maximum mass at pillars
Maintain perpendicular frog
Low profile four point
3. Lower sole between pillars 1/16 inch minimum clearance
4. Unload quarters preserve rear pillars