

# Rehabilitating Sport Horses

Here's how to get your performance horse back to the show ring safely and successfully after layup.

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Your top competition horse has spent the past two months cooped up and recovering from a soft-tissue injury, and your veterinarian just gave you the all-clear to start bringing him back into work. As exciting as it is to have your partner back, don't go setting jumps and filling out show entries just yet. After all, you wouldn't hop off the couch after nursing a broken foot and attempt an 8-minute mile, would you?

Regardless of the reason for a horse's layoff, getting him in shape requires patience and proper rehab. Here our sources have shared some practical exercises and advice for bringing equine athletes back safely from stall rest to competition form.

## Baby Steps

Let's start with the basics: You probably already realize that you're going to need to ease your horse back into regular work post-layoff, but why is this, really? After all, he appears perfectly sound, your veterinarian has cleared him for duty, and you've seen his displays of athleticism during his stall time.

Well, consider that the whole point of stall rest is to prevent a horse from moving around much. During this period, they lose the muscle tone and the strength that they had when in full work. "Not only do they lose the muscle tone that you can see, but they also lose tone in their deep core stabilizing muscles (similar to deep back and abdominal muscles in people)," explains Rachel Buchholz, DVM, an associate veterinarian at Northwest Equine Performance, in Mulino, Oregon. "So you don't want to bring horses right back into what they were doing before the injury because they don't have the muscles to support that kind of movement yet."

Due to this muscle loss, your horse is less coordinated. His joints might also be a bit creakier. "A lot of owners, especially with older horses, notice that when the horse comes back into work, he has a little bit of stiffness or decreased range of motion," says Buchholz. "This is from not having certain joints go through a full range of motion while the horse was on stall rest."

Therefore, it's imperative that owners ease horses back into work by introducing turnout gradually, performing strengthening exercises both on the ground and under saddle, and watching for signs that a horse is not quite ready to

progress. Otherwise, you might be looking at injury recovery all over again.

"You're at risk of not only reinjuring the affected area but injuring something else, too," Buchholz warns.

When a horse gets the green light to be turned out, Buchholz suggests first putting him in a smaller pen, "something they're not going to be able to rip-roar around in," she says. "Perhaps feed them out there so they have something to do, or put them with a buddy."

A horse cleared for turnout is likely also back in work, so be sure to take advantage of this, exercising him a bit first before releasing him in the paddock so he's not as fresh. Gradually increase the size enclosure you use for turnout, saving that expansive pasture of freedom for last.



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## Strengthening From the Ground Up

Something you can do to help a horse maintain or build his strength both during and after his layoff is dynamic mobilization exercises, or "carrot stretches." Hilary Clayton, BVMS, PhD, MRCVS, Dipl. ACVSMR, professor and McPhail Dressage Chair Emerita at Michigan State University and president of Sport Horse Science, in Mason, Michigan, has studied and optimized these exercises over the years. Their main purpose is to activate and strengthen the muscles that stabilize the horse's spine and the fore- and hind limbs' attachments to the body.

She teaches three types of stretches:

- **Rounding** Chin to chest flexes the upper neck; chin to knees and chin to fetlocks flex the lower neck and lift the back.
- **Bending** Chin to girth (just behind the elbow) bends the neck to each side; chin to flank bends the neck and back; and chin to hind fetlock bends the neck and back and activates the pelvic stabilizers and abdominal muscles.
- **Extension** Allow the horse to stretch his neck out as far as possible after the rounding and bending exercises as an unwinding exercise.

To teach these stretches to the horse, Clayton says you should ensure your horse is standing balanced—perhaps against a wall



or corner to control the haunches. Then use your bait of choice to entice the horse to flex or bend his neck without twisting it (ears stay level). Start with a small amount of movement, hold the position for several seconds, and repeat each exercise three to five times daily.

Clayton says owners can also practice a couple of core training exercises before or at the start of exercise to recruit the horse's deep stabilizing muscles:

- Apply firm upward pressure with a slightly noxious stimulus (e.g., a thimble on your fingertip), starting between the chest muscles and sliding slowly back along the horse's sternum to lift the withers and the back.
- Apply firm pressure to the top of the spine at the tailhead with your fingertips and work forward until you find the horse's "sweet spot" that causes him to round his lumbar and lumbosacral (lower back, where the lumbar vertebrae meet the sacrum at the croup) joints. You can also stimulate this motion by stroking down the hindquarters' intermuscular groove, taking care to observe appropriate safety precautions if standing behind him.

And to further build a horse's balance and muscle strength, Clayton suggests owners perform the following exercises three to five times daily:

- Apply pressure to the middle of the horse's chest, causing him to rock backward on his haunches. This weight shift activates the serratus muscles that support the chest between the forelimbs.
- Gently pull the horse's tail to the side to activate the pelvic stabilizer muscles that help balance and support him during collection and lateral movements.
- Lift a fore- or hind limb, and push gently on the horse's shoulder or chest just enough to rock his weight back, which activates the fore- and hind-limb stabilizers.

Performed regularly, Clayton says all these exercises can help improve your horse's muscle function as part of a rehabilitation program.

Buchholz says, "I know they're time-consuming, and sometimes owners say they don't think they're doing much, but if you've ever been to physical therapy, it's those little exercises that get to you."

She and Clayton both recommend some other tools to help restore full range of motion to the joints and to build a horse's strength, balance, and proprioception (awareness of body and limb positions) on the ground. These include:

- **Poles** "Ground poles can help with joint range of motion," says Buchholz. Depending on how far into his rehab your horse is, ask him to navigate poles either on the ground or raised as high as 20 centimeters (nearly 8 inches) at the walk or the trot. These exercises are particularly useful for rehabilitating neurologic cases, says Clayton.

- **Tactile bracelets** Because horses' pasterns are especially sensitive to tactile stimulation, Clayton and her colleagues have studied the use of lightweight (2-ounce) leather "bracelets" with dangling strands of light chain to encourage rehabbing horses to raise their limbs higher during movement. "The presence of the bracelets rattling against the front of the pastern and coronet is perceived as an obstacle in the path of limb progression," Clayton says. Horses become accustomed to these bracelets quickly, however, so use them for short periods of time several times a day at the walk and trot, and change their position frequently to keep the effect fresh.

- **Leg weights** Clayton also suggests applying weighted "sausage boots" around these horses' hind pasterns to increase stifle and hock flexion and to strengthen the muscles that move those joints. "The muscles have to work harder to get the limb off the ground, as well as slow the forward motion of the limb in preparation for ground contact," she explains. "The danger lies in using too much weight on the limb too quickly, so start with a small amount of weight and increase it gradually up to about 1 pound, applying the weights two to three times a week for three to five minutes at a time."

Once your horse is ready to begin working under saddle, be sure to give him plenty of warmup and cool-down. When you're first starting to add in trot work, for instance, "walk for 10 to 15 minutes, add a few minutes of trot, then walk some more," Buchholz says. This ensures all the soft tissue structures have had time to warm up and stretch before you increase the stresses on them with harder work.

As your horse progresses in his rehab, hillwork can help him build strength and stamina. But check with your veterinarian before setting off up a slope, as it can actually do more harm than good in horses recovering from some injuries, such as collateral ligament tears.

"Also avoid deep, uneven footing for most any soft tissue injury—it's just going to put extra stress on things, and if the horse isn't very balanced, it will make the work more difficult than it needs to be," Buchholz says. "And avoid any area that's really slippery."

While you're focused on your horse's fitness, don't forget to monitor his diet as well. First, let's assume you lowered your horse's calorie intake while he was on stall rest or layoff. Now that he's back in work, he's going to need more energy—but not all at once.

"All calorie sources (sugar, starch, fiber, or fat) need to be gradually reintroduced into a horse's diet for optimum digestion and to prevent any gastrointestinal upsets," explains Kristen Janicki, MS, PAS, performance horse nutritionist and technical marketing and nutritional services coordinator with Buckeye Nutrition, based in Nicholasville, Kentucky. "The easiest way to do this is stepwise, although the amount depends on the type of feed you are increasing and/or reintroducing into his diet. High-starch grains need to be reintroduced the slowest to prevent spillover of starch into the hindgut" and resulting digestive upset.



Also keep a close eye on your horse's body condition (the 1-to-10 scoring method used to assess the amount of fat a horse is carrying, with 10 being obese) to determine when it's time to up his feed intake. Most competition horses should be within the 4 to 6 range.

"You might want to consider the type of calories you increase if needed," Janicki adds. "Fat has more calories per unit of weight compared to carbohydrates," for instance.

And if your horse is consuming a low-quality forage or is stalled most of the day, he might need more than just a calorie increase. "For example, vitamin D is produced with sunlight and rapidly degrades in harvested forage (hay); therefore, stalled horses will need to have a source of vitamin D," Janicki says. "During the summer months, or in times of hot and humid weather, salt should be provided free-choice, and an electrolyte supplement may be needed to replace those minerals lost in sweat."

On the whole, make diet changes gradually, follow feed tag instructions, and work with an equine nutritionist or veterinarian to ensure your horse's diet suits his rehab routine.

### Red Flags and Vet Checks

During your horse's rehab, you shouldn't ever feel like you're pushing him to do something. "If you start to notice things becoming harder (for him), then it might be time to talk to your vet," Buchholz says.

- Be watchful for any signs he is regressing or has reinjured himself, including:
- Any heat, swelling, sensitivity, or other changes to the previously injured area;
- Obvious lameness;
- Performance issues, such as not holding a particular lead;
- Behavioral changes, i.e., bucking, refusing to work, grabbing the bit, etc.; and
- Any subtle signs that are similar to what you saw when he first got hurt.

Whether or not your horse shows any signs of lameness, have your veterinarian perform regular recheck exams every six to eight weeks until he or she gives you the all-clear. "The horse might look great clinically, flex great (be sound on flexion tests), everything looks positive, and everyone's happy, but then you look at the ultrasound images and see that the horse still needs a little bit of time to heal," Buchholz says.

Severe injuries might require additional follow-up exams and more advanced diagnostic imaging, such as MRI. These exams can also give you a fairly realistic picture of how long it's going to take to get your horse back to form.

Your horse is ready to continue in his rehab and training when you don't have to push him harder than normal during work, there's no swelling or other unsavory changes in his legs or soft tissue structures, and the clinical recheck exam matches up with a clean imaging picture.

### Tools at Your Disposal

Besides the poles, bracelets, and weights (and carrots!) already mentioned, there are some tools and therapies you can call upon to help expedite your horse's healing process. Complementary therapies such as chiropractic and massage, for instance, can help reduce scar tissue formation and keep your horse feeling well as he eases into regular work.

"It's very unlikely to hurt the horse, when done by a certified professional, and can definitely help," says Buchholz. An added bonus, she says, is that if a chiropractor is seeing your horse routinely during rehab, he or she might be able to pick up on areas where your horse is compensating for discomfort and clue you in on other subtle issues.

She says additional therapies such as kinesiotaping can help with horses' balance and proprioception, and pulsed laser therapy might help improve blood flow, increase healing, and reduce inflammation, but research on these is limited. While some nutritional supplements (e.g., hoof supplements for a hoof injury; joint supplements for joint or subchondral [located under the cartilage surface within a joint] bone injury) might help support a horse in his rehab, Buchholz says she hasn't found one particular supplement that makes a huge difference.

On the longe, Buchholz says owners can use devices such as the Pessoa or Equiband systems to help build horses' back and core muscles and encourage them to move properly. "Those can be helpful for hind-end issues too, just because it reminds the horse to round up and use those muscles they maybe haven't been using as much," she adds.

If you're not equipped or prepared or have the time to rehab your horse yourself, ask your veterinarian about equine rehabilitation centers, which are furnished with the equipment and trained staff necessary to condition equine athletes.

### Take-Home Message

When it comes to performance horse rehabilitation, slow and steady wins the race. "Just going slow, easing into more work, and keeping up with recheck appointments are things to keep in mind," says Buchholz.

As you would with any health scenario involving your horse, if you notice his progression is "not quite right" (or there's none at all), talk to your veterinarian. Work with an equine nutritionist and/or trained physiotherapist to further guide his transition back to work. And, as an adjunct to ridden rehab, says Clayton, practice core training exercises on the ground to fine-tune his strength and balance.

**Alexandra Beckstett, Managing Editor of The Horse® and a native of Houston, Texas, is a lifelong horse owner who has shown successfully on the national hunter/jumper circuit and dabbled in hunter breeding. After graduating from Duke University, she joined Blood-Horse Publications as Assistant Editor of its book division, Eclipse Press, before joining The Horse.**