# DRESSAGE, EVENTING, HUNTERS, JUMPERS VOL. 4 PRACTICAL HORSEMAN

Nicholas Fyffe and Guacamole

NICHOLAS FYFFE Consistent Groundwork = Success in the Saddle

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# About Nicholas Fyffe

Australian Grand Prix rider **Nicholas Fyffe** began his career competing in international three-day events. After deciding to focus on dressage, he worked intensively with top trainers in Germany. Since then, he has ridden several horses to the Grand Prix level, including the P.R.E. stallion Fiero HGF with whom he won the 2016 Adequan/USDF P.R.E. All Breeds Grand Prix award. Representing his native country, he has ridden on Nations Cup teams in Wellington, Florida, and rode on the goldmedal-winning team at the 2007 Tri Nations Cup in Johannesburg, South Africa. Nicholas is based year-round in Wellington where he and his husband, David Marcus, run a training/sales operation, Marcus Fyffe Dressage. He is a popular clinician known especially for his talent for developing young horses, having qualified many mounts for the World Young Horse Championships.





# A better relationship with your horse on the ground translates into success in the saddle.

#### By Nicholas Fyffe Photos by Susan J. Stickle

ow does your relationship with your horse on the ground compare to the one you have when you're in the saddle? The connection between these two is much stronger than many people realize. When we're riding, we expect our horses to focus on us at all times and respond promptly to our aids. Especially in dressage, we emphasize submission and obedience while also striving for a harmonious partnership with the

rider always leading the "dance." But what we ask of our horses in the saddle makes a lot more sense to them if we have these same expectations and goals on the ground. They

Every moment you spend with your horse is an opportunity to strengthen your bond with him. Establishing mutual respect and clear channels of communication will pay off in a happy, productive partnership, whether you're leading him peacefully to the arena, practicing difficult skills in hand or asking him to perform his best under saddle.

learn that there's one set of rules in every interaction they have with us. As a result, we create a stronger understanding and bond with them.

The most successful upper-level dressage horses have this fundamental continuity between their ground training and their under-saddle training. The best demonstration of

that is the in-hand work you see top trainers using to refine Grand Prix movements like the piaffe. But you don't have to be a world-class rider to benefit from this concept. Among other reasons, we should all do it for safety's sake. Let's face it: horses are enormous and can cause serious harm to us purely unintentionally. By improving their obedience and respect for our personal space on the ground, we can greatly reduce our chances of getting hurt.

As you'll see in the three skills I discuss in this article, there are many other rewards that riders of all levels can reap by aligning their expectations on the ground and in the saddle. Besides the big-picture goals I described above, you can also target many smaller, more nuanced details, like teaching your horse to respond to subtle leg aids or to relax into a bigger walk stride. Most importantly, when you eliminate the confusion caused by giving different signals on the ground and in the saddle something that most people don't realize they're even doing—you'll find your horse becomes happier and more relaxed.

I compare this relationship to a marriage. So long as one partner lacks understanding, neither will be happy. You must have a discussion and come to an agreement. Once you know where each other stands, you regain harmony. The relationship is always better after such discussions, even when they're difficult.

To build this relationship, you need to recognize the importance of consistency.

## Leading



To practice leading Guacamole, a 9-year-old Lusitano gelding, I position myself next to his shoulder, holding my whip in my left hand, and march briskly forward. He follows suit, producing a nice forward walk. Notice how straight he is through his body and relaxed he is over his topline. His pleasant expression and the loop in the reins prove that we're totally in sync.

It's easy to *think* that you're applying all the same expectations on the ground that you do in the saddle, while in reality you might be cutting corners because you're in a hurry to get to the ring or you're distracted by anything other than your horse in that moment. Even if you have exceptional self-discipline in the ring, if you evaluate your behavior on the ground honestly, you might realize that your standards are lower there. Ask yourself, "Do I make it clear that my horse must never step into my personal space? Does he stand patiently? Do I treat him like a partner with respect, rather than indulge him like I would a pet? Do I expect and do these things every single time I handle him?"

To both show and command respect, you don't have to dominate your horse—but you do need to be as consistent with

#### >>> TIP

What we ask of our horses in the saddle makes more sense to them if we have these same expectations and goals on the ground. They learn that there's one set of rules in every interaction they have with us. your body language, aids and expectations as you are in the saddle. Just as you expect him to go forward every time you close your legs on his sides, you should expect him to obey each command on the ground promptly and obediently. That means you might have to pay more attention and be more self-disciplined than you're used to. You must be prepared to reinforce your standards at any time, just as you do in the saddle. This holds true for everyone who handles your horse. We educate all of our staff



The moment I sense that Guacamole is losing momentum, I reach the whip around behind my body—without looking back—to touch him on his side.

to operate at the same high standard. We have both stallions and mares in our barn, so the need for boundaries is somewhat heightened. However, our expectations are the same for every horse we work with. The barn runs smoothly as a result.

I believe that if you don't address issues on the ground, they will eventually show up in some way in your under-saddle work. To be consistent, you must make it clear to your horse that there's always a consequence to his actions. You have a right to address every transgression, but you also have a responsibility to acknowledge and reward every positive development, even if it's tedious to do so.

For example, every time your horse intrudes on your personal space—leans or pushes against you—immediately push back until he steps away. Press on his neck or shoulder with your knuckles or elbow or with the handle end of a whip. Repeat this correction until you get the response you want, even if that means shoving him rather firmly. When he does finally respond, reward him by leaving him alone. Then be prepared to correct him again the moment he invades your space. As with training under saddle, repetition is key. Keep it really simple: Make it undesirable for him to invade your space and leave him alone when he respects it.

The following three skills are great for testing your consistency on the ground and for improving your relationship with your horse if you suspect it's not up to snuff.

#### Leading

A good relationship starts the moment you lead your horse out of the stall or paddock. I often see riders walking 6 feet in front



Next, we practice trotting. If Guacamole pushes his head and neck a little into my space, I raise my hand and move it in front of my body, toward his eye, with my open palm facing him. This reminds him to straighten again and be more attentive to my body language.



To reinforce this lesson, I continue holding my hand up near his face while pressing gently on the reins, asking him to return to the walk. You can tell by the calm expression on his face that he understands exactly what I want.



Next, I test his obedience by asking him to make a 360-degree turn to the right. I continue giving the visual cue with my left hand, while at the same time directing him to the right with the reins.

of their horses, allowing them to dawdle behind in a manner that doesn't at all resemble the kind of walk a judge wants to see in a dressage ring. Those same riders then ask their horses to produce big forward walks when they're under saddle. That's an unfair expectation.

I expect my horses to march alongside me wherever I lead them. I want their shoulders to be parallel to mine and their pace to match mine, no matter what speed I go. When I stop, they stop. When I back up, they back up. When I turn, they turn. They are ever aware of my body language and respectful of my personal space. There is slack in the lead line at all times, except when I'm



As we complete the full circle, you can see that Guacamole is still following my body language and respecting my space perfectly.

using it to cue them. Any pressure on the line means something.

Horses don't learn this overnight. It takes daily practice. The good news: Hand-walking is a great way to warm up your horse, both mentally and physically, before your ride. Studies show that walking horses for 20 minutes prior to work significantly decreases the likelihood of soft-tissue damage. You can do some of this walking once you're mounted, but a good five or 10 minutes in hand helps to achieve this benefit. It also sets the tone for the day.

At first, you may need to carry a dressage whip, especially if your horse is on the lazy side.

1. Lead him to a safe, firm surface outside the barn where

# Mounting



After lining Guacamole up next to the mounting block, I check to see that he's standing comfortably balanced on all four legs, then glance at his facial expression to be sure that he's focused on me and not distracted by anything else around him. I continue monitoring him as I put my foot in the stirrup and prepare to mount.



Once I'm in the saddle, I make it clear that I'm in no rush to move out. Instead, I adjust my rein length, check my stirrup leathers and center my position in the saddle.



I praise Guacamole for his patience ...

#### >>> TIP

When handwalking, practice more turns to the right than to the left. This reinforces the idea that your horse must move away from you whenever you ask him to. This instills a respect for your personal space. there's plenty of room to walk and trot.

2. Position yourself so that your legs are parallel to his front legs and carry the whip in your left hand.

3. Then march forward! (If your horse has a big stride, be ready to sweat a little!)

4. If he lags behind, reach the whip around behind you without looking back—to tap him on his side in about the same area where you'd use your leg if you were riding. If he breaks into a trot, that's fine. Praise him for responding cor-

rectly and then ask him to walk at your speed.

Ideally, you want to produce the same beautiful forward walk we look for in the show ring, with his body straight, relaxed and aligned with his head and neck. The goal should be to get him close to overtracking (stepping his hind feet in front of the hoofprints of his front feet), if not actually overtracking.

5. When you're happy with this walk, mix it up a little to test your horse's responses. Apply pressure on the lead line to ask him to halt. The moment he does, relax the pressure.

6. Next, press backward on the line to ask him to step backward a few steps.

7. Walk forward again, then ask for a few steps of trot, come back to the walk, and so on. All this time, remain facing forward with your shoulders parallel to his. Are you getting perfect responses every time? How soon after asking?

#### **Yielding to Pressure in the Cross-ties**

Take advantage of another training opportunity while grooming and tacking your horse up in the cross-ties.

1. Now and then, gently press your knuckles, shoulder or whip handle against his rib cage—in about the same place where you'd give a leg aid—to ask him to take a step sideways away from you.

2. If he doesn't move right away, increase the pressure until you get a response.

3. As soon as he moves, release the pressure.

Improving this skill and the response time will contribute to your lateral work under saddle. The cue you give him to move sideways is similar to the leg aid you'd give to ask for a leg-yield. Just as you expect him to grow more responsive over time to your leg-yield aids, so too should he become more aware of and obedient to these requests in the grooming stall.

#### Mounting

This final skill is one that surprisingly few riders take seriously. Oftentimes when I see riders mount, their horses walk off before they



... and then walk off, happy to know that we're starting our ride relaxed and in tune with one another.

even have their right foot in the stirrup. Then they get upset when their horses don't halt well in their dressage tests, which significantly impacts their scores because there are at least two halts in every test above the Introductory Level. This is a perfect example of not having consistent rules and expectations. And, once again, there's a safety factor involved. It can be dangerous for your horse to walk off before you're safely settled and balanced in the saddle.

1. If you struggle with this problem, first accept some responsibility for it. By allowing the behavior to continue for months or even years—you've taught your horse that it's acceptable. Understand that you're the one now changing the rules of the game. It wouldn't be fair to suddenly punish him.

2. Instead, try to be sympathetic as you gradually introduce the new rule that he must stand patiently until given the cue– and one cue only–to walk: your leg aid. He shouldn't try to guess what you want based on the rest of your body language. For example, he shouldn't interpret you picking up the reins–or

#### >>> TIP

Your horse must stand patiently until given the cue to walk: the leg aid. relaxing them—as a cue to move on. As with all your other aids, if you use your leg aid consistently and reinforce it whenever necessary, he will stop taking the initiative to move forward on his own. This, in turn, will improve the quality of your halts in the rest of your training.

3. In the beginning, if this is too challenging, ask your horse to stand still just long enough for you to place your feet properly in the stirrups, adjust your rein length and sit tall in the saddle. If he steps away as you're mounting or after you're in the saddle, but before you're ready, ask him to halt again. Then pat and praise him, dismount, return to the mounting block and repeat the process. Don't be in a rush to get on with your ride. This is important! If you're really consistent, he'll eventually learn

#### >>> TIP

Don't force him to stand still for too long initially, especially if he's a nervous type. Keep it brief—but not rushed—then gradually build up over time to a point where you can trust him to stand quietly for several moments.

that the easiest way out of this repetitive cycle is to simply stand still until you ask him otherwise.

Acceptance of contact: One important aspect of this lesson is your horse's acceptance of the contact. Ideally, you should be able to feel a light contact throughout every halt while you maintain a neutral position: sitting squarely with your legs hanging naturally from your hips, your arms hanging naturally from your shoulders, without doing anything otherwise with your position, weight or aids. If he reacts in any way when you pick up the reins—for example, by stepping backward—then he's not truly accepting the contact yet.

To tackle this problem, practice micro-halts: Ride at the walk for several moments, then ask your horse to halt for just a second. As he does so, keep a gentle feel of his mouth while staying neutral in your body. Then close your legs to ask him to walk on again without changing the contact in any way. With repetition, he'll learn that the halt is a safe place and that he doesn't need to do anything in response to steady, light pressure on the reins. This understanding is critical to performing good halts in the show ring, as he must not react in any way when you remove your hand from the rein to salute and then take back the contact.

As this practice progresses, you'll find that the new mounting rule sets the tone for your entire ride, starting you off with a sense of control and harmony. No longer will your horse begin a session thinking he can choose his own adventure.

These three skills will help to strengthen your relationship with your horse on the ground and bridge that connection to your relationship under saddle. Beware of underestimating how difficult they can be to achieve. The concepts may sound simple, but their application is not. You'll need to be very disciplined and systematic to truly master them. Remember, dressage is not just about riding; it's a way of life for these horses. The deep bond you form with your partner must go beyond the ring and carry over into everything you do together.

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Improve your horse's cardiovascular health, muscular strength and suppleness to reduce the risk of injury and help performance.

#### By Hilary M. Clayton, BVMS

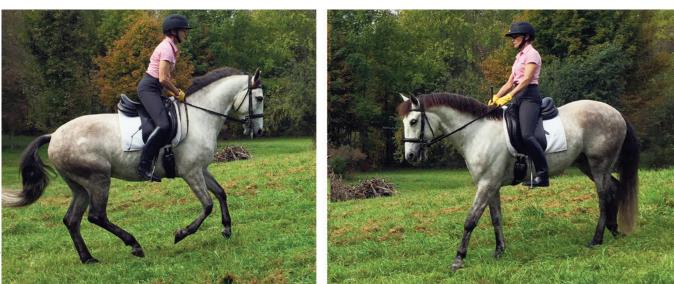


s owners, trainers and riders we are responsible for all aspects of our horses' health and welfare, which includes ensuring that they are adequately fit for the work we expect them to do. Fitness allows the horse to perform to the best of

his ability and reduces his susceptibility to injury.

Conditioning is the process of training the horse to become physically fit by a regimen of exercise, diet and rest.

Two areas of conditioning that address physiological aspects of preparing a horse to be an athlete are cardiovascular fitness and muscular strength. Both of these are improved by cantering uphill, demonstrated by eventer Sharon White.



Cantering up hills, shown by Dr. Hilary Clayton, improves a horse's cardiovascular fitness by significantly increasing the workload. Walking or cantering uphill also improves strength because the propulsive muscles in the horse's hindquarters must work harder. Note the engagement of this horse's hind limbs (left) when cantering up this gradual slope. Walking on a downhill slope (right) with the horse carrying himself without leaning on the reins flexes the stifle and hock joints and activates the muscles that raise the withers.

This article focuses on exercise and rest, but remember that the diet should be adjusted according to the horse's workload and body condition.

Fitness and strength improve when a horse performs a sufficient amount of exercise on a regular basis. The sequence of events is that strenuous exercise results in minor tissue damage that is repaired over the next one to two days. Repeated cycles of tissue damage during exercise and the following repair process result in the horse becoming fitter and stronger.

One of the most important concepts of conditioning is the need for tissue regeneration between workouts, which implies that we must alternate challenging training days with recovery days during which the tissues are repaired and strengthened. Repeating the same type of work day after day creates a situation in which tissue damage outstrips the rate of repair, and this is what causes repetitive strain injuries, such as a pulled suspensory in a dressage horse or a bowed tendon in a racehorse. Ideally, conditioning workouts should be separated by one or two days during which the horse does a different type of exercise. Note, however, that a recovery day does not entail standing in a stall, it

simply means doing a different type of work that challenges a different part of the horse's body.

The footing the horse works on is a crucial piece of the conditioning conundrum. Ideally, horses should perform slow work over a variety of terrain and on different types of footing to provide a diverse loading stimulus to the musculoskeletal system. Fast work and schooling, on the other hand, should be performed on wellgroomed, predictable footing.

Conditioning should be specific for the horse's occupation. If you're training an eventer, it is not appropriate to condition only at trot and canter. You need to gallop to recruit the fast-twitch muscle fibers and to develop the degree of cardiovascular fitness needed for the cross-country course.

So you first need to assess the fitness goals for your horse as a basis for determining the type, intensity and duration of the exercise necessary to develop a successful conditioning program. If you have a target date when your horse needs to be fully fit, work backward from that date to determine when to start conditioning based on increasing the workload by 5–10 minutes per week. If the requirements of your sport include specific skills, such as jumping, allow an extra month or so to strengthen the appropriate muscles.

If your horse is coming back into work after a layoff, remember to check his feet, teeth and saddle fit before starting your conditioning program. If he's barefoot, be prepared to use boots when negotiating rough ground until his feet adapt to the new workload. Check how long it has been since his teeth were floated and have them checked if necessary. Saddle fit will need to be assessed again in a few months to take account of changes in the development of his back muscles.

We'll consider three areas of conditioning that address different physiological aspects of preparing a horse to be an athlete: cardiovascular fitness, muscular strength and suppleness. Although the following sections refer to competition horses, the same principles apply when working with horses for noncompetitive purposes.

#### **Cardiovascular Fitness**

Cardiovascular fitness allows the horse to perform his regular work without becoming fatigued. Cardiovascular conditioning enhances the process by which energy from food is converted into energy that fuels the muscles during locomotion. It also makes the body more efficient in dissipating heat that builds up in the muscles during athletic activities. Horses show measurable improvements in cardiovascular fitness after as little as two weeks of regular exercise.

An easy way to develop an appropriate conditioning program is to record videos of competitions at the same level at which you are aiming to compete. When you play the videos back, time the duration of the exercise bursts at different gaits and speeds to determine how much time is spent in fast trotting, cantering and galloping and how long the horse spends walking or trotting slowly. This information is used to develop a conditioning plan that will bring your horse to the required fitness level by building up the work periods until they match those of the sport.

Horses used for show-hunter competitions, lower-level dressage competitions or similar occupations should be fit enough to be ridden for 45-60 minutes at walk, trot and canter. Horses ridden in more strenuous sports, such as eventing and show jumping, should be conditioned specifically for those activities, taking account of whether the fitness requirement is primarily for endurance or speed.

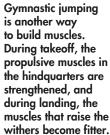
The amount of work performed is described in terms of the intensity (how hard the horse works), the duration (how long the horse works) and the frequency (how often the workouts are repeated). The key to improving fitness while maintaining soundness lies in finding the correct balance among these three elements.

When the goal is to improve cardiovascular fitness, the appropriate workout frequency is two to four times per week on alternate, not consecutive, days so that the tissues have time for repair and regeneration between workouts. When the desired level of fitness is reached, then a couple of workouts per week is sufficient for maintenance, but if the horse is worked less than twice a week he's likely to lose fitness.

Improvements in cardiovascular fitness are achieved by increasing the intensity or duration of exercise on a weekly basis. Don't be tempted to increase both intensity and duration simultaneously due to the risk of overloading the tissues and causing

an injury. Endurance sports, which include eventing, are where the horse performs at a low to moderate intensity for several minutes to many hours. Horses competing in endurance sports are prepared by relatively long duration workouts at moderate speed, often incorporating short bursts at higher speed. To improve cardiovascular fitness for these horses, the duration of exercise is increased by about 10 minutes per week while maintaining a consistent exercise intensity.

Horses who compete in sprinting sports, which include show jumping, benefit from interval training in which the horse works at high speed or intensity for a short time then walks or trots during a recovery period that is five to six times longer than the work. During the recovery period, lactic acid is removed from the muscles and heart rate decreases. The horse then performs another high-speed work followed by a recovery interval. Breaking up the work into short periods separated by recovery intervals allows the horse to perform a larger total volume of work with less risk of injury. To improve





the cardiovascular fitness for horses participating in power or speed events, having a weekly increase in exercise intensity while maintaining the same duration is appropriate. An increase in intensity involves working at a faster speed, working with more impulsion or performing more transitions.

Another way to increase the conditioning stimulus is to add a new type of exercise to the regimen, such as hill work or jumping. Introduce new exercises gradually and then progressively build up their intensity or duration as appropriate. Cantering uphill significantly increases the workload and is an excellent way to improve fitness without overloading the limbs, but note that limb concussion is high when traveling downhill so it is recommended that horses walk on the downhill slope.

The horse's workload increases progressively until his fitness level slightly exceeds the competition requirements. Having the horse a little fitter than the minimum that is necessary for the sport and level of competition gives him some energy reserves in case the circumstances are more challenging than anticipated. For example, hot, humid weather or deep footing is associated with early onset of



# Key Concepts in Conditioning

Introduce the conditioning program gradually with a small amount of exercise

- Increase the workload in increments on a weekly basis
- The type and amount of exercise should be appropriate for the athletic goals for the horse
- Balance challenging workouts with easier days to avoid the development of repetitive strain injuries
- Perform different types of exercise on successive days
- Start the conditioning program early enough to reach your conditioning goals at the appropriate time
- Progress more slowly when rehabilitating the horse from an injury

fatigue, but this is less of a problem in a fitter horse.

#### **Strength Training**

Strength training targets the development of the locomotor muscles in the neck, back and limbs. Sports that benefit most from strength training include jumping, which requires explosive bursts of muscle power, and all sports that require collection, which calls for endurance in the muscles that carry weight on the haunches and elevate the withers. Strength training also protects against injury by recruiting

Core-training carrot stretches target and strengthen muscles that move and stabilize the horse's back, protecting it from injury. In these stretches, the horse follows a bait with his nose. A horse moves his nose sideways (left) to the shoulder, the girth, the flank and the hind fetlock in bending exercises. He moves his nose downward (below) to the underside of his neck, the middle of his chest, between his knees or between his fore fetlocks in rounding exercises.



and strengthening the muscles that stabilize the joints, especially when they are loaded in a different or unexpected manner, for example, if the horse stumbles or steps in a hole.

Muscles contain a mixture of slowtwitch and fast-twitch fibers that are specialized for different types of exercise. The proportions of the different fiber types vary between breeds and individuals. Slow-twitch fibers are fatigue-resistant; they contract repeatedly for hours at a time, which benefits performance in endurance competitions. Horses with a preponderance of slow-twitch fibers have lean flat muscles as in a fit Arabian endurance horse. Fast-twitch fibers provide power and speed for acceleration, sprinting and jumping. When horses with a high percentage of fast-twitch fibers are conditioned, their muscles bulk up as in a racing Quarter Horse.

People use free weights or machines to strengthen specific muscle groups. In horses the addition of weight, for example in a weighted saddle pad, is possible but has the disadvantage of increasing the load on the limbs, which puts the horse at greater risk of injury. Therefore, we need to be innovative in developing strength training exercises for horses that recruit the appropriate muscles without increasing the risk of injury. This can be accomplished using hill work and gymnastic jumping.

When the horse travels uphill the propulsive muscles in the hindquarters must



A supple horse controls the movements of his joints smoothly through a large range of motion. Lateral movements, including shoulder-in, improve suppleness.

work harder. Steep uphill slopes are particularly valuable for strength training and should be negotiated at walk or canter rather than trot to avoid twisting around the sacroiliac joints when the hind limbs push off independently at trot. As with all types of conditioning exercise, start with a small number of repetitions and increase either the number of repetitions (duration) or the speed (intensity) at which they are performed on a weekly basis.

When the horse travels downhill, the workload decreases but forelimb concussion increases so downhill conditioning should be done at a walk. When a horse walks down a steep slope in self-carriage without leaning on the rider's hand, the stifle and hock joints are flexed and the muscles that raise the withers are activated. Therefore, the muscles used in collection are being trained. The benefits are maximized by walking slowly and including frequent halts and even rein back.

Jumping has similar benefits to hill work. The propulsive muscles in the hindquarters are strengthened during takeoff and the muscles that raise the withers are strengthened during landing. The repeated takeoffs and landings during grid work are particularly beneficial. Jumping should be used for strength training only if the horse jumps in good form. A horse who has poor form over fences, such as hollowing the back, will not benefit from using this as a training technique to build strength.

A highly sport-specific method of strength training is to perform repetitions of a movement that is part of the sport and that requires muscle strength, such as jumping or steps of piaffe, in an interval training program. You alternate repetitions of the movement with easy recovery periods at walk or trot, then increase the number of repetitions each week to stimulate strength improvements in the appropriate muscles. The key is to perform the movement with good technique so the correct muscles are recruited and trained. Stop the exercise if your horse shows signs of fatigue, which implies a recruitment of incorrect muscles.

Another important type of strength training for horses is core training, which targets the muscles that move and stabilize the back. Carrot stretches are a valuable type of core training that have been proven to strengthen the muscles that protect the back from injury. The horse is trained to follow a bait, such as a piece of carrot, with his nose. Rounding exercises move the horse's nose downward to the underside of the neck, the middle of the chest, between the knees or between the fore fetlocks. Bending exercises take the nose sideways to the shoulder, the girth, the flank and the hind fetlock on each side. Ideally each position in held for up to five seconds before allowing the horse to eat the bait and three to five repetitions are performed daily. These exercises improve the horse's suppleness (see next section), but their main benefit is in strengthening the core muscles.

#### **Suppleness**

A supple horse controls the movements of his joints smoothly through a large range of motion. Exercises that promote suppleness primarily target the joints of the neck, back and upper limbs. In addition to strengthening core muscles, carrot stretches also promote suppleness by moving the



a good option.

back and neck through their full range of motion in the standing position, which is not possible when the horse is in motion.

Under saddle, suppleness is enhanced using movements that require the horse to round and bend his back. Spiraling in and out on a circle is particularly useful be-

The ability to swing the limbs through a large range of motion both forward/backward and from side to side is enhanced by turning, lateral movements and changes in stride length. On turns and circles, the limb on the outside has to reach farther around a longer arc. Lengthening and shortening the

Conditioning is an ongoing process that requires frequent evaluation of the horse's fitness level versus his fitness needs and appropriate adjustments of his exercise regime.

cause the horse uses progressively stronger contractions of the muscles on the inside of the turn while stretching his body on the outside of the turn as the circle gets smaller. The changes in circle size teach him to adjust muscle tension smoothly in a coordinated manner. Over time it will be possible to spiral into a smaller circle as the horse's suppleness and muscle strength improve. Lateral movements, such as shoulders-in and -out, haunches-in and -out and half-pass are also beneficial for improving suppleness of the back and neck.

stride on large circles develops freedom of movement in the shoulders. Lateral movements improve suppleness in the upper part of the limbs as they are alternately moved away from and across the body. Be sure to perform suppling exercises equally on the left and right sides.

Conditioning is an ongoing process that requires frequent evaluation of the horse's fitness level versus his fitness needs and appropriate adjustments of his exercise regimen to ensure that he can perform safely and to the best of his ability.  $\boldsymbol{2}$ 

Hilary M. Clayton, BVMS, PhD, Dipl ACVSMR, MRCVS, is a leading expert in equine biomechanics. She grew up in England and earned her veterinary degree from the University of Glasgow before going on to research and teach at veterinary colleges in the United Kingdom, the Netherlands, Canada and the United States.

From 1997 to 2014, Dr. Clayton served as the Mary Anne McPhail Dressage Chair in Equine Sports Medicine at Michigan State University. She is a charter diplomate and past president of the American College of Veterinary Sports Medicine and Rehabilitation and is past president of the Association for Equine Sports Medicine. She also has served as a member of the U.S. Equestrian Federation Dressage Committee.

Dr. Clayton is president of Sport Horse Science LC, serving as a speaker, author and consultant in the area of equine sport science with emphasis on translating research findings into practical applications. Also an experienced eventer, show jumper and dressage rider, she is a U.S. Dressage Federation bronze, silver and gold medalist and a certified coach in the U.K. and Canada.



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