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# Table of Contents—Spring 2018

## 2 From the Stable Office

Industry Reflections  
By Kimberly S. Brown

## 4 Who Will Take Over My Equine Business?

You've built a great equine business, and although your exit is a long way off, now is the time to consider what will happen after you leave.

By Katie Navarra

## 12 The Effect of Rider Weight on Horse Performance

Problems can arise when a rider is too heavy for a specific horse or uses an ill-fitting saddle.

By Nancy S. Loving, DVM

## 16 The Basics of Stall Design

A stall should be a safe and comfortable place for your horse.

By Heather E. Lewis, EAWA

## 20 Liability for Non-Clients on Your Property

Recognizing the legal status of persons on your property—and undertaking risk control measures—can help mitigate your liability exposure.

By Denise Farris, JD

## 26 How Much Land Per Horse?

Learn how land use, your management plan and zoning ordinances factor into the equation.

By Katie Navarra

## 30 Equine Back Pain

Whether back pain is primary or secondary to other problems, proper diagnosis and treatment are necessary to improve performance and well-being.

By Nancy S. Loving, DVM

## 36 2018 Stable Management Fees Survey

Horse farm and boarding stable owners, as well as riding instructors, can use this business information.

By Kimberly S. Brown

## 40 Facing Your Fears

Anyone with a fear of horses or riding needs to be taken slowly through a confidence-building process by an experienced instructor.

By Kathy Findley

## 44 Learning Balance On Horseback

Teaching exercises that improve rider balance relaxation, centeredness and self-awareness should be an important part of a lesson program.

By Kathie Hilsner

## 45 Joint Care

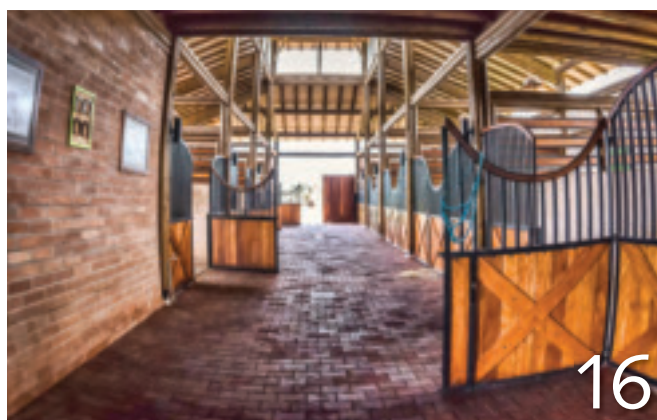
There are many products on the market that can make a difference to your horse's joint soundness.

By Nancy S. Loving, DVM

## 48 Ad Index



4



16



30



40

**On the cover:** Stable owners owe it to themselves—and their students—to have a plan for who takes over their equine businesses. Cover photo by Arnd Bronkhorst Photography

## From the Stable Office

# Industry Reflections

**W**hen you look in the mirror, what do you see? Chances are that you are a “woman of a certain age” who has owned horses for more than 20 years. You run or are involved with an equine business that has been a part of your life for a long time. You are passionate about what you do, and often you spend long, hard hours taking care of horses, clients and your business. For many, it is work that comes with very little profit to show at the end of the day.

And the odds are that you don't have a succession plan for your equine farm or stable.

While some people have children or other family who are actively involved in the farm or stable business, that is the exception rather than the rule.

Most of us pause when we think of who will take over when we decide we either want to—or have to—retire, but that seems like a long way off. Today, we have horses to care for, lessons to give, fields to tend and equipment to maintain. There are thousands of small details and decisions that have to be made all day, every day. Who has time to think about five, 10, 25 years from now, right?

Unfortunately, we all need to make time to consider those options, for the horses' sake if for no other reason.

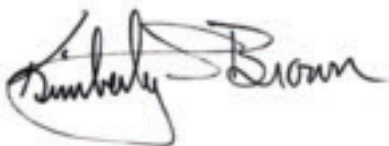
This isn't a morbid topic. Rather, think of it as ensuring that the hard work you have put into building your equine business means it will continue into the future, serving horses and people far beyond your day-to-day involvement.

Stop. Think. Plan. If you own a horse or a farm, you need to consider what you want to happen to those animals and property when you no longer want or can handle the workload. That might mean letting a family member (or members) start to take responsibility for more of the daily activities or behind-the-scenes business and decision-making that go along with running an equine business.

Or it might mean that you need to be looking for someone outside the family who can join your team now and learn about how you created a successful farm or stable. Look for someone who has the financial potential to carry on in your footsteps when you are ready to sell out.

Think about the qualities in the person you would like to have take over your business, whether a family member or someone else. If someone outside the family, then keep your eyes open and let some of your peers know you are looking for that “right” person. You might be surprised to find that the right person is also looking for you!

After your planning, look in the mirror tomorrow and smile, knowing you have protected what you have spent so much of your time and passion building. **SM**



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A succession plan takes time to develop and implement, so the sooner you start, the better.

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# Who Will Take Over My Equine Business?

You've built a great equine business, and although your exit is a long way off, now is the time to consider what will happen after you leave.

By Katie Navarra

**W**hat do you envision for the future of your equine business? Do you intend to close it, sell it or pass it along to your kids? Whether you're the sole owner of the business or you lead a

program owned by someone else, it's never too early to begin planning for the next phase of your life and your equine business.

In southern California, Certified Horsemanship Association (CHA) instructor Lori Hall-McNary is committed to keeping her Rockin' L&D Ranch in the family. She

operates the ranch on a parcel of land originally purchased by her grandfather in 1943.

Her three grown children were raised in the business and continue to remain active. Her middle son, Nathan, still lives on the ranch, where he is the barn manager and assistant riding instructor. Her oldest son,



Drew, suggested drought-resistant plants for erosion. And her youngest son and his wife help with special events.

“Our family’s biggest reward in passing the ranch from one generation to the next is summed up as I look out my kitchen window to the one-hundred-plus oak trees,” Hall-McNary said. “The roots run deep and stable, enabling the new generation of growth to reach for the sky.”

On the East Coast, CHA instructor JoAnne Young was instrumental in building the Houghton College equestrian program, where she served as equestrian program director. Over two decades, she stewarded the program from just a few courses as part of an independent studies curriculum to a minor, then a major.

Young and the college leaders were equally committed to finding an individual capable of continuing the legacy. She and the school’s academic dean drafted a formal succession plan. The plan included sequential steps and stages. The new hire would start part-time and gradually work into full-time. This allowed time for the new employee to get acquainted with the role and allowed Young to share her knowledge about the program.

Steps and benchmarks were laid out for the process so that the new person could get comfortable in the expanding position, adjust to the scheduled changes and have an opportunity to meet the increasing requirements. The college gave Young the honorary title of “equestrian program director emeritus,” and she continues to participate in weekly department faculty meetings and to teach a few courses.

“My goal is to be supportive of my colleagues as they continue to develop and expand the excellence of the equestrian program in whatever ways they would find me to be helpful,” she said.

Creating a succession plan takes time and careful decision-making. It’s a process that should take place long before the current owner or manager is ready to step aside. In this article, find advice for beginning the process and considerations to take into account along the way.

## Start Now

“Succession planning is one of the most important activities a business can conduct in terms of long-term viability,” said Keith Dickinson, CFP, business consultant with Farm Credit East, ACA.

Statistically speaking, 30 percent of family businesses survive through the second generation and 5 percent make it to subsequent generations. The original research, conducted 15 years ago by the Family Business Consulting Group, acknowledged that there are many factors contributing to this figure. However, without question, succession planning is critical for those with the intention of keeping a business in the family.

Farm family coach and succession planning coach Elaine Froese explained that succession planning is more like a journey than a destination. The Manitoba, Canada, consultant believes that conversations and actions relating to the transfer

of a family-owned business begins years—even a decade or more—in advance of the actual transaction.

“Quite bluntly, if the business owner waits for a signal to start the process, then they have waited too long,” said Dickinson.

A thorough succession plan takes into account management, financial and operational processes of the business, all of which evolve over time. Transitioning management responsibilities comes first. During this phase, the heir apparent gradually increases his or her responsibilities and duties within the business. Then comes the gradual shift of financial roles.

“This includes successors participating in the financial management for at least



Your family, your horses and your students are all depending on you to ensure that your equine business doesn’t just survive, but thrives after you decide to retire.

three years prior to a transfer of ownership,” Dickinson said.

Financial matters extend beyond operating expenses and revenues. Financial considerations include the income as well as the estate and inheritance taxes to which a business and its successor might be subject. A qualified tax adviser can offer the most accurate guidance, because each state has its own generational ranch rules and/or laws. For example: Hall-McNary explained that currently in California, the property value and tax rate on land remains the same if it is kept within the family. For example, one family member could give it or sell it to another family member as part of a transition plan.

Hall-McNary added that hiring an equine estate lawyer is as important as working with a certified public accountant (CPA) that specializes in equine and estate finances.

“The best succession planning happens when everything is in writing by a third-party professional,” she said. “That leads to a plan that is based on facts, not emotion.”

Fairness and perceived fairness is a significant part of the conversation, and greed or unreasonable expectations might have to be addressed. “Each person (current owner, future owner and those not involved in the business) has to be able to define what fairness looks like to them,” Froese said.

Hopefully, one family member stands out as the leader and heir apparent. Even when the successor is obvious, it’s important to consider the needs and wishes of other family members not involved with the business. The “non-business heirs” often include other children uninvolved in the business and/or the spouses of the family member destined for ownership.

When all family members have an opportunity to express their expectations, it’s easier to find an amicable solution.

Equine businesses such as Houghton College’s equestrian program don’t have the same financial considerations as a business that is family owned. The finances remain with the college, and there isn’t the element of fairness in distributing assets. It’s also unlikely that non-family-owned businesses will have an apparent heir. But it’s equally important for similar businesses to create succession plans that include recruitment and hiring replacements well



A family equine business might come with expectations from children that they will take over from parents, or expectations that a child will want to follow in a parent's footsteps and run the facility.

before key employees leave.

## Determining Fit

A charismatic leader is difficult to replace—especially when that person is the one who started or built the business to its current level. There is unparalleled passion and commitment. A succession plan can help identify a successor who is equally capable in carrying the business forward.

In a family business, there is the added challenge of expectations. There might be an expectation that a child stays within the family business. The reality is that he or she might not want to. Conversely, the business owner can decide that a family

member doesn't have the skills or personality to lead.

One of the first and most difficult conversations to have is whether or not the family member in line for ownership has what it takes.

“It’s important to consider if the family member has the needed skills and temperament,” Dickinson said. “If they don’t, can they learn these traits over time?”

Even if they have the skills, do they have the interest? The successor should have a passion for the business and be willing to go the extra mile to make it successful, rather than simply viewing it as a job. Family businesses are rarely 40-hour-a-



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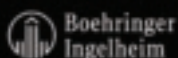
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The Safety Data Sheet (SDS) contains more detailed occupational safety information. For technical assistance, to request an SDS, or to report suspected adverse events call 1-877-217-3543. For additional information about adverse event reporting for animal drugs, contact FDA at 1-888-FDA-VETS, or <http://www.fda.gov/AnimalVeterinary>.

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week jobs with guaranteed vacation time. Having a passion for the company helps the successor through the difficult times. Froese added that the individual needs to be teachable and willing to be mentored.

That's as true in a family-owned business as it is in finding a non-family member to continue a legacy of a college program. When Houghton College embarked on a search for a new equestrian program director, Young was included in the process. She was given copies of all of the applications for the position, and she provided input to the academic dean and the Human Resources office. The search committee found a candidate that was an excellent fit for both the demands of the position and the mission stated by the college.

Per the written plan that Young and the college had created, the new director began teaching certain classes and managing specific aspects of the equestrian program while Young retained her position. This was done while the new hire was in the process of completing a Masters of Arts in Equestrian Education. Once the graduate program was complete, she was officially named the Houghton College equestrian program director, and Young received the lifetime honorary title of equestrian program director emeritus.

A successor's suitability to run the business is as much about openness to other ideas as it is about skill or desire.

As Young's successor took over teaching some of the courses that Young used to teach, Young shared her lecture notes and course outlines. However, she cautioned the new director that no two people teach exactly alike and that no two people draw from exactly the same knowledge base. Each person has had different opportunities in different settings to learn.

"I told her that I expected her to use my notes and procedures as a jump start, so that she would not need to reinvent the wheel," Young said. "But I expected her to change, modify and revise the materials as she saw fit to improve the courses and make them more suitable to the needs of today's students."

## Gaining Experience

When young family members are placed in positions for which they aren't ready, it can be disastrous for the individual and non-family employees. Younger family

members have to earn their positions in the company. If it's a gift from their parents, everybody around them will know it. There's just not the level of respect a leader has when he or she hasn't earned it.

Developing the skills that earn respect happens inside and outside the company. Hall-McNary has required her sons to work in every position in the business.

"We cross-trained our sons on all aspects of the ranch, from horse training to client communication, teaching, showing, community involvement and knowing the family history," she said.

Involving the next generation in all aspects of the business—even the mundane jobs such as taking out the trash or unloading trucks—teaches the heir how hard those jobs can be and how valuable that type of work is. It builds character and humility.

Experiencing every role in the company is a good start, but it's not always enough.

Dickinson said, "I recommend that all younger family members spend at least two years working outside of the family business."

The easiest time to accomplish this is early in their career, immediately following completion of their "formal" education, whether that is college, high school or a trade school. This provides younger family members an opportunity to experience other ways of doing things and learn strategies that might help them once they come back to the family business.

Learning doesn't stop there.

"The younger generation should be willing to network with peers and attend industry trade shows and conferences to personally meet the movers and shakers in the industry," Froese said.

Additionally, Froese recommended that aspiring business leaders take a self-awareness profile to better understand their skill sets and personality styles and also work on building communication and conflict resolution skills.

At Rockin' L&D Ranch, Hall-McNary encouraged her sons to explore other opportunities in the world while letting them know there was always a place for them at the ranch. Her youngest son is an active member of the United States Marine Corps. He carries the American flag on one of the ranch horses at community events, but he has his own career and identity outside of the business. His wife, Liz,



assists at ranch birthday parties and keeps the bunkhouse organized.

"This July, they'll welcome their first child and the fifth generation to ride on the ranch," Hall-McNary said. "That's our biggest reward."

## Stepping Aside

The most difficult part of transitioning a business is letting go.

Young remembered that years ago, people started asking, "How will the college ever replace you?" or "How will the equestrian program survive without you?"

"You have to know in your heart why you worked so hard to build a program, and who you were building it for," she said. "It needs to be for something or someone bigger than and outside of yourself. If you are driven to build something that will in some way make the world a better place, you will find lifelong satisfaction."

Family and non-family leaders sometimes question how to identify when it's the "right time" to step aside.

"When activities outside the business

become more interesting, it may be time to let go," Froese said, adding, "Health and energy levels are another indicator."

Timing can also be dictated by external factors. "Federal and state estate taxes, retirement income needs of the current owner, etc., may be indicators it's time to turn the business over," Dickinson said.

Ultimately, losing passion for the enterprise is the final test.

When you start to lose the passion you have for the business, it's time to think about passing it down. For some people, that might be five years in the future, whereas for others, it might be 30 years.

By natural design, family farm businesses can set up power dynamics that either contrast with the existing family dynamics or reinforce them.

In parent/children businesses, it can reinforce that mom and/or dad are in charge at home and in the business, which can leave employed children feeling disempowered. Or, if the younger generation is in the manager's role, parents can find it difficult to cede control.

"Be open to change. Listen to the elders

and youngsters," Hall-McNary said.

"Have discussions about what activities are income-producing and what are community outreach programs, and keep the business plan updated."

It's imperative that all relatives working in the business respect one another as colleagues during the work day. All parties—parents and children, uncles and aunts, nieces and nephews—need to show up to work as adults. "I can see the lightbulb go on with so many of my clients when they finally realize they have been treating a son or daughter as if they were still 12 years old," Froese said.

## Take-Home Message

Preparing to turn the business over to the next generation requires planning, preparation and candid conversations. The process is certainly not quick, and it might not be easy. But when sufficient attention is devoted to succession planning, the current business leader can rest assured that his/her successor will carry on the family or business legacy. **SM**



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# The Effect of Rider Weight on Horse Performance

Problems can arise when a rider is too heavy for a specific horse or uses an ill-fitting saddle.

By Nancy S Loving, DVM

**T**he robust stature of horses makes them appear strong and able to withstand even the most glaring mismatch of rider size and weight. However, a recent pilot study revealed that horses are sensitive to rider weight and balance in ways that affect their performance.

The study, headed up by Sue Dyson, MA, VetMB, PhD, DEO, FRCVS, head of Clinical Orthopedics at the Animal Health Trust Centre for Equine Studies in Newmarket, UK, was presented at the National Equine Forum in Great Britain. Dyson and colleagues looked into how the size of a rider affects a horse's gait and behavior. Funding of the study was obtained through several welfare-minded organizations: World Horse Welfare, the British Equestrian Federation, the Saddle Research Trust, the British Horse Society, the Pony Club, Polocross, the Showing Council, the Showing Register, the Society of Master Saddlers, Riding for the Disabled, British Eventing, British Dressage, the British Horse Foundation, the Worshipful Company of Saddlers and Endurance Great Britain.

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in the study weighed between 1,100 to 1,300 pounds. The four riders in the study were similar in equestrian ability, but their weights ranged from 134 to 313 pounds.

A comparison of the ratio of rider to horse's body weight was made to determine effects on the horse:

a) A *light* designation indicated rider weight that is 10 to 12% of the horse—as, for example, a 110- to 132-pound rider on a 1,100-pound horse;

b) A *moderate* designation described a rider at 12 to 15% of the horse's body weight—as, for example a 132- to 165-pound rider on a 1,100 pound horse;

c) A *heavy* designation described a rider at 15 to 18% of the horse's body weight—as, for example a 165- to 198-pound rider on a 1,100-pound horse; and

d) A *very heavy* designation described a rider with a body weight that exceeded 20% of the horse's body weight, such as a 220-pound rider (or heavier) on a 1,100-pound horse.

The horses in the study were exercised wearing their normal tack at a trot and canter in specific, set patterns. A Master Saddle Fitter consultant checked tack during every part of the study to ensure correct fit for each horse. The researchers assessed horse response to back palpation, alterations of back dimension from exercise, heart and respiratory rates, gait under saddle and horse behavior. Stress responses were measured using saliva cortisol levels and the blink rate. A horse's full and half blinks decrease significantly in response to stress.

Not too surprisingly, horses carrying the heavy and very heavy riders had significantly higher pain scores than those mounted by light or moderate riders.

In fact, the added weight factor by the heavy and very heavy riders elicited transient lameness significant enough that the riding exercises of these individuals were halted. Lameness issues became apparent 30 minutes into flat work with the heavy rider at 16.7% of the horse's body weight.

It was noted that the saddle also did not fit this rider.

Only one moderate rider's testing had to be stopped due to horse pain scores.

Dyson noted that horses with low-grade lameness when ridden by a lightweight rider tended to show more obvious lameness when mounted with a heavier rider.

The horses affected by the excess weight ratios returned to their original levels of



While instructors need to take rider ability and horse compatibility into consideration when matching student to horse, they also need to consider rider and horse size.

soundness within 45 minutes of cessation of the set riding patterns.

While a high proportion of rider weight compared to horse weight resulted in temporary lameness in the study, there is a potential for lameness to become more permanent if a heavy or very heavy rider continues to ride the horse on a regular basis.

Variable factors affect how well a horse tolerates the body weights of different riders: Conformation, body condition score, and a horse's strength and fitness were several relevant factors. A horse with soundness or health issues is likely to be more affected by a heavy rider. Saddle fit and rider skill and balance also factor in to how well a horse does under saddle.

In a previous study of 506 horses, 50% were ridden with poorly fitting saddles. That study helped to define what happened to horses carrying very heavy riders, particularly with ill-fitting saddles. Other significant factors from that study showed how well a horse did relative to rider weight and ability, including exercise demand, type and duration of exertion, footing, terrain difficulty and climatic variables.

## Take-Home Message

The take-home message is that riders should be paired with horses that are in appropriate proportion to the rider's weight. Also, saddle fit is critical to horse comfort, particularly with heavy riders who make more of an impact sitting on a horse's back.

Because this study used a rider who could move with the horse rather than dead weight, it further identified that weight is not the full story, but rather, that distribution of the weight has consequen-

es. For example, the height of a rider and/or the fit of a saddle might affect a horse's comfort through a rider's position and weight distribution when mounted.

A tall rider or one bothered by saddle fit might find himself or herself sitting more to the back of the saddle near the cantle. In that case, rider balance becomes an issue with direct consequences on horse comfort, soundness and performance. The horse's back length then becomes an additional factor in determining appropriate match of horse and rider.

Common sense is useful in determining fit of rider to horse. If a mounted rider visibly appears too big for a horse or is not able to achieve proper position in the saddle both in location and posture, then efforts should be taken to fix the horse-rider combination and/or saddle fit.

Ongoing studies are needed to provide exact ratios of the horse-and-rider combinations that work best and to project guidelines as to specific cut-off levels based on both horse and rider body weight. Increasing a horse's body condition to overweight is not an answer for "fixing" the body weight ratio of horse and rider. Instead, the fit of rider to horse should be adjusted based on a healthy body condition score of the horse.

No matter the outcome of future evidence-based research, a good piece of advice is to pair bigger riders with bigger horses and to ensure saddles fit well for both horse and rider. The more comfortable the rider and the better his or her balance and weight distribution, the more comfortable the horse. And that comfort means that the horse can perform, also increasing the likelihood of a longer athletic career for that horse. **SM**



## BEST AGAINST PESTS

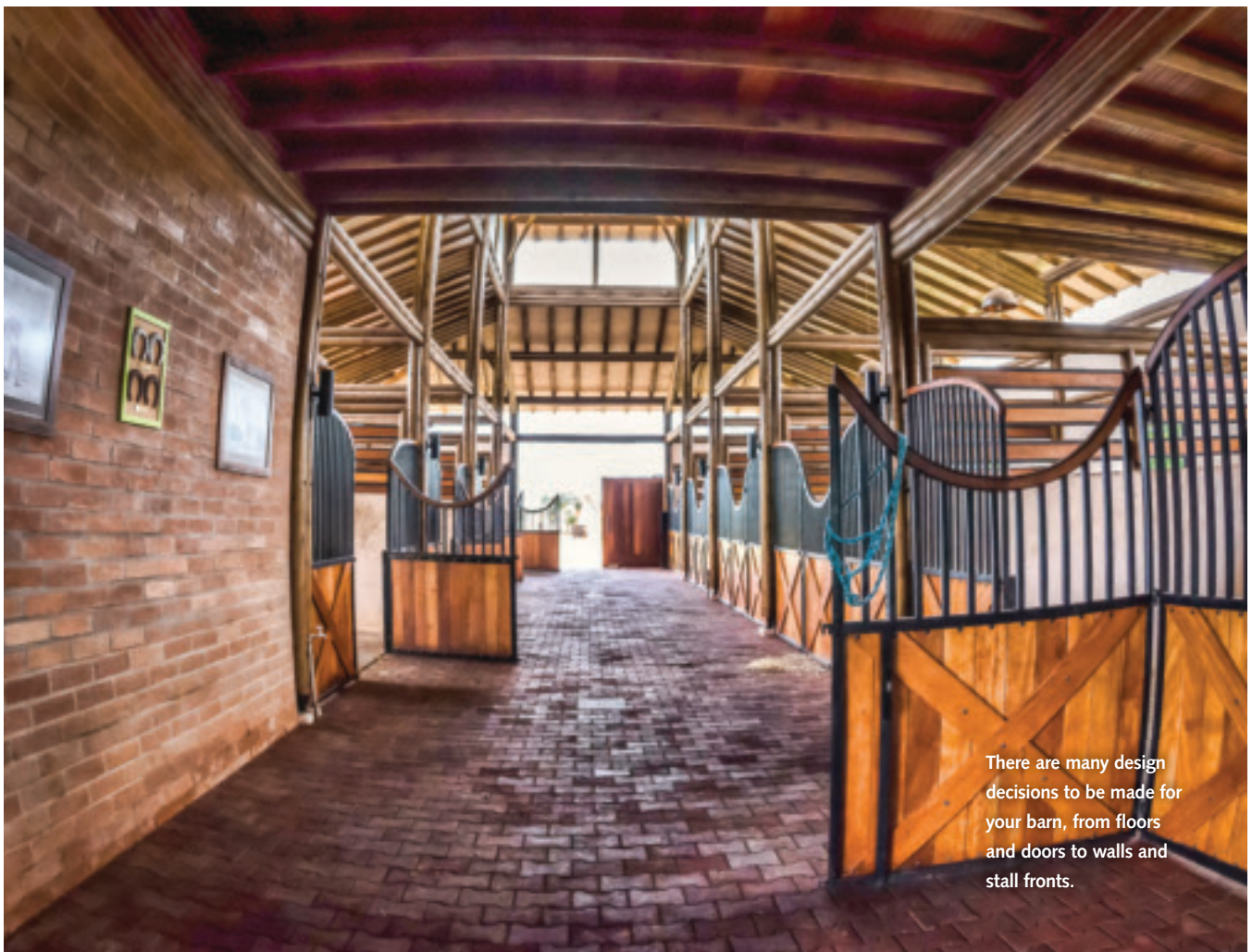
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There are many design decisions to be made for your barn, from floors and doors to walls and stall fronts.

# The Basics of Stall Design

A stall should be a safe and comfortable place for your horse.

By Heather E. Lewis, AWA

**S**talls keep horses safe, comfortable, out of severe weather and in a place where they can relax. Therefore, good stall design is an integral part of keeping horses healthy and happy. Let's review the

basics of stall design, so you, too, can create great spaces for your horses.

Let's begin with sizing a stall. The typical United States stall size is 12 by 12 feet square. This is a good size for many horses, but will be too small for some larg-

er horses, such as drafts and warmbloods. Larger horses benefit from 12 by 14-foot stalls (minimum) or 14 by 14-foot stalls.

If you have a pony, you might not need to decrease your stall size, but at least think about scaling elements down. For





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example, your pony will need to look out, so he'll need a lower stall door; and he'll need to eat comfortably, so a feed rack might need to be mounted lower.

The rule of thumb is that the horse, no matter its size, should be able to lie down in a fully reclined position and move easily without touching the walls of the stall.

## Runout or No Runout?

Some stalls are designed to be separated from outdoor space, and others allow for access to an exterior runout. Runouts are a nice feature in many circumstances, but are most helpful when:

- the horse does not get consistent daily exercise. The runout is not intended to replace exercise, as it is important to turn a horse out into a larger paddock or pasture; but a runout can provide mild outdoor stimulation and moderate healthy movement possibilities for horses that are confined for longer periods.
- the horse is new to a stall environment. If you're housing a horse who is used to living in a pasture, a stall with a runout might be more comfortable for the animal. In fact, the stall door can be left open for a while until the horse gets used to the routine of being in the stall to eat and relax.
- your horse is housed in a mild, dry climate. There's no point in having a runout if it's miserably cold or muddy outside most of the time. Indoor/outdoor environments for the horse work better when the door between inside and outside can be left open more often.

## Stall Side Walls

Walls between stalls can be solid or a partial grille. Our recommendation depends on the types of horses you house. If you house a social group of well-behaved horses, then solid walls to four feet above the ground with grille above can make for the most airy and friendly feel in the barn. However, even in this case, we prefer to specify that a portion of the side wall be full-height solid at the point where the feed box is mounted. This keeps horses from fighting with each other over food.

Full-height solid partitions are used in circumstances when there are many horses coming and going, such as in a show barn. They also can be useful for horses that don't respect personal space with their

neighbors. Even if your horses are well-behaved and socialized, outfitting your barn with at least one full-height solid stall can give you flexibility when you need it.

## Stall Doors

Stall doors can be sliding or swinging. Swinging doors can be hazardous if they swing into the aisle, so most barns use sliding doors, at least on the stall fronts. Swinging doors can be used for outside doors going out to runouts if they can be latched open or closed for safety.

Stall doors can be open-grille or partial solid. Open-grille is a good option for most horses, as it affords greater visibility out of the stall.

Stall doors can also be provided with an opening for the horse to stick his head out. This is a great feature for stalls in private barns where the horses know each other. For temporary housing stalls at show barns, it's best not to allow horses to crane their necks into the aisles. If you use the aisle for grooming with cross-ties, you probably want to be able to close the stall door openings to prevent nipping at neighbors during grooming.

If you provide an opening at the front for horses to use, we recommend a tapered opening that is smaller at the bottom, because it discourages repetitive behaviors such as weaving.

## Windows and Openings

Natural light is a great idea in a barn.

However, if you use a window or an opening on the back of your stall, be sure it is designed with safety in mind.

Glass windows must be placed high in the wall (5 feet or above), constructed of tempered glass, and protected on the horse side with bars. Another option is a sliding shutter; a shutter can be opened in nice weather and closed in bad weather.

## Stall Fronts

The style of stall fronts you choose should relate to what you're trying to achieve.

Stall fronts can be completely open-grille or partial solid. Unlike the open-grille stall door described above, an open grille on the stall front itself is not usually the best option. Open grilles are used if:

- your aisles are extra wide, to prevent horses from being bothered by other horses;
- you have ample storage elsewhere and don't need to use stall fronts for storage;
- in veterinary settings, for monitoring sick horses.

Because most people's situations don't fit into the criteria above, a partial-solid stall front is most practical, because it gives the horse a better sense of enclosure and provides a storage surface for hanging blankets, etc.



Stall sides and fronts can have various types of grilles to allow horses to socialize with neighbors and see what is going on. Grilles also allow for more ventilation.

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## Stall Materials

Most people purchase prefabricated modular stalls. These can vary a lot in quality. Talk with your friends and colleagues in the industry to determine whether they're happy with the quality of the product they purchased. Manufacturers that sell nationally to higher-end markets often have very nice products, with high-quality finishes, materials and hardware. If you can afford these better products, you will be happier in the long run, as they will last longer and will have fewer problems like:

- tracks getting gummed up with debris;
- paints and finishes flaking off;
- warping and denting;
- sharp edges that can develop and cause a safety hazard.

You can also choose to build your own stalls, although if you do this, we recommend hiring an experienced barn designer or builder rather than doing it on your own, as there are a lot of "learned-the-hard-way" lessons in stall construction.

## Choosing Lumber for Your Stalls

Stall lumber will vary based on the manufacturer of the product you choose or your local market, if you're building them yourself.

- **Southern pine or other softwoods, such as fir or cedar.** If you use softwoods, use the highest grade of wood you can afford. Softwood is prone to warping and twisting, and the boards can shrink over time.
- **Domestic hardwood.** Oak and mahogany can be used for stalls. Hardwoods are more expensive, but they last longer than softwoods. However, be careful, because some hardwoods (locust, for example) are toxic to horses.
- **Exotic hardwood.** These can be very dense, and they hold up better to kicking from horses. These last longer and give the barn a higher-quality aesthetic. The downside to using exotic hardwoods is their cost.
- **Plastic (HDPE) infills.** These are synthetic materials that are often made to look like wood. Their benefit is that they will keep their finishes over time, are easier to clean and are more sanitary than wood.

## Stall Floors

Stall floors might be the most important component, as this is the surface on which your horse will be standing continuously.



If you have horses of various sizes—such as with this barn, which specializes in vaulting—then you need to make sure your stalls can accommodate each type of horse comfortably.

For anything other than a medical stall, we recommend using a well-draining, mixed-aggregate base—such as a road base (without any sharp stones)—under a stall mat. To ensure that the aggregate base lasts longer, you can use a soil retainer made for horse stalls. This is a grid mat that sits within the top layer of aggregate.

On top of the base, rubber mats are placed. Bedding can then be placed on top of the rubber mat to soak up urine.

Here are some rules of thumb for long-lasting stall floors:

- Make sure that the soil drains well. Stalls set on top of muddy or hard-backed surfaces will cause a lifetime of trouble. Prepare the soil prior to building the barn by removing topsoil and organic material such as tree roots and amending the soil if necessary before compacting it. You'll want to end up with a nicely draining, consistent and compact subbase. Upon this you will prepare the top six inches with the aggregate base for the stalls.
- Plan for your final stall floor height to be several inches above the surround grade outside the building to further encourage drainage.

- Use high-quality, three-quarter-inch-thick rubber mats made for horses. Cheap mats will shift, wear out and change shape.
- Use grooved mats for better traction for the horses.

## Going the Extra Mile

While this article only covers the basics, there is no limit to the collective knowledge of horse folks when it comes to stall design. We have learned a lot from others. We encourage you to do the same, and to use Pinterest and online blogs as crowd-sourced knowledge for stall design.

If you achieve the basics, then you'll have a safe and comfortable place for your horse. If you have additional resources, consider going even further with a custom design.

The most beautiful barn I ever visited was in a hot climate. The barn was perfectly oriented, and the stalls were built from precast concrete panels parged with white stucco. The heavy material provided a wonderful thermal mass, making the stalls a cool and quiet respite from the oppressive heat outside.

Have fun with your own design! **SM**



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Did you know that you have an obligation to protect—and refrain from intentionally harming—people who knowingly trespass on your equine property?

# Liability for Non-Clients on Your Property

Recognizing the legal status of persons on your property—and undertaking risk control measures—can help mitigate your liability exposure.

By Denise Farris, JD

**Y**ou've heard the saying "A man's home is his castle." While you might feel that same concept should apply to your commercial equine property, it only does to a certain extent. This article addresses persons on your

property, their respective legal status and what a property owner can, cannot, should and *must* do to control liability exposure.

## Status of Visitor

The law defines status categories regarding persons on your property. These include:

- Trespasser: a person(s) who enters upon your land without permission;
- Known Trespasser: a person(s) who, with your knowledge, enters upon your land without permission;
- Invitee: a person on your property for actual and potential business purposes;



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Because horses can be considered an “attractive nuisance,” equine property owners have a duty to care for minors who might be attracted to the horses.

- Licensee: a social guest on your property with your permission, but not for business purposes; and
- Minor: a child under the age of 18.

## Trespasser

The trespasser, who is on your land without permission, is due the lowest level of care for his/her safety. “Trespassers” can include neighbors who use your property to dog walk, hike or hunt. The term can also include persons who mistakenly exercise access to your property, unaware they are trespassing (no defense; it’s still a trespass!); ex-husbands or wives; or other parties attempting to self-repossess horses with disputed ownership.

Trespassers can also include a person who has the legal right to enter your property, but commits a wrongful act after entry (i.e., someone with an alleged ownership interest in a horse boarded at your stable who refuses to leave after being asked to leave, or a guest who is intoxicated and won’t leave even after being asked to leave).

How do you handle these occurrences?

Most people think a landowner owes no duty to a trespasser when they are, after all, trespassing. Wrong. An owner

owes a minimal duty to avoid harming the trespasser.

For instance, owners with farm acreage know it’s possible that people will knowingly or unknowingly enter the property to hike, birdwatch or hunt. While a trespasser assumes the risk of being injured by conditions on the property, the owner still must “refrain” from “intentionally” harming a trespasser.

Thus, a trespasser who is injured by a falling tree, wildlife attack, or a fall from an eroded creek path has no right to sue. Conversely, a trespasser who was blocked by unflagged barbed-wire strung across a previously open road to the property might have a cause of action against the owner who strung that wire with an intent to block people accessing the road, with foreseeable harm.

## Known Trespasser

A known trespasser is one who, while unidentified specifically, has made his or her presence known.

An owner’s duty of care toward a known trespasser rises slightly above that due to an unknown trespasser, and it is again predicated upon actions that do not intentionally harm the known trespasser.

**Identified Known Trespassers:** If the trespasser can be identified, the owner has a legal obligation to “warn” that individual that he or she is trespassing and must stop. This might include neighbors who frequently access your property with their dogs or neighbor children who come over to “pet the horses” without your permission.

Identify those parties and send a written letter, with delivery receipt requested, informing them that they are trespassing, they are placing themselves in potential danger for which you are not responsible, and they are breaking the law and must stop. If child trespassers are involved, inform the parents of the potential harm or injury to the child that might result if they do not stop the trespass.

**Known but Unidentified Trespassers:** A duty can be owed even to trespassers who you know are trespassing (i.e., evidence of truck tracks on a dirt road and discarded beer bottles) but who cannot be identified. Your duty is to post some type of notice where it can be seen, and *if* you block access, you do so in a manner that will not injure the trespassers.

An example is hunters who regularly trespass on land through a road entering your property. In one reported case, the





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irritated landowner inserted cut-off poles across the drive.

The poles—visible in daylight—could not be seen at night. The trespassers attempted to enter the road at night at a moderate speed, but were unaware that new poles blocked the road. The landowner was held liable to the trespassers for knowingly creating a situation causing them injury. Had they placed reflectors on the poles, the outcome might have been different.

## Licensee

A licensee is a person to whom permission is granted to be upon the property for reasons other than commercial gain. The “licensee” is typically referred to as a “social guest.” Thus, if you have a boarder with family members or friends present, those individuals are “licensees.”

Licensees also include persons attending social events on your property or guests of your clients who are using the premises for a non-business-related event.

A stable owner bears only a moderate duty of care to “licensees,” which is defined only as a duty to warn of any

dangerous conditions known to the owner but unknown to the licensee.

At a stable, the state’s Equine Activity Liability Act sign covers this warning in most respects. States possessing such statutes require posting of the signs at all areas where access to horses occurs. The signs warn that horses or livestock can be “inherently dangerous” due to their natural behaviors, and state that parties “participating” in equine or livestock activities assume the risk of injury or death related to those activities.

Stable owners should post the relevant warning signs not only at the main entrance to the arena or stall areas, but also at *any* access points to the equine or livestock areas.

Thus, if a barn has three doors into the stall and arena areas, three warning signs should be posted.

The stable owner should additionally take photographs of the signs that show the date and location of the photo *with the photo containing sufficient “perspective” to identify the location where the sign is posted.* Lacking this “perspective,” the photo bears

little legal relevance as an exhibit in a later legal proceeding.

Warning signs should also be posted at 1) stable aisles, with instructions not to pet horses and to exercise caution while walking under cross ties; 2) paths between stalls and arenas; 3) arena access areas; and 4) trailer loading locations.

Farm properties have other potentially hazardous areas. Shaving and hay storage barns should have warning signs posted that they are “potentially dangerous and off limits to unauthorized personnel.” Similar postings should be placed by ponds, trails with dangerous erosion exposures, rotted well coverings or grown-over barbed wire.

If an area presents a substantial risk of injury, that area should: 1) be identified with some form of warning sign or yellow caution ribbon; 2) be blocked off entirely; and/or 3) be rebuilt or repaired.

## Invitee

An “invitee” is on your property because that person was “invited” for a commercial purpose. This might include the

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As the “invitee” is there specifically at your invitation to benefit you commercially, the “invitee” deserves and commands the highest degree of care toward his or her safety while on your property. Legal protections for the invitee mimic those for licensees, but invitees require even more attention to detail.

For instance, if you’re having an event following a snow storm, you must take reasonable steps to have snow and ice removal in ingress and egress areas. Slip-and-fall exposures must be attended to. Any area or condition that poses a “foreseeable” harm or injury exposure must be corrected before the event.

Understand that “foreseeability” is defined as whether the ordinary person in the stable owner’s position, knowing what he/she knew or should have known, could anticipate that harm of the general nature suffered was likely to result.

For that reason, stable owners bear the highest duty to regularly conduct and record premise liability inspections. These should include, at a minimum, review of the parking lots, arenas, fencing, stalls and aisles.

Any issue—however small—that could result in a foreseeable injury to invitees should be corrected with some warning sign posted until that correction occurs.

## Minors

Minors are children under 18 years old.

A property owner owes an extremely high duty to care for minors. The law of “attractive nuisance” recognizes that children are attracted to, and like to play, in potentially dangerous areas.

The owner must take steps to keep children away from these areas (i.e., construction equipment, dirt piles and hay or shavings barns). Owners must also warn parents against these conditions and require parents to assume supervision of their children at all times.

Children under 15 should not be dropped off and left unattended at the stable.

## Take-Home Message

Compliance with these steps can be time-consuming and irritating to a land owner,

yet no one wants an injury occurring on his or her property.

Recognizing the legal status of persons on your property, while adopting these risk control measures, will provide you peace of mind as to your liability exposure. **SM**

*Denise E. Farris practices equine, business and veterinary law in the Kansas City area. She is an arbitrator/mediator trained by the American Arbitration Association. She also is a horsewoman.*

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Horse farm owners should determine the land's carrying capacity to decide how many horses can be housed there.

ARND BRONKHORST PHOTOGRAPHY

# How Much Land Per Horse?

Learn how land use, your management plan and zoning ordinances factor into the equation.

By Katie Navarra

**T**he amount of land an equine business needs to sustain each horse varies. How the horses will be used, the stable's master horse-keeping plan and the surrounding community are significant factors in determining just how much land is needed.

Traditionally, there has been a per-acre approach to estimating land needs. Of-

ten, one horse per acre is used as a starting point. In some cases, two acres is recommended for the first horse and one additional acre for each additional horse is suggested to prevent over-grazing of pastures.

However, determining land needs based on an acreage per horse doesn't necessarily account for local zoning ordinances, federal storm water regulations, management

practices, horse use and the ability of the land to support each horse.

Denise O'Meara, director of education at the Equine Land Conservation Resource (ELCR), recommended against using the traditional approach of assigning a specific number of acres based on the number of horses at the facility.

"We recommend that stable owners first consider what they are doing with the



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horses and the carrying capacity of the land,” she said.

Considering the land’s carrying capacity and use when deciding how much property is needed per horse allows for the consideration of many factors. These include pasture rotation, manure management, stream and pond buffering, and other best-management practices that can help the environment remain healthy for horses and people.

## Pasture for Forage

Horses are naturally designed to meet their daily nutritional needs through grazing. Grazing can be an effective, inexpensive method for providing nutrients and fiber. Barns that rely on turnout to provide forage as a portion of a horse’s ration naturally need more acreage to provide adequate nutrition. A good rule of thumb is to maintain at least 50 percent vegetative cover—or no more than 50 percent bare ground.

According to the *NRCS Missouri Pasture Management Guide For Horse Owners*, horses are problematic grazers. The more options a horse has for grazing, the more selective he will become in what he eats and what he leaves behind. Cattle and other livestock more evenly consume all the forage in a pasture, including less palatable plants. At the beginning of the season, your pasture forage should be between 6”-8” tall. The horses should not be allowed to eat the plants to less than 3” tall in order to promote healthy regrowth.

While pasture is the preferred forage at some barns, other stables utilize paddocks for exercise, but not for dietary purposes. This can be effective, as well. Non-grazing lots can be smaller and potentially allow for a higher stocking density. For example, a facility might only provide a 20-foot-by-40 foot run for a horse. Those horses can remain as healthy as horses running in a 40-acre field, and their nutritional needs can be provided through feed, supplements and hay.

These non-grazing spaces are also referred to as dry lots, exercise lots, stress lots or sacrifice lots. According to Washington State University’s *Managing Small-Acreage Horse Farms*, the minimum recommended space in a dry lot is 400 square feet per horse, although a larger space would be more desirable. In smaller turnout pens, it’s critical to remove manure frequently to avoid a buildup, which can attract flies or produce an



Carrying capacity of land includes pasture rotation, manure management, water buffering and other best-management practices to help the environment remain healthy for horses and humans.

odor. Sacrifice lots are also an important component of rotational grazing plans that allow periods of rest and recovery for pastures with vegetation.

Other barns choose to keep horses stalled unless the horses are being exercised. Facilities that use this approach can likely keep more horses on a given piece of property than stables that offer some type of turnout.

In each of these scenarios, deciding the amount of land needed based on nutritional and exercise needs alone doesn’t take into account other factors, such as the community’s zoning ordinances and best-management practices.

## Best-Management Practices

As previously mentioned, an alternative approach to a number-of-horses-per-acre method is to consider the carrying capacity of the land and its use. This model requires more thought and a thorough understanding of local zoning ordinances and storm water management plans, said O’Meara. This approach also includes a broader stable management plan incorporating pasture rotation, manure management, stream and pond buffering, and much more.

Commercial stables need to be located within close proximity to developed areas for easy access to lessons, training and boarded horses. A closer proximity to developed communities means that zoning laws and ordinances are more likely to include guidelines governing how many horses can be kept on a parcel of land.

“As federal, state and municipal regulations tighten, this approach may become the norm,” she said. “Look at the community’s comprehensive plan and the horse-friendliness of the area. It sounds like a lot of work, but it is worth it.”

Even neighborhoods that are zoned for horses might not be horse-friendly if there aren’t any horses currently in the community.

“Talk to a few residents to get a feel for

how horse-friendly the area is,” she said. “Even though horse people think horses are beautiful, not everyone agrees. Some people only see manure in the road, flies or dust.”

Unfortunately, universal language does not exist for a town’s comprehensive plan or zoning ordinances. They vary from one community to the next and can address stocking density, environmental plans and the number of horses allowed on the property. These regulations can also contain specific details about which properties can/cannot have horses.

For example, near O’Meara’s childhood home on Long Island, New York, the community is zoned for horses on lots with one acre. Specifically, two horses are allowed per half-acre. However, that’s only if the property has previously had horses on it.

“If you have not had horses on the property, you must apply to the neighbors and they have to be given the chance to voice any concerns before the permit is approved,” she said.

Similarly, in this community, the regulations say that the horses on the property must be owned by a family member living on the property. Documentation is required as proof. Even keeping a horse for a friend is not allowed and is considered a commercial activity, which is not included in the zoning provisions.

Smaller barns located on limited acreage will likely have little flexibility beyond the town’s comprehensive plan. Stables that exceed the community’s maximum acreage under the ordinance are generally considered agricultural land and are covered by right-to-farm laws, she said.

Rural areas can feel the pressure as much as suburban areas. In some places, farm communities are being replaced with suburban sprawl. That could mean that the town planning committee is considering a rezoning plan.



When shopping for new property, look at nearby land plots and see if other farms are up for sale, which could suggest impending development. Whether you're already established in a location or looking for new property, ask the town planning committee whether they anticipate any changes to the current zoning ordinances, O'Meara suggested.

Stable owners should also be aware of environmental regulations outlined in a community's storm water management plan. These guidelines cover water quality and quantity, as well as the prevention of soil erosion related to runoff, dust control, etc.

"These may include fencing setbacks from streams to prevent horses from getting in and churning up the water, infiltration basins and more," she said.

## How Many Horses Are Too Many?

That depends. There are many different answers to this question. First, from an economic standpoint, if you are struggling

financially to feed all the horses, there are too many.

When monthly board, lesson clients and training horses are barely covering the operating expenses, leaving little cash for "extras," it's time to honestly evaluate the number of barn-owned horses and which ones might be candidates to sell.

If the pastures are being overgrazed or other resources are being stretched, then there are either too many horses or a different management strategy is required.

When you're unable to provide proper care for all the horses, it's time to sell. If the horses are not receiving proper daily care—i.e., are not visually evaluated daily, stalls cleaned appropriately, etc.—then there are too many horses for the available resources.

Selling barn-owned horses might be a difficult decision, but when it is in the horse's best interest, you'll feel much better knowing that each horse is in a situation where it can be cared for and receive attention/exercise. And no sale ever has to be final. If it's a horse you're

attached to, you can request a contract that offers you the first chance to buy the horse back if it goes up for sale in the future.

Similarly, there can a time when you have too many client-owned horses to care for. The same criteria should be used to evaluate that situation. However, the solution might be investing in barn help or scaling back on the number of boarders so that adequate care can be provided to all of the horses.

## Take-Home Message

Every stable is different in the way that it relies on pasture for nutrition and turnout. Before buying a new piece of property or expanding the current amount of land that the stable owns, it's important to decide how it will be used. It's also a good idea to investigate local zoning ordinances and environmental impact plans.

To learn more about land use planning for equine facilities, visit ELCR's related resources at [elcr.org/conservation-resources/community-land-use-planning](http://elcr.org/conservation-resources/community-land-use-planning). **SM**



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An experienced veterinarian is key to diagnosing the source of your horse's lameness or back pain.

ARND BRONKHORST PHOTOGRAPHY

# Equine Back Pain

Whether back pain is primary or secondary to other problems, proper diagnosis and treatment are necessary to improve performance and well-being.

By Nancy S. Loving, DVM

**W**e take it for granted that because of a horse's great size and stature, he should be able to move with precision and skill with a rider on his back. In fact, it is amazing that horses perform as well as they do, often carrying 20% of

their body weight in terms of saddle and rider while yielding to the rider's demands. Collected gaits of dressage, rapid stops in reining or cutting, big leaps over jump courses—these are all movements that rely on the activation of back muscles to elongate and collect the spine while maintaining stability.

These scenarios, as well as damage caused by trauma or a fall, set up the possibility of injuries to the back—to the bony spine, the muscles and/or the intervertebral ligaments. Back pain derives from a variety of issues: muscle or ligament soreness due to injury, “kissing spines” (impingement of the spinous process on





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one another), degenerative arthritis of facet joints between vertebrae, spondylosis (ossification, or bone formation, of vertebral joints), sacroiliac joint pain, or bone fracture of the withers or vertebrae.

Lameness in the hock, stifle or hip can also cause back soreness due to alterations in limb movement and associated compensation to protect a painful limb. Poor saddle fit, poor rider equitation and difficult terrain also add to the risk of back injury.

## Anatomical Features

Each spinal vertebrae has associated muscles and ligaments that help to move and stabilize the spine. Injury often involves bony and soft tissue structures.

Main muscle groups adjacent to the spine (epaxial muscles), namely the longissimus and iliocostalis muscles, are ones that, in concert with abdominal muscles, are responsible for the bending, rounding or hollowing of the back. When activated, these muscles extend the entire length of the spine and don't tend to make small, localized adjustments. For this purpose, deeper muscles called the multifidus have

the role of micromanaging small positional adjustments and spinal stabilization in very specific vertebral areas.

Research has identified that back pain is often associated with inhibition of multifidus stabilization activity. In response, the longissimus muscles might try to compensate for deficient function of the multifidus, leading to muscle spasm and pain. These essential deep muscles must also be addressed with treatment in order to avoid recurrence of back pain.

## Signs of Back Pain

Horses might not be able to speak words, but they communicate in many ways, particularly through body posture and behavior. Here are some characteristic signs that a horse could be experiencing back pain:

- unwillingness to collect or engage the hindquarters
- unwillingness to perform lateral movements
- difficulty with sudden stops or slides
- rushing or refusing fences
- jumping with a flat or hollow back
- stumbling or tripping
- stiff movement with restricted hip swing

- unwillingness to back up or to unload off the trailer
- behavioral changes such as tail wringing, rearing, bucking or shying under saddle
- bad behavior such as pinning the ears or nipping when brushed or saddled
- "cold-backed" when saddled, girthed or mounted
- sensitivity to palpation of muscles along the back
- difficulty negotiating hilly terrain

Sometimes, the behaviors or performance aberrations are very subtle; at other times, the changes are very clear.

It is important to differentiate between rude behavior that emanates from a lack of discipline and behavioral quirks that are truly related to pain. This is where you'll need your veterinarian to jump in with a thorough soundness evaluation and diagnostic workup to hunt down the reasons for your horse's change in performance.

## Identifying the Pain

Because of the complexity of sorting out true back pain from other issues, most of what needs to be done for an accurate diagnosis relies on your veterinarian's expertise. However, there are a few things you might be able to evaluate in advance of a veterinary appointment. Testing your horse in a few ways helps to provide your vet with more information.

Look for dry areas beneath the saddle pad after riding, or signs of hair color changes. These indicate areas of pressure points from poor saddle fit due to bridging, tightness or inappropriate saddle position as the horse exercises. Press around these areas to see if the horse reacts, which might indicate bruising of the tissues.

Using the flat of the hand or the meat of the fingertips, run your hand down each side from withers to tail with firm, but gentle, pressure along the epaxial muscles adjacent to the spine. Refrain from digging fingertips into the muscles, as pretty much every horse will react adversely to that kind of pressure, even without injury, especially over acupuncture points.

If done properly, a horse with sore superficial back muscles will usually yield and drop the back when the sore area is palpated.

Soreness in deeper muscles or bone pain might elicit increased bracing of back muscles when palpated.

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Inefficient locomotion puts strain on the entire musculoskeletal system, including the back.

Consult a qualified saddle fitter to ensure appropriate fit for your horse’s physique. Age and training often modify muscle shape and development, so a saddle that fit correctly last year might not fit quite right this year. Some fine-tuning of the saddle could make a world of difference to your horse’s comfort.

## Veterinary Expertise

Getting your veterinarian involved can save you layup time and lost riding opportunities. The more quickly the problem is identified, the better the chance of resolution. The horse should be evaluated while standing still and in motion.

Squared up on a flat surface, the horse is inspected for muscle symmetry. The horse is then asked to trot on a straight line, in circles in a round pen or on a longe line, on different surfaces, and also under saddle. Your veterinarian is looking for bracing through the hips and loins, cross cantering, missteps and/or stopping difficulties. A horse’s flexibility and ability to mobilize the back are also evaluated.

A mounted rider can increase a horse’s discomfort, making a seemingly subtle problem more obvious. Certain exercises and movements also can exacerbate back pain, which is helpful for diagnosis. You, as the rider, are most aware of what those movements might be, so take the opportunity to show the peculiarities to your veterinarian.

Once an area of concern is localized, whether it is a lameness problem leading to secondary back pain or a primary back issue, your veterinarian might utilize diagnostic imaging to achieve an accurate diagnosis. Pinpointing the area of concern more precisely enables implementation of appropriate treatment measures to resolve the problem as quickly as possible and with the least expense and effort.



ARND BRONKHORST PHOTOGRAPHY

Exercises that improve your horse’s core muscle development, including the development of the abdominal and multifidus muscles, are essential for treatment and prevention of a back injury.

## Treatment Options

Once areas of concern are identified, your vet will likely recommend treatment and rehabilitation options. Often it is important to target both soft tissue and bony areas of the injury site, and also to address inflammation and pain.

- Painful joints can be injected with corticosteroids through ultrasound guidance.
- A course of non-steroidal anti-inflammatory drugs (NSAIDs) might break the cycle of inflammation.
- Acupuncture can be helpful in breaking the pain cycle.
- Chiropractic work might be indicated in some cases, but should only be done with a proper diagnosis of the problem and by a qualified equine chiropractor.
- Therapeutic ultrasound is useful treatment for muscle injury.
- Extracorporeal shock wave therapy targets bone lesions.
- Mesotherapy injections block sensory pain fibers and can extend the pain relief achieved by shock wave therapy or corticosteroid injections.
- Work with a qualified saddle fitter to ensure a good fit that minimizes

bruising and pain, and use a saddle intended for the specific athletic pursuit.

- Dynamic mobilization exercises, such as asking the horse to reach to both sides for a treat, have been shown to improve back muscle flexibility, elasticity and strength—especially of the multifidus muscles—when performed regularly for at least three months.
- Use excellent warm-up and cool-down techniques before and after riding.
- Exercises that improve your horse’s core muscle development, including the development of the abdominal and the multifidus muscles, are essential for treatment and prevention.
- Work with an instructor to improve your position and technique in the saddle.

## Take-Home Message

Rest is not usually the answer for managing back pain. The horse’s core muscles must be developed and the epaxial muscles exercised to regain proper function. A multi-tiered treatment plan is the best strategy to help your horse’s aching back and to prevent recurrence in the future. **SM**



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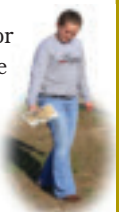
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# 2018 *Stable Management* Fees Survey

Horse farm and boarding stable owners, as well as riding instructors, can use this business information.

By Kimberly S. Brown

**W**e are changing the way we present the results of the annual *Stable Management* Spring Fees Survey in order to provide you with more information in the ways that you want to receive it.

This magazine article is the overview of the survey; other articles breaking down the information and providing comparative charts that include previous years' numbers will follow on [StableManagement.com](http://StableManagement.com). The information in this article and in those that follow online should give you a good baseline to judge the types of services you offer, should add or might want to change, as well as pricing ranges.

This year, 461 horse farm owners, managers and riding instructors took this extensive survey. They were from across the country and from operations of a variety of sizes.

We all know that different geographic locations and the size and services of an operation are the basis of pricing differences, and *Stable Management's* survey offers the only place for horse farm and stable owners to obtain this type of information about equine businesses.

## Who Responded

This survey was sent to *Stable Management* readers, as well as to [StableManagement.com](http://StableManagement.com) users. It was also promoted to the members of the Certified Horsemanship Association (CHA) and PATH Intl.

When asked to choose the top three jobs performed at their equine facilities (understanding that one person can have multiple responsibilities at the business),

86% said that they were the stable/farm owners (compared to 81% last year). 60% said that they were the barn/farm managers (compared to 77% last year). 40% said that they were riding instructors (compared to 60% last year) and 40% said that they trained horses (compared to 43% last year).

In addition, 33% said that they were barn employees (compared to 26% last year). This probably means that the owners do barn chores themselves in those instances, since 40% of respondents noted that they were the only employees at their facilities. 50% of respondents had from one to five employees at their facilities.

70.6% own the facilities where they give lessons or board horses.

We asked a new question this year, since we have PATH Intl. members who participate in this survey. We asked how many volunteers there were at their facilities. 48% said it was just the owner, and 44% noted that there were five or fewer volunteers helping out. About 5% had six to 10 volunteers at the facility and about 3% had more than 11 volunteers.

The age of respondents is still climbing and still worrisome, with 61% over 50 years of age. In our 2015 survey, 56% of respondents were over 50 years of age. In 2016, that number went up to 58.5%, and for 2017 that number rose to 59.2%. This ongoing trend was why *Stable Management's* cover story for this issue is "Who Will Take Over My Equine Business?"

At the same time, the number of young people who own or manage horse farms and stables or who are teaching lessons is still declining. In 2018, that number was 39.2%. In 2017, that number was 40.7%;

in 2016, that total was 41.4%; and in 2015, respondents 50 and younger totaled 43.9%.

Another telling statistic in the health of the equine farm/boarding and lesson industries: When asked how long they had been actively involved in the equine industry, respondents involved 10 years or less went from 12.7% in 2015 to 9.8% in 2016, 6.9% in 2017 and 6.07% in 2018.

Akin to that question is one that asked how long the individual had owned or worked for his or her current equine business. 37.7% of respondents have been in their current businesses more than 20 years. 26.4% have been in their current businesses 11-20 years, and 35.9% have been in their current businesses 10 years or less.

80% of this year's respondents have a college or advanced degree, so we are talking about a well-educated group.

## Income

While not everyone who responded to the survey is in the business of making money from his or her equine endeavors, we assume that for non-profits, a minimum of breaking even is required. And for most equine businesses, the owners probably are seeking financial growth.

For those who responded to our survey, 36.5% said that the horse business was their primary means of income. Of the 63.5% who said that their equine businesses were a secondary income, 66.5% said that income comprised less than 25% of their household income. 26% said their equine business income comprised 26-49% of their income, and about 8% said it was 50% or more of their total income. The good news, looking historically at this section of the survey,



is that more people in 2018 have their equine businesses accounting for a higher percentage of their secondary income than last year.

When asked about the primary focus of their equine businesses (the top money-maker), 41.8% said boarding topped the list. That was followed by lessons (23.8%), training (7.7%), breeding (5.3%) and trail riding (3.2%). Competition/events and retirement facility were tied (2.9%), followed by therapeutic riding/EAAT (1.3%) and camp programs (1.1%).

Even though clinics ranked last as a top money-maker, 42.1% gave clinics at their primary facilities and 24% gave clinics at other facilities.

Considering that the above-listed were the top money-makers, we also asked what other services the respondents' equine businesses provided. These showed an interesting gap in what is offered and what is making the most money. This could alert an equine business owner to either revise or remove some of the less-profitable activities on the property. However, there is something to be said for having diversified offerings at your facility if you have the time, equipment, horses and personnel to undertake the less-profitable projects.

The services provided by equine facilities broke down this way (keeping in mind that we let respondents pick the top three services they provided, but they weren't based on income generated): boarding, lessons, training, clinics, competitions/events, rehabbing horses, trail riding, breeding, camp programs, pony parties and therapeutic riding/EAAT.

If you compare the list of top money-makers and services provided, you can see some interesting points. For example, camp programs were only the top money-maker for 1.1% of respondents, yet nearly 11% of respondents offered camps. And while breeding was the top money-maker for only 5.3% of respondents, 40% of them offered that as a service.

Keeping in mind that horse facilities often cater to more than one discipline, we asked respondents to list their top three disciplines in their businesses. The top disciplines for these facilities were: recreational/arena rider; dressage; hunter/jumper; trail rider; Western pleasure; English pleasure; eventing; (tied) roping/cutting/barrel racing and Western dressage; driving; (tied) racehorses, saddle

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seat and therapeutic riding/EAAT; endurance.

**We asked how many students were in each respondent's program over the course of a year. Here are the responses:**

1 .....	5.9%
2-10 .....	34.8%
11-20 .....	18.5%
21-30 .....	12.2%
31-40 .....	7.7%
41-50 .....	3.1%
More than 50 .....	16.7%

## A la Carte Services and Fees

Many farms and stables make additional income from clients by charging fees for services that are not included in the regular boarding costs. These sometimes are time-consuming chores for the farm/stable staff, and owners/managers should make sure to take into consideration the time spent, as well as the resources required, when pricing these services.

Keep in mind that you can attach a premium price to the items you don't want

to do in order to discourage clients from depending on you for those services. But beware of pricing anything; there is always someone willing to pay for convenience.

If you are looking for ways to increase your income for your farm or stable, consider small raises in the prices you charge for these a la carte services. Consider that if you are giving one or more of those services away that you might want to start charging for those additional conveniences that boarders are willing to pay for elsewhere.

For example, if you include the time-consuming, labor-intensive jobs of putting on and taking off blankets/sheets and fly masks in your boarding fee, make sure you are charging enough to recoup your labor and overhead expenses.

If you are paying your help \$12/hour, and it takes 15 minutes a day to put on or take off a blanket (including getting out or putting away the blanket for each horse), then your cost is \$3 in labor per day. If you do that twice a day, it costs you \$6 in labor per day.

If you pay workman's comp, insurance or any other benefits, you need to include

that in your labor costs. Let's say that brings it up to \$4.13 in labor each time your employee undertakes that job. So if you have 30 days in a month and your employee is handling a blanket for a horse twice a day for 30 days at \$4.13 each time it is done, you just spent \$247.80/month in labor costs on two blanketing applications per day for each horse.

If you are charging \$350/month, that leaves you \$102.20 to cover *all the rest* of the services and goods (labor, feed, hay, bedding, pasture, stall, arenas, maintenance, etc.) that you are providing.

You need to consider how much your storage costs are per square foot of barn space for equipment, as well as wear and tear of the blanket racks/storage equipment, etc. And take into consideration whether your employees drive an ATV or truck out to the pastures for blanket changes. If so, then vehicle fuel and maintenance has to be included.

What if it takes two people to blanket a particular horse? Then you should charge double, because that is taking an employee's time away from other jobs.

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Since 1969 the Professional Association of Therapeutic Horsemanship International (PATH Intl.), formerly the North American Riding for the Handicapped Association, has been ensuring excellence and changing lives through equine-assisted activities and therapies (EAAT) that promote health, fitness and socialization for people with special needs.

PATH Intl. Member Centers, certified instructors and credentialed professionals belong to a progressive and growing industry. They offer safe, ethical and humane practices in the rapidly growing field of EAAT. Nearly 62,000 participants of all ages with a variety of special needs have made the right choice by trusting their safety and growth to professionals providing opportunities in therapeutic riding, interactive vaulting, carriage driving or mental health and learning sessions at PATH Intl. Member Centers.

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*Ensuring excellence and changing lives through equine-assisted activities and therapies*





Once you start breaking down some of your expenses, you will soon see that maybe you aren't making enough money because you are giving away your labor and services too cheaply—or even for free!

**In 2018, the following list of services are offered at no additional charge above boarding costs by the listed percentage of respondents:**

feeding.....	85.6%
turn out/bring in .....	83.3%
feeding supplements .....	77.8%
blanketing/fly masks .....	64.8%
schedule/attend vet/farrier visits .....	58.6%
bandaging/medications .....	34.7%
deworming .....	32.5%
vaccinations.....	24.5%
grooming .....	17.1%
trailer (to show, vet, farrier, etc.) .....	2.8%
training (horses) .....	1.9%
lessons (people).....	1.7%

## Expenses

Labor generally is the biggest expense for any business. However, in our survey, respondents ranked labor as the fifth-highest

expense. That is probably because the owners/managers don't pay themselves or take into account an hourly rate that they should charge when they are doing the work.

## Horses

We asked how many horses each respondent owns or manages. As expected, these equine facility folks have a lot of horses under their care. Note that nearly 50% have 16 or more horses that they own or manage.

**Following is the breakdown of the number of horses and the percentage of respondents:**

1 .....	1.6%
2-5 .....	19.3%
6-10 .....	19.8%
11-15 .....	9.8%
16-20 .....	10.6%
21-25 .....	12.4%
26-30 .....	10.6%
More than 30.....	15.9%

**We also asked how many school horses were owned or managed by the**

**respondent. Here are the numbers:**

1 .....	15.9%
2-5 .....	49.1%
6-10 .....	18.8%
11-15 .....	7.6%
16-20 .....	3.3%
21-15 .....	1.4%
26-30 .....	1.4%
More than 30.....	2.5%

## Take-Home Message

This is a lot of information to take in, and trying to compare your business to the numbers and percentages in this survey will take some time and thought.

We are facing an aging horse-owning population, but we are also facing an aging farm- and stable-owning population. Farm and stable owners need to ensure they have plans to keep their equine businesses successful now—and that they have plans for the future (*see the cover story on p. 4*).

Make sure to check StableManagement.com in the coming months as we dissect the information in the *Stable Management 2018 Fees Survey* and post it online in a series of articles. **SM**

# The New York City Police Department's Mounted Unit is Seeking Vendors to Supply Quality Horses



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NYPD is seeking vendors interested in selling and/or leasing horses to NYPD's Mounted Unit for patrol and training purposes.

If you are an interested vendor, please refer to EPIN: 05618N0001/Agency PIN: 056170001229 to obtain a free copy of the solicitation package which is available in 3 ways:

(1) Online at [www.nyc.gov/cityrecord](http://www.nyc.gov/cityrecord), (2) In person, Monday – Friday, 9 a.m. – 5 p.m. at Contract Administration Unit, 90 Church Street, 12th Floor, Room 1206, New York, NY 10007, or (3) Contact Rosemarie Moore at (646) 610-4929 or [contracts@nypd.org](mailto:contracts@nypd.org)

Check Solicitation for information and dates for:

- Pre-proposal Application Conference
- Proposal Deadline



Someone with little equine experience can see an equine-related accident and become fearful of horses and/or riding.

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# Facing Your Fears

Anyone with a fear of horses or riding needs to be taken slowly through a confidence-building process by an experienced instructor.

By Kathy Findley

**F**ear is an unpleasant emotion caused by the belief that someone or something is dangerous, likely to cause pain, or a threat. How can someone be afraid of a seemingly majestic creature—that is, the horse—that so often brings us joy and happiness? We believe

most people are afraid of horses because of a preconceived notion or an incident that has happened.

There are many different levels of fear. Age has no bearing. As an instructor for many years, I have seen many levels of fear in all ages. Men, women, children or teens—we can all be affected by “belief

perseverance.” This is the tendency to cling to one’s initial belief, even after receiving new information that contradicts or disproves the basis of that belief.

## Common Reasons for Fear

Some people are afraid because they have not had previous exposure to horses. That



is a natural fear of the unknown. People can be greatly influenced by books, movies and stories, and many of them confirm the belief that we should feel fear.

Someone with very little equine experience can be exposed to an incident that he or she perceives as scary, when in reality it was a natural reaction on the part of the horse.

A fall from a horse can be a common occurrence and one that should be expected at some point during a riding career. But, depending on the situation, it can be a life-changing experience. Some people can bounce right back after a nasty fall, and some give up on riding altogether.

Nor are the accidents limited to falls from horses. An accident on the ground can leave people afraid to even be near a horse.

Seeing an equine-related accident in person can influence someone's perception of his or her own safety with horses, even though the injury didn't happen to that person.

As we age, there is a growing feeling of self-preservation. We now have additional responsibilities, children, jobs and people that count on us. We simply do not "bounce" as well as we once did when we became separated from our horses unexpectedly.

## Steps to Overcome Fear

There are many ways to help a fearful person gain confidence. Here are a few.

**Ground exercises** can help someone build a relationship and connection with a horse.

**Grooming** the horse can make someone more aware of that horse's personality, any ticklish areas, any possible sore areas and a favorite itchy spot. Watching the horse's reaction is a very important part of grooming. A horse can tell you a lot with his body language, facial expressions and body reactions to your grooming. Encourage timid folks to get intimate with a horse; blow gently in the horse's nose. Horses can identify humans by smell as well as sight and voice. Make sure the groomer always has one hand on the horse as he or she moves around him while grooming. In that way, the person can feel the horse twitch, flinch or stiffen. This will also tell the horse where the groomer is at all times.

Help the person learn to read the horse's

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41

body language. That will help him or her feel more comfortable and increase comprehension of what the horse is telling the human while interacting on the ground or while riding.

**In-hand** work with a horse can renew a relationship from the ground up. Practice leading the horse safely from the left side with a cotton or leather lead with one large loop in the left hand (but not wrapped around the hand). The person can guide the horse with his or her right hand positioned by the side of the horse's mouth.

Help the person understand that he or she is actually telling the horse to follow his or her shoulder. This will position the leader's body near the throatlatch of the horse and keep the handler in a safe position.

Have the person lead the horse over ground poles slowly, asking the horse to move each leg independently on command. This will help give the handler confidence that he or she has control over the horse's movement and each leg. Don't let the horse or human rush.

Have the person walk the horse over a bridge and around barrels or cones. Walk through a hanging curtain of noodles or a tablecloth cut into strips. Take the horse out of the arena and down the trail. All of this can be done initially at a walk, then progressing to a trot. The horse will have a renewed respect for the human as a leader.

**Longeing exercises** would be the next level of confidence building. The horse is connected to an experienced, trusted person on the ground through a line, which gives the rider a sense of security while the horse is being guided by the instructor. The following exercises will also help build the rider's core strength, which will help secure the rider's seat and leg.

I like to have side reins on the horse to help keep him in frame so there is one less thing that the rider needs to think about. While at the walk, have the rider remove his or her feet from the stirrups and let them hang, making sure he or she is sitting directly over the horse's spine. Have the rider take some deep breaths and let any tension release. This is a good time to have the rider close his or her eyes, as long as the lesson is on a trustworthy horse and with a knowledgeable Certified Horsemanship Association (CHA) instructor.

Tell the rider to feel the horse's rhythm



Any age rider might be fearful. It is up to the instructor to help the person become more confident through a series of lessons tailored toward that individual.

and to count the footfalls. Encourage the rider to relax and allow the horse to move his or her hips, and to let his or her legs swing naturally. Remind the rider to breathe deeply!

There are a variety of leg and arm exercises the rider can do to help increase balance and strength:

- leg swings forward and backward, together or one at a time
- ankle circles in both directions, again together and individually
- arm swings and circles, which can be done in a variety of ways

All of these exercises can be done with or without stirrups. How much the rider does will depend on his or her level of riding or fear.

When the rider begins to feel confident, he or she can do all of the aforementioned exercises at the trot.

**Riding independently** under the supervision of a qualified instructor should only come if the rider's fears on the ground and while on a line have been relieved. The instructor can walk next to the rider and talk him or her through any areas of anxiety.

Now the rider can work the horse over the same trail obstacles as were done from the ground before. This will help instill a sense that the horse will obey the rider based on his or her experiences with the ground work. Take everything slowly and methodically. One step at a time will help build the person's confidence and sense of control.

While working obstacles, the rider will need to change his or her body position

frequently to negotiate the horse through the obstacles. The different body positions will help with the rider's connection with the horse, as well as keep his or her mind busy.

I recommend only progressing to the point of just beyond the person's comfort level, then stopping for that session. It is not good to overwhelm anyone who has fear, and you don't want the person to undo all that he or she has achieved.

## Down the Trail

If ready, let the rider take his or her riding "outside the box" and ride down the trail. This is assuming the rider has achieved a solid sense of security with the horse.

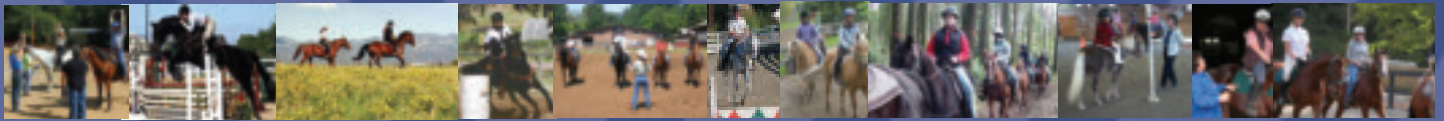
The person can revisit the same path taken while leading the horse on the trail. The instructor can walk next to the rider or can ride alongside during the person's first couple of rides outside of the arena.

The trail ride does not need to be long—just enough to build the person's confidence. You can encourage the rider to go a little past his or her comfort zone each time, but don't overwhelm the person during the ride.

There is no time limit on progressing beyond fear. Do not rush the process. A person can spend as much time at each level as needed, then proceed slowly to overcome more challenges. **SM**

*Certified Horsemanship Association Master Instructor and Clinician Kathy Findley owns and manages Whispering Willow Farm in Franksville, Wisconsin. She is also a multi-breed carded judge and full-time trainer.*





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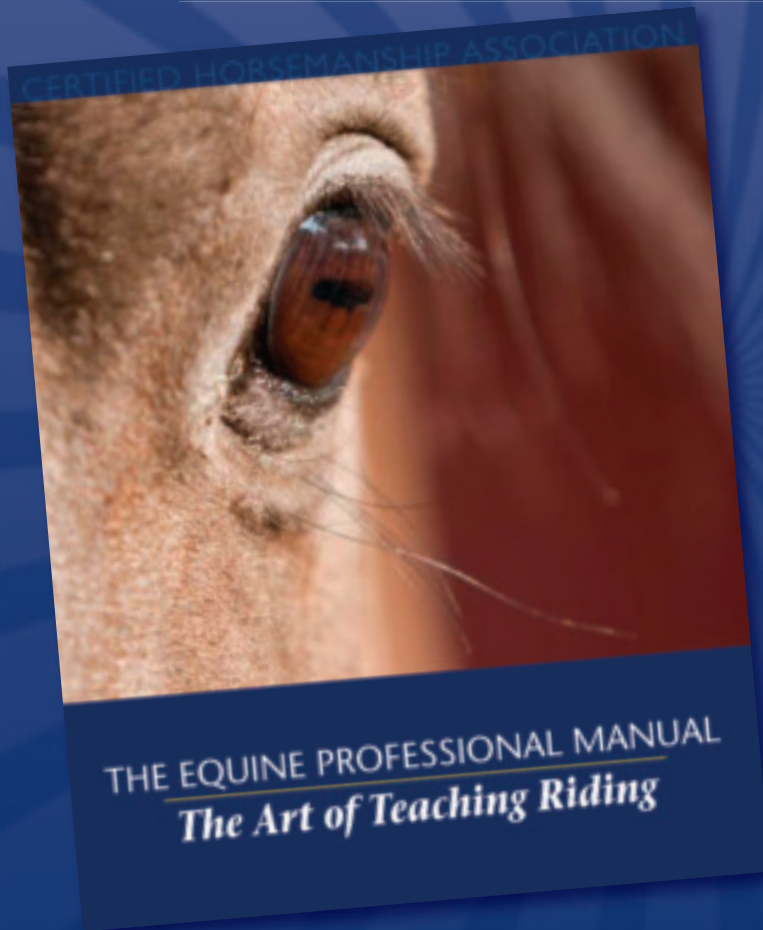
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# Learning Balance on Horseback

Teaching exercises that improve rider balance relaxation, centeredness and self-awareness should be an important part of a lesson program.

By Kathie Hilsher

**B**alance: It is essential to riding, and it can be learned. Several exercises can be worked into lessons to help riders increase relaxation, centeredness and self-awareness—three key elements of balance. These exercises can be plugged in during warm-ups, walk breaks and cool-down time.

My students call the first exercise a thigh roll. Done one leg at a time, it opens a rider's seat and lengthens the leg under the core. After dropping his or her stirrups, the rider reaches down with one hand and grasps the back of the thigh on the same side. Lifting that leg slightly away from the saddle, the rider rolls the front of the thigh in while dropping the knee and heel down to the ground.

The rider might find that he or she needs to lengthen the stirrups a hole after getting the feel for riding with the leg more under the body and in correct vertical alignment. When the rider can easily pick the stirrups back up without changing the position of the legs, he or she should try the exercise at a walk and revisit it several times each ride to stretch, relax and realign.

After lengthening and aligning the lower body, the "ear prick" exercise works to align and relax the upper body. It starts with imagining a string running up the rider's core, along the neck and out the top of the head to an invisible hand in the sky. As the rider inhales, he or she imagines someone holding that string and gently "pulling" the body taller. The rider should visualize his or her breath traveling up the string and lengthening the back of the neck. Then the rider should imagine that he or she is "pricking" his or her ears, like a horse interested in something in front of him. This continues to lengthen the back of the neck but keeps the chin from jutting out and creating tension.

After "pricking" his or her ears, the rider will lift the shoulders and roll them back while starting to exhale and letting the breath travel back down the string. The shoulders will drop down and back so that they hang relaxed and give the rider a nice open chest. Doing this slowly and intentionally, both during warm-up and walk breaks, can help riders relax and realign.

Finally, exercises using diagonal pairs increase coordination and body awareness by working both halves of the brain. For these exercises, riders simultaneously work their right arms/hands and left legs/feet, and vice versa.

For example, at the halt, a rider drops the stirrups and puts the reins in his or her right hand. Then the right knee and left hand are raised at the same time, smoothly and without sacrificing overall position. After doing these at the halt, riders should work diagonal pairs at the walk with a goal of doing them in rhythm with the horse's movement for a whole lap around the arena.

Other diagonal combinations include swinging one leg and the opposite arm front to back; lifting one toe and dropping the opposite hand; pulling one leg away from the saddle and stretching the opposite arm out like an airplane; or opening one hip angle to let that leg swing back while bringing the opposite shoulder back into a slight trunk twist away from the open hip. This last one provides a nice stretch, as well as diagonal coordination and body awareness.

As the rider multi-tasks with these exercises, he or she is improving self-awareness, coordination and balance.



Teaching exercises that improve rider balance, relaxation, centeredness and self-awareness should be an important part of a lesson program.

## Take-Home Message

Balance on horseback doesn't just happen. Teaching exercises that improve rider balance, relaxation, centeredness and self-awareness should be an important part of a lesson program.

Intentionally working toward balance develops an independent seat and increases the harmony between horse and rider. For the sake of rider safety and the comfort of our lesson horses, we should spend more time helping riding students find their balance. **SM**

*Kathie Hilsher is a Certified Horsemanship Association master instructor and clinic instructor. She is also co-director for CHA region 5 and a 4-H horse program volunteer.*





There are many products available to maximize a horse's joint comfort, even in the face of injury or damage done over time.

ARND BRONKHORST PHOTOGRAPHY

# Joint Care

There are many products on the market that can make a difference to your horse's joint soundness.

By Nancy S. Loving, DVM

**W**hile as much as 90% of equine front-end lameness is attributable to problems in the feet, there are other areas of the limbs that develop pain and soreness.

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For the athletic horse, joint injury is a huge concern. It isn't always possible to avoid a joint problem from an accidental misstep, fall or kick. However, there are ways to prepare a horse to perform in your chosen equestrian pursuit with less risk of injury. One important approach relies

on strategic conditioning that strengthens muscles, tendons, ligaments and joints to withstand the athletic activity that your horse performs.

Conditioning is a step-by-step process, building upon a basic foundation over months and years. The initial legging up

Stable Management Spring 2018 **45**



AMY DRAGOO

A thorough lameness workup and discussion with your veterinarian will enable you to enlist the best treatment options for your horse.

and learning of a particular skill set can take a full season before it is time for your horse to move on to the next level. Taking the time to do this correctly pays dividends in your horse's athletic longevity.

Horses can still incur joint injury through accidents, trauma or from simple wear-and-tear and age-related degeneration. Fortunately, we have a considerable armamentarium with which to maximize a horse's comfort, even in the face of many joint issues.

## Oral Joint Supplements

Oral joint supplements are popular for their ease of administration, reasonable cost and touted benefits. What can you expect from the plethora of oral joint supplements, also referred to as nutraceuticals, available on the market? Many formulations are not cost-prohibitive, but they do cost money that adds up over time. No doubt you'd like to get the most bang for your buck.

Based on controlled studies, combining reputable sources of glucosamine, chondroitin sulfate and avocado/soybean unsaponifiables (ASU) might achieve disease-modifying effects. Such a product doesn't address pain relief, but it might help to delay cartilage degeneration within a joint. Be aware that while oral glucosamine salts are well absorbed in humans, bioavailability in horses is less than 3%. Chondroitin sulfate tends to have a better absorption rate than glucosamine. Combining the two along with ASU gives the best option.

A few words of caution are appropriate: Nutraceuticals are neither licensed nor scientifically proven to be efficacious. Several studies analyzing commercial nutraceuticals have found that many products don't contain what is specified on the label. In fact, one study analyzed 32 glucosamine products and found that only nine actually contained what was printed on the label. While this absence of active

product isn't likely harmful to your horse, it isn't helpful, either. And it is a drain on your pocketbook.

The best recommendation is to confer with your veterinarian about which choices of reliable nutraceutical to use. Also, do your own homework and research the product using the "ACCLAIM" method:

- A company name you recognize
- Clinical experience of safety and efficacy
- Contents clearly noted on the label
- Label claims—are they backed up scientifically?
- Administration recommendations
- Identification of the lot and expiration date
- Manufacturer contact information

Other oral supplements with reported beneficial effects on joints include omega-3 fatty acids—specifically EPA, for its anti-inflammatory effects. Studies have shown



that it slows cartilage breakdown and might inhibit action of metalloproteinases, one of many types of enzymes that contribute to cartilage inflammation.

In a Michigan State University study, horses receiving omega-3 supplementation demonstrated increases in stride length at the trot. This locomotion improvement possibly correlates to decreased inflammation, stiffness and joint pain. Including omega-3 supplementation is suggested to quiet down osteoarthritis problems in senior horses. Significant benefits might also be realized by using omega-3 supplementation for active, athletic horses, especially those in intense training and in high-impact sports.

Other products with possible anti-inflammatory actions include MSM, cetyl myristoleate, yucca and Devil's Claw. In many cases, the mechanism of action is unknown, so it is best to consult with your veterinarian before administering any of these to your horse.

## Non-Steroidal Anti-Inflammatory Drugs (NSAIDs)

Non-steroidal anti-inflammatory drugs work by inhibiting prostaglandins that contribute to the inflammatory cascade. There are two forms of cyclooxygenase isoenzymes that catalyze the formation of prostaglandins and inflammatory mediators—COX-1 and COX-2.

The COX-1 isoenzyme contributes important housekeeping functions such as providing a protective mucous barrier in the stomach, intestines and kidneys. Drugs that inhibit both COX-1 and COX-2 enzyme systems are likely to elicit more adverse effects, such as gastric and colonic ulcers and/or kidney disease. Examples of such drugs are phenylbutazone, flunixin meglumine and ketoprofen. Clinical signs of drug toxicity might appear as colic, diarrhea, gastric ulcer disease and/or elevations in kidney enzymes in the bloodstream.

There are some concerns and ongoing research into potential negative effects on articular cartilage from continuous administration of systemic NSAIDs. In many cases of severe osteoarthritis where a horse's comfort might require chronic administration of NSAIDs, quality of life is considered along with potential adverse effects.

Medications that solely inhibit the COX-2 pathway are less injurious to the intestines

and kidneys. An example of this drug type is firocoxib. Adverse effects from firocoxib do occur on COX-1 isoenzymes, but to a lesser extent than those incurred with drugs targeting both COX-1 and COX-2.

A topical NSAID that has shown some promise for managing joint pain is 1% diclofenac sodium cream. The cream is rubbed onto an affected joint where it might achieve some anti-inflammatory effects in the subcutaneous tissue without systemic effects.

## Systemic Joint Treatments

Horse owners who compete with their horses are fairly familiar with injectable joint therapies. To achieve the best outcome that is reliable and safe, it is wise to use products that have FDA approval.

Hyaluronic acid (HA) is a normal component of synovial joint fluid that provides lubrication and anti-inflammatory effects within the joint. FDA-approved intravenous or intra-articular hyaluronic acid products

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have demonstrated an increase in endogenous (produced by the horse) production of HA within the joint(s) while also providing a physical barrier to deter infiltration of the joint with inflammatory mediators and cells.

This protective function then slows cartilage degradation and associated inflammatory effects of pain, swelling and lameness. HA is efficacious for acute joint injury associated with acute synovitis (inflammation of the synovial membrane lining the joint). More than 90% of horses in clinical studies improved in their lameness scores after receiving intravenous hyaluronic acid, and 96% improved following intra-articular injection.

Another useful compound that is also a normal component of joint cartilage is polysulfated glycosaminoglycan (PSGAG). The FDA-approved product is labeled for either intramuscular or intra-articular use. It is particularly effective in cases of chronic arthritis for its disease-modifying, anti-inflammatory effects. It has no ability to heal already-damaged cartilage, but it can make a horse considerably more comfortable while delaying the progression of arthritis.

Pentosan polysulfate (PPS) is another disease-modifying drug used intramuscularly to thwart arthritic discomfort. It is used in a similar fashion to the aforementioned PSGAG.

## Intra-Articular Therapy

Both hyaluronic acid and PSGAGs are useful drugs for direct injection into an injured joint. It is also common practice to combine HA with an intra-articular injection of a corticosteroid that is effective at reducing inflammation and improving comfort.

Triamcinolone is a preferred cortico-

steroid with reported chondroprotective (cartilage-protecting) properties; it is particularly recommended for use in high-motion joints. Not only does it seem to improve joint function, but it does so without degrading the cartilage as can occur with other forms of corticosteroid medications, such as methylprednisolone acetate.

## 'Regenerative' Therapy

Stem cells, platelet-rich plasma (PRP) and IRAP (interleukin-1 receptor antagonist protein) are terms mentioned when talking about regenerative therapy for joints.

Stem cells are derived either from bone marrow (preferable) or fat, then incubated for proliferation to obtain a concentrated, dense stem cell population. These are then injected into the joint with the intention of healing damaged tissue.

Platelet-rich plasma (PRP) is obtained by taking blood from an equine patient and spinning it in a centrifuge to remove the red and white blood cells. The platelets that remain in the plasma contain numerous growth factors that are beneficial to tissues, especially to tendons and ligaments, and to some degree, cystic lesions within joint cartilage. To provide the best tissue benefits, the platelets must be activated much as they would be in a normal clotting situation; in those circumstances, the platelets release the highest concentration of growth factors.

The techniques using IRAP are intended to block inflammatory mediators—in particular interleukin-1—that contribute to cartilage degeneration within an injured joint. Blood from an equine patient is collected and incubated for 24 hours with glass beads that help separate out white blood cells and

stimulate an increase in the concentration of anti-inflammatory mediators, such as interleukin-1 receptor antagonist protein and other healing factors.

Following this process, the incubated blood is centrifuged to remove red blood cells and to concentrate the protein-rich serum. This is then injected directly into an injured joint for three to four treatments. The IRAP serum can be frozen and stored for up to a year. Due to the expense, IRAP therapy is often reserved for joints that are no longer responsive—or less so—to routine corticosteroid and hyaluronic acid intra-articular injections.

## Gene Therapy

There is ongoing work in the field of gene therapy for treating joints. The objective is to increase selective therapeutic proteins that have a role in altering specific disease manifestations.

As an example, interleukin-1 receptor antagonist protein is targeted for increased production of this important protein.

## Take-Home Message

The need for joint support is critical to the success of an equine athlete, and fortunately, there are a number of therapeutic options for joint care. Many of the results from pioneering studies performed in horses are now integrated into human medical treatment. It is an exciting field of study, as innovative ideas continue to be proposed and tried, many with good success, to keep equine athletes performing longer and better.

With the many options available for horses, a thorough lameness workup and discussion with your veterinarian can enable you to implement the best choice to maximize your horse's comfort and performance. **SM**

## ADVERTISER INDEX

Boehringer Ingelheim EQUIOXX .....	7
Boehringer Ingelheim UlcerGard.....	23
Bonide .....	25
Certified Horsemanship Association	43
Doc's Products .....	Inside Back Cover
Equine Equipment Company .....	16-17
Excel Equine Feed .....	9
Farnam Easy Pour .....	3
Farnam Loyalty .....	Back Cover

Farnam SimpliFly .....	19
Franklin Williams.....	32
Horse Tech .....	31
Kentucky Performance Products .....	24
Life Data Labs .....	29
Merck Prestige .....	13
Merck Safe-Guard .....	21
Neogen Prozap.....	15
Neogen Prozap.....	33
Nutramax .....	10

Nutramax School Horse of the Year ..	11
NYPD.....	39
PATH Intl.....	38
Platinum Performance	
..... Inside Front Cover	
Ritchie .....	37
Spalding Labs.....	35
SmartPak .....	27
Standlee .....	41
Straight Arrow .....	47



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