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United States Department of Agriculture
Animal and Plant Health Inspection Service
Horse Protection Act

March 19, 2012

VIA EMAIL

Re: 2012 Horse Protection Program Listening Sessions Response

Dear Drs. Gipson and Cezar,

Unfortunately, due to my work schedule and the location of the listening sessions (I'm in Arizona; the closest session to me is in California), I will be unable to attend any of the listening sessions concerning the Horse Protection Program. I understand that you are accepting write-ins as feedback as well. below is my response, organized by the questions posed online.

Q: Congress passed the Horse Protection Act in 1970 to eliminate the cruel and inhumane practice of soring horses. How close are we to achieving the goal?

A: Nowhere near close. While soring is not nearly as visible as it was in the late 70s and 80s, we now know that the industry has found new ways to hide their chemical and mechanical soring. The recent release of the USDA's GC/MS 2010 and 2011 test results is proof that the industry is still using whatever chemicals they find to create pain to force the show ring gait. The arrests of Barney Davis, et. al. and Jackie McConnell, et. al. are proof that pressure shoeing and chemical and mechanical soring are still alive and well.

Q: Can the industry achieve a consensus on how to carry out a self-regulatory program to enforce the Horse Protection Act in a consistent way?

A: Absolutely not. They can't even agree on one rulebook—they have to have 12 different HIOs to do the job that the USDA could do by itself if it chose to. The industry makes a lot of money off of the sore horse, and therefore they want to keep it as is. The USDA has available on its website a list titled "Responsible Party for Horse Found in Violation." (Web address: http://acissearch.aphis.usda.gov/HPA/faces/pdf.jspx?rt=1&sd=&ed=&hio=ALL.) This list has many fake names of horses and trainers and is clearly made to satisfy the USDA and make it look like they're catching hundreds of people. But why do so many of these names and horses not show up on the HPA database? Because they aren't real. So the HIOs are incapable of doing what's right. The HIOs are designed to work in the best interest of those who sore horses, not for the welfare of the horse.

Overall the HIOs are the self-regulatory program that is already in place. However, nine of the 12 are clearly a case of the fox guarding the hen house. Soring has not stopped in the 40-plus years since

the HPA was enacted, and it certainly hasn't stopped since the HIOs were formed. Therefore they are absolutely unable to enforce the HPA on their own.

Q: What responsibilities should USDA-certified Horse Industry Organizations (HIOs) have within the industry?

A: The HIOs have plenty of responsibility already. In fact, they have too much responsibility, due to the fact that soring is still the prominent way to train horses. As Barney Davis said: horses "have got to be sored to walk." So they're going to be happy to promote and encourage it but tell everyone how they are against soring. The problem is that the HIOs won't take on the responsibility of working to stop soring.

Q: How can the industry reconcile its inherent competition aspect with ensuring compliance with the Horse Protection Act?

A: Obviously, they can start by stopping soring. They also need to accept that the look of the Performance horse is undesirable to the outside world and the rest of the horse community frowns on it, whether or not the horse is sored, and that it needs to change so their industry will survive. When the world knows about soring and doesn't like the look of what is being produced in the show ring, then they aren't going to get enough new blood into the industry to keep it up. Competition is fine, but when you can't get new people to be interested in it because what you're competing with is undesirable and you are abusing animals to do it, the industry will collapse within itself. The industry needs to stop giving HPA violators high positions in their organizations and associations, such as board of directors and officers' positions. They need to stop promoting sore horse trainers, owners and breeders by sending their horses to them for training and cheering them on at shows. They need to punish judges for rewarding the horse that is doing the most rather then the horse that is showing fluidity and quality of gait. If the industry was truly against soring, they would make those who sore an embarrassment to the breed. But since they won't do it, then the USDA needs to step in.

Q: What can USDA do now (and in the future) to ensure compliance?

A: The USDA has been given an extra $200,000-plus for 2012 to enforce the HPA. Therefore, I suggest going to every single show you hear about, whether publicly advertised or not. Spend your money wisely—stay in cheap hotels, and rent cheap cars if you have to. Do not rely on the HIOs to perform the inspections while the USDA is there; have the VMOs do the inspections instead of the HIOs. Film and time all inspections—do not spend more time on one horse than another so you cannot be accused of spending 20 minutes on one horse or digging your nail into a horse's pastern to elicit a response. Start using hoof testers on every single horse that is flat shod. Require horses to have their shoes pulled in front of the DQP immediately after their last class of the day and test the hooves with hoof testers. I understand that the mandated penalties are going to become a requirement. I hope that this means that the USDA will follow up with every single violation recorded by the HIOs and make sure they are followed to the letter. It should also be required that the violators serve their suspensions during show season and not during the off season. As compiled by FOSH, 90% of all HPA violations in 2008, 2009 and 2010 were found on stacked horses. This means the industry has and is continuing to abuse the privilege of using stacks in the show ring. Since the industry seems unable to stop using pads, then limit the size of the pads to the same size that is used in the American Saddlebred industry. Put a 5-inch limit on the toe from the cornet band to the ground (including the shoe). Put a weight limit on the shoes. Remove chains and anything around the pasterns from the show ring.

I also believe that the USDA should no longer punish the innocent. FOSH, NWHA and IWHA have proven they have a no tolerance policy concerning sored horses. Therefore, removing saddles should no longer be required and pulling shoes should not be required by those HIOs.

Q: What responsibilities should USDA have within the industry with respect to enforcement and what hinders oversight of the HIOs and/or industry?

A: Your responsibilities are already set: to enforce the HPA by any means necessary. From the Horse Protection Act:

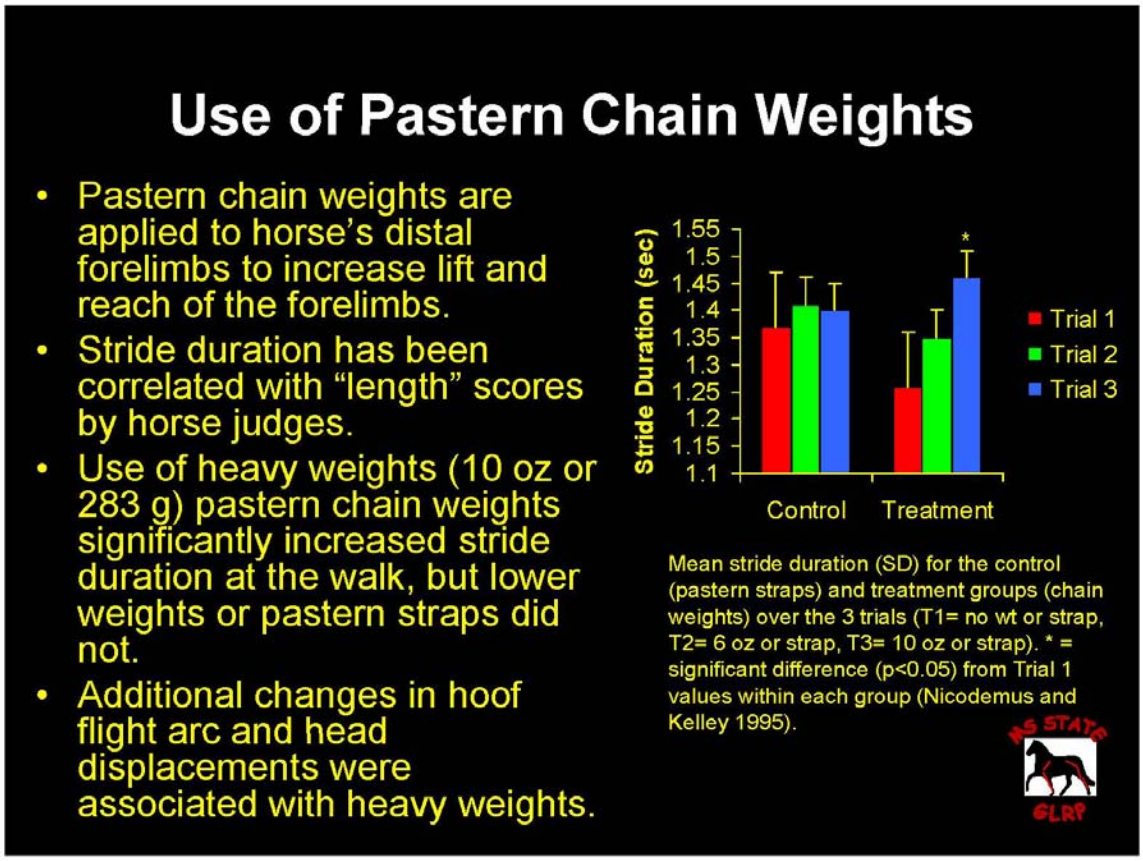
> *§1827. Utilization of personnel of Department of Agriculture and officers and employees of consenting States; technical and other nonfinancial assistance to State*
> *(a) Assistance from Department of Agriculture and States*
> *The Secretary, in carrying out the provisions of this chapter, shall utilize, to the maximum extent practicable, the existing personnel and facilities of the Department of Agriculture. The Secretary is further authorized to utilize the officers and employees of any State, with its consent, and with or without reimbursement, to assist him in carrying out the provisions of this chapter.*
> *(b) Assistance to States*
> *The Secretary may, upon request, provide technical and other nonfinancial assistance (including the lending of equipment on such terms and conditions as the Secretary determines is appropriate) to any State to assist it in administering and enforcing any law of such State designed to prohibit conduct described in section 1824 of this title.*

This means you need to get within the industry to enforce the law. What hinders oversight are the continued meetings, listening sessions, and time spent "discussing" what to be done. Instead of talking about it, get out there and do it. Stop accepting invitations to come visit and talk and start spending your money and time in the field. When you go to these meetings, you will always hear about how all of these people agree with you that they want to see soring end. They're just trying to placate you and get them off their backs. The industry has had 40-plus years to end soring—they have not done it by now, and they never will. These are people who truly believe they are doing nothing wrong and enjoy thwarting the USDA at every turn. The abuse is part of their culture and is accepted as normal and expected. Overall, the bottom line is cops don't have meetings with drug dealers to discuss how to end the war on drugs—they get out there and do the work to catch them. You need to be doing the same.

Q: Should there be a prohibition of all action devices?

A: Yes. The industry clearly still uses chemical soring to achieve the desired gait. You learned this from the arrest of Jackie McConnell, et. al. They need the chain or an action device of some kind around the pastern to cause pain from the chemicals.

Dr. Molly Nicodemus produced a study in 2000 on gait analysis that proves that another under a 10-ounce chain does nothing to enhance the front leg action of the horse. "Use of heavy weights (10 oz or 283 g) pastern chain weights significantly increased stride duration at the walk, but lower weights or pastern straps did not. Additional changes in hoof flight arc and head displacements were associated with heavy weights." (See below.)



This means that the restricted size to the six-ounce chain that is used in the show ring does not affect the gait by itself. Therefore, we can deduce that chemicals must be being used on the horse's pasterns for the chain to cause pain to force the horse to react.

The USDA's results of the GC/MS tests for 2010 and 2011 also clearly reflect that chemicals are still being used to sore horses, and at an alarming rate. We can question why these harmful chemicals are present, but it is clear that in order for the chemical to work, the chains must be used to force a reaction. The alarming amount of Lidocaine means that it was being used to numb the horse during inspection but so it would wear off by the time the horse was in the show ring, making the chain effective against the remaining chemicals.

The following conversation was copied and pasted from an open chat group on Facebook, written on February 27, 2012. No changes have been made to the conversation, other than I have used initials to protect the guilty.

> *If we could have 10oz chains would soring increase or decrease ?*
>
> *S.W. more scar rule tickets perhaps*
>
> *S.G. It would depend on how good you take care of your feet or I should say pastern area. If you have a good foot person, then they would know how to keep the hair in and keep the*

scaring down. Many do not understand you have to have a foot person who knows how to keep the pastern area in shape. I also acknowledge that sometimes you can not advoid the hair loss and or scaring that happens. But if you increase your chain weight, then you should not have to use as much "stimulant". Just my opinion, and yes I worked in the industry for years. I worked for Wink Groover, Billy Gray, Joe Martin, Chad Way and Herbert Derickson so I know what it takes.

S.W. Wasn't the 6 oz chain was put in place to eliminate the need for a stimulant..?

S.G. Yes it was, at least that was what they intended. But as many of us know.....

S.W. Neither side wants to give an Ounce LOL

S.G. No Steve they do not.

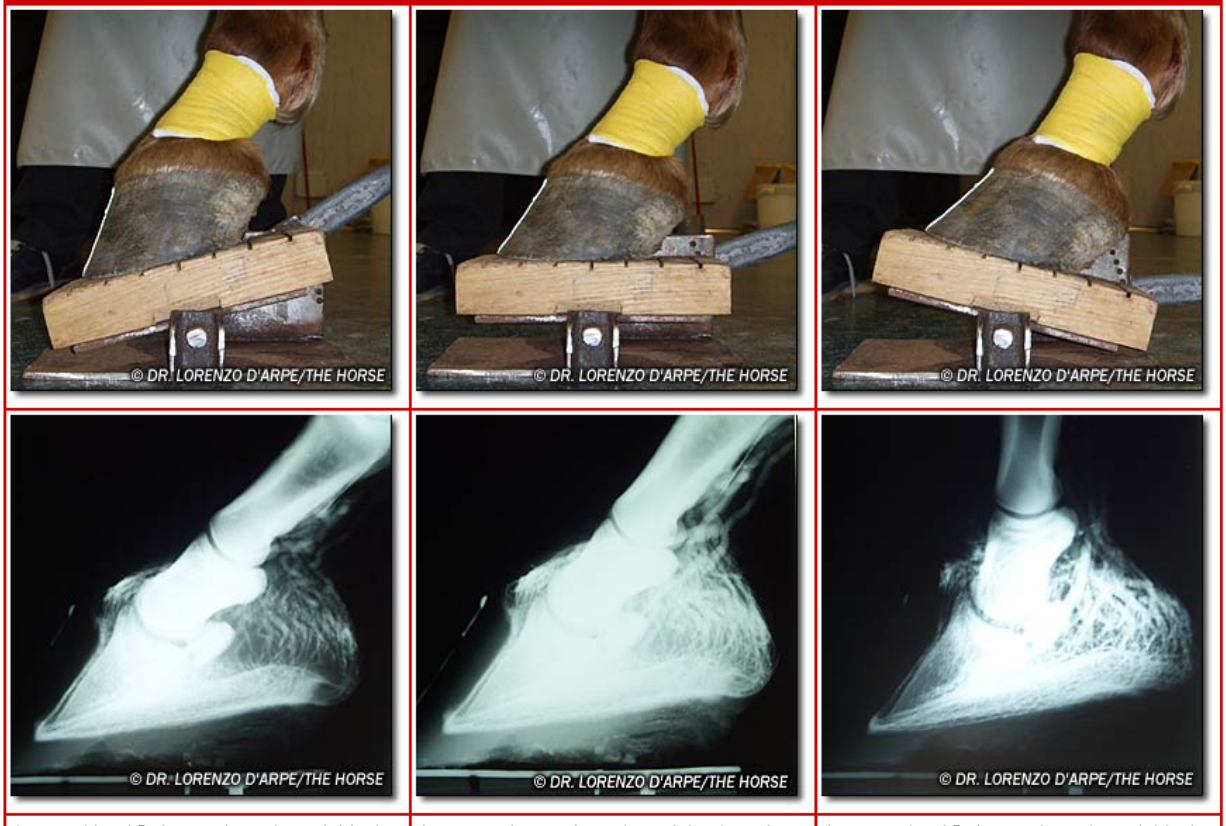
J.H. The maximum chain weight was 10 ounces until during the 1988 Trainer's Show, which was in progress in Decatur, AL when one of the humane groups got a federal judge in Washington to ban action devices. This caused the last night of the show to be cancelled, and for once the so-called "TWH Industry" seemed to unite. Long story short, within a relatively short period of time the maximum chain weight went from 10 to 6 ounces. Also, this was when the shoeing regulations were changed, and the maximum height of the build-up dropped from 4 to 3 inches. It's a simple equation: the heavier the chain, the less need there is for "stimulant"; the lighter the chain, the less damage is done to the hair.

This conversation is just one of hundreds that goes on all of the time on chat groups online. The industry cannot deny the proof that horses are still being chemically sored. Therefore, the chain and action devices in the show ring need to be prohibited.

Q: Should there be a prohibition of pads?

A: Yes. As compiled by FOSH, 90 percent of all HPA violations in 2008, 2009 and 2010 were found on stacked horses. It's clear that the stacked horse is the most sored of the industry. Plus, the stacks themselves are harmful to the horse, causing such damage as thrush, laminitis, sheered heels, quarter cracks, underrun heels, and "abnormal inflammation on the posterior aspect of the metacarpal area where the flexor bundle is located." (Quote taken from the letter from Dr. R. S. Sharman to Dr. Schwindaman of the USDA APHIS submitted with the Auburn Study, February 19, 1982.) For example, an article from TheHorse.com titled "The Quest to Conquer Laminitis" (attached) explains the causes of laminitis. The below image from the article shows how blood flow is restricted when a horse is forced to stand with its toes pointed downward, just as a stacked horse is shod.

HOW HOOF ANGLE AFFECTS BLOOD FLOW



At a positive 15-degree dynamic podoblock angle, there is increased loading of the heels and subsequently less blood flow in the bulbar vessels of this sound, sub-clinical, and low-risk laminitis horse.	At a zero-degree dynamic podobock angle, blood flow is fairly balanced and the vascular bed is close to normal.	At a negative 15-degree dynamic podoblock angle, there is increased loading of the toe and subsequently less blood flow in the coronary plexus and dorsal laminar vessels. ALL PHOTOS COURTESY DR. LORENZO D'ARPE

However, since the industry can't seem to let go of the pads, then I believe a limit on the size of the pads is appropriate. The pads should be the same size and height that is used in the American Saddlebred industry. This should also include a 5-inch limit on the toe from the cornet band to the ground (including the shoe), just as NWHA has done.

Q: Currently the Horse Protection regulations have a shoe weight limit on yearlings. Should there now be a shoe weight limit for all aged horses?

A: Absolutely. At its most basic, doing this would create a level playing field for all riders in the various classes. If a weight limit was established, then it would also eliminate bands from the show ring, as the excuse for using a band is that it is necessary to hold the shoe on the hoof when the shoe is too heavy. Bands are also tools that are used in soring horses. Bands can be over-tightened to put pressure on bruised soles of the horse's feet or an object placed between the hoof and the shoe. Bands were eliminated by NWHA and FOSH for this very reason. Therefore, a weight limit for shoes is necessary to help enforce the HPA.

If you have any questions, feel free to contact me at 602-686-3376 or via email at andrea@silverphoenixranch.com. Thank you for this opportunity to respond.

Sincerely,

Andrea Ohnstad

Attachment: The Quest to Conquer Laminitis by Christy M. West

theHORSE.com
YOUR GUIDE TO EQUINE HEALTH CARE

The Quest to Conquer Laminitis

by: Christy M. West • May 01 2007 • Article # 9471

"Owners and trainers worldwide have the feeling that every veterinarian and every farrier have years of experience and vast knowledge about laminitis and podiatry (foot care). Unfortunately, this is not the case," said Ric Redden, DVM, founder of the International Equine Podiatry Center in Versailles, Ky., and host of the Bluegrass Laminitis Symposium, held Jan. 25-28 in Louisville, Ky. "Success today with laminitis is the result of the dedicated efforts of veterinarians and farriers who take it upon themselves to learn how to evaluate and treat the various stages of this complex disease," he said. "My teaching on podiatry and laminitis is not a reflection of what veterinarians and farriers should know or should have learned, but my means of sharing my life's work in hopes of putting a little light at the end of the tunnel for those who share in my enthusiasm and desire to conquer this clinical disease."

Redden and his family host the Symposium almost yearly in pursuit of that goal--conquering laminitis. Selected additional podiatry topics are provided as well. Following are excerpts of the presentations given during this year's Symposium, along with links to more information on each one at www.TheHorse.com.

Laminitis: Coming Out of the Dark

Italian equine podiatry veterinarian Lorenzo D'Arpe, DVM, of the University of Padua's Department of Clinical Sciences, presented some of his cases and research during the Symposium. Additionally, *The Horse* caught up with him to discuss his theories on laminitis.

D'Arpe characterizes the current state of laminitis knowledge by comparing it to the early stages of fracture evaluation and treatment. The veterinary community has come a long way in developing methods for successful repairs of many types of fractures in horses. "If we think about fractures some decades ago before X rays, vets and farriers were taking care of fractured horses with no hope, and everybody in the world knows that in that period, a fracture corresponded to euthanasia of the horse," he explained. "Today when we deal with a fracture, we clinically evaluate the horse and use X

rays, and we make a decision on ... therapeutic options. It's easy today, we can tell the owner how many days or months or years it will take to fix the horse, and if it is easy, medium, hard, or impossible.

"So far (with laminitis), radiography (X rays) and all the other instruments we have used in trying to find a key to understand laminitis have not been effective," D'Arpe said. He added that these methods have helped the veterinary profession understand only a fraction of what there is to know about this disease. "But everybody's still in the dark."

"The venogram is really the key to understanding laminitis, because with the venogram, you can really see the dynamic in static biomechanical effects of what the horse's weight and gravity force is doing in that moment to that foot's vascular bed," D'Arpe stated. A venogram is an X ray of the foot after contrast media has been injected into the foot's blood supply, so you can see if there is any compromise of vascular architecture. If an area has no blood flow, it will not receive the nutrients it needs to heal unless the biomechanics of the foot are changed to encourage blood flow to the area. If part or all of the foot continues to have no blood flow, the tissues will die, and the horse will often be put down.

"So the venogram has immense diagnostic value," he continued, and you can follow up by making therapeutic decisions to help that horse. "Without the venogram, you are driving in the dark. It is impossible for any of us to clinically evaluate the horse without it. Venograms are to laminitis what radiographs are to fractures."

Venogram research D'Arpe discussed his investigation of the effect of foot angles on blood flow within the foot using a podoblock he developed with farriers. "The podoblock allows me to stand a horse's front foot on it and change the foot angle in a controlled manner, then take venograms to evaluate the changes in blood flow with the changes in hoof angle," he explained (see diagram above).

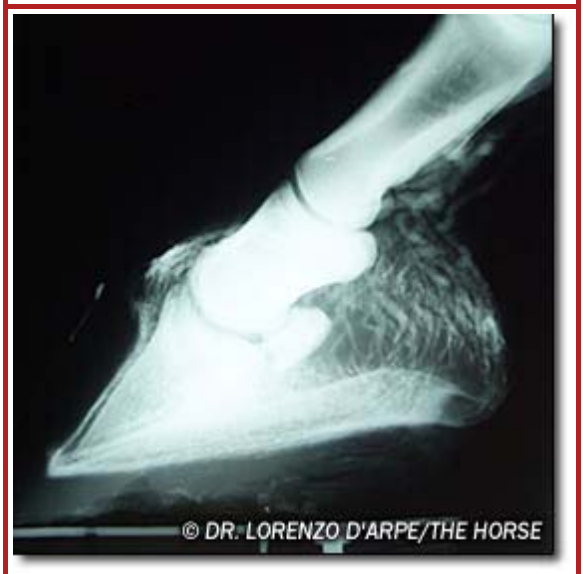
"This has allowed me to scientifically prove that palmar angle changes (alterations in the angle between the bottom of the coffin bone and the ground) induce vascular (blood flow) changes, and you can visualize this on venograms," he reported. "This has really helped me to understand the biological (and biomechanical) mechanisms of weight and weight force compensated by the bone angles and tendons' tension, so that I can know how to improve the vascular bed of the foot."

HOW HOOF ANGLE AFFECTS BLOOD FLOW

Knowing how hoof and bone angles affect blood flow can help veterinarians and farriers understand how to modify trimming and shoeing practices to direct blood flow toward areas that are compromised and need healing.

"I would be scared to drive a car without lights at night, unable to see trees. But I am not scared about driving with lights (or working with laminitic horses using venograms and knowledge of biomechanics to light the way)," D'Arpe concluded. "I can see trees and other problems, and find options to get around them."

For more information see www.TheHorse.com/ViewArticle.aspx?ID=9241.



At a positive 15-degree dynamic podoblock angle, the venogram (lower image) shows increased loading of the heels and subsequently less blood flow in the bulbar vessels of this sound, sub-clinical, and low-risk laminitis horse. See more venograms of this foot at different angles, highlighting the effects of hoof angle on blood flow.

Learning to Read Radiographs

Reading radiographs takes a trained eye, and it's an important part of evaluating the horse's foot, especially when lameness exists. But number one on Redden's list of important points about interpreting radiographs was that they aren't the be-all and end-all of diagnosing foot problems. They are but one part of the entire examination of that horse, which includes physical examination, gait analysis, and possibly other diagnostic procedures. As much as we might like a nice checklist of things to do for lameness examination, he says it isn't that easy.

"Everybody wants a standard, but that's the easy way out," he began. "We don't need a standard, (but rather) we need a standard way of thinking. When you make this evaluation a careful, systematic thinking and observation process, you'll see a lot of things you might otherwise miss.

"Over the many years I have worked as an equine podiatrist, I have come to appreciate the fact that soft tissue pathology is present to some degree in every footsore horse," Redden stated. "Thus, evaluation of the soft tissue zones within the hoof capsule is an extremely important part of radiographic examination of the foot."

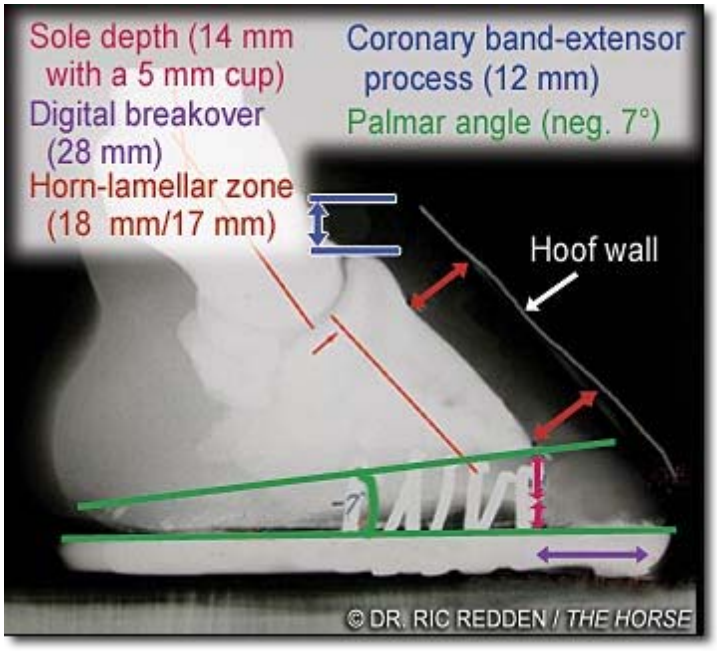
He measures the following characteristics of each foot on a radiograph (see diagram below left):

- ***Sole depth (SD)*** is the distance between the bottom of the tip of the coffin bone and the sole

surface (pink lines).

- ***Palmar angle (PA)*** The green lines show the angle the bottom of the third phalanx makes with the ground surface of the hoof.
- ***Digital breakover (DB)*** is the distance along the ground from the tip of the third phalanx bone to the forwardmost point of contact between the shoe and the ground (purple).
- ***Horn-lamellar zone (HL)*** is the space between the face of the coffin bone and the outside of the hoof wall (orange).
- ***Coronary band-extensor process distance (CE)*** is the distance between the top of the extensor process of the coffin bone and the top of the wall at the coronary band (blue).

EVALUATING THE FOOT



This image depicts the measurements Dr. Redden uses to evaluate and treat a laminitic horse, and to design the preventive shoeing package the horse needs.

He concludes, "There are no shortcuts to examining the foot. You have to methodically learn everything you can about that foot and that horse in order to understand what's going on, what you should do to help it heal, and why your solution will work."

For more information see www.TheHorse.com/ViewArticle.aspx?ID=1457.

Venograms: The Difference Between Success and Failure

Success when treating laminitic horses depends on several factors, but an accurate knowledge of the extent of the damage within the feet and a plan for treating it is paramount. Redden also discussed using venograms to increase the success of laminitis treatment by increasing his knowledge of the damage present.

"When dealing with an acute laminitis case, I perform a venogram on the very first (initial) examination, because I need that baseline to see what condition the foot is in," Redden states. "Especially in the acute case, you want to know what degree of vascular compromise is present. The initial venogram is extremely valuable, as it may indicate only minor

vascular compromise in a horse that is glued to the floor (not wanting to move because of the pain), or it can reveal stark loss of contrast (lack of blood flow) throughout the majority of the hoof with a horse that appears to be only slightly lame. Either of these horses presents a very deceptive clinical picture."

He described to his audience the typical measurements and characteristics of healthy feet as seen on venograms, as well as the typical unhealthy findings in crushed feet, club feet, supporting limb laminitis, and acute and chronic laminitis.

"Horses are very durable, and they'll lie through their teeth about how they're feeling," Redden said. "Do not depend on the horse to tell you how healthy the laminae are. Depend on your venogram."

For more information see www.TheHorse.com/ViewArticle.aspx?ID=9244.

How to Use Venograms to Evaluate Laminitis

"The venogram is the ticket to fixing all those laminitis cases you've been missing," said Amy Rucker, DVM, of Midwest Equine in Columbia, Mo. She discussed how to use the venogram in clinical situations.

She began by listing the phases of laminitis: developmental, acute and subacute (some mechanical collapse), and chronic. "Each phase has different degrees of damage, and they can bounce between the chronic and acute stages (chronic with flare-ups)," she said. The results of a venogram help her determine which phase a horse is in, she noted.

Once the horse has been evaluated, it's time to plan treatment. "Laminitis is a medical emergency, and should be treated as such," Rucker stated. "Waiting to see how the horse does over time (without treatment) only decreases your chances of having a functional horse. The basis of treatment of the laminitic horse relies on correcting the initiating disease process, managing the horse's pain, and altering the mechanics of the hoof to place it in a healing mode.

"For the foot to repair, the laminae and dermis cannot be damaged beyond repair, and the foot must have an adequate blood supply throughout," she went on. "The venogram shows where blood is in the foot; if the foot is unstable, that will affect the blood supply within it. The amount and patterns of displacement of the contrast media suggest where the foot is heavily loaded, where architecture has collapsed, and/or areas of vascular impairment."

Knowing where vascular damage has occurred provides the information needed to tailor shoeing treatment to support these areas and help them heal.

"Also, serial venograms allow assessment of progress in a case, or lack thereof," she added. "Always

trust the venogram before the clinical picture. Clinically they can look really good even with a very bad venogram (and when this occurs, the horse that looks fairly sound will later crash due to the compromise of blood flow in his feet)."

For more information see www.TheHorse.com/ViewArticle.aspx?ID=9245.

Communication Strategies

Rucker discussed ways to improve communications among the various members of the team caring for a horse, including the farrier, veterinarian, owner, and possibly a trainer and/or an insurance agent.

"How do we communicate?" she asked. "We exchange ideas. It isn't me talking and you having to listen to it all. The veterinarian, client, farrier, and trainer (if applicable) all need to be together to discuss the plan of action for this horse. There needs to be clear communication about all aspects of a case.

"Veterinarians and farriers often have different ideas, backgrounds, and vocabularies," she said. "But we have to communicate, and I think our language is going to be numbers. What numbers do we have (measurements of various foot parameters)? What numbers are we looking for? What numbers determine success, and which ones mean failure? I really think numbers are what are going to unify the vet and farrier.

"Record what's going on and set goals and expectations," she advised. "For example, I might say that if this horse hasn't grown 3 mm of sole in a certain period of time, we're going to do another venogram to see how his blood flow is doing, etc. We need benchmarks."

For more information see www.TheHorse.com/ViewArticle.aspx?ID=9246.

What We Know About Laminitis

Theories about the causes and cures of laminitis abound in the horse industry, in large part because research hasn't yet been able to give us solid, unassailable explanations for much of the disease's processes and treatment. But there are some concepts that we do know, for sure, about laminitis. Rustin Moore, DVM, PhD, Dipl. ACVS, professor and chair of the Department of Veterinary Clinical Sciences at The Ohio State University, reviewed research on several aspects of laminitis.

He began, "A complete knowledge and understanding of laminitis and its complex pathophysiologic cascade remains elusive, despite substantial efforts by many scientists and clinicians over the last few decades, and thus preventive and therapeutic management strategies remain empirical and anecdotal with little emphasis on evidence-based medicine."

He noted that there are at least five theories of how laminitis initially damages the hoof's laminae, ultimately resulting in changes to the foot's structure and microanatomy, weakening of the laminae, rotation/sinking of the coffin bone, and clinical signs of laminitis. These include the vascular or ischemic theory, enzymatic/toxic theory, inflammatory theory, metabolic/endocrine theory, and biomechanical theory. He discussed the rationale and research (or lack thereof) on the various theories. In fact, all or many of these pathways are likely involved in the complex pathophysiologic cascade.

Lastly, he described several treatment options for laminitis and research on their use. Cryotherapy (cold therapy), heat therapy, loading variation, vasodilatory drugs (that increase blood flow in the foot), anti-inflammatory medications, and diet/weight management were discussed.

While there is some value to these treatment approaches in specific situations, "A more complete understanding of the pathophysiology of laminitis is needed to develop more effective preventive and therapeutic strategies," Moore concluded.

For more information see www.TheHorse.com/ViewArticle.aspx?ID=9247.

What Is a Healthy Hoof?

Ask 10 people what a healthy hoof should look like, and you'll likely get 10 different answers. And those answers will likely include general statements like "proper toe angle," "enough heel," or "plenty of foot mass." But what exactly do these descriptions mean?

Richard Mansmann, VMD, PhD, clinical professor and director of the North Carolina State University College of Veterinary Medicine's Equine Podiatry and Rehabiliation Service, presented the results of several research projects that tried to answer the question: What are the characteristics of a healthy horse's hoof?

Mansmann has long recommended that horses' front feet be radiographed annually--that includes sound horses as well as lame ones. "My goal with this is to look at it from the perspective of prevention rather than treatment," he said. He'll take measurements and compare them against the horse's previous measurements to identify any significant changes that can lead to problems.

These annual radiographs, along with horses' work histories, have provided him with a great deal of information on sound feet. He used them to discuss the value of several generally accepted characteristics of "good" feet and how closely sound horses' feet matched them.

"As veterinarians and farriers, we all need to educate owners about the value of proper foot conformation and the consequences of bad conformation," he concluded. "We have to look at the horse and his feet. When his measurements change over time, that is very good information to know. And having an unhealthy-looking foot can even end up as a life-threatening situation. It is a disease in

itself."

For more information see www.TheHorse.com/ViewArticle.aspx?ID=9248.

Laminitis Lessons: What Not to Do

"Any of us dealing with laminitis have our successes, but we've also had our share of failures," said Bill Baker, DVM, of Equine Associates in Hawkinsville, Ga. "These failures are usually the most memorable, but least-discussed cases. This is unfortunate, because we can all learn from failures--those lessons are where successes are born. Hopefully you will learn from my mistakes and ignorance so you will not have to repeat them."

Baker, who is a veterinarian as well as a farrier, presented a discussion of six case studies and what they taught him not to do when treating horses with laminitis. He described the following common causes of treatment failure.

- ***No plan.***
- ***Available skill*** The case exceeds the skill level currently available (of the veterinarian, farrier, and/or owner).
- ***Finances*** "I don't care how many people tell you money is no object, it is an object," Baker said.
- ***Lack of owner compliance with care/ aftercare*** "When I see the horse back for a reset and we're back to the beginning, and the owner says, 'He was fine when I rode him yesterday'--against my instructions--that just overturned the whole boat," he said.
- ***Owner influence during treatment*** "My rule is that owners are the financial backers and ultimate decision makers, but I don't want them getting under the horse and trying to help me out," he said.
- ***Too many chiefs and not enough Indians*** "If you don't have someone in charge to make the plan, and people around to work the plan, you set yourself up for failure," he commented.
- ***Poor communication with client and farrier*** "Be forthright and honest with yourself and your client," he recommended. "Speak in common language, not veterinary terminology--be understood!"

For more information see www.TheHorse.com/ViewArticle.aspx?ID=9249.

Self-Adjusting Palmar Angles for Healing Hooves

Redden also discussed massaging hoof circulation (thereby stimulating healing and hoof growth) with self-adjusting palmar angles. His approach is simple--he applies shoes with curved ground surfaces (termed banana shoes, rock and roll shoes, or full-motion rocker shoes) that let the horse stand with his feet at whatever angle is most comfortable. This will be the angle that relieves the most pressure on damaged areas, allowing them to rest and heal.

Additionally, the nature of the curved shoe means the horse's hoof and bone angles will change as he shifts his weight, even if his feet never leave the ground. As the horse's weight and his anatomy shift, the blood supply within the foot is continually altered and massaged.

"The ability to adjust the palmar angle while in the static state (standing still) sets the mechanical advantage of this shoe well above those that do not influence the static palmar angle," he explained.

He noted that these shoes can help horses with thin soles and walls, underrun heels, white line disease, chronic laminitis, and full-thickness toe cracks.

"This shoe concept has been very beneficial for cases that have problems associated with less-than-optimum foot mass, as it consistently accelerates sole and horn growth, enhancing the protective function of the hoof capsule," Redden concluded.

For more information see www.TheHorse.com/ViewArticle.aspx?ID=9250.

Fighting White Line Disease

White line disease might not be a big deal initially, but left untreated, it can undermine large amounts of your horse's foot (or feet), resulting in lameness and instability of the coffin bone within the horse's foot.

"White line disease doesn't seem to occur without some sort of mechanical stress (such as long toes or hoof damage from previous disease or injury)," Baker began. Opportunistic bacteria and/or fungi then invade the defect and begin destroying hoof wall from the inside, starting at the bottom and working their way up.

"There is no breed, age, or sex predisposition to this disease," he noted. "It occurs in anything from Minis to drafts, donkeys, and mules. It may invade one foot or all four feet."

He said the disease initially causes no lameness at all, and typically a farrier will see this during routine trimming--long before a veterinarian will be called. If a veterinarian is called, he/she can X ray the feet to see how far up the hoof wall the separation has progressed.

Baker summarized this disease and its treatment with the following comments:

- There is no clear pathogenesis for white line disease, but there has to be some mechanical stress in the hoof wall for this to occur.
- The best treatment starts with support of the foot. Do not resect (cut away parts of the hoof wall) without a plan for support!
- Exposure appears to be the best treatment. Apparently whatever's causing this likes a low-oxygen environment.

- No medicines on the market have been proven effective.
- Research is much needed for this disease.
- Treatment is effective, if early and aggressive.

For more information see www.TheHorse.com/ViewArticle.aspx?ID=9253.

Correcting Crushed Heels

"We see a lot of chronically lame horses trying to work with long-toe, low-heel conformation," Mansmann began. "The lower the hoof angle, the more stress is placed on the posterior part of the hoof and limb (ideal hoof angles range around 54° in front feet and 58° behind, he noted).

"These horses have a serious, chronic problem that will take long-term, conscientious monitoring and treatment to maximize soundness," he stated. "The longer the problem has existed, the greater the overall damage to internal and external structures. If the problem is fairly new, you might be able to return to normal (healthy) foot conformation, but you may not be able to reestablish decent posterior digital cushion very quickly."

Mansmann discussed seven types of low heels and how to avoid and correct them. Heel wedges are commonly used to raise low heels, but he warned that they can crush the heels further when used on front feet. The goal is to get the heels growing more, which means redistributing some of the crushing forces elsewhere in the foot so the heels can heal. He notes that moving breakover back can be helpful, as this makes it easier for the horse to lift his heels off the ground when moving. He also noted that consistent lateral radiographs to assess the internal structures and progress of the work are essential.

"Treating low heels is always a work in progress," advised Mansmann. "We can improve horn quality of the heels and hoof mass, and we can generally improve sole thickness 2-4 mm per shoeing to a total of 15-25 mm. By mechanically making the hoof-pastern axis normal, we make many horses sounder."

For more information see www.TheHorse.com/ViewArticle.aspx?ID=9254.

Treatments for Foal Deformities

Angular and flexural limb deformities in foals are concerns, but they're not necessarily kisses of death. Redden discussed treatments for these deformities, both surgical and nonsurgical.

"It sounds simple enough to say a foal toes in or out, but it is actually much more complex than that," he said. "We need to be able to recognize the deformity, classify it to some degree, have knowledge of growth plate closure, and be alert to the stress that corrective aids can put on the rest of the limb and foot."

He described his procedures for watching a foal to identify the nature and degree of deformity, as well as treatments for angular, rotational, spiral, axial, and flexural deformities. Often multiple problems are found on the same leg, he noted.

For more information see www.TheHorse.com/ViewArticle.aspx?ID=9251.

Seek the advice of a qualified veterinarian before proceeding with any diagnosis, treatment, or therapy.