

TABLE OF CONTENTS

Introduction	
I. Opening Letter from the Horse Welfare Committee	2
II. USHJA Code of Conduct for Horse Welfare	2
III. Quick Notes (temperature, heart rate, etc.).....	3
What to do if you See Abuse	3
Open Letter to the Trainers from Bill Moroney (<i>The Chronicle of the Horse</i>).....	4
IV. Taking Care at the Show	5
Care	
i. Routine Care.....	6
ii. Ensuring Good Health Year after Year (<i>Equus Magazine</i>)	8
Disaster Relief	9
No Cut-and-Dried Wound	10
Bad Feeling in Her Gut.....	11
What's Eating Him?	12
One Wrong Step.....	14
Red-Alert Situations	13
A Well-Rounded Medicine Chest	15
Is he in shock.....	16
Trailer an Injured Horse.....	16
Calming your Horse	16
V. USEF Drugs and Medications	17
VI. USHJA Shoeing and Medication Booklet	20
VII. Riding	
i. The Importance of Conditioning	21
ii. Schooling	24
iii. How Many Classes	25
VIII. Competing In the Heat (<i>In Stride</i>)	26
IX. Back Soreness	28
Symptoms	29
Diagnosis	29
Saddle Fit	29
Evaluating Lameness	30
X. Long Distance Shipping (<i>In Stride</i>)	30
Before Shipping	30
During the Trip	31
Upon Arrival	31
XI. Hoof Care to Keep Him Sound (<i>Practical Horseman</i>)	31
XII. Where the Hoof Meets the Ground (<i>In Stride</i>)	36
How the Hoof Interacts with the Footing.....	37
Footing Materials.....	38
Common Footing Problems	40
XIII Managing the Aging Horse	41

INTRODUCTION

I. OPENING LETTER FROM THE HORSE WELFARE COMMITTEE

Dear Members of USHJA,

Since the USHJA was founded it has strived for excellence in education. One of the most important factors of our equestrian education is that of horse welfare. The USHJA Horse Welfare Committee has spent the last few years monitoring the industry and providing educational articles on horse welfare for the members of USHJA.

Recently this committee decided that it would be beneficial to our members to provide these articles and research in one central location. The result of this is this booklet. It is our hope that you find it useful in furthering your education on horse welfare and are able to use this booklet as a resource guide.

We encourage you to provide us with any suggestion you may have for future versions of this booklet. If you have any questions or comments please send them to the USHJA office at wallen@ushja.org or fax us at 859-258-9033.

*Sincerely,
The USHJA Horse Welfare Committee*

II. THE USHJA CODE OF CONDUCT FOR HORSE WELFARE

The mission of the United States Hunter Jumper Association is to unify and represent the interests of all levels of participants in order to promote and enhance the hunter and jumper disciplines and provide educational experiences in a manner that will benefit both horses and members. The USHJA Horse Welfare Committee will develop and implement guidelines and rules that exist specifically for the welfare of the horse. The USHJA expects that every person involved in showing horses adheres to the USHJA's Code of Conduct for the Welfare of the Horse:

Horses are one of only a few animals used as athletes, often required to undergo extensive training before reaching their physiological or psychological limits as competitive individuals. Under these circumstances, decisions about horse welfare may be strongly influenced by the potential benefits to the rider, the owner or trainer. Therefore: All equestrians must acknowledge and accept that at all times the welfare of the horse is the first priority and must never be second to competitive or personal commercial influences.

The well-being of the horse takes precedence over the demands of trainers, riders, owners, organizers, sponsors or officials.

Competition management must always consider the horses' welfare relative to the competition and schooling areas, ground surfaces, weather conditions, stabling, equipment and other related site safety issues.

Adequate provisions must be made for ventilation, feeding, watering and maintaining a healthy environment when horses are stabled on competition grounds.

In the interests of the horse, the competence of the rider is considered essential.

The highest level of veterinary care available must be provided at all levels of competition.

The USHJA will establish adequate controls in order that all persons and bodies respect the welfare of the horse.

Emphasis will be placed on increasing education in training and equestrian practices and promoting scientific studies in equine health.

The USHJA urges its membership to pursue the highest level of horsemanship by continued education through clinics at all levels. The USHJA Horse Welfare Committee is dedicated to bringing the best horsemanship ideas together, throughout the United States, in an effort to promote understanding and fair treatment of horses at every opportunity.

III. QUICK NOTES

Breathing- Normal: eight to 16 breaths per minute

Circulation- normal blood pressure: 155 over 70

Temperature- normal 100 to 101 degrees Fahrenheit

Intestinal Sounds- normal; gurgling squeaking, rasping

Pulse- normal at rest pulse: 32 to 44 beats per minute

WHAT TO DO IF YOU SEE ABUSE

The USHJA Horse Welfare Committee has put together a few tips on what to do if you witness an act of cruelty or abuse at a horse show.

If you see a case of abuse or cruelty, please contact the show steward to report the incident. You may go to any member of the show staff who is carrying a radio and ask him to locate the steward. Have the steward come to the location of the incident. If the steward is not available, then locate the show manager and follow the same procedure. Also, try to have another person witness the incident. If there is anyone nearby with a camera, please ask him to take pictures or video of the incident. Remember that it is critical to have the steward at the incident location so that he can intercede and stop any action that is cruel or abusive.

While waiting for the steward, or if unable to locate a steward, you may, in a cam manner, approach the person committing the act and ask him to stop. Many times this will be all that is required for the abuse or cruel action to stop.

If the steward arrives at the incident scene and you feel that he has not handled the situation properly, you may fill out a USEF Member's Confidential Evaluation Form, which can be obtained from a steward. Should you feel uncomfortable asking the steward for the form, you can download it from the USEF's website (www.usef.com). At the USEF's website click on the "Forms and Publications" section, select "ALL" Forms and then look for "Evaluation" Forms.

It is important that we work together for the welfare of the horse. Put simply, if you witness abuse or cruelty, get the steward!

OPEN LETTER TO TRAINERS ON HORSE WELFARE

By Bill Moroney Reprinted by permission of The Chronicle of the Horse. Visit www.chronicle-ofhorse.com to subscribe.

USHJA would like to take this opportunity to ask each of you to help us spread the message of horse welfare. Horse welfare is a topic that should be of utmost importance to everyone involved in the horse industry. From caring for our equine partners at home to competing at horse shows we ask that as trainers you help us set the gold standard of horse welfare.

Trainers play a vital role in the care and maintenance of our horses. As such, riders, owners and spectators look to the trainers to learn what is acceptable. We ask that all trainers help our industry by promoting solid practices of horse welfare. Some examples of what a riders, owners and spectators are exposed to are longeing, bathing and general care of the animal. By communicating the proper methods of simple everyday activities such as longeing and bathing (i.e., not continuing to longe until a horse is lathered; avoiding spraying the horse in the face with the hose) you can help spread the message of proper horsemanship and thereby promote the idea of horse welfare.

It is the responsibility of every trainer to set the example of those looking for guidance. As trainers you are the mentors of this industry. Together we must protect the horses; as horsemen, it is our job.

Joe Fargis and I were recently talking about the training of horses and their preparation for showing. Joe is disappointed by the misuse of longeing and rightly so. Longeing can be a valuable training aid when done properly, but today, for a growing number, it has simply become a way to wear a horse down to the point that he will obey the rider's commands. This has happened for many reasons. Foremost in my mind is that we now have so many horse shows on the calendar that many end up teaching students to ride in the show ring. It used to be in the good old days that you trained at home and went to the show when your instructor felt you were ready to test your abilities against yourself and others. In a busy and hectic world where people are always looking to blame someone else for a problem, no one component can be held accountable for this situation. It is the fault of everyone involved in the hunter industry. Trainers are responding to pressure from clients to show, judging must allow for some expression within a horse's performance, and clients need to be patient when they are feeling peer pressure to wait until they are ready to securely negotiate classes in the performance arena. We have all seen those riders that make you gasp and hold your breath when they are going around the ring. How often when you see these riders to you comment on what a saint the horse is? How did he get to be that saint? We all hope it's because he's a wonderful, naturally quiet, well schooled, compliant and patient soul, but often he's just worn out. Over-longeing horses causes them to lose their personality, spirit, character and soul.

There are all levels of longeing and virtually every trainer uses them, including myself. I learned long ago from training partner Chuck Keller, however, that even through good longeing can facilitate the training of the horse, it does not take the place of riding and having the horse understand and accept the use of the legs, seat, hands and voice. Proper longeing to let a horse warm up, cool down or play freely, to train and school a horse, is a

good thing, but the infamous “longeing till death” (LTD) is not. And who are we delegating the responsibility to for these horses when they are out longeing? Are we training our grooms and assistants in the proper methods of longeing horses? Just drive past any horse-show exercise arena in the early morning and you will see that many horses are not longeing in a manner that contributes to their training, but just being chased around, often on the cross canter, until they say “uncle.” The pressure created on a horse’s body and bone structure by improper longeing techniques is unnecessary and abusive. How can we expect these athletes to continue performing over any length of time when they are subjected to this strain? The torque created by hours of tight circling in often-less-than-adequate footing will eventually destroy the longevity of the horse.

Some of the most common results related to the stresses of improper longeing include injuries to the stifles, splints, navicular, ringbone and sidebone as well as damaged ankles and knees from high speed longeing and tight circles. If the horse is that wild, then he really is not ready to be at the show or perhaps may need a change of career.

It should also be noted that one of the best creations for enhancing a horse’s condition, performance and rehabilitation, the horse walker, has now turned into an all-night walk-a-thon at some barns. The horse walker was designed to help keep a horse fit and help an injured horse with its recovery. As it requires very little human interaction and is cost efficient, for some barns, the horse walker has evolved into a virtual robot that performs the duty of wearing the horse out.

IV. TAKING CARE AT THE SHOW



Photo: Michelle C. Dunn

Two of the most dangerous situations at competitions are the use of cellular telephones while riding and motor vehicles around horses. Many cell-phone-dependent riders pay no attention to anything or anyone around them in the schooling arenas, on the riding paths and when crossing automobile traffic areas. Some just expect that you will watch out for

them and they don't have any responsibility for the situation. If you need to talk on your phone and you're on a horse, get out of the schooling area so that you are not a hazard to the rest of the people riding.

We all have heard of near misses and accidents involving golf-cart and motorbike use. Thankfully, the USEF has approved a rule that requires you to be of driving age to operate a motorized vehicle at a competition. With the exception of some parents who think it is cute to let their little children on their laps operate these vehicles, at least now we don't have to deal with unlicensed and untrained drivers.

Last of all, there is a group of equestrians within our sport who continue to look for the negative and propagate it while never getting involved in creating solutions to our problems. While this is certainly a very small minority, they are a cancer in our sport and it is a shame that these individuals continue to spread misinformation throughout our industry. All too often these people speak without getting the facts correct and are not doing anything beneficial to our sport by acting in this manner. If you have a question about rules, initiatives, programs and governance in our industry, go to your equestrian organizations to get the answer or go to a responsible and upstanding member of the equestrian community for help. If you hear a rumor, let the buck stop with you. Don't spread anything you cannot take personal responsibility for saying. This way you won't be used by these people to further their negative agenda.

Here are four areas of concern at our competitions. The USHJA Horse Welfare Committee has been instructed by the USEF BOD to bring a rule change forward to the July meeting regarding the welfare of the horse, encompassing all breeds and disciplines. Right now, the longeing issue needs to be addressed on all levels of our sport by all of us involved. A Philosophy on the practice of longeing must be developed, accepted and supported by all equestrians. The use of cellular phones and motorized vehicles is solved by common sense, responsibility and awareness on the part of all equestrians. The ability to stop the chain of false information is very easy. Before you say it, be sure you can defend it and that you are willing to take responsibility for your words and actions. Just like with any issue in our sport, if we close our eyes to it, eventually someone will deal with it for us, most likely in a form that will impose restrictions on equestrians. We have many issues on the horizon, and now is the time to be proactive in creating solutions to the problems in our sport in order to stay involved in making the necessary changes. This piece is re-printed with permission of the Chronicle of the Horse and Bill Moroney. To read the article in its entirety, "Horse Show Issues on the Radar Screen," please refer to the March 10 issue of the Chronicle of the Horse.

CARE

i. ROUTINE CARE FOR YOUR HORSE

Your horse's health and fitness is important not only for optimum performance in the show ring but is also essential for day-to-day vitality and a long, healthy life. Central to maintaining long term health in your horse is the wellness program structured with your veterinarian's help.

A typical wellness program usually involves the following activities:

- Yearly physical examination
- Vaccinations
- Parasite control

- Dentistry
- Nutritional counseling

The yearly physical examination or wellness examination allows your veterinarian to identify health issues before they become serious. The examination process also allows you to address concerns and ask questions about your horse's health that have accumulated over the past year.

Vaccination requirements are different for each part of the country and are also dependent on travel and horse show schedules. For horses that are actively horse showing, inoculation for Equine Influenza and Equine Herpes Virus [Flu & Rhino] are essential. The frequency of this inoculation should be carefully determined with your veterinarian to provide your horse with optimum protection and to meet the needs of the horse show facilities you will be visiting. Most horses in the United States will require inoculation for West Nile Virus, Eastern & Western Encephalitis and tetanus at least once yearly. Rabies inoculation, although not required in all parts of the country, is performed not only for the horse's protection but for public health concerns also. The need for Potomac Horse Fever, botulism and Strangles inoculation will depend on the specific needs of your region and where you go throughout the year.

The parasite control program that you choose is vital to your horse's well-being. With your veterinarian's help, you can choose either an intermittent deworming program using a variety of paste dewormers at regular intervals or a daily deworming program supplemented by paste deworming 2 to 4 times yearly. Many factors will determine the best program for keeping your horse protected from parasites. Among these factors include yearly rainfall [a wet, lush environment requires a more aggressive parasite program] and the concentration of horses on the property they reside.

Dental care for your horse is beneficial for two reasons. As enamel points develop on the molar teeth, the ability to properly grind food intake is compromised. These enamel points will cause injury to the lining of the cheeks as well as the tongue which makes chewing painful and less efficient. The second reason for regular dental care is the performance aspect. In order for your horse to properly accept the bit and respond appropriately to rider input, the teeth must be maintained by a once or twice yearly procedure known as floating. Your veterinarian can advise you on the best interval to float your horse's teeth and who should perform this procedure.



Photo: Michelle C. Dunn

As athletes, your horse's nutritional needs are extremely important. In addition to determining the proper weight for your horse, the proper blend of feed intake is important. The days of "hay, oats and water" are long gone. Hay is still important part of any horse's diet but the type and amount of hay is critical. There are many grain-based formulations that help round out your horse's nutritional needs. Determining the best blend of hay, grain and nutritional supplements will, undoubtedly require expert advice from your veterinarian or even a nutritional expert with a strong background in equine nutrition. Although their accuracy is questionable, the regular use of a weight tape can help track changes in your horse's weight.

Although health problems can occur at any time, careful attention to these five areas will go a long way in preventing many illnesses and will ensure top performance from our equine athletes.

ii. ENSURING GOOD HEALTH YEAR AFTER YEAR

This piece is reprinted with permission from Equus Magazine

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DISASTER RELIEF

Learn to sort the serious conditions from the merely gruesome to keep your horse going until medical help arrives.

The best things you can take to the scene of an equine emergency are not bandages and salves but a clear head and first-aid know-how. When your horse suffers a severe injury or is suddenly stricken with a serious illness, you don't have time to panic or do research: You have to react quickly. But in addition to knowing which bandage does where, you must know how to distinguish which conditions actually are serious and which just look bad, what you can treat and what you can't, and whether you need to call a veterinarian. By first sorting the serious problems from the minor, you'll give your ailing horse his best chance of a full recovery.

With many injuries and illnesses, appearances can be deceiving: A long but shallow gash on the leg can look frightening, while a life-threatening puncture wound often appears trivial at first glance. In deciding how to handle an immediate crisis, it's critical to determine the context and seriousness of the situation.

Piece together the chain of events leading up to the injury or illness. For instance, check out a bleeding horse's surrounding to determine what caused the injury: Skid marks in the mud indicate that he was running when injured. Strands of old barbed wire embedded in the paddock footing could have pierced a sole. A metal wagon tongue or piece of wood jutting to somewhere could have clipped a leg. If a horse is colicking, check his paddock for possible toxins such as poisonous plants or mold feed. Don't spend more than a few seconds on this assessment; if the cause is not obvious, move on.

Gauge the severity of his injuries. Consider everything, including his respiration rate and skin temperature, his alertness, any bleeding, his locomotion, his appearance and even his posture. Is he breathing? Can he walk? Is he depressed? Is he bleeding? Where is the laceration? Is the blood oozing or gushing? How long and deep is the cut? Is he bleeding from the nose, ears or other body opening? If he is lame, is he dead lame, three legged lame or only favoring one leg? What wounds do you hear? Is he gasping or gurgling when he breathes? If he is limping, can you hear bone ends grating? Is a laceration "sucking" air?

Using all this information, **come up with a worst-case scenario:** in emergencies, doing too much is preferable to doing too little. Remember that a severely colicking horse often rolls violently, causing himself secondary injuries, so don't overlook a serious yet more subtle ailment.

Determine your next course of action. While in many cases you'll want to summon a veterinarian for your own peace of mind at least some situations are so time sensitive that you'll need to attend to the horse's serious injuries first: a blocked windpipe can suffocate a horse in mere minutes. A sliced artery can bleed the life out of a horse in about 15 minutes. Shock can overwhelm a horse's system within an hour.

The scenarios that follow describe emergency situations. Using the clues given, judge the severity of each horse's condition. See if you can appropriately appraise the problem and plot the correct course of action.

NO CUT-AND-DRIED WOUND

As you are exercising your horse one day in the arena, he shies and runs backward into the hinge of a gate, leaving a two-inch gash in the pastern of his right hind leg. He hops forward on three legs then stops. You jump off to inspect the wound, which is bleeding steadily. When your horse finally puts weight on the hoof, a stream of yellow liquid spurts out.

In this situation you can assume four things:

- You know that the hinge- a blunt, not sharp, object- caused the gash, so the tissue likely has received substantial trauma.
- Because the blood is streaming, not pulsing, the lateral digital vein, not artery, was cut.
- The presence of the yellow exudates tells you that a synovial space (either joint or a sheath) has been opened.
- Because he can put full weight on the leg, no major bones are broken.

This type of injury is particularly dangerous. An exercising horse is at greater risk of bleeding to death from a leg wound than a resting horse because the heart is pumping faster and blood is being diverted from nonessential areas to his hard working legs. In addition, the spleen releases its emergency store of red blood cells and plasma into the bloodstream

to aid a working horse. Combined, these three processes greatly increase his risk of suffering a fatal hemorrhage. Also, any wound that involves a joint is particularly serious because of the joints susceptibility to infection and subsequent degradation. And any lower-leg laceration more than one inch in length is considered a major wound.

What should you do?

- Concentrate first on stanching the blood flow. Apply a pressure bandage, an inch-thick stack of clean cloth, over the wound and secure it with a wrap of some sort. A handkerchief or shirt sleeve will suffice if you don't have gauze handy.
- Call a veterinarian, and tell him a joint or sheath is leaking.
- Calm the horse to get his blood pressure closer to normal. Remaining clam yourself, gently massage his ears, gums or other favorite spot.
- Once the pressure bandage is in place, assess the horse's general condition. A Steady loss of blood can induce shock, the potentially fatal failure of the vital body systems that is usually brought on by a serious injury.
- If shock seems to be setting in, blanket him to keep him warm. Offer him water-with electrolytes if you have some- and nibbles of grass or hay. Keep him calm and still.
- If the bleeding hasn't stopped, apply more pressure to the wound.
- As you wait for the veterinarian, your impulse probably is to clean and irrigate the wounds. Had the laceration not involved a joint, that might have been the correct course of action. But, because this wound is so serious, you don't want to do anything to make matters worse. For now, leave the bandage on, and let the veterinarian take over when he arrives.
- If your horse has not had a tetanus shot within the last year, ask your veterinarian to administer a booster.

Don't

- Don't walk the injured horse to the barn. Instead, bring treatment to him...hose the wound if it is still bleeding or a vital structure (a joint or other body cavity, ligament or tendon sheath or organ) is involved. Neither should you possibly further contaminate the wound by trying to clean it out.
- Don't remove a blood-soaked bandage if the wound is still oozing. This can disrupt the clotting action. Instead, add clean bandage to the stack.
- Don't sedate or tranquilize the horse: his blood pressure could drop so quickly that he loses consciousness.

A BAD FEELING IN HER GUT

One evening as you are giving your horses their dinner, you notice that one mare seems very anxious and is biting her flanks and wringing her tail. She is sweating and covered with bedding from rolling in her stall. You immediately suspect colic. Her temperature is normal, her pulse is 50 beats per minute, her gums are paler than usual and her abdomen is distended and booms when you tap it with your fingers.

Most commonly, a mare with these signs would be suffering from a bowel bloated with gas one of the less-serious forms of colic. Had the mare's temperature been elevated, her gums dark or yellow, her pulse over 60 beats per minute, a more serious form of colic such as twisted bowel probably would have been the problem. Her pulse is strong enough that she doesn't appear to be going into shock. The odds of surviving a grassy impaction are good.

- At any sign of colic, however mild, call a veterinarian. To appropriately treat a colic episode and try to prevent a recurrence, you need to know what kind of colic you are dealing with, something only your veterinarian can tell you.

- If you have the painkiller Banamine and have experience administering it, give the mare some now. Administer only one dose unless instructed to give more later, and call the veterinarian immediately if the mare's pain doesn't subside or if it returns.
- Take the mare's vital signs every 10 minutes to track her condition, and write them down. This information will help your veterinarian diagnose and treat your horse.
- Put the mare in a stall or small paddock. Clean out any existing manure piles, so you can monitor her output, and remove anything that might cause injury if she rolls or rubs.
- Examine any manure produced for abnormal color, consistency or smell, and make note of any foreign material in it. Also, test the manure for sand: add one or two manure balls to a clear jar of warm water, shake, then let stand. Two or three minutes later, check the bottom of the jar for sand.
- If the pain has not gotten worse and the horse is not exhibiting the reluctance to move and soreness of laminitis, a common but serious by-product of severe illness, walk her for five minutes every half hour, up and down moderate to steep slopes, if they are available, to encourage release of the gas.
- If the pain has not returned after one hour and she seems thirsty, offer her cool water. If you have electrolytes, add some to a second bucket of water and offer her that as well.
- If she's not back to normal after two hours, ask your veterinarian to return immediately and be prepared to take the mare to a veterinary hospital right away. If, however, she seems comfortable and has passed at least two gallons of manure, you can feed her a handful of hay every hour and an oil mash every three hours. Continue checking her vital signs. If the pain returns, don't try to treat it yourself; instead, get her to a veterinarian immediately

Don't

- Don't force a horse in severe pain to get up or walk
- Don't give her water or food if green froth is oozing from the mare's nostrils, indicating that her stomach is overfull and the contents are backing up through her esophagus.
- Don't give the painkiller phenylbutazone ("bute") to a colicking horse. This anti-inflammatory can suppress necessary natural reactions and cover up signs that the veterinarian should know about. It can also make painful ulcers of the stomach much worse.

WHAT'S EATING HIM?

When your horse arrives at his pasture gate to be taken in for his dinner, he is covered with hives and agitated, rubbing his face and body against anything that holds still. His eyes and muzzle are beginning to swell, and he "snores" faintly with each breath.

The hives and itching tell you that the horse is probably having an allergic reaction, although to what is not important right now. What is crucial is that he is developing difficulty breathing, as evidenced by the snoring. If the swelling is not stopped, your horse's airway could swell shut, suffocating him in minutes. Your only concern right now is easing his breathing.

What should you do?

- Send someone to call a veterinarian for you. Don't leave the horse alone- even for a minute- until his breathing returns to normal.

- Pack his head with ice to try to reduce the swelling. If you have nothing else, strap bags of frozen vegetables around the muzzle, cheeks and ears with compression wrap or tape. When using cold compresses or ice on a wound, it is common to leave the pack on for five minutes, the off for 15 minutes, to avoid injury from the cold. But the head has enough circulation that you can leave an ice pack on as long as needed.
- While he may want to hang his head, encourage him to hold it up to slow the swelling.
- If his muzzle continues to swell, hold open his nostrils to ease his breathing.
- If the horse seems to be in imminent danger of suffocation, the veterinarian may inset a length of pliable tubing into one nostril or make an incision into the airway through the neck- called a tracheotomy. Both measures are considered last resorts and can cause grave problems if done improperly.
- Don't encourage the horse to eat or drink; his swallowing mechanism may also be compromised by the allergic reaction.
- Don't Let the animal hang his head, which speeds swelling
- Don't sedate the horse. Some sedatives cause nasal swelling, and the last thing you want is for the horse to relax so much that he drops his head or tries to lie down.

ONE WRONG STEP

With each horse you turn out on cool mornings, you hold your breath and pray no one gets hurts as they race around the slippery field expending their pent-up energy. Sure enough one day, just after the heard takes off at a mad gallop, one mare slips, flinches, then hops to a stop, standing with her left hind leg flexed so that only the toe touches the ground.

As you head toward the mare, you follow her path and search the ground for the cause of her injury, such as a piece of wire or a nail that could have punctured a foot, or a hole that might have wrenched an ankle. But you find only a skid mark. Likewise, a quick inspection of her leg reveals a slight trembling but no cuts, bumps, swelling or bleeding. You notice that flexing her legs seems to annoy her.

Leg injuries can be difficult to diagnose and because you can make matters much worse with inappropriate treatment, a swift and accurate assessment of the mare's injury is crucial.

- There is no evidence that the mare's leg is broken: she bears weight on it when you ask her to walk, and you neither see nor feel any swelling, bumps or odd angles. Thus, you feel comfortable moving the mare to the barn, where you can clean her hoof and examine it more closely. With each step, her gait improves, although she remains obviously uncomfortable.
- After the foot is rinsed off, check the sole for puncture wounds or other hoof problems such as bruises, although the absence of harmful objects in the pasture makes both conditions unlikely. Hoof testers reveal no foot tenderness.
- The mare's signs suggest a strained ligament or tendon, which sometimes isn't immediately apparent. Let the mare rest in her stall for about an hour, then reexamine her. If the back of her leg is swollen from about to inches to six inches below the point of the hock, she probably strained the plantar ligament in the hock, a condition called curb. A swelling on the back of the lower leg usually indicates a bowed tendon, whereas swelling around the fetlock is evidence of a strained suspensory ligament or deep flexor tendon.

What should you do?

- Consult your veterinarian
- Keep the horse in her stall

- Apply ice to that area for five minutes every half hour for a couple of hours.
- If the swelling is worse the next day, call the veterinarian again

Don't

- Don't move a horse who you suspect has broken a leg
- Don't give bute to a seriously injured horse; it can reduce the horse's natural protective actions and mask signs important for diagnosis.
- Don't leave an ice pack on for more than five minutes at a time. Wait 15 minutes before reapplying it to the same spot.

RED-ALERT SITUATIONS

Bleeding

- Fresh wound losing more than one pint per minute
- White mucus membranes
- Any bleeding from a body cavity

Body Posture

- Head pressing
- Sawhorse stance (indicative of tetanus)
- Contorted position or camped-in-front posture (indicative of laminitis)
- Nonbearing or dangling leg
- Extra angle or bend in leg
- Prostrate

Breathing- Normal: eight to 16 breaths per minute

- More than 20 breaths per minute in a resting horse
- Obstructed or gasping breaths

Circulation- normal blood pressure: 155 over 70

- Capillary refill time more than three seconds.
- Red brown, yellow or blue gums or other mucous membranes
- Pinched skin remains elevated for more than one second

Intestinal Sounds- normal; gurgling squeaking, rasping

- Silent or muted
- Only high squeaks or pinging sounds

Mobility

- Repeated falling
- Unable or extremely reluctant to rise or move.
- Uncoordinated, unsteady or circling

Pulse- normal at rest pulse: 32 to 44 beats per minute

- Greater than 60 beats per minute
- Weak or irregular
- Pounding pulse in feet

Temperature- normal 100 to 101 degrees Fahrenheit

- Higher than 105 degrees
- Lower than 98 degrees

Wounds

- Vital organ prolapsed
- Involvement of intestines, lungs, eyeballs, and braincase
- Penetration of synovial space of joint.

A WELL-ROUNDED MEDICINE CHEST

A well-appointed medicine chest can mean the difference between life and death when your horse is injured. Whether you opt to buy a preassembled first-aid kit or assemble your own, make sure your kit includes these necessities:

To assess the situation

- Glass, electronic or plastic strip thermometer
- A stethoscope
- A penlight

To cleanse the wound

- Gauze squares and sponges for cleaning and applying pressure to wounds
- Forceps for removing foreign bodies or pinching shut a bleeding artery
- Surgical scrub
- Saline solution
- Jet-spray bottle for irrigating wounds

To dress the wound

- “butterfly” bandages for pulling together the sides of narrow, fresh and clean wounds
- Nonstick wound pads
- Padding (cotton sheets, quilts, etc.)
- Compression bandage (Vetrac, Coban, Expandover, etc.)
- Wrap (stretch gauze)
- Easyboot or other treatment boot

Miscellaneous

- Cold wraps
- Scissors
- First-aid tape
- Reference materials some high tech options also are available to make treatment easier
- Heart rate monitor with warning beeper to warn you if the horse’s system goes into overdrive
- An oximeter, which measures the amount of oxygen in the blood, to check for signs of shock
- A Doppler sphygmomanometer (blood pressure cuff)
- Clippers, to remove hair from around the wound
- A water pik dental cleaning device to irrigate the wound
- Splint boots for lower-leg dislocations, fractures or severed tendons
- Support boots for wrenched joints or as extra support during trailering.

(Call your veterinarian with any questions about the above items)

IS HE IS SHOCK?

If you answer “yes” to any of the following questions your horse could be experiencing shock, a potentially fatal failure of the body’s systems that constitutes a red-alert situation.

- Are his gums extremely pale or even milky white with a blue tint along the teeth?
- Are the “whites” of his eyes devoid of the thin blood vessels normally visible?
- If you press your fingertip firmly against his gums, does it take more than three seconds for the color to return to the spot?
- Is he weak?
- If you pinch a small amount of skin where the horse’s neck meets his shoulder, does the “tent” remain in place for more than three seconds?
- Are his ears and lower legs cold and clammy, with little or no pulse?

TRAILERING AN INJURED HORSE

In many cases, you can save time- and possibly your horse’s life- by trailering him to a veterinary clinic instead of waiting for the veterinarian to come to you. To make the horse’s trip less stressful- both physically and emotionally- make the ride as comfortable as possible:

- If possible, transport the horse in a van or gooseneck instead of a two-horse tag-along trailer. The bigger “rigs” ride much more smoothly.
- Don’t remove stall partitions to give the horse more room. He may need to lean against the stall sides during the trip.
- If the horse requires yet more stability, rig a belly or butt strap.
- Leave the horse untied or loosely tied so that he can use his head and neck to balance.
- Haul horses with rear- limb fractures facing forward and forelimb fractures facing backward, so they can most comfortably brace against braking and accelerating.

CALMING YOUR HORSE

In many emergencies, the best thing you can do for your horse is keep him calm until the veterinarian arrives. Even when in pain, a horse often responds positively to the voice and touch of someone he knows. Find out in advance which combination of the following ministrations are likely to relax your horse in a crisis:

- With a currycomb or your fingers, rub his chest and between his front legs.
- Massage the crest of his mane about six inches above the withers. Slowly work up his neck to the poll.
- Lightly tug on tufts of mane just behind the ears.
- Gently work the cartilage in the ear’s base and tip back and forth between your thumb and fingers.
- Wrap your fingers around the ear, causing it to close, and gently run your hand up the ear, releasing your grip before you reach the tip.

Unfortunately, few emergencies are as clear-cut as these scenarios. Sometimes, the horse suffers two or three injuries at once, or, by the time you realize something is wrong, so much time has passed that you’re not sure what to do. However, by learning how to recognize and handle life-threatening situations, you’ll be better able to stabilize your horse’s condition before the veterinarian arrives, improving your horse’s chances of complete recovery.

V. USEF DRUGS AND MEDICATIONS

Some important information to know about Drugs and Medication (USEF)



Photo: Michelle C. Dunn

- The drug rules can be found on the USEF website/hardcopy rulebook under Chapter 4.
- For more detailed information regarding forbidden substances, suggested withdrawal times, compliance with the drug rules, etc. you can locate via the website or by hardcopy information supplied by the USEF Drugs and Medication Department. The hardcopy can be requested from the USEF D&M office.
- Most breeds and disciplines that compete under USEF Rules are subject to the Therapeutic Substance Provisions (GR410-412).
- FEI recognized events are subject to the FEI Veterinary Regulations. This is a no foreign substance rule, which includes reporting requirements for the treatment of illness and injury.
- Under USEF Rules, the trainer is held responsible and accountable for the condition of the horse or pony and for compliance with the rules. A trainer is defined as any adult or adults who has or shares the responsibility for the care, training, custody, condition, or performance of a horse and/or pony. Said person must sign the entry blank of any Licensed Competition whether said person be a trainer, owner, rider, agent and/or coach.
- The Federation cautions against the use of so-called herbal and natural products, the ingredients and properties of which are not known.
- Cooperation with the drug testing veterinarian and/or his technician is paramount.
- Members can find medication report forms at the competition office or with the steward.
- A trainer of a horse/pony who is found to contain a forbidden substance/overage may be subject to whatever penalty is assessed by the Hearing Committee

MEDICAL RECORDS	JAN	FEB	MAR	APR	MAY	
FARRIER						
DENTIST						
COGGINS						
VACCINATIONS:						
Flu/Rhino						
Tetanus						
Rabies						
West Nile						
Potomac						
East/West						
DEWORM:						
Anthelcid						
Ivermectin						
Panacur						
Strongid						
JOINT INJECTIONS						
Hocks						
Coffin						
Ankles						
Back						
Stifles						
ACUPUNCTURE						
CHIROPRACTIC						
ADEQUAN						
LEGEND						
EPM TEST RESULTS CHART						
LYMES TEST RESULTS CHART						

(except for administrative penalties issued by the Chairman of Drugs and Medication Committee).

- An owner of a horse/pony who is found to contain a forbidden substance/overage may be asked to forfeit all winnings at the subject competition and to pay a \$200 redistribution fee to the competition.
- Individuals who have questions about the drug rules may contact the USEF Drugs and Medication Department at 614-771-7707

VI. USHJA SHOERING AND MEDICATION BOOKLET

(available to print at www.ushja.org)

OVERALL HORSE CARE INFORMATION

ARRIVAL DATE:

DEPARTURE DATE:

HEALTH OVERVIEW:

OWNER:

USEF/USHJA #

ADDRESS

HOME PHONE

CELL PHONE

INSURANCE CO:

AGENT NAME

PHONE NUMBER

Print Info Form for New Barn

(for when you send a horse to a new barn- information such as the USEF recording info and last shod/dewormed/etc dates)



Photo: Michelle C. Dunn

VII. RIDING

i. THE IMPORTANCE OF CONDITIONING BY MICHAEL BALL, DVM

Here's why and how you can improve your horse's training, performance and general well-being with proper conditioning.

Proper conditioning is an important part of your horse's training, happiness and well-being. In addition, adequate conditioning can enhance the performance of your horse and reduce the risk of musculoskeletal injury.

There is not a body system that does not respond and adapt to progressive physical conditioning. Bone responds by thickening and therefore strengthening in response to gradual stress. For example, the inside aspect of the cannon bone is considerably thicker on the “rail” side of a racehorse adapting to the stress of running in that particular direction. With conditioning, the cardiovascular and respiration system function with increased efficiency, as does the body’s efficiency to utilize oxygen. The increase in heart rate in response to a standardized amount of exercise and the time it takes for the heart rate to return to lower resting levels can be an indication of cardiovascular fitness.

Muscle and ligament also strengthen with progressive conditioning, and this is an area that I find of particular importance to the hunter/jumper. Research sponsored by the Japanese Racing Association has shown that size of the superficial digital flexor tendon in young horses significantly increases with progressive exercise on the treadmill compared to control horses, demonstrating the effect of exercise on tendon development. Such responses to exercise can be a factor in reducing the risk of soft-tissue injury.

In areas where the winter is less than perfect for riding and for horses that don’t relocate to warmer parts, a considerable degree of conditioning can be lost despite best efforts to maintain midsummer levels of condition and exercise programs. The problem often comes at the first early spring horse shows. I recently finished working at one of our local spring shows here in upstate New York and there were numerous (more than I would consider typical for a midsummer show) strained suspensory ligaments and flexor tendons. I honestly believe that some of these injuries are related to loss of condition over the winter months and then doing a little too much, too fast and too soon in the season.

There are many factors involved and each horse very much needs to be treated as an individual. Some of these horses were particularly high spirited (spring fever) and came up sore while longeing excessively in smaller circles in some of the deeper footing in a crowded schooling area. Low-grade chronic repetitive stress, which can often build to a significant injury, can in most cases be “felt” before it can be seen as a swelling so a hands-on examination is important. Learning to palpate and evaluate these structures for pain and inflammation and making it a part of the daily routine can be of great benefit in determining if a conditioning program is pushing too hard and requires adjustment. The tendons and ligaments are best evaluated by holding the leg up off the ground and methodically applying a constant firm pressure to the various structures between your fingers looking for a response indicative of pain. Learn the contours of your horse’s normal leg and routinely monitor for changes such as increased filling in the joints or tendon sheaths (wind-puffs) that could be an indication of inflammation.

In addition, there are many times where the awareness and treatment of minor inflammation in ligaments, tendons and/or muscles can prevent minor problems from progressing. The proper use of cold therapy, warm therapy, massage, therapeutic ultrasound and other treatment methods can be a significant addition to any conditioning program. It should be noted that any such treatment should be used under veterinary supervision, as the incorrect treatment of a particular problem or during the wrong time frame (for example, warm therapy should never be used during the acute phase of inflammation) can cause more harm than good.

Conditioning is very subjective and can vary greatly from individual horse to individual horse. The horse’s age, breed, weight, previous training, diet and even his individual specific metabolism can all be factors in a horse developing musculoskeletal and cardiovascular/Respiratory condition or stamina. The main goal, regardless of what your horse does for a

living, is to create an equine athlete at his peak level of performance able to be competitive and to be at a level of condition to compete safely and minimize the risk of injury.

There are various methods of training that take a more objective approach, but with them all there is still a large degree of “human factor” in evaluating where a horse is in a given approach and how rapidly to move along. Much of the scientific research has involved looking at the horse’s use of oxygen and energy metabolism. The main difference is aerobic metabolism (energy using oxygen) and anaerobic metabolism (energy produced in absence of oxygen)—this is the use of energy at the cell level within the body.

The average resting heart rate and respiration for a normal horse is 32 beats per minute and 12 breaths per minute. As with humans, the normal resting heart rate lowers with cardio-vascular fitness; it is not uncommon for a fit racehorse to have a resting heart rate of 28 beats per minute. It has been reported that in order to develop maximal aerobic metabolic “power,” horses need to work at heart rates above 200 beats per minute. Care needs to be taken not to do too much too fast. A measure of developing fitness is how quickly the heart rate decreases after a period of sustained exercise. The “recovery” rate is typically considered to be 64 beats per minute or below and should be reached within 5 minutes.

The basic types of conditioning often used for the hunter/jumper are continuous training and intermittent training (interval training). Continuous training refers to exercise of prolonged duration and relatively low intensity. It is often used as a preparatory period for the unfit horse during which initial conditioning develops strength. Intermittent training is based on a series of intense exercise periods interspersed with periods of relief or complete recovery. The goal is to work at an intensity that maximally stresses aerobic capacity, thereby gradually building stamina. Great care must be taken as horses are more likely to suffer injury if they have insufficient base or background conditioning prior to experiencing an intensive workout.

The important fact here is that every horse is an individual, and the exercise program of each must be adjusted accordingly. Seek out the guidance of trainers who are experienced and successful with the goals you have for your horse. Horses can be over stressed and injured by any conditioning program if they are pushed too far too fast. It is important to be aware of your horse’s current level of condition and to monitor it carefully to ensure you are not moving too fast for an individual horse. There is also a common-sense factor to remember. I have seen many horses injured by activities that at the time were well-intentioned fun—a mock hunt on the trails or a winter ride in the snow that did not seem too deep or run in the sand along the beach or canals. The point is that a little can go a long way and can be very stressful for horses not used to such activities. Be aware of your horse’s condition, take it slowly, do it smartly and enjoy your horse. Dr. Michael Ball and his wife, Dr. Christina Cable, operate the private practice “Early Winter equine Medical & Surgery” in Ithaca, New York. He is also an FEI veterinarian and has traveled extensively as a team vet with the USET.



Photo: Michelle C. Dunn

ii. SCHOOLING

by Geoff Teall

When schooling the horse at the horse show, the most important consideration is the welfare of the horse. It is our responsibility to protect the soundness of the horse, both physical and mental, at all times and at all costs. I firmly believe that every horse has a finite number of jumps he can jump in his career. These jumps must be spread out over as long a career as they can possibly span. This is not only our goal, but our responsibility. From the performance standpoint, there is also a finite number of jumps that any horse can jump well and with interest still intact. This number is considerably smaller than the first. The true art of training horses is developing a system of training that produces horses performing at their highest levels using the very least amount of work and the absolute fewest jumps possible. I think it is critical to remember that the warm-up session for any class at any horse show is not really a training session, but exactly what we call it: a warm-up. This is the time to get your horse ready for the class at hand, not the moment to teach either the horse or the rider anything. It is too late for that. Your only goal should be to get your horse and rider loosened up, relaxed and confident in their abilities.

I have found over time that it really takes very little for a horse to be ready to go into the ring if he is in fact ready and qualified for the job at hand. I have also found over time that the more I do with a horse and rider in the warm-up ring, the more likely that the results will diminish. Very often, I think we leave the horses' best jumps in the schooling area by doing too much. I think we also very often confuse our riders by telling them too many things in the schooling area. With most of my hunters, I do a very brief warm-up on the flat. This would include a small amount of walking, trotting and cantering in each direction, and perhaps a lead change in either direction. I usually start with a low oxer, then perhaps two or three larger oxers, and finish with one vertical, or sometimes two. I start with the oxer to get my horses getting across the fences with confidence, and end with the vertical to make sure they are paying attention and are careful at the jumps.

If I have a horse that is a little spooky, I might jump a jump with a cooler on it to see where I am. Beyond that, I think that most of what will happen in the ring will either have been addressed at home, in training, or not. If problems do come up on course, I always think it is best to just make note of them, don't panic and work on them at home. Remember, the warm-up for the class is only a warm-up, not a training session. Each horse has a finite number of good jumps in his life. Our responsibility is the welfare of the horse. I have found that if I concentrate on these ideas, the winning will come almost on its own.

iii. HOW MANY CLASSES?

Things to consider when filling out your horse's entry blanks

- What kind of condition is your horse in? Is this their first show of the season or have they been showing regularly?
- What will the expected temperature be? How high will the humidity be?
- What about the footing? Is it in good shape or rock hard?
- Will the horse be ridden by a professional or a novice that will be banging on the horses back and hitting it in the mouth?
- How high will the horse be jumping? 2'6" or 3'6" or higher
- Will your horse be standing on a trailer all day or will it be in a stall where it can relax a little bit better?
- You may wish to think about a limit of four jumping classes for 3' or lower and three jumping classes for higher height classes if conditions are favorable for one day.

Try to take these things into consideration when entering your horse and just don't put him in just any class because he's eligible.



Photo: Mark Wyville

VIII. COMPETING IN THE HEAT

In Stride April 2007 By Dr. Mark R. Baus, DVM

Maintaining optimum performance while protecting your horse from the effects of extreme heat

With the summer months approaching, it is useful to review some basic methods of dealing with the heat while competing at horse shows. The horse evolved over time to cope with the vast extremes of temperature that exist on the great plains of the world. If the horse is simply provided adequate nutrition, dealing with cold temperatures is not a problem. Dealing with summer heat, while performing as an athlete, is another story.

Horses generate enormous amounts of heat from their muscles while undergoing physical exertion. Most of this heat is dissipated from the skin in the form of evaporative cooling [sweating] along with increasing circulation through the skin to provide further cooling.

Although horses are well adapted for most activities during severe heat, it is important to consider several things to prevent and treat overheating and heat stroke.

The first consideration is determining activity levels based on temperature and humidity levels. By adding temperature and humidity, the heat index can be calculated and standards for activity can be set.

Most levels of activity for a heat index under 130 [e.g. 70 F & 50% humidity] are not a significant challenge to the horse's ability to regulate body temperature. As the heat index approaches 150, especially as humidity exceeds 75%, the horse's cooling mechanism becomes significantly limited and activity levels need to be monitored closely. As the heat index exceeds 180 [e.g. 95 F & 90% humidity] all activity should be significantly limited or even postponed.

Although electrolyte administration is widely used in the horse world, the need for them is minimal if a high quality hay and premium grain formulations are fed consistently. Most electrolyte supplements (use electrolytes as suggested by manufacturer or directed by a veterinarian) are high in sugars to enhance palatability and to allow them to be added to the drinking water. I am reluctant to add electrolytes to the water since it may inhibit water drinking and it is also difficult to determine the exact amount they ultimately receive. Electrolytes are best used only during periods of added heat and activity.

At horse shows, it is important to provide your horse with shade, especially during periods of inactivity. Since most horse's skin is heavily pigmented, the sun's rays contribute significantly to heat build-up during hot weather. It is also important that horses have access to drinking water. If your horse has been significantly exerted, he should only be allowed small amounts of water at a time. In addition to drinking water, water for bathing and cooling should also be provided for added cooling when necessary. When at rest, each horse should have access to 2 buckets of clean water at all times. If electrolytes are added to the water, make sure it is added to only one of the two water buckets to give the horse a choice of drinking from either bucket.

Although it is important that our horse's performance be kept at optimum levels for competition purposes, protecting their health and wellbeing during hot weather is always the principle concern. Recognizing early signs of heat exhaustion and heat stroke is critical. Most riders and trainers are adept at monitoring their horse's response to exertion by watching respiration and overall vitality. As heat levels are rising during periods of activity, the horse's cooling mechanism is challenged and they will attempt to dissipate heat with increased respiration. This may be the first sign that the horse is no longer compensating for overheating.

Signs of impending heat stroke are critical to recognize:

(see quick reference guide for normal rates and temperatures)

- Body temperature in excess of 104 F
- Rapid breathing and elevated pulse.
- Weakness and depression.
- Refusal to walk or eat.
- Dry skin.
- Total collapse.

If your horse is showing signs of heat stroke, it is important to take the body temperature as soon as possible. As the body temperature exceeds 102 F, it will become necessary to provide additional cooling quickly. Cold hosing or ice packing at sites of major blood ves-

sels will be helpful. This would include the jugular veins along with the blood vessels on the insides of each limb. If heat stroke is suspected, drenching the body in cold water is not advised.

It is important to call your veterinarian at the first sign of heat stroke. As heat stroke develops, blood flow is shunted away from the intestines and vital organs so the potential for catastrophic effects increases dramatically if the body temperature is not brought down to normal quickly.

Since sweating is the horse's primary method of shedding excess heat, it is important that your horse's ability to sweat is constantly monitored. Anhydrosis, a disease in horses that limits sweating, is seen fairly commonly in the southern states but it can affect any horse during hot weather. Veterinarians have tried many therapies to treat this disease but the key to dealing with anhydrosis is early recognition. Many of these horses are simply not able to compete during hot weather conditions.

If your horse is in a good health and good physical condition, it is unlikely you will encounter a significant problem with hot weather. The key factor avoiding heat related complications is simply using common sense to determine the proper level of activity for your horse. In my experience at all levels of horse shows, riders are more likely than horses to succumb to the effects of competing in hot weather. If conditions are too rigorous for the competitors, it is likely too much for our horses as well.

IX. BACK SORENESS

*Sometimes difficult to diagnose and treat, this type of pain may stem from a variety of sources.
In Stride February 2007 by Dr. Mark Baus*



Arnd Bronkhorst: Photography

Back soreness can be one of the most difficult and elusive diagnostic challenges in the horse. There are direct (primary) back problems such as direct trauma from a poor fitting saddle or even arthritis and, much more commonly, indirect (secondary) back problems. From a musculoskeletal standpoint, the back and neck are extremely com-

plicated. There are hundreds of individual ligaments and numerous muscles and their tendon attachments holding together all of the vertebrae and pelvic structures that compose the back. Every vertebra actually has four true “joint” articulations with cartilage, joint fluid and surrounding soft tissue structures just like the fetlock, a more typical joint. There are 14 small “joints” in the neck alone. Although much less common than in a limb joint, the joints of the vertebrae can suffer from arthritis caused by trauma, injury, wear and tear, and even congenital problems such as OCD. The tissues of the back can be traumatized while rolling, bucking, rearing, playing, having a leg loose footing and slipping out, pulling back on a tie, as well as during the rigors of riding. A horse’s saddle and padding can be a contributing factor in some cases.

SYMPTOMS

The signs of back pain can be extremely variable from horse to horse, with the main sign primarily being poor performance. Subtle signs can be noticed—including tail swishing, a directional difference in the way the horse rides (difficulty bending in one direction or with collection), difficulty with leads, ear pinning, head shaking, flatness when jumping, or stopping all together. There is sometimes a difference in the horse’s movement depending on whether he is being ridden—or ridden under saddle as opposed to bareback. These signs, of course, may have many other causes including behavioral, training issues, or even natural performance limitations, so it is very important to have a complete veterinary examination performed to know what course of action to take and decide if there is a medial condition that needs to be addressed before more intense or alternative training.

DIAGNOSIS

Diagnosis of back pain can be very difficult and starts with extremely thorough observation. Seeing what the horse’s body can do without forced manipulation can be helpful. It is great to see a horse with his back curved around balancing on three legs while scratching that spot behind his ear with a hind foot! The horse that will nibble a carrot over his withers to the right but not to the left can be indication of pain on one side of the neck (could be stretching of inflamed tissue on one side or compression of inflamed tissue on the other side). Palpation of all the long muscles of the back and muscles of the rump while watching and feeling for a reaction is important. The lumbosacral area, pelvis and sacroiliac areas often can be manipulated in order to determine degree of movement and reaction. This really is the surface of the iceberg, because there are so many deep structures and such large masses of muscle covering them it is very possible to be over a problem area and get little to no reaction. After palpation local anesthesia can be administered to confirm an area of suspected pain. In addition, nuclear scans (scintigraphy) and thermography can be used to isolate problem (inflamed) areas followed by ultrasonography and radiology to further define the problem and help decide on a course of treatment.

SADDLE FIT

The saddle fit should be evaluated as well as the saddle structure for problems including a broken tree or bunching of padding material causing a pressure point. A correctly fitting saddle needs to fit the horse as well as allow the rider to sit balanced and centered on the horse. The saddle should not interfere with the horse’s movement or the rider’s aids; with a well-fitting saddle the rider will feel secure and balanced with his legs staying in the correct position without constant adjustment.

The padding needs to be evaluated as well as the saddle. Some padding can cause pressure points to trigger a response in the muscles under it. In many cases more is not necessarily better—padding cannot make up for a poor-fitting saddle. The new neoprene and gel-type pads have been very beneficial in a number of cases I have worked on.

EVALUATING LAMENESS

It is also very important to conduct a thorough lameness evaluation, as many back problems are actually secondary to lameness issues. If lameness issues related to back pain are not addressed, treatments focused on the back are likely to be short lived and unsuccessful in the long run. Various treatments including locally injected and systemic anti-inflammatory medications, muscle relaxants, correction of poor saddle fit or padding problems, stretching exercises pre- and post-exercise, massage therapy, chiropractic and acupuncture, can all be effective in treating various types of back pain. The treatment(s) must be undertaken considering whether the pain is primary or secondary, acute or chronic, soft tissue, bone/joint (or both), and be based on a sound localization and diagnosis of the cause of the pain. Back pain can be perplexing and frustrating to diagnose and treat. It may take some time to completely figure out, but should be considered when dealing with training issues and/or poor performance.

Dr. Michael Ball and his wife, Dr. Christina Cable, operate the private practice Early Winter Equine Medicine & Surgery in Ithaca, NY. He is also an FEI veterinarian and has traveled extensively as a team vet with the USET.

VI. LONG-DISTANCE SHIPPING

In Stride Spring 2006 by Dr. Mark Baus and Dr. Steve Soule

For many obvious reasons, shipping long distances is stressful for horses. For your horse, the stress of shipping comes from many sources:

- Standing on a moving platform for hours on end.
- Inability to lower his head to ground level.
- Poor ventilation with noxious fumes.
- Breathing air contaminated with fecal-origin bacteria and urine odor.
- Standing among horses with whom he is not compatible.

Here's how to help your horse deal with these challenges:

BEFORE SHIPPING

All appropriate inoculations should be administered at least 10 days prior to shipment. Horses often are receiving joint injections and other therapies that involve the administration of corticosteroids. These corticosteroids should be administered at least seven days, and preferably 14 days, before shipping. Also, corticosteroids for orthopedic therapy should be avoided for seven days after shipping long distances. A coggins test should be completed at least two weeks before shipping. This will also allow for a timely completion of the necessary health certificates. Your veterinarian can advise you on any further regulatory requirements for your state and destination.

It is essential that your horse has been without fever or other serious illness for at least one week prior to shipping. Your veterinarian might wish to perform blood work to insure that your horse's health has returned to normal if he has been ill recently.

Avoiding abdominal disruption (colic) is a principle concern. Administering a laxative prior to shipping can be accomplished in several ways. A bran mash with up to one pint of mineral oil can be fed for two to four meals prior to departing. To insure good hydration for the long trip, electrolytes can be administered in the feed two to three days before shipping. Some horses, based on your prior experience with them, may require additional hydration in the form of intravenous or nasogastric electrolyte-balanced fluids. Although commonly

administered in past years, antibacterial and anti-inflammatory medications are usually not recommended prior to departure to prevent illnesses. Take your horse's temperature prior to departure

DURING THE TRIP

Traveling on large vans is typically less stressful for your horse. Unnecessary movement is minimized and ventilation is optimal. Feed amounts of hay similar to your horse's usual daily amount. Monitoring your horse's manure production during the trip is essential. Also, take note of his water intake and urine production.

Most people will ship straight through for trips up to 24 hours. If it is reasonable, a break at the halfway point can offer several advantages. It would allow for a rest from standing on the moving vehicle and allow you to check your horse's temperature. Hand grazing or monitored turn-out allows your horse to lower his head and drain phlegm from his trachea.

If your horse is developing a fever or showing signs of poor appetite or depression during the trip, consult your regular veterinarian for advice. Alert a veterinarian at the destination to prepare for a possible examination of your horse.

UPON ARRIVAL

Take your horse's temperature. It is not uncommon for horses to have a significant fever after a long trip. If a veterinarian is within easy reach, it is reasonable to wait an hour or two to recheck the fever. If the temperature has returned to normal range and your horse is acting well, no further action is necessary other than monitoring the temperature for the next couple of days. If your horse's temperature is significantly elevated upon arrival, and he is depressed and not eating, immediately contact a veterinarian. Similarly, if the initial fever does not subside within several hours, an examination is in order. Mark R. Baus, DVM, graduated from veterinary school in 1981 and joined Dr. Rick Mitchell in practice in the Fairfield/Winchester area. He is a member of the Ethics Committee for the American Association of Equine Practitioners. Steve Soule, DVM, is a 1973 graduate of the University of Pennsylvania School of Veterinary Medicine. His practice in Wellington, Florida, is limited to performance horses. He often officiates as a veterinary delegate at the FEI dressage and show jumping competitions.

XI. HOOF CARE TO KEEP HIM SOUND

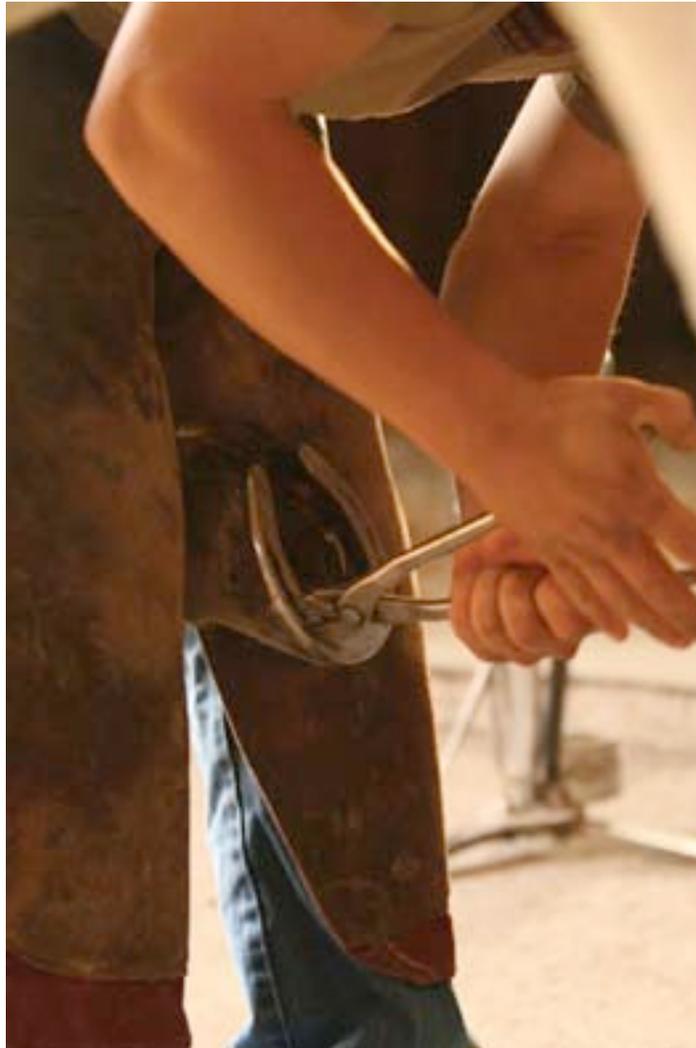
(Practical Horseman)

Understand what happens in the "black box" of the hoof to help cut the risk of common foot injuries. By Elaine Pascoe with Duncan Peters, DVM. (This piece is reprinted with permission from *Practical Horseman*.)

You lavish lots of attention on your horse's feet. You clean them daily, check his shoes and perhaps apply a hoof dressing from time to time. You make sure they're trimmed and shod regularly. And his feet look beautiful—but beauty is, in this case, horn deep. It's what goes on inside that really counts.

Out of sight, behind the hoof wall, are complex structures carefully engineered to absorb shock and support your horse as he gallops, jumps and turns. When a serious foot problem sidelines him, more often than not these internal structures are involved. In this article, we'll open a window into the "black box" of the hoof and explain how you can cut your risks. The

list of problems that can develop inside the foot is long, so we'll focus mainly on some injuries and chronic conditions that are common causes of lameness.



Julie Moses Photo

BEHIND THE HOOF WALL

The core of your horse's foot is actually a joint. Three bones come together here:

The **coffin bone** (also called the pedal bone, third phalanx, or P3) underlies the hoof wall at the front. Two flexible wings, the lateral cartilages, extend from this wedge-shaped bone along the sides of the foot.

The **small pastern bone** (second phalanx, or P2) sits atop the coffin bone and links it to the pastern above.

The **navicular bone** (distal sesamoid) is tucked behind the first two. Where they meet, the bone surfaces are covered with a slick layer of cartilage. The bones are arranged to distribute force and pressure when your horse puts his foot down. His body weight, coming down through the small pastern bone, disperses through the navicular bone to the heel and through the coffin bone to the toe. There's not a lot of movement in this joint—the bones are lashed together tightly with strong ligaments—but it gives enough to absorb the impact of landing.

But there's much more to the foot. Two of the major tendons that extend and flex the leg are anchored here, and layers of padding and protection surround and support the structures.

The **digital extensor tendon** runs down the front of the leg and attaches to the upper front of the coffin bone. Its job is to straighten and extend the limb.

The **deep digital flexor tendon** (DDFT), which bends the limb, runs behind the joint to attach to the bottom of the coffin bone. At the heel, where it passes over the navicular bone, its fibers fan out. The DDFT is stretched taut at the moment when your horse weights his foot, helping to support the bone.

The joint is enclosed in a tightly fitted membrane, creating a fluid-filled joint capsule. At the back, a pouch called the **navicular bursa** sits like a fluid-filled balloon over the navicular bone, helping to cushion the bone from the pressure of the DDFT over it.

The **digital cushion**, a thick pad of fiber and fat, lies under the heels, between the two lateral cartilage wings that extend from the coffin bone. When your horse puts weight on his foot, the pressure flattens the cushion. The cushion pushes out the cartilage wings, and the hoof expands a bit to take the force. The digital cushion also helps keep circulation moving in the foot by acting like a pump, pushing blood out of the foot when it's squeezed.

The hoof itself is made of **horn**—basically, protein, like your fingernails—many layers thick and as tough as armor. The wall is the sturdiest part, thickest at the toe and narrowing gradually along the sides. It grows down continuously from special tissue in the coronary band at the top of the hoof. The thinner sole grows from similar tissue under the coffin bone.

At the heels, the wall takes a sharp turn in on each side to form the **bars of the foot**, two distinct ridges that you can see on the sole, running back toward the toe. Between the bars is the v-shaped **frog**. The wall, bars and frog are the main weight-bearing surfaces, and their design helps the walls to expand slightly under pressure, absorbing shock.

An ingenious system keeps the hoof wall firmly anchored to the coffin bone. Over the bone is a thin layer of tissue with thousands of hairlike projections, the **sensitive laminae**. They interlock like Velcro® with similar projections on the inner surface of the wall, the **insensitive laminae**.

All these structures work together, step after step, out of sight and out of mind—until something goes wrong.

SUDDENLY SORE

Your horse is a bit off after your trail ride. Or maybe he hops out of his stall one morning on three legs. You can feel warmth in the sore foot, but behind the hoof wall you can't tell what's going on. Hiding inside might be a:

Sole bruise. A hard landing, rocky footing or constant work on a hard surface can bruise the soft tissues between the sole and the bones. The bruising can be extensive—subsolar bleeding that extends across the whole back of the foot—and deep enough to damage cartilage and produce microfractures in bone, too subtle to see on X-rays. Weeks later, a reddish stain may appear on the sole, remnants of the pooled blood.

Abscess. Abscesses develop when bacteria get into the living tissues of the foot and start an infection. A pocket of pus builds up and with it, pressure—and pain. Usually a horse is

very lame, very suddenly. Left to fester, the infection may spread to deep structures like the coffin bone.

Rest, soaking the foot in warm water and Epsom salts, and poulticing are time-honored treatments for bruising. But an abscess won't clear up until it drains. Your veterinarian can locate the site and carefully pare away the sole over it to let the foul matter escape.

Poulticing and soaking the foot in a warm solution of Betadine® and Epsom salts once or twice a day for three or four days helps it finish draining. Your vet also may prescribe an anti-inflammatory, such as phenylbutazone or Banamine®, and sometimes an antibiotic.

Any severe lameness warrants a call to your vet. Even if your horse is not so sore, it's time to look for a deeper cause if he's still off after a week of rest. More serious foot injuries include a **Torn tendon**. The DDFT comes under tremendous stress as your horse pushes off a front foot at speed or after landing from a jump. Within the foot, the DDFT may separate from the coffin bone or fibers in the tendon may tear.

Torn ligament. Any of the ligaments that lash the bones of the foot together—the collateral ligaments at the sides, and the supporting and impar ligaments, which hold the navicular bone above and below—may be strained or torn. The ligaments undergo severe stress when your horse pushes off, makes sharp turns or lands on uneven ground.

Fracture. Any of the bones can fracture, but coffin bone fractures are probably most common. They can occur in the bone's wings (sides), body (center), extensor process (a lip of bone that curves over the lower edge of P2) or bottom edges.

Tendon and ligament injuries can be hard to identify behind the hoof wall, but they can be spotted with high-tech techniques such as magnetic resonance imaging (MRI), available at some major clinics. These injuries are slow to heal and can lay up your horse for varying amounts of time—think months, not weeks.

A coffin bone fracture calls for three to four months of stall rest, followed by four months or more of turnout. The hoof itself, helped by a bar shoe to keep the wall from expanding, acts as a cast for these fractures. If the break is in a place where it affects the working of the joint, it can be a source of ongoing problems if it's not completely stabilized.

CHRONICALLY SORE

Incomplete healing, repeated injuries and general wear and tear can lead to chronic foot problems. Many of these problems occur in the back half of the foot and produce similar signs—intermittent lameness; short, toe-stabbing strides; “lolling” a foot (resting it with the heel cocked up off the ground), soreness to hoof testers over the frog. For many years they were lumped into a single category: navicular syndrome. But the navicular bone is just one of the structures that can be involved.

Just as it can higher in the leg, the section of the DDFT in the foot can become chronically inflamed and thickened from repeated stress. Other ligaments may heal incompletely after a tear and become chronically inflamed. Arthritis—joint inflammation—can develop in the foot in any number of ways. In one scenario, bone cysts develop after a subtle bone or cartilage injury. These small cavities, filled with fluid and scar tissue, cause painful irritation in the bone and leak debris into the joint, creating inflammation. Whether from bone cysts or another cause, the inflammation produces pain and, over time, degrades the joint.

True navicular disease is marked by inflammation and degeneration of the navicular bone. There's little agreement about the cause, but compression—the bone is squeezed with

every step—is a factor. Also, as supporting ligaments are stretched and pulled, they yank against the membranes that surround the bone. The bone responds to this irritation by remodeling and developing lumps of new growth. Exactly how this relates to navicular disease isn't clear, but it can be a source of heel pain.

Sorting out exactly what's wrong is challenging, especially because several things can be going on at once. But identifying what structure is involved, and how, may lead to more effective treatment. For example, true navicular disease can't be reversed and doesn't heal with rest. Treatment focuses on managing the condition to slow its progression and keeping your horse as comfortable as possible. Shoes that support the heels and allow the foot to break over easily (bar shoes with rolled toes, for instance) are a big part of the plan. Because they reduce stress on the area, those shoes can help other heel problems, too. But if the real problem is tendinitis, your horse might have a better chance of recovery with rest and, perhaps, injection of anti-inflammatory medications into the sheath (covering) of the tendon.

RISK BOOSTERS

Conformation can make a horse's feet more prone to certain types of problems. Shoeing can help, but it can only do so much. **Long toes and low heels** delay breakover. That causes the joint in the foot to hyperextend, putting extra stress on the DDFT and the impar ligament. The delay also increases strain on the navicular bone, as the tendon and ligaments press and pull on it. Good trimming and shoeing (with rolled toes, for example) can help by allowing the foot to break over more easily.

Small, narrow and upright feet don't absorb shock well, so they're more stressed by concussion. That can contribute to navicular disease and similar problems. This conformation is also less stable in turns, putting more stress on the collateral ligaments. A farrier can lower high heels somewhat, but feet that are naturally upright can't be radically altered. Where your horse works, and how hard, makes a difference, too: **Work on hard footing** increases concussion. **Rough ground** can rock the foot this way and that, yanking ligaments and tendons. **Quick stops and sharp turns** cause sudden changes in inertial forces that can strain the collateral ligaments. **Galloping, jumping and work on steep hills** increase both impact and breakover stress. When a horse lands from a jump, his front feet withstand tremendous forces. The joints hyperextend, and the DDFT and impar ligaments are stretched to the maximum as he pushes off. The harder your horse works, then, the more important good foot conformation becomes.

RISK CUTTERS

Many foot injuries are just bad luck. Your horse lets loose in his paddock or takes a bad step coming off the trailer and tweaks something in his foot. But many others might be prevented with good management. Here are eight ways to reduce your horse's risks:

Clean and check his feet daily. Make sure his stall and paddock are clean and dry, so that his feet aren't too soft or too dry. Healthy feet are more resistant to injury and infection.

Pay attention to footing and use good sense on rough trails. Pick up rocks in your paddock and ring. If your horse's feet bruise easily (as they may if he has thin soles), shoeing with pads may help—but don't rely on pads to prevent injury.

Keep on top of shoeing. Shoeing is important in all foot problems. If your horse is overdue for shoes or if a shoe is tweaked so that it's loose or slightly askew, and that's not noticed, it will affect the balance and support of the foot and make injuries more likely. Likewise, his feet need careful management if they are off balance or grow abnormally, so that his weight isn't evenly distributed on them.

Get him fit for what he's asked to do. For example, an event horse's feet have to handle sudden changes in inertia and direction caused by uneven cross-country ground. For that, they have to be conditioned slowly by doing the type of work, on the type of surface he'll face. This applies to any discipline and any activity, whether it's a grand prix jumpoff or a hunter pace. You need to know your horse's level of fitness and plan to have him ready for the task.

Don't overtrain—it's counterproductive. People tend to push horses right up to the last day before a big competition. (You never see human athletes do this—the day before a marathon, you wouldn't run half a marathon just to be sure you could.) It's common sense to ease up, let tissues recover, and let your horse get his spark back rather than go into the competition tired. Missteps come with fatigue, and injuries come with missteps.

Longe less. It's high risk, especially if you longe your horse for extended periods to work him down. You will never see a horse at liberty running in circles; yet at any show you can see horses cranked onto tight circles and longed for half an hour or more, often on poor footing. The repetitive circling tires muscles and tendons. Then a foot slips out, its opposite number catches the excess weight, and the stress exceeds tissue strength in the ligaments and tendons. If your horse is anxious at shows, the answer is to go earlier, ride him and give him a chance to settle into the strange surroundings. Often a horse just needs to relax, not be tired out.

Give him time to recover from stress. This may be easier in disciplines such as endurance and eventing, where there's more time between competitions, than in hunter and jumper classes, where people tend to show week after week. Add to the competition the stress of travel, stabling in a different environment and possibly a different shoer at a multiday show, and you have a recipe for trouble. You may need to do fewer classes so your horse isn't so tired, or fewer shows, and do less in between.

Be alert to "conditions of concern." Maybe he's not actually lame, but you sense something different in his way of going. The key then is to appreciate the problem. There's often pressure to get out and show, even when there are questions about your horse's readiness. But doing that can give a small problem a chance to develop into a big one.

The common denominator in all these steps is the need to know your horse, so you can have him physically and mentally ready for whatever it is you want to do and avoid pushing him past his limits. That will help you prevent injuries of all kinds, not just those in the feet. *Practical Horseman, October 2007 by Duncan Peters, DVM, MS, heads the Sport Horse Program at Hagyard Equine Medical Center in Lexington, Kentucky. An FEI-certified veterinarian, Dr. Peters previously practiced in Montana and California with an emphasis on performance horses. He is a lifelong horseman and a graduate of the University of California.*

XII. WHERE THE HOOF MEETS THE GROUND

In Stride Fall 2006 by Dr. Hillary M. Clayton

For the second installment in our series on Horse Welfare, we asked Dr. Hillary M. Clayton of the Mary Anne McPhail Equine Performance Center at Michigan State University to give us a primer on various types of arena footing and how they affect the performance horse under different circumstances. We hope that this information will enable you to create a safer, more comfortable environment for horses, riders and spectators.

Footing is an important aspect of horse management that affects both performance and

soundness. The optimal footing for a particular arena depends on a number of factors, including the sport, climate and location (indoors or outdoors). The basic essentials are a level, hard-packed base covered by 2 to 2 1/2 inches of suitable cushioning material. This article will focus on the selection and maintenance of the cushion material, and will give guidelines for detecting and correcting common problems with the footing.



Julie Moses Photo



Julie Moses Photo

HOW THE HOOF INTERACTS WITH THE FOOTING

Footing is used to cushion the impact of the hoof with the ground and to provide a stable surface for the hoof to push against during locomotion and jumping. The first step toward understanding footing requirements is to learn how the hoof interacts with the surface.

As it approaches the ground, the hoof is moving forward and downward. Contact with the ground stops the motion of the hoof and this sudden deceleration causes concussion that

is potentially damaging to the bones and joints of the horse. One of the mechanisms for absorbing concussion is by deformation or movement of the footing material.

The amount of concussion transmitted to the horse's limb depends on the hardness of the footing. Hard footing does not move when the hoof hits it, so the hoof is stopped abruptly, which causes jarring concussion in every stride. Soft footing moves a little, allowing the hoof to sink into the surface (see figure 1) so it decelerates the hoof gradually and the footing absorbs some of the concussion. The depth of the hoofprints gives an indication of the hardness of the surface and how much concussion is absorbed by the footing.

The effects of concussion accumulate over the course of an athletic horse's career. The force of each impact and the number of impacts determine the likelihood of injury. Harder impacts are associated with faster speeds and landing over fences. In racehorses, the concussion resulting from training and racing at high speed is implicated in fractures of the limb bones, whereas in jumping horses the predominant concussion-related injury is arthritis. Like older people, many older horses have mild arthritis that is compatible with continuing an athletic care if managed appropriately, which includes work the horse on good, resilient footing. Hard surfaces, on the other hand, exacerbate lameness in arthritic horses. In light of the high concussion associated with jumping, there may be a grain of truth in the saying that a horse only has so many jumps in him.

Jumping horses need footing that offers security at takeoff and some give during landing. At takeoff, the ideal footing allows the toe to dig in slightly, then offers sufficient resistance that it does not give way as the hind hooves push off (see figure 2). On a very hard surface the toe cannot dig into the surface, and the lack of hoof rotation aggravates lameness in horses with navicular disease or check ligament injuries. On the other hand, a soft surface with low shear resistance allows the toe to penetrate easily but may give way as the hoof pushes off. Think about how it would feel if you were a sprinter ready to explode out of the starting blocks but at the moment you push against the blocks they fall over, giving you nothing to push against. When the footing gives way, the horse's muscles must work harder to generate the propulsion needed to clear the fence. Consequently, the muscles are rapidly fatigued. Tired muscles put more load on the flexor tendons and suspensory ligaments, predisposing to bowed tendons and pulled suspensories.

When landing over a fence, the main concerns are to control concussion and reduce slipping. The footing needs to move a little so that it slows the hoof gradually, which reduces concussion, but it should not slide so much that the horse loses control of the hoof movement and feels insecure.

The property of footing that gives it security at take off and landing is known technically as shear resistance, which indicates how much substance the footing has. Jumping arenas need more substance than arenas that are used only for flat work. The next section will describe the characteristics of different types of footing materials and how to achieve the necessary substance.

FOOTING MATERIALS

Sand

Sand is the most frequently used surface material due to its easy availability and cost effectiveness. Different types of sand vary widely in their suitability for riding surfaces, due to differences in the size and hardness of the grains. Grain size affects dustiness, compaction and water retention. Arenas used only for flat work are often based on coarser sand, such as 2NS, which consist predominantly of medium-coarse and coarse grains. The disadvantage to a coarser sand is that it tends to roll or shear under the horse's hoof. The sand used in

jumping arenas needs a higher content of fine particles (clay or stone dust) to give it more structure and stability. The effect is like a rubber doorstop that resists sliding across the floor. In a similar manner, fine particles in the sand resist sliding of the hoof. Jumping arenas typically contain around 80 percent sand and 20 percent fines. Sand with a high content of fine material requires more maintenance than coarser sand. After it gets wet, the fine particles pack hard as it dries, so the footing needs to be harrowed frequently to keep the cushion fluffy. The more fine particles there are in the sand, the more it becomes compressed and compacted by horse traffic and, due to its high compactability, and greater tractor power is required to harrow it. Fine particles are also responsible for dustiness when the sand dries out.

Hard (granite) sand is durable, which is particularly important in an arena that sees a lot of traffic. Soft (calcite) sand breaks down and turn to dust relatively quickly, especially in heavily used arenas. Hardness can be tested by placing a few sand grains on a hard surface and compressing them with a spoon. If the grains are easily crushed, the sand is soft.

Sometimes sand is used alone as arena footing, but it is often possible to improve the performance of sand by adding other materials that affect its physical properties and the way it interacts with the horse's hoof.

Additives

The most common additive is water, which is used to increase the stability of the footing and reduce dust. To get a feeling for the effect of watering sand footing, think of running on the beach and how much easier it is to run at the water's edge compared with the running on the dry sand farther up the beach. Water is cheap and effective, but the effects don't last long—only until the water evaporates. If an arena needs to be watered frequently, consider installing a watering system or adding a product with a longer-lasting effect.

Magnesium chloride or calcium chloride is sometimes mixed into the footing to retain water. These are inexpensive additives, but since they are salts they are corrosive to machinery and they may irritate skin wounds and the paws of small animals. Comparing the two salts, calcium chloride is considerably more caustic and should only be used when magnesium chloride is not available.

Products derived from natural or synthetic oils are available that suppress dust for much longer than water, and without the adverse environmental effects of calcium or magnesium chloride. The drawback is the greater cost.

Amendments

When the footing is less than perfect, amendments are added to improve the properties of the riding surface. Depending on the type of amendment, it is possible to increase cushion (air or fluffiness), increase stability, increase water retention, reduce slipping, reduce compaction and minimize maintenance. Materials that are frequently used as amendments to footing include rubber, fibers, felt, nylon or foam.

Textiles

Textiles include a broad range of products, such as material made from felt, nylon or foam. They are currently the most popular amendments used for jumping arenas. Textiles provide cushion, stabilize the sand, help to aerate the footing prevent compaction and may help to retain moisture. Products in this category should provide an exceptionally consistent riding surface.

Rubber Products

Rubber adds cushion and resilience to the surface and may reduce compaction, but it may also allow sand to dry out more rapidly. Granular and shredded rubber particles are available, with different shapes being appropriate to mix with different types of sand. If the rubber is derived from recycled tires, however, it is very important that all the metal has been removed by passing the rubber through a series of magnets. Obviously, the presence of metal particles in the footing is dangerous.

Wood Products

In some areas, wood products such as bark, wood chips and shaving are readily available and inexpensive. They are often mixed with sand to give the substance more cushion, or they may be used alone. Wood-based surfaces offer some cushioning, but can become slippery if they are deep. Wood products help to retain moisture in the surface, which reduces the frequency of watering. The biggest drawback is that they break down relatively quickly and turn into dust.

Synthetic Footings

Synthetic footings consist of sand grains coated with a wax or polymer. The coating eliminates dust and gives the footing structure and stability without having to add water. Synthetic footings require a substantial initial investment, but ultimately pay for themselves over time due to their durability and low maintenance requirements.

COMMON FOOTING PROBLEMS

Too Hard

Compaction causes a surface to become hard. Surface materials with a high content of clay or stone dust are particularly susceptible to compaction, especially when the surface gets wet and then dries out. The jarring effect of a hard surface causes a horse to move stiffly and exacerbates lameness in arthritic horses. Harrowing the surface loosens the material and introduces air, which makes it fluffier. Amendments such as textiles, rubber or wood chips are often added to reduce compaction and give a hard surface more cushion.

Too Deep

For most types of footing, a depth of 2 to 2½ inches is adequate. Deeper footing tends to give way as the horse pushes off, so the horse must generate more muscular force to achieve the same amount of propulsion compared with a firmer surface. Due to the extra effort required, the muscles fatigue more rapidly on deep surfaces, putting the tendons at greater risk of injury. Deep footing can be improved by removing some of the surface material, by keeping it well watered or by adding a stabilizer such as a textile or fibrous material.

Too Slick

Slick footing allows the hoof to slide excessively during pushoff or landing. A person walking on ice tries to keep his weight over his feet and avoids reaching forward or pushing out behind himself. In the same way, a horse moving on a slippery surface reduces the range of motion of his legs as they swing back and forth, resulting in a short, choppy stride. In judged sports such as hunters, this is not what the judges are looking for. Even more important, slippery surfaces are dangerous; loss of control of hoof motion can cause a fall or a serious jumping error.

Too Dusty

Dust is unpleasant for horses, riders and spectators, especially those with respiratory sensitivities. Dust is a consequence of fine particles (silt, clay, stone dust) in the surface material becoming airborne when disturbed by the action of the hooves or even the wind. Addition

of bonding agents such as water or oil reduces dust. Some types of footing, particularly soft sand and wood products, are prone to disintegrate into dust, especially in arenas with heavy traffic. When the footing does break down it may be possible to improve the rideability for a while using bonding agents to keep the dust under control, but eventually the surface will need to be replaced. Synthetic footings are dust free.

Finding the Right Footing

Unless you have considerable experience with different types of footing, it is worthwhile hiring a professional footing consultant to help you choose and install the best footing for your arena. Footing consultants are experts in arena design, footing installation and maintenance procedures. For an existing arena with footing problems, the consultant will help you to select the appropriate amendments and additives to revitalize the footing.

XIII. MANAGING THE AGING PERFORMANCE HORSE

Purchasing or owning the aging performance horse requires close attention to their inevitable declining soundness. As a fit athlete, soundness is an important determinant of a horse's performance level. Soundness is the expression used to describe the presence or absence of orthopedic pain in the equine athlete. The sad fact is that horses develop wear and tear issues in their limbs and back that will determine their level of usefulness as they grow older.

In general, lameness issues can be divided into two broad categories. The first category of lameness includes cases that require a period of rest to allow for a healing period. A typical example of this is a horse with an injured suspensory ligament. The other category is the horse with a condition that allows them to remain in work as long as the pain from the lameness can be managed safely. These cases are typically regulated with safe and appropriate medications such as bute or Banamine. Also, horses in this second category can be managed by various joint injections to maintain adequate and comfortable levels of performance.

Ultimately, every show horse will get to a point where the combined soundness issues will start to affect performance. As wear and tear issues in the show horse accumulate, owners and trainers will need to determine if use levels need to change. An option might be to alter that horse's job. That might involve seeking a rider who needs a horse to perform at a lower, less strenuous jumping level. Further, the horse may be suitable, ridden on the flat for dressage, pleasure trail riding, or docile enough for a therapeutic riding center.

Discussions between the owner, veterinarian, and trainer will determine a potential suitable situation for an aging athlete.

- Does he/she need rest or rehab to continue?
- Does his/her age or physical condition require a change in job or discipline?
- Do you want to sell or donate him/her?
- Are you financially able to pay for his/her care for the remainder of life?

Once you decide your individual situation, you can consider some of the following options. Some horses readily adapt to different environments. The key is to find a facility that considers the best interests of the animal.

- **For Profit** – Farms where you pay a monthly fee for the life of the animal and he is not typically ridden. Their services will differ depending on the individual ani-

mal's specific health needs and the particular facility setup.

- **Not For Profit** – These are equestrian schools and therapeutic riding facilities where you would donate (transfer ownership) of the animal.
- **Breeding Operations** – If you have a well bred mare, there are farms that offer different arrangements such as a buyout, lease, or foal share.

As your horse is solely dependent on you for his welfare, it is imperative that you research the various options. Visit the facilities that you are considering, to make sure they meet a high standard of care. A few prudent points to examine might be to determine if the manager has an understanding of the horse's past level of show care, what kind of paddocks do they have, is there access to stalls or run-in sheds, is grooming offered, are they equipped to handle special medications, feeding, or shoeing?

The USHJA website provides a list of facilities for your consideration. While the USHJA does not formally endorse these operations, care has been given to provide locations, where our members have had positive experiences.



Photo: Michelle C. Dunn

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