Trim: The Essential, Missing Ingredient
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Using the ECIR Group protocol of Diagnosis, Diet, Trim and Exercise (DDT and E), members have improved the quality of life for horses in their care. Often a horse is properly diagnosed, the cause of the laminitis is removed with dietary modifications, medications, and regular hoof care — yet the owner reports the horse is not sound.

In shoes, bare, or in boots, the trim is most often the missing piece. Whether trimming themselves or working with a hoof professional, when caregivers understand the basics of an effective trim and how the trim impacts the recovery, the horse can make astounding progress.

ASSESSING THE TRIM

The view of healthy feet has been replaced by pathological feet so pervasively that what is considered “normal” has less to do with being “optimal” than it does with being “common”. Use of photos at ground level from all angles (lateral, toe, heel and sole) will reveal more than the standard eyeball view that most of us are accustomed to using.

For example:

Lateral photo views more closely assess (Photo 1A):
- Angle, uniformity of coronary band, e.g., bulges, curling (a)
- Horizontal length of toe (b)
- Dorsal wall distortion, e.g., bull-nosed, dishing (c)
- Distortion of tubule growth (d)
- Hoof-pastern angles (e)

Sole photo views more closely assess (Photo 1B):
- Heel buttresses: current location (a) vs proper position at widest part of frog (b)
- Contracted heels, atrophied and elongated frog (c)
- Size and shape of bars (d)
- Actual hoof proportions (e) vs healthy foot proportions (Photo 2)
- Evidence of migrating sole (a), stretched frog (b) (Photo 3)

Additional photo views can reveal high-low syndrome, imbalances and other factors.
THE VALUE OF RADIOGRAPHS IN ASSESSING TRIM

While only a veterinarian can diagnose from radiographs, owners and hoof professionals may learn to use them to assess the needs of the foot to maximize the trim, especially in cases of long-standing pathology. There is no substitute for actually “seeing” what is going on inside, e.g., distal descent and rotation, bone demineralization/remodeling, and compromised/uneven joint spaces, and other potential issues. Marking the foot for radiographs significantly helps with trimming decisions. (Photo 4)

Lateral-Medial and Dorso-Palmar views of all four feet are ideal, as laminitis does affect every hoof. When finances dictate, prioritize which views will be most helpful.

Marking the dorsal wall surface from the coronary band down to the ground with something conformable will help assess distal descent (sinking) and/or rotation. A thin line of barium paste is often used. Other options
are a thin piece of wire taped to the wall that follows its contours; or a piece of keychain draped and taped. (Photo 5)

Mark the tip of the frog with a dot of barium paste as a reference point. A short tack may also be used with care, especially if there is sinking. (Photo 6)

Playdoh used to fill the collateral grooves helps give definition to the bars and fills air pockets that can make Dorso-Palmar views of the coffin bone confusing to interpret.

Each foot should be set on a block equal in height to the one the hoof being radiographed is on. This allows you to assess medial-lateral balance, joint space changes, and P3 placement without having to make allowances for leaning. Stand the horse as square as possible.

Carefully line up the ray angle so it isn’t skewed, tilting up/down/oblique, or cutting off part of the foot. Check the exposure. Bad technique limits the usefulness of the shots. (Photos 4, 6)

HOW TO MOVE FORWARD

Through the use of photos and radiographs, the current trim has been evaluated and the problems identified. The next step is instituting a realigning trim. Often the biggest obstacle to success may be the image of what the foot is “supposed to look like”. A hoof in rehab doesn’t look like a healthy hoof because it isn’t — it is in transition. Rehab is about improved function, comfort, and repair.

LONG TOES AND THIN SOLES

The most common issue seen on the ECIR group is a long, horizontal toe with a thin sole. (Photo 7) The horse is sore. Long toes function like the engine on a runaway freight train. They drag the soles, frogs, and heels along with them, thinning depth and distorting all of the landmarks that are used to determine where to trim. They create lever forces on the laminar connections, tearing them with every step taken. Recognizing where the foot should be and reducing horizontal length are the first steps in achieving more sole depth. Don’t be fooled by the distorted location of the old white line into thinking that the toe is as far back as it can go.

![Photo 7: This looks like a common foot, often seen on the ECIR Group. With shoe removed you can start to see many issues.](image-url)
In a correctly balanced foot, toe callus forms under the leading edge of the coffin bone as a layer of thick, tough protection. It does not form in front of the coffin bone nor does it cover the white line. Anytime there is a thickening of the sole material at the front edge of the hoof, especially if it looks a bit chalky, irregular or flaking — it is dead, exfoliating sole that has run forward. (Photo 3)

Remove the excess horizontal length by backing the toe from the top. (green lines) This preserves sole depth as no wall or sole height is removed at the pillars, which protect the leading edge of the coffin bone. (Photo 8)

THE HEELS

Correctly positioned heels are even with the widest part of the frog. Whether underrun or high, they do not support weight bearing correctly. (Photo 9) Underrun heels contribute to ground parallel and negative-plane coffin bone scenarios, while high heels concentrate weight onto the bone’s leading edge, causing it to remodel and the sole to thin. Both are equally important to address correctly without removing sole under the tip of P3 at the pillars. (Photo 8)

The effect of trimming to current angles instead of realigning the hoof capsule to the bony column removes areas of the foot that should remain. Cuts to lower the heels made over the full length of the foot shorten the entire foot, remove sole everywhere and do not change angles. As a result, the sole is thinned while the same compromised hoof capsule-bony column orientation remains. (Photo 10a, b, c)
Thetrim in active laminitis and founder

In the aftermath of laminitis, putting a realigning trim in place immediately is crucial to minimizing any damage that has been done and gets the horse as comfortable as possible as quickly as possible without extended NSAID use. Time and a conservative trim approach are not your friends.

Whether barefoot or shod, draft, average horse, or mini, a physiologically correct trim that orients the hoof capsule to hug the bony column tightly will promote healing. By distributing the weight-bearing forces across all of the structures designed to assist, rather than suspending the horse completely from the already compromised laminar connections, proper alignment and healing can occur.

Summary

For the greatest success in the prevention of laminitis and/or during rehab, each area of DDT and E needs to be carefully examined and addressed. Successful plans will assess the clinical needs of the horse and balance their implementation with the individual’s temperament and the horse-keeping situation.

With laminitis/founder, most equines benefit from nothing nailed or glued on their feet to allow for frequent realigning trims. Whether done by a hoof professional or a knowledgeable owner, “less is more” works only if the interval between adjustments is short, i.e., one to two weeks. Longer intervals require that more be accomplished at each trim so that pathological growth doesn’t outpace the effects of the realigning corrections. Styrofoam, boots, pads or other products will help support the internal hoof structures, greatly increasing the animal’s comfort and often reducing the total amount of necessary drugs. In some cases, other appliances or specialized shoes may be useful additions but none of these can replace the application of the elements of an effective trim that makes steady progress toward the goal.
REFERENCES

1. https://groups.yahoo.com/neo/groups/ECHoof/info


3 Bowker RM. The Concept of the Good Foot; Care and Rehabilitation of the Equine Foot, Hoof Rehabilitation Publishing LLC 2011.

