# The Importance of Therapeutic Farriery in Equine Practice

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**KEYWORDS**

• Equine • Farriery • Therapeutic farriery • Continuing education

**KEY POINTS**

- For an equine practice to legitimately offer therapeutic farriery as a professional service, that service must be founded in individual competence and cooperation between veterinarian and farrier.
- Inadequate farriery education and experience may result in substandard or even contraindicated therapeutic farriery prescriptions and farrier care.
- Within the venue of continuing education for equine practitioners, excellent opportunities to advance one's understanding of and clinical competence in therapeutic farriery are increasingly available.
- It is the obligation of the veterinarian to acquire and maintain a working understanding of the elements of both basic and therapeutic farriery if he or she is to work effectively with the farrier and offer a valid service to the client for their horse.
- For the veterinarian, there should be no tolerance for anything less than the most accurate diagnosis that can be achieved under the circumstances.

## INTRODUCTION

The author seeks to define what is meant by therapeutic farriery and to describe how it can—and why it should be —successfully incorporated as a mainstay in equine practice. The intent is not to convert equine practitioners into farriers; rather, the goal is to encourage these two professions to recognize the very real enhancement in equine health care that results when veterinarians and farriers recognize their own and each other's common and unique strengths and work constructively together to deliver the best possible level of therapy.

A brief history of both professions is presented and the current status of veterinary education in therapeutic farriery is discussed. A strong veterinarian–farrier partnership is the foundation on which therapeutic farriery is offered as a professional service; the elements of this partnership—including potential conflicts and resolution—are presented. The importance of acquiring and maintaining competence in

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the biomechanics of the equine digit as well as the current selection of available farriery appliances and materials is stressed. A discussion of the client's expectations, realistic and otherwise, follows and leads into information regarding communications and medical records. Finally, the importance of distinguishing between evidence-based and anecdotal information is emphasized.

## HISTORY

Horses are known to have served mankind for millennia. Recent evidence suggests that their domestication was under way as long as 6000 years ago in what is now Ukraine.[1] As their service increased in value, it is reasonable to assume that so, too, did their masters' sense of stewardship. Exactly when human behavior toward the horse evolved to the point where rudimentary attention to the beasts' health and comfort was a cognitive act no doubt predates the written record. However, at some point, human communities began to recognize individuals who demonstrated interest in and some apparent success in working with and maintaining the general well-being of the horse.

Roman military chronicles of the 2nd century AD refer to a place for injured and sick horses, complete with a forge, as a *veterinarium* (**Fig. 1**).[2] A name for such a caregiver first appears in the Middle Ages as *ferrier*, the word deriving from the Anglo-French term for a blacksmith and much earlier from the Latin *ferrum* ("iron"). During the 16th century, the English version became what we know today as a *farrier.*[3] However, long before then and up through the 18th century, society recognized a farrier as someone responsible for the overall health care of the horse—not just the animal's hooves. Even the legal profession saw it that way, as manifest in a lawsuit filed in 1441 during the reign of Henry VI. And in his 1881 text *The Common Law*, Justice Oliver Wendell Holmes refers to it as "the Marshall case," wherein a farrier was sued for negligence and carelessness in treating a horse.[4]

Seventeenth-century England recognized a military person whose duties included attending to both the feet and overall health of the horse. It is clear that the veterinary surgeon of this period was both shoeing-smith and surgeon. Hexam (1637) describes the duties of the Army Farrier as "to drench and lett bloude the horse of the troupe, and alwaies, either upon a march or in quarter, to have in readiness his buggett of tools, horseshoes and nailes, whensoever he shall be called upon by his officers, or when any gentleman of the troupe shall have use of him, and for this reason that he must duly attend upon the Troupe he is freed from other duties and hath a greater paye than an ordinarv horseman."[5]

**Fig. 1.** Roman shoe ca 100 AD.

Formal recognition of an equine health care provider as separate from a farrier occurred in 1761, when the world's first veterinary school was founded in Lyon, France. At this time, divergence of the professions of farriery and veterinary medicine began to occur, with the appearance of the English word "veterinary" occurring in the late 18th century.[6] As both professions continued to evolve, each included hoof care within their respective missions.

However, by all accounts, farriery and veterinary medicine did not coexist in harmony and cooperation. Veterinary texts from the 19th and early 20th centuries reserve some of their harshest criticism for the farrier. Rebuttal is not easily found, as the farriers of the time were not inclined to publish their views. It should also be noted that farriery of the 19th and early 20th centuries was often a subset of blacksmithing. The same arm and eye that worked the forge and anvil to create a horseshoe in the morning would craft a door hinge or plow shoe in the afternoon. For many veterinary surgeons, the advantages of formal education and the freedom to concentrate on diseases of the horse, if not even solely on equine lameness, led to outspoken impatience with what they saw as inappropriate trimming and shoeing of both sound and lame horses. Readings of the texts from this era support this observation:

> *"The well-being of the best of animals is ever sacrificed to widespread ignorance and injustice. It is rare to find a shoeing-smith who possesses a really intelligent acquaintance with the wonderful structures of the 'horny box'; and we need not feel surprised that he should treat it much as he would a similar box of wood."*[7]

> *"Bad and indifferent shoeing so frequently leads to diseases of the feet and in irregularities of gait which may render a horse unserviceable."*[8]

> *"Now, what is there possessed by workers in iron, that they should know any more about diseases and their treatment than is possessed by a worker in wood?"*[9]

> *"Without wishing to do injustice to our rural knights of the anvil, it is nevertheless a lamentable truth that these votaries of the buttress and drawing-knife are all the world over, so wedded to a number of traditionary [sic] practices, so heinous, so irrational, so prejudicial to the interests alike of the horse and his owner, that one might well be excused for wondering whether their mission were not to mar instead of to protect the marvelously perfect handiwork of the Creator. … There is one instrument that I should like to see, if possible, omitted from the shoeing outfit of every farrier, and that is the drawing knife. If our blacksmiths would use their knives less and their heads more in the execution of their very important and by no means easy duty, our horses would be the better for it."*[10]

This history is important and relevant to this discussion of therapeutic farriery. Although these criticisms may well have been accurate, they nonetheless did little to enfranchise the farrier into a cooperative effort with the veterinary surgeon to improve the health of the horse.

While tremendous progress has been made in advancing the knowledge base of both veterinarians and farriers, there still is much to be accomplished regarding the sharing of information, the dispassionate acceptance of constructive criticism, the acquisition of continuing education, and the nurturing of a strong sense of teamwork. For an equine practice to legitimately offer therapeutic farriery as a professional service, that service must be founded in individual competence and cooperation between veterinarian and farrier, with both striving to achieve a clear mission: the identification of the definitive cause(s) of lameness and the application of the most appropriate corrective farriery for the diagnosis(es) at hand.

## DEFINITION

1. In modern equine practice, be it general or lameness-oriented, an understanding and implementation of therapeutic farriery are essential for success. So what is meant by "therapeutic farriery"? When and by whom was it first practiced? And under whose oversight does it most appropriately belong? This author considers therapeutic farriery as "the treatment of diseases or disorders of the equine limb by application of remedial methods and/or appliances to the digit." A colleague suggests it is the science and art of affecting or influencing the structures of the foot (S. O'Grady, personal communication, 2011).

Therapeutic farriery employs a broad range of treatments that extend from the simple removal of an inappropriate shoe (**Fig. 2**) to the use of sophisticated diagnostic imaging (**Fig. 3**) and construction of a custom appliance (**Fig. 4**). It is an important element in the delivery of health care to horses of all ages and disciplines and, thus, an essential professional service appropriately offered from any general and most specialty equine practices.

In a general sense, it is fair to say that therapeutic farriery was born when someone first attempted to correct a horse's hoof disorder or mitigate hoof pain, an event no doubt occurring many centuries ago. This basic concept of therapeutic farriery is the same today; what differs, of course, are the scientific and clinical knowledge bases and the sophisticated materials and instrumentation we now possess.

Finally, there may well be disagreement among practitioners and farriers as to when the definition of therapeutic farriery should—or should not—apply. For example, does it include measures believed to *prevent* both equine and human injury as well as maximize performance, such as the application of toe grabs to a race horse's shoes, heel calks for a stadium jumper, or borium cleats for winter trail riding? Might not these examples be better termed: *"performance farriery"*? Also, *ethical issues* may emerge

**Fig. 2.** Inappropriate shoe. (*Courtesy of* William Moyer, DVM, College Station, TX.)

**Fig. 3.** Magnetic resonance image.

and must be addressed. Should the materials and methods of therapeutic farriery be applied to mitigate discomfort in a performance horse to keep it competing at the expense of facilitating the healing process with rest? Is pulling out all the stops on a severe and non-responsive case of laminitis considered "therapeutic farriery" or rather might it be a self-serving measure for the owner to satisfy personal emotional needs? Finally, while few would proclaim the use of trimming and appliances to sore the feet of some gaited horses to be therapeutic farriery (**Fig. 5**), this deplorable perversion of knowledge and skill persists today. In such cases, the real therapeutic farriery begins upon removal of the "package" and remedial trimming of the foot. Ultimately, such questions may be best answered on a case-by-case basis by the owner, farrier, and equine practitioner—as long as their top priority remains the health and welfare of the horse.

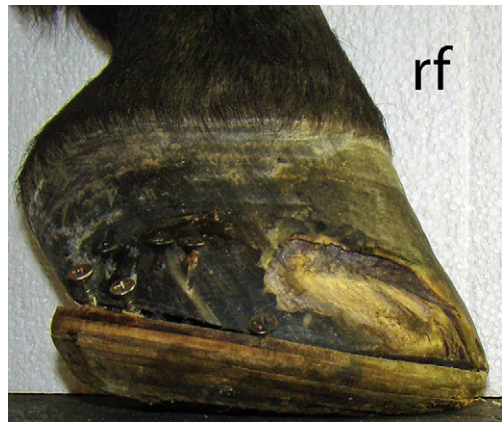


**Fig. 4.** Custom appliance.

**Fig. 5.** Radiograph of Tennessee walking horse foot. (*Courtesy of* Dr Tracy A. Turner, DVM, Anoka Equine Veterinary Services, Elk River, MN.)

## CURRENT STATUS OF EDUCATION IN THERAPEUTIC FARRIERY

Like most of the health professions, equine veterinary medicine has enjoyed an exponential advancement of knowledge and technology over the past two decades. These changes provide both challenges and opportunities to equine practitioners: the challenge to embrace the new science and technology and the opportunity to use them to improve equine health and welfare. In equine practice, these efforts are especially relevant in the prevention, diagnosis and management of orthopedic disease. Within this context, distal limb lamenesses are of predominant interest, especially those that involve the horse's digit. The digit is widely acknowledged to represent the site of the vast majority of equine lameness.[11] Thus, therapeutic farriery becomes a critically important element in the education of veterinary students as well as in the continuing education for established equine practitioners and farriers.

New veterinary school graduates appear to receive adequate and essential education regarding the pathophysiology and diagnostic imaging of the equine foot. Yet, it is the opinion of this author that they often begin practice with only a scant grasp of both the depth and scope of basic maintenance farriery, let alone therapeutic farriery. According to a recent survey: "VTH [veterinary teaching hospital] farrier services vary considerably in both nature and extent. The farriers' potential contributions to VTH operations are often recognized but not consistently exploited."[12] Additionally, this same survey compared and contrasted initial and continuing education requirements of American farriers and those in the United Kingdom:

"Of those attending farrier school (in the United States), many (33%) undertook a course lasting <3 months and only three (20%) completed a course lasting more than one year. Of those farriers undertaking apprenticeships, only 54% exceeded 2 years in duration. This compares unfavourably with the more rigorous professional farrier training requirements in other countries such as the UK where, for example, trainees must complete a four year apprenticeship with an Approved Training Farrier, during which they must undertake course work at farrier school as well as a diploma examination. Additionally, only one (5%) VTH farrier was required to attend any form of

continuing education, a source of concern when one considers the farrier and veterinary professions' growing understanding of both theoretical and practical farriery such as hoof form and function or the growing number of polymer products available for hoof capsule repair. By comparison, obligatory continuing education attendance has been required of all UK farriers since 2008."[12]

Inadequate farriery education and experience may result in substandard or even contraindicated therapeutic farriery prescriptions and farrier care, a consequence that is obviously contrary not only to the horse's best interests but also to the professional growth and stature of the veterinarian and farrier. Furthermore, an experienced farrier may well rightfully resist, if not reject, working with a veterinarian whose prescription for therapeutic farriery is clearly inappropriate. Various equine veterinary[13] and farriery[14] associations in North America and abroad[15,16] are making significant and effective efforts to address the need for better education in this important area. For example, the American Association of Equine Practitioners Farriery Short Course for veterinary students sends a Certified Journeyman Farrier and an American Association of Equine Practitioners member equine practitioner to the veterinary schools for a day-long lecture and hands-on farriery demonstration. This program promotes the veterinarian/farrier relationship, focuses on hoof biomechanics and lower limb anatomy, and demonstrates the different types of horse shoes and their applications.

Within the venue of continuing education for equine practitioners, excellent opportunities to advance one's understanding of and clinical competence in therapeutic farriery are increasingly available. With presentations by respected experts from farriery, clinical veterinary practice, and the basic sciences, professional development in this essential area has never been more readily achievable. The importance of equine practitioners achieving and maintaining competence in this essential area of equine practice cannot be overstated.

For farriers, excellent continuing education opportunities are now more numerous than ever before and are offered by universities, veterinary associations, private veterinary practices, and industry manufacturers and suppliers. Quality continuing education events that enjoin both equine practitioners and farriers are the most powerful means of encouraging communication and cooperation between the two professions. Such events strengthen this historic partnership that is based on mutual respect and understanding. It is the essential foundation on which the successful practice of therapeutic farriery is built. It is this author's opinion that quality continuing education opportunities for farriers are greatly underutilized; it is also this author's experience that it often takes only some encouragement from equine practitioners to motivate the farriers with whom they work to attend. Such efforts can stimulate professional growth for both parties and result in better care for the horses on which they work.

## THE PARTNERSHIP

The working partnership between veterinarians and farriers has endured for well over two centuries. Like any long-term human relationship, it enjoys periods of harmony as well as more difficult times. This is not surprising when one considers that both parties, while equally sharing the goals of helping the horse and earning a living, often come from sharply different backgrounds by the time they are bent over the hoof and debating what to do next. Additionally, both are likely to be working in a "fishbowl" environment, in full view of owners, trainers, grooms, clients (past, present, and future), and other farriers and veterinarians. Such exposure demands that both the veterinarian and the farrier behave and speak in a professional manner if a true partnership is to evolve.

### *The Farrier*

The farrier lives her or his working life in intimate physical contact with the horse. Owners expect their farrier to attend on a regular schedule and to show little sign of suffering when foul weather or fractious horses prevail. Pain, at least periodically, is a given and is simply part of the job. Owners rightly expect their farrier to be a horseman, capable of quietly working without inciting the slightest trace of anxiety in the beast—despite the pounding of steel on steel, the smoke cloud of a hot fit, and the driving of nails just a sliver distant from sensitive tissue. In addition to being able to forge steel shoes out of bar stock, the competent farrier must possess the knowledge and skills necessary to properly select from an ever-growing list of synthetics and effectively apply their choice when needed. A "normal" horse is not only the best possible outcome but, most important, the only acceptable outcome to many owners. In other words, when shoeing a sound horse, the stature of a farrier can at best stay unchanged, if not actually deteriorate. The International Hall of Fame farrier Jackie Thompson once stated: "You can shoe the top racehorse and no one will know; let one shoe come off, and its international news."[17] Because the farrier's vocation is physically demanding and technically challenging, most are justly proud of their work and often quickly suspect of any outside criticism, regardless of how constructive it was meant to be. This tendency is even more likely to appear when the farrier's years or depth of experience clearly exceeds that of the veterinarian. As the farrier sees the horse on a regular basis, he or she is often the first to observe changes in the hoof capsule, the horse's overall comfort while standing for farriery, or the earliest indications of foot pain. Such observations are an invaluable and often unwritten record that the equine practitioner is well-advised to access. However, such a professional partnership requires mutual respect, trust, and striving for a common goal.

### *The Veterinarian*

While highly educated in a broad range of clinical sciences, new graduates are often inexperienced and underinformed in the field of farriery, be it basic maintenance or therapeutic. Many internship opportunities reportedly still offer scant preparation for solo management of therapeutic farriery cases. There is often an internal conflict within the veterinarian between an awareness of his/her own lack of experience versus the pressure to appear as the dominant professional—that is, "the doctor." For many, this conflict translates into forcing the farrier—rightly or wrongly—into a subordinate position and can create a barrier to building an effective working relationship. It has been suggested that a useful guideline for young or inexperienced practitioners is that "it is a good idea to be respectful in all discussions with people who carry hammers & bend iron for a living"![18]

That said, the equine practitioner, not the farrier, holds the keys to discovering the definitive diagnosis in most lamenesses. Careful taking of the history; accurate and thorough recording of the medical record; deliberate observations, palpations, and manipulations; sequential and careful applications of diagnostic anesthesia; and select diagnostic imaging studies are essential components of most lameness examinations. In total, these are the purview and primary responsibility of the equine practitioner, not the farrier. It must also be remembered at all times that the lame limb is attached to a horse! It does little good to practice therapeutic farriery for laminitis in a vacuum, thus failing to identify the insulin-resistant patient, the horse with equine Cushing's disease, or the client's recent purchase of black walnut shavings for bedding.

Finally, it cannot be overstated that it is the obligation of the veterinarian to acquire and maintain a working understanding of the elements of both basic and therapeutic

farriery if he or she is to work effectively with the farrier and offer a valid service to the client for their horse. In this author's experience and opinion, the foundation of this understanding consists of the principles of clinical examination[19], proper hoof trimming[20] and the biomechanics of the equine limb.[21] If the veterinarian finds that he or she can not acquire and maintain this understanding successfully, then the patient should be referred to an equine practitioner who can do so—just as one would refer a patient to meet any other clinical need.

## CONFLICT AND RESOLUTION

The establishment of a productive and lasting veterinary–farrier partnership can be inhibited by:

- Failure of either professional to perform with competence and integrity
- Failure of either professional to understand the demands placed upon the other
- A lack of respect by one professional for the knowledge and/or experience of the other
- Criticism—deserved or otherwise—expressed indiscreetly
- Failure of either professional to communicate fully and accurately and in a timely manner

As in any relationship, respect and trust are earned over time. It is not enough for either the veterinarian or the farrier to do their respective jobs well but in isolation. If the patient is to benefit, both parties must communicate freely and be mutually supportive of each other's efforts.

For the veterinarian, there should be no tolerance for anything less than the most accurate diagnosis that can be achieved under the circumstances; this, after all, will be the compass used to guide the farrier and to determine further veterinary care. One cannot expect a best outcome with a wrong diagnosis, no matter how good the therapeutic farriery. Achieving an accurate diagnosis requires examining the case in a stepwise, thorough manner. A common violation of this approach is to leap to diagnostic imaging on nothing more than a hunch. The "instant gratification" associated with today's digital imaging technologies, their technical excellence notwithstanding, makes such an expedient approach to lameness diagnosis an everyday temptation. "Dependence upon imaging modalities without precise localization of the source of the problems has, at times, has been miss-leading as well as a waste of money."[22] In many cases, the most important diagnostic instruments may well be a fever thermometer and a hoof tester. Conclusively locating the source of pain *before* moving to diagnostic imaging should be a goal of every lameness examination and this approach will win the respect and cooperation of the farrier. Including the farrier in the examination process, explaining the findings, and requesting the farrier's input not only are helpful relationship-builders, but they very often result in valuable insights and information gained.

It is the veterinarian's responsibility to acquire and interpret radiographs. The sharing of the radiographic image and interpretation with the farrier is an appropriate and important step in the therapeutic farriery process. However, it is this author's opinion that it is clearly unethical to facilitate or encourage a farrier to possess or utilize radiographic equipment and/or interpret radiographs without direct veterinary oversight. This serious breach of ethics is also a violation of most—if not all—state practice acts. It introduces unprofessional behavior into therapeutic farriery and does a disservice to the equine practitioner, the client, the farrier, and—most important—the horse. Finally, compliance with acceptable radiation safety standards is unlikely to occur without professional training and regulatory oversight.

The farrier's good works should be acknowledged, not only to him or her but to the owner as well; when criticism is appropriate, it should be expressed privately and professionally. However, it must be conceded that in some instances, a positive and productive veterinary–farrier relationship simply may not be possible. In such a case, for the welfare of the horse, the dilemma should be discussed frankly with the owner so that alternatives can be promptly enacted.

## THE CLIENT

Increasingly, veterinarians work for horse owners rather than horsemen. Some cases involving therapeutic farriery will remain open cases for months or years. Horsemen understand this scenario but non-horsemen usually do not. Thus, it is essential to advise and inform the owner, as clearly as possible, regarding the estimated duration of therapy, its possible financial costs, and the patient's prognosis. In many cases, this information changes over time and requires ongoing communication with an owner. For performance horses, the equine practitioner must have a working knowledge of that horse's intended use including any restrictions or requirements (practical or regulatory) that may affect treatment options. For example, has the therapeutic farriery increased the withers height of a pony hunter beyond its official United States Equestrian Federation designation? Has a therapeutic farriery device caused the toe length of an Arabian to exceed the regulatory limit? Will the need for traction devices in a pulling horse be contraindicated from a therapeutic perspective? It is unwise to assume that such considerations are obvious to many of today's owners. The veterinarian and farrier can avoid troubling unintended consequences by remaining conscious of intended use limitations.

While some cases utilizing therapeutic farriery may enjoy a relatively quick and successful conclusion, many take more time and may result in a downgrade in the horse's athletic career. One should not assume that these issues are clear to the owner or that the owner possesses the resources necessary—or the will to commit such resources—to support long-term therapeutic farriery. Failure to educate the client can damage the welfare of the patient, professional reputations, and long-standing relationships among farriers, owners, and veterinarians. An example of this problem is often the horse with chronic laminitis, a disease that is expensive to manage, is treated by means with little to no solid evidence-based efficacy data and with no certainty of a positive outcome.[23] Further complicating the effort to educate the owner in such difficult cases is the abundance of nonsense readily available from the Internet and proffered by many from within the horse world; it is nearly impossible to name an equine lameness for which someone does not have a cure or knows someone who does. The equine practitioner must remain the source of credible information for the owner. Additionally, when a medical insurance claim has been made, the veterinarian must accurately complete and submit all requested reports to the insurer in a timely manner.

Finally, a reality of human nature is a tendency to place blame and many owners of lame horses are inclined to do so; in the absence of compelling evidence to support the claim, "it is unethical for veterinarians and farriers to indicate to owners that had someone instituted a particular therapy at a particular time in the course of the disease that the horse could have had a better outcome."[24]

## THE HORSE'S HEALTH CARE TEAM

As a patient who cannot represent its own interests, a horse is totally dependent on the stewardship of its caregivers. In cases of lameness, these caregivers are the owner,

the farrier, and the equine practitioner. In many cases, the horse's trainer will be an active member of the team, as well. In some cases, the trainer will act on behalf of the owner. As such, the trainer must as well be kept informed and can provide valuable oversight and reports between visits. Each of these individuals is most effective, and the horse benefits most, when they act as a team (**Fig. 6**). To do so, they must each benefit from mutual understanding and clear and timely communication. These goals are best met if the veterinarian and farrier engage in frequent and open dialogues and avoid acting on assumptions regarding the patient or its owner. Competent care involves attention to everything from scheduling the next appointment and who will attend to specifics of trimming, shoeing and ancillary therapy. If there is to be client-administered aftercare, the details of such must be clearly spelled out in writing. However, it must be remembered that the trainer is *not* the owner; assuming that the trainer can and will always accurately portray the status of a case to the owner invites misunderstanding and conflict. It remains the equine veterinarian's responsibility to ensure that the owner is kept appropriately informed in a timely manner. A good rule of thumb to practice is: *Allow no surprises!*

In addition to maximizing the quality of care the horse enjoys, a team approach is also very effective in building client appreciation as well as minimizing any risk of misunderstanding, negative feelings, and subsequent legal action.

## COMMUNICATIONS AND MEDICAL RECORDS

It is likely that most relationships break down from too little—rather than too much—communication. The successful veterinary–farrier relationship is highly dependent on clear, accurate, and timely communication. An essential part of this communication is the proper use of applicable terms.[25,26] Appropriate terminology minimizes risks of

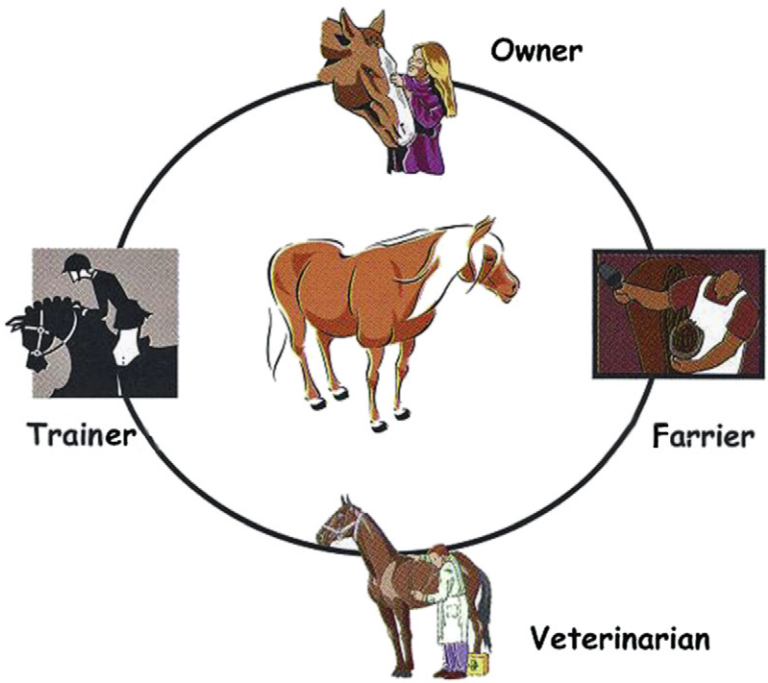


**Fig. 6.** The equine health care team.

errors in patient care and fosters effective communication with owners. Equine practitioners and farriers should challenge each other's use of terms so that clear understanding and accuracy can prevail.

Satisfied owners usually want to be included in the professional care of their horses and expect to be kept informed in a timely manner regarding their horses' care. Such information can include:

- Updates on current status
- Proposed diagnostic and treatment plans
- Estimates of anticipated costs
- Changes in prognosis

Effective communication to clients achieves two essential goals: it conveys the value of services and it avoids the surprise of unexpected fees. It cannot be assumed that clients always understand and appreciate the scope and depth of professional services unless they are explained. Client understanding and appreciation are achieved when both the veterinarian and farrier consciously make themselves the owner's primary source for education.

Medical records and communication are areas that are greatly facilitated by modern technology. Cell phones, e-mail, portable printers, digital cameras, and digital diagnostic imaging modalities (radiography, ultrasonography and thermal imaging) all facilitate the rapid acquisition and transmission of information relevant to therapeutic farriery.

Acquisition of an accurate medical history is the essential first step in the therapeutic farriery process. This can be easily captured with a hand-held recorder; an even more efficient means is a hand-held recorder that automatically converts voice to printed text and allows for e-mail transmission (eg, Dragon Dictation, Nuance Communications, Burlington, Massachusetts). This technology lends itself well to real-time recording of findings for entry into the medical record.

Image capture and archiving is an essential tool in therapeutic farriery. A simple digital camera with a minimum of five megapixels, a macro lens setting, and video capture capability is invaluable for acquisition of both still and motion images. Any of the basic image manipulation software programs will allow quick enhancement and labeling of images (**Fig. 7**) as well as conversion to a variety of formats for

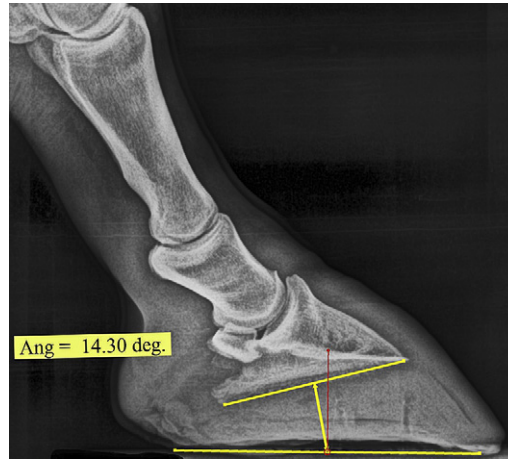


**Fig. 7.** Image enhancement and labeling. (*Courtesy of* Robert H. Kraybill, DVM, Cumberland Valley Equine Services, Carlisle, PA.)

transmission or storage. For ambulatory practitioners, traveling with a laptop computer allows immediate access to case histories and diagnostic images, image examples of digit anatomy (**Fig. 8**), and therapeutic farriery applications (**Fig. 9**) for farrier and client education and for completing reporting templates. Word processing software allows reporting templates to be built and stored electronically in pdf format. Data entry is minimized and the insertion of relevant images completes the report. Communication between owner, veterinarian, and farrier can be achieved via e-mailing or, in ambulatory practice, printing out a hard copy of the document (**Fig. 10**). For example, when radiography is included in a prepurchase examination, a "farrier report" (**Fig. 11**) that shows dorsopalmar and lateromedial views of the feet provides the farrier with a valuable benchmark. Finally, especially helpful to this author in client and farrier communications has been the interactive software program The Equine Distal Limb (**Fig. 12**) (Glass Horse Project, LLC, Athens, GA, USA).[27] Carried to cases in a laptop computer, it greatly facilitates demonstration of equine distal limb anatomy and, thus, explanation of pathology and proposed farriery.

The creation of a timely, accurate, and ongoing medical record complete with relevant images is an essential element of good practice. It can also be an invaluable asset should legal actions or insurance challenges arise.

### *Expert Consultation*

Equine practitioners are fortunate to enjoy the presence of farriery experts within both the veterinary and farriery communities. One should become familiar with these individuals and their published works as they are valuable resources. Most welcome questions and are willing to consult on cases. Many experts have websites that offer excellent and practical advice on specific topics. Establishing a network with select individuals adds a valuable dimension to practices offering therapeutic farriery. The details of any professional consultation should be recorded in the medical record and shared with the client to clearly convey value and to encourage client compliance with the therapeutic plan.

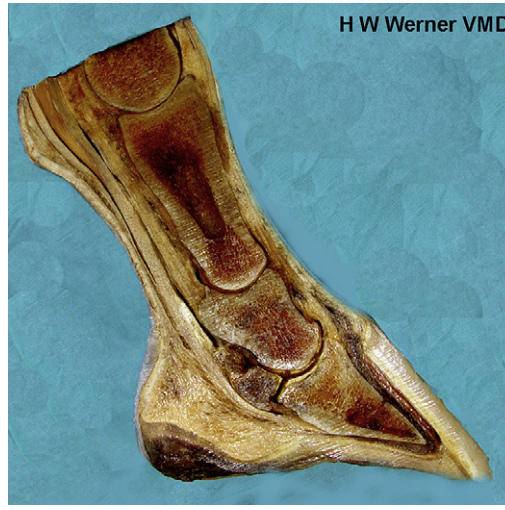


**Fig. 8.** Equine digit anatomy.

**Fig. 9.** Therapeutic farriery for distal interphalangeal medial collateral desmitis.

## WHAT WE KNOW VERSUS WHAT WE THINK WE KNOW

While the bank of knowledge regarding the form and function of the equine foot is rich with information, it is important to realize that only some of this information is founded on solid evidence. Many of the axioms by which practitioners and farriers work daily remain based on their own case experiences, anecdotes from a colleague or mentor, or simply pronouncements that have been stated and restated so often that they assume an air of established truth.

Over the past several decades, veterinarians have witnessed radical changes in what is considered correct interpretation of the radiographic appearance of the navicular bone and of the "proper" way to trim the acutely laminitic foot. These changes resulted from extensive laboratory and clinical studies in pathophysiology, the effects of various farriery applications, and the development of sophisticated diagnostic imaging modalities such as digital and computed radiography, computed tomography, and magnetic resonance imaging. Even with today's knowledge, farriers and veterinarians continue to question what much of what we "know" really means.

Evidence-based data are difficult and costly to obtain in equine research. Most research into equine distal limb biomechanics and the effects of farriery techniques has been performed either in vitro or on sound horses. While such research models provide thought-provoking and valuable information, its applicability in treating the lame horse remains unproved.[28] This dilemma was addressed in 2003 by the editors of *Equine Veterinary Journal* in an editorial entitled "Clinical Evidence: An Avenue to Evidence-Based Medicine"[29] and again in the same journal in 2009, under the title of "Case Reports versus Evidence-Based Medicine (EBM)."[30]

If therapeutic farriery is to evolve to be as effective as possible, practitioners and farriers alike must consistently challenge traditionally held theories, conventional wisdom, and, in fact, their own clinical experiences. They must not just evaluate published material on its subject matter, author, or application to their own particular needs but rather seek to understand the strength of the scientific and/or clinical

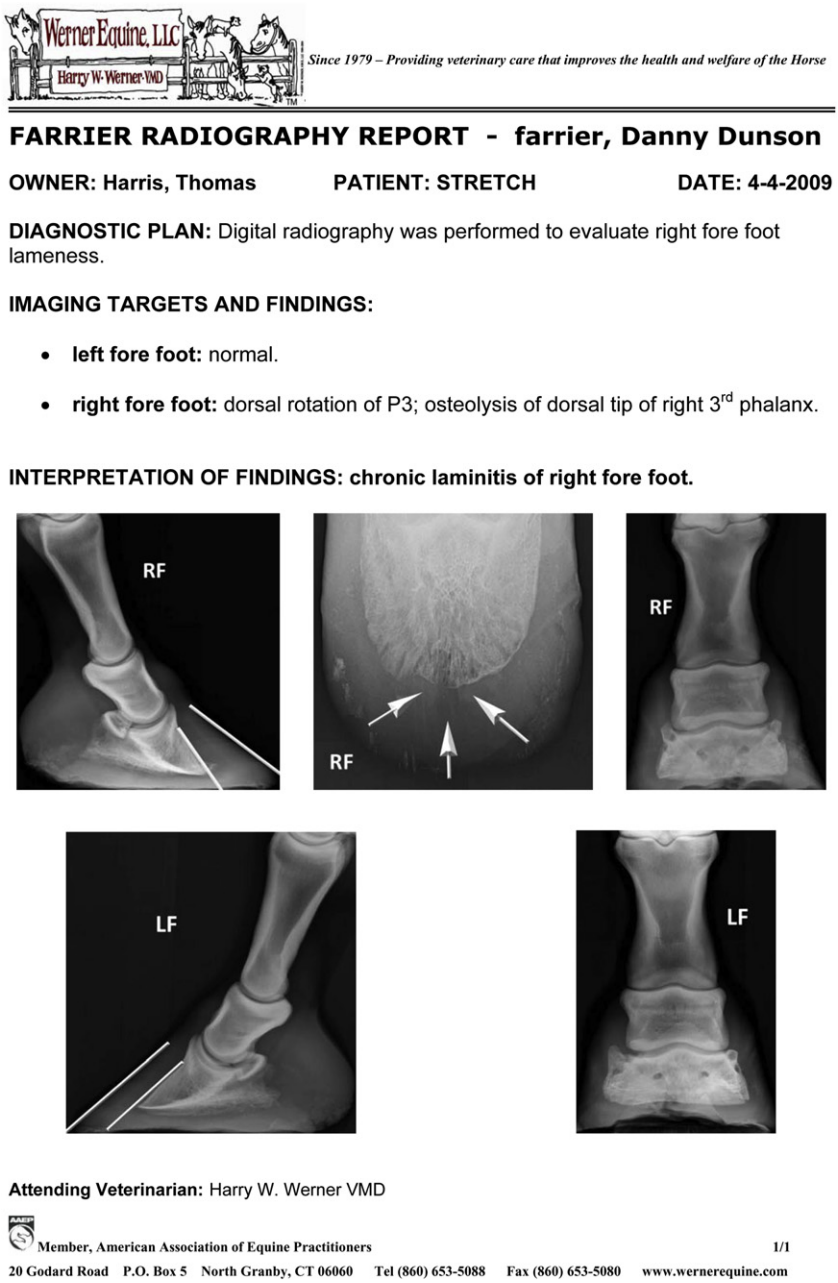


**Fig. 10.** Radiography report.

evidence on which its conclusions are drawn. Likewise, the therapeutic farriery marketplace offers no shortage of fads, both intellectual and material. Veterinarians and farriers must do battle with those who would have others believe that they alone possess knowledge of the only proper farrier techniques or proprietary rights to the

**Fig. 11.** Farrier report.

only correct therapeutic hoof appliances. The professional marketing of sound science and credible clinical reports is essential for the practice of therapeutic farriery to evolve and its practitioners to grow professionally. However, the marketing of unsubstantiated theories or devices guaranteed to cure shows a lack of integrity and has no place in the practice of good equine medicine.

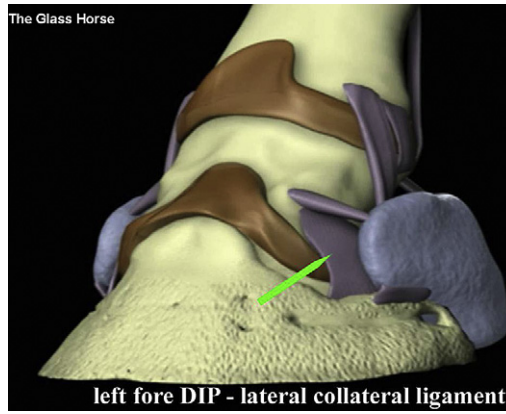


**Fig. 12.** The Equine Distal Limb.

## SUMMARY

Providing therapeutic farriery in an equine practice is an opportunity to join and strengthen a centuries-old relationship between veterinarians and farriers, to increase a veterinary practice's case load of lameness diagnosis and treatment, and to positively affect the quality of the lives of many horses. It is a discipline that joins art with science and enjoys an ancient history while using the most recent advances in science and technology.

A relationship based on mutual trust and respect is essential between the farrier and the veterinarian. Clear, correct, and timely communication enhances this relationship and the quality of patient care.

The horse deserves to be considered in its entirety, not simply as a lame limb. The equine practitioner and the farrier both owe their patients a serious commitment to remaining current in their professional education.

The client deserves honest and understandable explanations regarding diagnosis, proposed treatments, prognosis, and anticipated costs. This requires taking the time to communicate with the client verbally as well as providing imaging reports, client education summaries, clearly written aftercare instructions, periodic case updates, and timely cost estimates. A client who understands the case at hand and the challenges facing the farrier and veterinarian will become a valuable member of the horse's health care team.

In the future, it is this author's hope that veterinary educators will find ways to adjust today's already full curricula to embrace increased instruction in both basic and therapeutic farriery and that the opportunities for professional development of both farriers and equine practitioners will continue to grow. Finally, it is hoped that research will continue to produce knowledge, techniques, and materials relevant and applicable to therapeutic farriery. Given their millennia of sacrifice and service to mankind, our horses deserve no less.

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