



Making Rehabilitation “REAL” for your practice: Rehab Basics

Katie Seabaugh, DVM, MS, DACVS, DACVSMR
College of Veterinary Medicine and Biological Sciences
Colorado State University

INTRODUCTION

The interest in equine rehabilitation has grown in recent years. Much has been focused on musculoskeletal rehabilitation and that is largely what will be discussed here but rehabilitation for neurologic disease, wounds, and even abdominal surgery should not be overlooked. The importance of rehabilitation following injury has been known in the human realm for many years. Canine rehabilitation has also gained in popularity and in many ways is more advanced than what we know in equine rehabilitation.

THE BASICS

The basics of equine rehabilitation are based on decades of equine musculoskeletal injuries. That being said, it wasn't always referred to as equine rehabilitation. This information was obtained from years of experience of getting horses back to work after injury. So why the interest and focus on rehabilitation now? With advancements in imaging and therapeutics, including biologic therapies, a greater expense is being put forth to diagnose and treat injuries. Now that we can accurately diagnose and treat an injury how can we support those modalities and get the horse back to work? Let's start out by keeping it simple: what to avoid and what to include.

WHAT TO AVOID

There are two things that should be avoided when creating an equine musculoskeletal rehabilitation program: strict stall rest and free choice pasture turnout although there are exceptions for each. Strict stall rest still has a place in regards to equine injuries. Obviously, a horse that has a third metacarpal fracture repair is going to be placed on stall rest. That being said, there are some rehabilitation modalities that can still be used even when a horse is stall bound. Aside from fracture repair, horses should not be

maintained on strict stall rest. Research has shown that immobilization results in decreased bone mineral density, degeneration and resorption of articular cartilage, muscle atrophy, synovial membrane atrophy, increased stiffness in peri-articular tissues and decreased maximum load to failure in ligaments.⁽¹⁾ More severe changes occur with strict immobilization (i.e. cast placement) but similar changes should still be expected with strict stall rest.

Free choice turnout is another recommendation that should be avoided. Horses are not known for taking good care of themselves. That may be what got them to visit you in the first place. Turnout does keep the horse active but we cannot control their activity level. Repeatedly, horses that have been turned out for a period of time are still lame when they are re-evaluated. Now it is 6 months later and we are still at square one or even worse, we have a more severe injury than we did originally. There are select injuries that do better with increased turnout but those are the exceptions rather than the rule.

WHAT TO INCLUDE

Things that should always be included in a basic rehabilitation plan are scheduled rechecks, which may or may not include imaging, detailed expectations, explicit instructions. If owner's are aware from the beginning that imaging will be repeated they are more likely to be willing to pay for it. Also, if they know they will have to return for re-evaluation they are being held partially accountable for the rehabilitation protocol. Detailed expectations may keep your owner's anxiety reduced. If the owner understands that their horse may still be lame at the 2 week recheck then it isn't a surprise when the horse is still lame. Also, if their owner knows that the horse will not return to work for 6 months, they won't be disappointed when the horse is still tack walking at 3 months. Lastly, providing explicit instructions allows owners to stay focused. It is better to error on too specific than to leave details out that may have been followed.

BASIC REHABILITATION EXERCISES

Making the owner an active participant

It is important that, as veterinarians, we establish our role in the diagnosis of lameness. Our education and experience is valuable. Getting the owner, however, involved in a rehabilitation plan is also important. The veterinarian should make the specifics of the rehabilitation plan but additional strengthening exercises can be added to the plan to allow the owner to choose other strengthening exercises. Frequently, horses went from a minimum of 45 minutes of exercise a day to stall rest and 5-10 minutes of hand-walking. There can be a variety of additional exercises that you can recommend to the owner to fill that additional 35-40 minutes that they would have spent riding their horse.

Range of motion exercises

When a horse is placed on a controlled exercise program following injury we significantly reduce their activity level. With this exercise reduction we may also reduce range of motion. Simple range of motion exercises can be recommended to the owner to try to minimize stiffness in peri-articular tissues.

Pull at the toe for maximum flexion

Push at the toe for maximum extension

Stretching

Prior to each ride stretch the upper body muscles of each front leg. This is achieved by pulling the leg forward and holding it for 5 seconds and then pulling the foot backward and holding for 5 seconds. Repeat 5 times for each leg.

“Carrot stretches” are another stretching exercise that can be done to strengthen the muscles of the horse’s core while they are rehabilitating an injury. This will help stabilize the back and abdomen. It may appear that the horse is only moving his neck but you will see that they are flexing and extending their back as well.

The following exercises should be performed ~ 3 times a week. Each stretch should be performed for 5 repetitions. The goal is to get the horse to hold the stretch for 5 seconds initially and slowing increasing the duration that the horse has to hold the stretch.

1. Extension
 - a. Nose is up and forward as high as the horse can go
2. Flexion
 - a. Chin to chest
 - b. Chin to carpi
 - c. Chin to fetlocks
3. Lateral Flexion (to each side)
 - a. Chin to girth
 - b. Chin to stifle
 - c. Chin to hock or hind fetlock (* only if well tolerated)

Surgical site massage

Deep massage of the surgical site should be performed daily after sutures have been removed. This may help to decrease adhesion formation at the incision site.

Obstacles

When tack walking is re-introduced into a rehabilitation program, you can also incorporate low strain obstacles to keep the owner and horse focused. Ground poles provide the horses something to focus upon and also increase active range of motion. Patterns can improve balance and proprioception. As the rehab program progresses you can increase to raised cavalettis.

CONCLUSION

There are other more injury specific exercises that can be included, such as lateral tail pulls, pelvic tilt, back flexion and extensions and more. These will be discussed in more detail in the lecture. Overall there is a wide range of basic rehabilitation exercises that can be offer to horses and their owners. Creating the right plan for each horse can take time and patience but the end result is worth it.

References

1. Paulekas R, Haussler KK. *Principles and Practice of Therapeutic Exercise for Horses*. J Equine Vet Sci. 2009;29(12):870-93.

