



Equine Lameness Prevention Organization, Inc.

P.O. Box 1047 ~ Berthoud, CO 80513

Phone: (877) 513-5500 ~ E-mail: support@e-hoofcare.com

www.LamenessPrevention.org

E.L.P.O. HOOF MAPPING CHALLENGE

This year during the International Lameness Prevention Conference in Myrtle Beach, we will once again be hosting the "Hoof Mapping Challenge". This event is open to all attendees with prizes given to the top 3 finishers. A portion of the funds raised will go to the E.L.P.O. Research & Education Fund. We look forward to your participation in this fun and entertaining event!

When: Friday, September 22, 2017 – 4:00 PM

Where: International Lameness Prevention Conference – Main Ballroom

Who: Open to Anyone (Limited to 20)

Cost: \$30/Person

Prizes: 50% E.L.P.O. & 50% Split the POT – Cash Award for Top 3 Finishers (60%, 30%, 10% of the Pot)

Format:
A – Each person will receive 1 limb chosen randomly
B – Each person will have access to a JH Forge Hoof Knife, JH Dividers & Latex gloves
C – Each person will have 15 minutes to evaluate (number distortions), exfoliate their foot and map it out.
(Full Details to Follow)

~ Final Marks Need to Be Clearly Identified for:

1. Dimple in the back of the frog (central sulcus) & apex of central sulcus
2. Widest Part of the Foot (with clear marks on the outside of the wall)
3. Apex or Tip of the Distal Phalanx
4. Breakover Line

D – At the end of 15 minutes, each foot will be evaluated by 3 judges separately and scored according to accuracy of:

- Hoof Distortion Evaluation Numbers (frog, bars, heels, toe)
- The Dimple & Central Sulcus Apex
- The Widest Part of the Foot
- The Apex/Tip of the Distal Phalanx

E – Scoring will be done by 3 Judges based on the following criteria:

- 10 Points for Hoof Distortion Evaluation Accuracy
- 20 Points for Exfoliation
- 20 Points for Hoof Mapping

50 Points Possible from Each Judge – Top 3 High Points Place

Complete REGISTRATION FORM or Register Online at www.ILPC.info (Schedule page & scroll to the bottom)

Name: _____ Phone: _____ - _____ - _____

Address: _____ City: _____ State: _____ Zip: _____

E-mail: _____ List Additional Participants: _____

E.L.P.O. Hoof Mapping Challenge Participant # _____ x \$30 = TOTAL \$ _____

Check or Credit Card _____ - _____ - _____ Exp: ____/____/____ CVV#: _____

Signature: _____ Date: ____/____/____

Mail Form To: Bring to Conference & Pay During Check-in or Fax To: (719) 372-7272 or Call: (719) 372-7299

Grading Sheet for E.L.P.O. Hoof Mapping Challenge

Distortion Evaluation (_____ of 10 Points Possible) *[each foot will be evaluated by examiners prior to start, then numbers will be compared for score]*

- ___ 1. Accurate Evaluation of Central Sulcus Health (1 pt.)
- ___ 2. Accurate Evaluation of Frog Width (1 pt.)
- ___ 3. Accurate Evaluation of Frog Length (True Apex) (2 pt.)
- ___ 4. Accurate Evaluation of Medial Heel (1 pt.)
- ___ 5. Accurate Evaluation of Lateral Heel (1 pt.)
- ___ 6. Accurate Evaluation of Medial Bar (1 pts.)
- ___ 7. Accurate Evaluation of Lateral Bar (1 pt.)
- ___ 8. Accurate Evaluation of Toe (2 pt.)

Exfoliation (_____ of 20 Points Possible)

- ___ 1. Free of black and brown tracts/cracks (1 pt.)
- ___ 2. Reference points have no more than ¼ inch of flat waxy material (1/8" is ideal) (2 pt.)
- ___ 3. Bars have been managed properly (exfoliating sole and distortion taken into account) (1 pt.)
- ___ 4. Sole/wall junction is clearly defined (1 pt.)
- ___ 5. Laminae is cleanly exfoliated to the same level as the functional sole (1 pt.)
- ___ 6. Clearly identified sole "plane" that is exfoliated from seat of corn to seat of corn (3 pts.)
- ___ 7. Frog has been preserved to healthy width and height (1 pt.)
- ___ 8. Frog is free of loose tags and deep cracks with the exception of thrush, disease, ect. (1 pt.)

*Note: Wall may be trimmed down some if necessary, but no more than necessary to gain access to the sole (eg: within a ¼ inch of sole references)

Sole Depth

- ___ 1. Appear Uniform (welded or retained sole is managed properly if applicable) (1 pt.)
- ___ 2. Not invaded (meaning Healthy depth for foot conformation) (1 pt.)
- ___ 3. Still has pillars and toe callous if they are there to begin with (1 pt.)

Overall Finish and Craftsmanship

- ___ 1. Keep knife marks to a minimum (2 pts.)
- ___ 2. Resemble a self-exfoliated sole and frog (1 pt.)
- ___ 3. Frog resembles the shape of the digital cushion [not overly cut/trimmed] (1 pt.)
- ___ 4. Sole resemble the shape and contour of p3 [cup, symmetry] (1 pt.)
- ___ 5. Everything is smooth and clean to look and touch (1 pt.)

Mapping (_____ of 20 Points Possible)

- ___ 1. Foot is not overly marked (minimize wide lines & extra lines and marks not necessary) (1 pts.)
- ___ 2. Proper locations are marked (Add points from a, b, c, & d = 14 possible)
 - ___ a. Central sulcus dimple and apex (3 pts.)
 - ___ b. Frog apex (3 pts.)
 - ___ c. WPOTF (6 pts.)
 - ___ d. Tip of coffin bone (3 pts.)
- ___ 3. The line marking the WPOTF is straight across the foot & perpendicular to the centerline of frog (2 pts.)
- ___ 4. No marks on top of or next to the bars (so reference material/points can be judged) (1 pts.)
- ___ 5. No marks or fill in line around reference points (ie: pillars) (so reference points can be judged) (1 pts.)

Foot ID Number: _____ **Final Score** _____ **of 50 Points Possible**

4 Step E.L.P.O. Live Sole – Hoof Mapping Protocol

1. Recognize the Distortions of: *(Note any distortions or non-distortions you see!)*

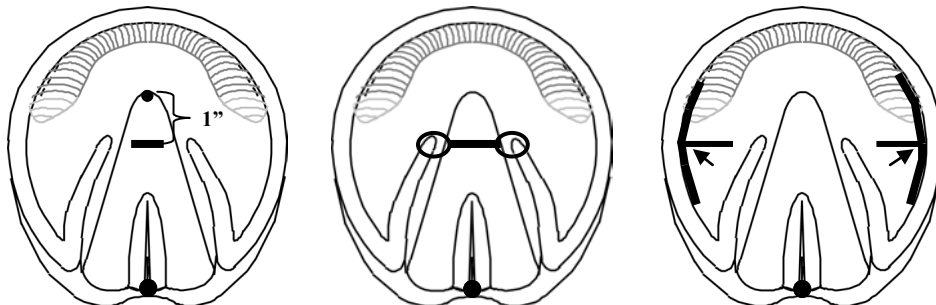
- The Heels (Mark the Dimple in the Back of the Frog to Assess Heel Position relative to the Back of the Foot)
- The Frog (Narrow, Long & Stretched, Diseased, etc.)
- The Bars (Excessive Curve, Laid Over, etc.)
- The Toe (Pointed on Front Foot, Seems Long, etc.)

2. Exfoliate the:

- Frog
 - * Identify the True Apex.
 - * Only loose tags.
 - * Clean Central Sulcus
 - * Trim corners so they don't interfere with the rasp when trimming the heels.
- Sole – Chalky Material
 - * Quarters (Extremely Important!!)
 - * Heels (Seat of Corn or 'V' between hoof wall and bars)
 - * Pillars or Toe Quarters (Be very specific as this is your primary M/L Balancing Structure)
 - * Across the Toe or Top of Sole Callus (be conservative if a barefoot trim)
- Bars – Fractures, Excessive Curves, Laid Over, Bacteria Traps, Etc.

3. Mark the:

- True Apex of the Frog
- Widest Part of the Foot (Use all 3 Methods to locate)
 - * From the True Apex of the frog, measure back (rearward) about 1" (on a size #0 to #2 foot) and draw a line. This is generally the widest part of the foot.
 - * Find the position where the bars terminate into the frog commissures. If you run a hoof pick up the commissures (from the back forward), you will find a raised hump or swell. The center of that hump or swell general indicates the termination of the bars. A line across the foot at that position generally represents the widest part of the foot.
 - * Mark an arc about 2" long in the quarters at the sole/wall junction on both sides of the foot. Slide a straight edge sideways and you should be able to visually see the peak of the arc on each side of the foot. This is the widest part of the sole.

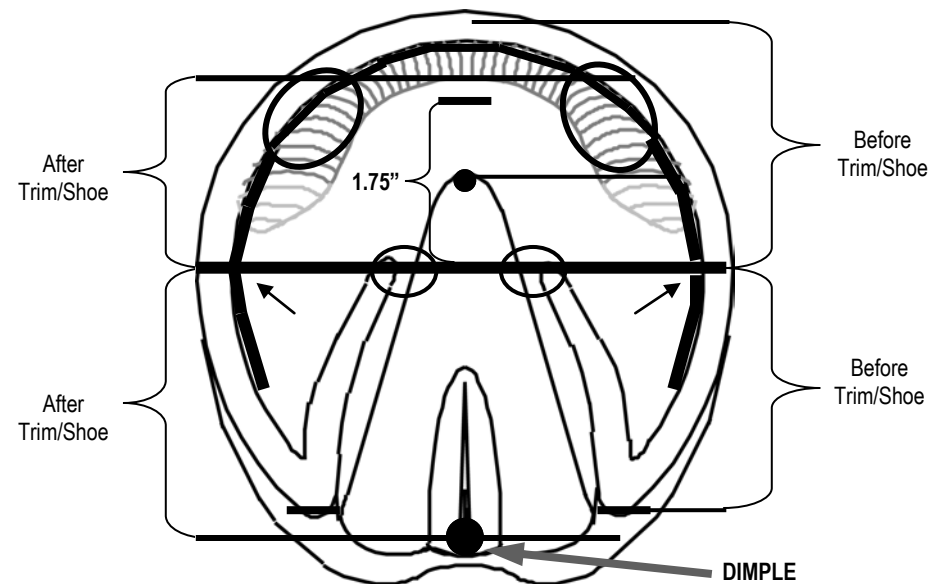


3. Mark the: *(Continued)*

- Approximate the Tip of the Coffin Bone [PIII] (About 1.75" ahead of the Widest Part of the Foot on a #0 - #2 size foot)
- Approximate the Point of Breakover (Current & Proposed - 1/4" ahead of PIII)
- Rear Most Weight Bearing Structure (Dimple in the back of the Central Sulcus)
 - * Back of Heels or Back of Frog, which ever contacts the ground first (Before-Trim or Current)
- Area of the Pillar at the Sole Level
- Draw Line at Sole Callus/Wall Junction Around Toe (from Toe-Quarter to Toe-Quarter)
- If possible, Draw a Line Across the Inside, Top Edge of the Sole Callus
 - * Normally this is about 1/4" ahead of the tip of the coffin bone, or 2" ahead of the Widest Part of the Foot on a medium sized foot. This should be your projected or estimated point of breakover.

4. Evaluate the Ratios: *(Illustrate where current heel & breakover is, as well as where you hope to get them!)*

- From the Widest Part of the Foot to the Rear Most Weight Bearing Structure (Before/Current & then for the After/Goal mark, use the Frog Buttress)
- From the Widest Part of the Foot to the Point of Breakover (Before/Current & After/Goal)
- **Do you have Attainable Goals?** – 50/50 Ratio or Slightly More to the Back 60/40 (Yes or –No?)



**This Hoof Mapping Procedure is the initial stage of both the E.L.P.O. Barefoot Trimming Protocol & the E.L.P.O. Shoeing Protocol. Continued hoof preparation using either of those protocols is recommended!*

E.L.P.O. Hoof Evaluation Protocol

General Overview of Distortion Evaluation Scale Ranging from 0 (No Distortion) to 5 (Extreme Distortions)



Developed by
The Equine Lameness Prevention Organization, Inc.
www.LamenessPrevention.org



The goal of the E.L.P.O. Hoof Evaluation Protocol is to accurately, consistently and in accordance with an established standard be able to determine the amount and/or location of hoof distortions in individual equine feet. Although an overall rating for each foot may be achieved, individual attention to primary hoof structures is the key. Through the systematic evaluation of the external hoof anatomy, a more accurate and meaningful evaluation of the foot can be achieved, as well as a determination of the overall health and soundness of the horse.

The primary hoof structures that will be specifically evaluated are the: frog, bars, heels, and toe, and will be evaluated from a sole viewpoint.

***#0:** Considered to be a perfectly natural, normal foot, free of hoof distortions that is expected to be functioning at its optimum efficiency. Hoof structures with this grade would also be representative of a foot that either requires no maintenance or has just been trimmed and/or shod, and again is free of hoof distortions.*

***#1:** Indicative of a natural normal foot that is at the end of a trimming/shoeing period and requires basic maintenance. Minor hoof distortions seen are the result of normal growth and with basic maintenance will be returned to a #0 status. If a #1 status is achieved after trimming/shoeing, then this grade would be representative of hoof structures that possesses only minor hoof distortions that would still allow the foot to function efficiently.*

***#2:** Feet or Hoof Structures with a #2 grade have hoof distortions that can start to affect proper foot function. Although these are commonly seen at the end of a shoeing cycle, this rating is indicative of distortions that generally were not fully dealt with at the beginning of the shoeing/trimming cycle. Feet and structures in this condition can start to negatively affect performance, but may not be recognized as problems by everyone.*

***#3:** Feet or Hoof Structures with a #3 grade have hoof distortions that can cause minor to moderate lameness issues. Foot function is often being compromised and common gait faults such as stumbling, forging and landing toe-first are prevalent, and signs of coffin joint pathology may be recognized and even diagnosed by veterinarians. Feet or Hoof Structures with a #3 rating are challenging the soft tissue around the DIP joint.*

***#4:** Feet or Hoof Structures with a #4 grade have moderate to severe hoof distortions that are often associated with serious lameness issues. Feet or Structures with a #4 rating have been subject to long term hoof distortion and often, irreversible damage can occur. Foot function can be at least somewhat restored with shoes, pads, and detailed hoof trimming.*

***#5:** Feet or Hoof Structures with a #5 grade have the most severe hoof distortions that contribute to both soft tissue and bony damage. Horses are often severely lame or debilitated as a result of the distortions. A #5 rating is sometimes irreversible, but can be improved with the use of various prosthetics and more detailed hoof preparation.*

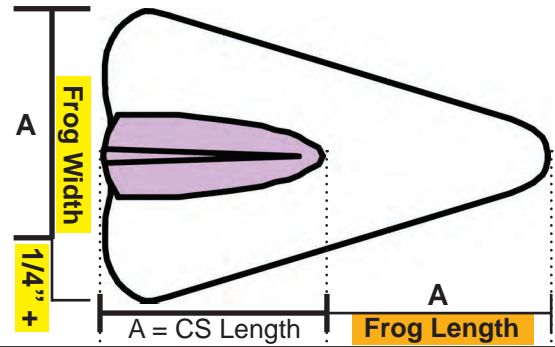
Disclosure: The information presented in this evaluation protocol are only general guidelines designed for equine professionals as a means to have a standardized formula for recognizing common hoof distortions that exist in many feet with basically “normal” conformations. This evaluation protocol is not intended to diagnose any lameness, nor is it intended as instructional guidelines for trimming or shoeing. For details on hoof care guidelines, please look at the “E.L.P.O. Hoof Trimming & Shoeing Protocols” offered by the Equine Lameness Prevention Organization, Inc.

FROG: Central Sulcus - Anterior Frog Length - Frog Width

The frog will receive a total of 3 grades. The Quality of the Central Sulcus, the Anterior Length of the Frog, & the Width of the Frog. Each grade can tell you a lot about where needs of the foot are being met and where they are becoming distorted.

In general, a good frog has a nice rounded apex. The more pointed it gets, the more stretched it has become.

0

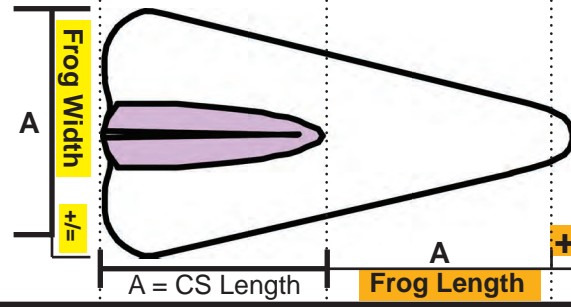


Central Sulcus (CS) is Open, Wide & Round at the Bottom.

Frog Length = CS Length (A)

Frog Width = 1/4" - 1/2" Greater than the CS Length (A)

1

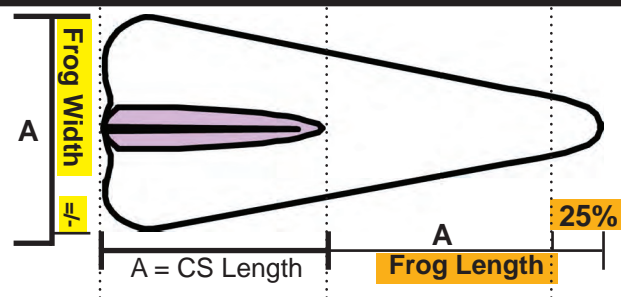


Central Sulcus (CS) is Open, with a Crease at the Bottom.

Frog Length = Slight Longer than the CS Length (A)

Frog Width = Slightly Greater or (+) to the CS Length (A)

2

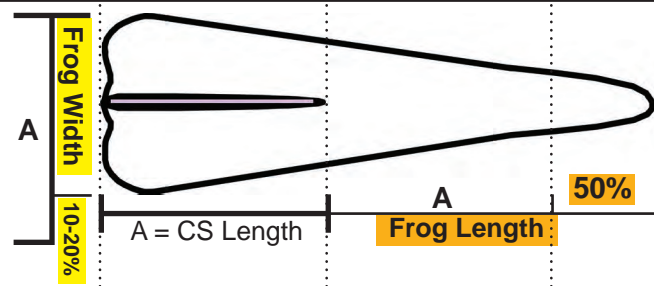


Central Sulcus (CS) is Narrow, with a Crease at the Bottom.

Frog Length = 25% Longer than the CS Length (A)

Frog Width = Slightly Less or Equal (=/-) to the CS Length (A)

3

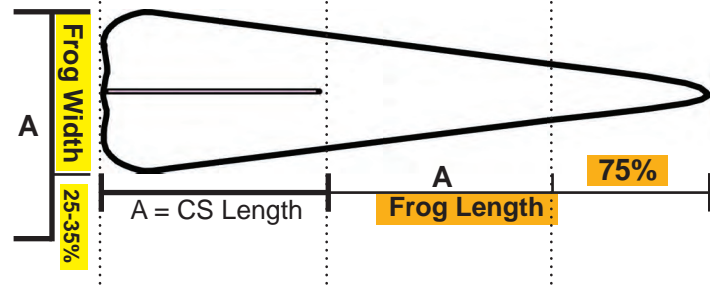


Central Sulcus (CS) is mostly Closed with a Deep Crease at the Bottom.

Frog Length = 50% Longer than the CS Length (A)

Frog Width = 10% - 20% Narrower than the CS Length (A)

4

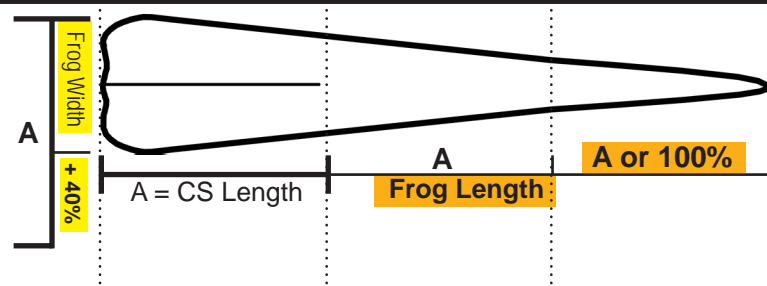


Central Sulcus (CS) is Closed with No Accessible or Distinguishable Bottom

Frog Length = 75% Longer than the CS Length (A)

Frog Width = 25% - 35% Narrower than the CS Length (A)

5



Central Sulcus (CS) is Closed, Painful and Possibly Diseased (Thrush)

Frog Length = 100% (2 Times) Longer than the CS Length (A)

Frog Width = 40% or More Narrower than the CS Length (A)

HEELS: Medial & Lateral

BARS: Medial & Lateral

TOE: Length

The Bars, Heels & Toe will each receive 1 Grade. The measurements listed are applicable for average size feet (Size 0 - 2). Slight adjustments may need to be accounted for with smaller and larger foot sizes.

X = Distance from WPOTF to the Back of the Frog

	<p>Heel Ends 10-15% Forward from the Back of the Central Sulcus (<i>about 1/4 on 0-2 size foot</i>)</p> <p>Midline of the Bar is Between 3/8" & 1/2" from the Plane of the Frog Commissure</p> <p>Toe Length is Equal or 1/4" Longer than Length from WPOTF to the Back of Frog</p>	
	<p>Heel Ends 20% Forward from the Back of the Central Sulcus</p> <p>Midline of the Bar is 3/4" from the Plane of the Frog Commissure</p> <p>Toe Length is 1/2" Longer than the Length from WPOTF to the Back of Frog</p> <p><small>*Automatic Downgrade 1 Point if the Bars contain Fractures, Black Tracts or Bruises.</small></p>	
	<p>Heel Ends About 40% Forward from the Back of the Central Sulcus (<i>just under half</i>)</p> <p>Midline of the Bar is 1" from the Plane of the Frog Commissure</p> <p>Toe Length is 3/4" Longer than the Length from WPOTF to the Back of Frog</p> <p><small>*Automatic Downgrade 1 Point if the Bars contain Fractures, Black Tracts or Bruises.</small></p>	
	<p>Heel Ends 60% Forward from the Back of the Central Sulcus (<i>Just over half way</i>)</p> <p>Midline of the Bar is 1.25" from the Plane of the Frog Commissure</p> <p>Toe Length is 1" Longer than the Length from WPOTF to Back of Frog</p> <p><small>*Automatic Downgrade 1 Point if the Bars contain Fractures, Black Tracts or Bruises.</small></p>	
	<p>Heel Ends About 80% Forward from the Back of the Central Sulcus</p> <p>Midline of the Bar is Greater than 1.25" from the Plane of the Frog Commissure</p> <p>Bars Contain Fractures, Black Tracts & the Deepest Part of the Commissure is Distorted</p> <p>Toe Length is 1 1/4" Longer than the Length from WPOTF to the Back of Frog</p>	
	<p>Heel Ends 100% Forward, or at the Front of the Central Sulcus</p> <p>Midline of the Bar is Greater than 1.25" from the Plane of the Frog Commissure</p> <p>Bars are Fractured, Bruised, have Black Tracts & the Deepest Part of the Commissure is Distorted</p> <p>Toe Length is More Than 1 1/4" Longer than the Length from WPOTF to the Back of Frog</p>	

Moderate Club/Upright Feet Characteristics

- 1) The frog appear short in length & the apex is a greater distance from the dorsal wall than a "normal" foot.
- 2) The heels terminate close to the back of the frog buttress.
- 3) The hoof walls at the heels curves abruptly while the bars are substantially straighter.
- 4) The dorsal wall is frequently straight below the coronary band, but develops a dish if the toe and heels are left too long.
- 5) The general shape of the foot is straighter on the sides.
- 6) The heels grow in a vertical direction but can become underrun if the heel and toe are left too long.



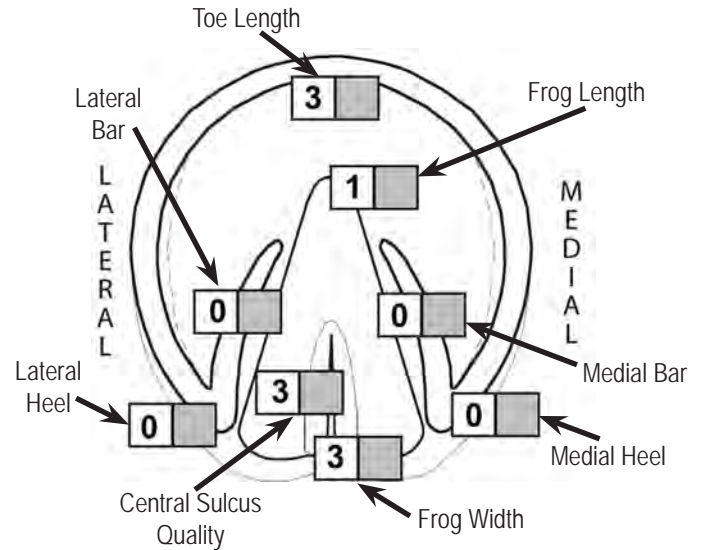
Severe Club Feet Characteristics

- 1) The frog apex is a noticeably greater distance from the dorsal wall than a "normal" foot.
- 2) The frog appears very short in comparison to other feet.
- 3) The heels terminate at the back of the frog buttress.
- 4) The outer wall at the heels has a very abrupt curvature, yet the bars are extremely straight.
- 5) The dorsal wall is very straight below the hairline (almost vertical), and dishes abruptly if the toe is left with any extra length, regardless of the heel height.
- 6) The heels grow upright (almost vertical) and do not grow forward with extra length. At the same time, trimming the heels down will not increase caudal support (e.g.: increased length and width).



Club/Upright Feet

Although many people consider Club or Upright feet to be abnormal feet, or at least undesirable, they are in fact quite common and can be very sound and functional feet as long as they are recognized and treated as individuals. To the left is a general overview of the different characteristics of both moderate and severe club feet. Moderate Club/Upright feet are very common and if properly managed tend to be non-problematic. Severe Club Feet are not as common and proper care is necessary in order for these feet to avoid pathology. Being able to recognize these conformational variations is the key to developing a proper management approach, and the E.L.P.O. Evaluation Protocol can give you information that may encourage you to look closer at a foot and be more aware of its classification. Below is an example of a numbered evaluation that may be typical of a club foot.



Negative Plane Distal Phalanx (Neg. Palmar/Plantar Angle)

Negative Plane Distal Phalanx (NPDP or NPA) has only been talked about over the last 15 or 20 years. This is a condition where the rear of the coffin bone is closer to the ground than the front of the bone. Although there are some feet where the coffin bone sits parallel to the ground, most feet have a slightly positive angle, where the palmar/plantar aspect is raised. At this time, we feel that a negative angle is not normal or desirable and may be a cause or result of pathology in the foot. Most horses with this condition have some lameness, body soreness or performance issues. Some characteristics that are often associated with a Negative Palmar/Plantar Angle are: Bull Nose dorsal wall, prolapsed frog with closed central sulcus, and unstable, trashy heels that grow almost parallel to the ground with severe bar curvature yet a relatively short toe. This condition is also often associated with hock or stifle pain, and an extremely sore back. An NPA foot does not always possess all of these characteristics, so if you have concerns, a radiograph will be the most helpful way to confirm. Again, the numbered foot on the lower right may be representative of a foot that has a Negative Palmar/Plantar Angle.

