

HEALING STRIDES



A saltwater spa treatment, such as this one at Highlander Fitness & Therapy Center, can help treat soft-tissue injuries

REHAB CENTERS CAN PROVIDE CONCENTRATED EFFORT TO TREAT TENDON INJURIES

By CYNTHIA McFARLAND

IF THERE'S ONE thing that can bring an abrupt pause to a horse's athletic pursuits, it's a soft-tissue injury. Fortunately, veterinary and rehabilitative medicine is better today than ever before, using the latest therapies and modalities to help injured horses heal.

BloodHorse recently talked with officials from some leading rehab centers in three states to learn more about the treatment and rehabilitation options for tendon injuries.

EQUINE PERFORMANCE INNOVATIVE CENTER

Long before veterinarian Alberto Rullan founded Performance Equine Veterinary Services in Ocala, Fla., in 2009, he volunteered to provide veterinary care to horses in underserved areas of South America.

Determined to do more to assist injured horses, he purchased a rehab facility in 2017 and expanded its offerings. Equine Performance Innovative Center is a full-service rehab center in Ocala with the services of Rullan and veterinarian Phillip D. Hammock. The team also includes several certified equine physical therapists.

Modalities include

- Aquapacer above-ground aqua treadmill
- Hyperbaric oxygen chamber
- Swimming pool
- Vertical vibration plate
- Pulsed Electromagnetic Field Therapy (PEMF)
- Therapeutic laser
- Shockwave therapy
- Transpirator II nebulizer therapy

Rullan said horses with a tendon injury can heal and make a comeback when treated early and properly. He said treatment of such injuries needs to go beyond rest.

“One of my biggest frustrations was that in the past it was a common approach to just put the horse in a paddock for 30, 60, or 90 days. It doesn’t work that way,” Rullan said.

Rullan said three important factors are involved for a successful outcome when rehabbing a tendon injury:

- Anatomy—determining the exact location of the affected area and the primary problem.
- Biological treatment—using biologics for tendon healing, as well as treating the primary problem.
- Rehabilitation—creating an individual plan while avoiding the use of steroids.

“Owner economics is another factor, but these three things are crucial for successful tendon recovery,” Rullan said.

While the treatment plan differs somewhat for each individual horse, tendon rehab follows a basic formula. If a horse has a core lesion in the tendon, Rullan emphasizes the use of biologics first because it’s proven to improve healing. Biological treatment is used in the acute stage and is repeated as long as ultrasound reveals a core lesion. Depending on the specific case, Rullan will use stem cell therapy or platelet rich plasma therapy. He shows the clients research on both and lets them decide which biologic treatment they prefer.

“The reason we neglect using any steroids is because steroids are not necessarily helping heal



The Equine Performance Innovative Center near Ocala, Fla., has stall capacity for 42 horses, including two 20-stall barns and a special area in a climate-controlled therapy building with air-conditioned and heated stalls.

the tendon or ligament; they just temporarily decrease pain and inflammation,” he added.

In an effort to avoid the build-up of scar tissue, therapeutic laser is used in the early stages of tendon rehab and throughout the healing process.

“We want to regenerate the tendon without scar tissue forming because when a tendon has scar tissue, it decreases the elasticity and becomes brittle, like a stale rubber band,” said Rullan.

Ideally, the hyperbaric oxygen chamber is used early in tendon rehab because it reduces inflammation significantly and increases stem cell mobilization from the horse’s own bone marrow.

“If a bone marrow aspirate will be done in order to collect stem cells, we put this horse in the chamber for three to four treatments, then collect bone marrow afterward and put it in the tendon,” Rullan said. “Our latest data suggest that adding oxygen chamber treatment in the early stages of a damaged soft-tissue structure can help the recovery.”

Shockwave therapy is used weekly as it further increases blood flow with good healing factors and improves tissue formation. In addition, use of the aqua treadmill assists the rehab process; hand walking also has a role in mobilization and range of motion.

“You can’t just put the horse in a stall because that significantly decreases range of motion,” Rullan

said. "A body in motion tends to stay in motion and this also applies to tendons. You want to stimulate circulation and the elasticity of the tendon."

Rullan adds that he almost always uses therapeutic shoeing when rehabbing horses with tendon or ligament injuries. He finds this addresses primary issues and helps prevent recurring injuries.

As the rehab process continues, both the aqua treadmill and swimming pool can be used to condition the horse in anticipation of returning to athletic endeavors.

"The most common question I get is, 'When is my horse able to go back into training?' That's where we have to remove (economics) from the equation. A lot of people bring horses back too soon because they have training and racing expectations," said Rullan, noting that the amount of time required for full tendon recovery depends on degree of damage and the individual horse.

Ultrasound is used a minimum of every four weeks throughout rehab to determine progress and when a tendon lesion is completely healed.

It's incredibly frustrating for both owner and trainer if a horse goes through rehab and then injures his tendon back in training. Rullan says there are multiple reasons this happens but recurrence can be reduced by determining and addressing the primary problem.

"Tendons are difficult to heal, and ligaments are even more difficult to heal, but a common reason for reinjury is that there is a primary problem that didn't get attended," he noted. "We've discovered time and again that these injuries happen because there's something else wrong. The only horses I see where the problem is only because of a tendon or ligament injury is when there was an accident. Otherwise, the horse has some primary issue that either caused the tendon injury or made the horse susceptible to injury."

Rullan points out that while numerous rehab modalities help improve the quality of fiber alignment in healing, there hasn't been anything to speed the healing process significantly in the past two decades. He said EPIC has preliminary data on treatment modalities that might improve the speed recovery.

KENTUCKY EQUINE SPORTS MEDICINE AND REHABILITATION CENTER

Widely known as KESMARC, Kentucky Equine Sports Medicine and Rehabilitation Center near Versailles has worked with thousands of horses since opening in 2001.

Owner Kirsten Johnson is one of the pioneers of systematic equine rehabilitation. As facilitator, Johnson surrounds herself with an expert team comprising veterinarians, farriers, longtime manager Victor Torres, and KESMARC staff.

Modalities include:

- Hyperbaric oxygen chamber
- Circular swimming pool
 - Aquatred underwater treadmill
 - Cold saltwater spa
 - Thera-plate vibration platform
 - Flexineb nebulizer therapy
 - Bemer blanket and leg wrap therapy
 - Indoor synthetic jogging surface

Each horse receiving any sort of treatment has an attending veterinarian. Johnson said soft-tissue injuries are the most common issue she sees at KESMARC.

"Most of the time when horses come into my facility, the injury they come with is secondary to the problem that caused it. It's something that's been going on and hasn't been discovered," Johnson

said. "Horses are the most compensatory animal on earth and they want to do their job. They'll do whatever they can do to continue moving forward and doing their job until something is finally damaged.

"The first thing is always proper diagnostics by the attending veterinarian, reducing inflammation, and causing no further harm. Beyond that, the recipe of rehabilitation is different for each horse, depending on their veterinarian."

As a critical first step, KESMARC uses the cold saltwater spa and also uses SerKul Ice, a brand new technology of which Johnson has the prototype.

"There is good inflammation (the message to the body that an area needs more blood flow because there's a problem) and bad inflammation. By the time a horse gets to us, it's usually bad inflammation, which is the inflammation

“
WE ARE ALWAYS
LOOKING FOR
A BETTER
QUALITY OF
HEALING, BUT
THE TIME
IT TAKES
CANNOT BE
SHORTENED.”

—KESMARC OWNER
KIRSTEN JOHNSON

that makes the area enlarged and contributes to scarring and improper alignment of the healing,” explained Johnson.

Laser therapy is used throughout tendon rehab to reduce inflammation and stimulate blood flow. The veterinarian in charge of the horse’s treatment plan specifies which type of laser to use. Sessions in the hyperbaric oxygen chamber are added according to the veterinarian’s and owner’s decision. Shockwave therapy can be used, depending on the case.

Biologic therapy also is important when rehabbing tendon injuries and includes options such as platelet-rich plasma and RenoVō (equine amniotic tissue allograft), depending on veterinarian preference.

COURTESY OF KESMARC



Swimming, such as in this pool at KESMARC, allows horses to exercise while not bearing weight

REHAB CENTER

A FULL SERVICE RACEHORSE FACILITY

PREMIER REHAB FACILITY COMPLETE WITH

- AQUA EQUINE TREADMILL
- COLD SALTWATER SPA
- THERAPLATE STALLS
- SALT THERAPY STALL (HALOTHERAPY)
- PERSONALIZED TURNOUT
- SEAMLESS TRANSITION INTO TRAINING

MARGAUX FARM



FOR MORE INFO, PLEASE CONTACT
JULIANNA HAVNAER | CLIENT COORDINATOR
JULIANNA@MARGAUXFARM.COM | (859) 846 4433
596 MOORES MILL RD | MIDWAY, KY 40347
margauxfarm.com

Sessions in the Aquatred underwater treadmill and in the circular swimming pool also play a role in the rehab process.

“When they’re in the Aquatread, they’re buoyant but still bearing weight. Swimming in the pool is the only place they can pump blood up and down the legs with no interruption from weight bearing,” said Johnson. “Controlled loading is an important part of the healing process at the appropriate time, as determined by the veterinarian. There can also be stall rest, depending on the injury, followed by hand walking and some turnout, depending on the individual.”

Each horse is an individual. Johnson said that a horse’s temperament about turnout plays a role in bringing it back from a tendon injury.

In terms of those underlying issues, Johnson said that more than 97% of the horses that come to KES-MARC with soft-tissue injuries have feet issues.

“This has to be addressed in the beginning of treatment for the horse to heal and also, so they don’t reinjure themselves when they go back,” Johnson said. “Rehab is a great time to address the feet because the horse is out of training. It

might be corrective shoeing or just a good trim, but it has to be addressed and the vet makes the decision about this.”

Throughout the entire tendon rehab process, the horse is monitored in concert with the attending veterinarian through ultrasound and diagnostics to be sure progress is being made.

“Ultrasound is usually only needed every 45 days, unless there’s inflammation going on and something serious you’re looking at,” said Johnson. “The only reason you’d ultrasound more frequently is in a critical situation or if the horse’s comfort level is going in the wrong direction, but usually once the horse is in a controlled setting, they don’t regress.”

At times, blood work might be necessary. Johnson has found that if a horse isn’t healing properly in rehab, it’s possible there’s something wrong metabolically or hormonally. This even can happen with young horses.

“Every injury has a different dynamic. Each veterinarian has their own process they feel works best, but in the end the one thing I believe needs to be acknowledged is time. We are always looking for a better quality of healing, but the time it takes cannot be



A horse enters the in-ground treadmill at the Highlander Fitness & Therapy Center



Highlander Fitness & Therapy director Shannon Ritter (left) and veterinarian Ali Broyles examine a horse

shortened,” said Johnson. “For a racehorse with a soft-tissue injury, a slow comeback is always the best and there are no guarantees. I’ve seen horses with career-ending injuries come back and become stakes-caliber, but I’ve also seen other horses who had lesser injuries never make it back.”

HIGHLANDER FITNESS & THERAPY CENTER

Conveniently located within easy shipping distance of nine major racetracks, Highlander Training Center was opened in 2017 by Dallas businessman and longtime Thoroughbred owner Larry Hirsch. Highlander is situated on 189 acres near Sulphur Springs, Texas, 70 miles east of Dallas.

In April 2021, the operation opened its Fitness & Therapy Center, offering services to outside Thoroughbred clients in addition to horses boarding at Highlander. Modalities include

- Cold saltwater spa
- Aqua treadmills (both in-ground and above-ground units)
- Vibration plate floors in two stalls

- Regenerative laser
- Pulsed Electro Magnetic Field Therapy (PEMF)
- Nebulizer

Shannon Ritter, director of the Fitness & Therapy Center, brings decades of racehorse experience to her position. Ritter was a jockey for eight years before working as an assistant trainer to Elliot Walden. She was a successful trainer herself for 12



“

THE FIRST THING IS TO HAVE VETERINARY ASSESSMENT IMMEDIATELY IF YOU THINK SOMETHING IS HAPPENING WITH A TENDON.”


—HIGHLANDER DIRECTOR SHANNON RITTER




KESMARC

Kentucky Equine Sports Medicine And Rehabilitation Center


The world leader in equine rehabilitation and hyperbarics
Specializing in respiratory and throat issues of the racehorse.




Equigym



Aquatred



Swimming



HBOT Chamber

- ✓ Hyperbaric Oxygen Therapy
 - ✓ Cold spot
 - ✓ Aquatred
 - ✓ Pool
- ✓ Theraplate
 - ✓ Laser
 - ✓ Euro Walker
 - ✓ And great turn out

258 Shannon Run Road • Versailles, KY 40383
 Office 859-873-9955 • Kirsten Johnson (Owner) 859-983-9481
 kesmarcellc@aol.com • www.kesmarc.com

years and also worked as rehabilitation manager at WinStar Farm near Versailles, Ky.

Treatment for horses in rehab falls under the supervision of veterinarian Ali Broyles of Equine Sports Medicine & Surgery in Weatherford, Texas. With tendon injuries, Broyles will ultrasound the tendon and come up with a treatment plan.

In the acute stages, the cold saltwater spa is crucial for reducing inflammation and relieving pain. Saltwater has increased density and can deliver temperatures that effectively are colder than ice, making it especially helpful for soft-tissue injuries.

"A 10-minute session in the cold saltwater spa will do more than 30 minutes standing in an ice tub," Ritter said. "The spa also has hydrotherapy, which we can turn on for a whirlpool effect to help stimulate circulation."

"We use the regenerative laser throughout the healing process with tendon injuries, usually three times a week for the first month. We have a class IV laser

INTERESTED IN MORE ON THIS TOPIC?



Alberto Rullan is discussing lameness and treatment options in a video series with Frank Angst available at BLOODHORSE.COM/PLUS.

that is different from low-level laser therapy," added Ritter, explaining that because high-power laser therapy allows deeper penetration of tissues, the treatment process is more efficient.

Because laser therapy accelerates cellular regeneration, it can help injuries heal faster. The laser also helps break down old scar tissue and helps prevent new scar tissue from forming. Like Rullan, Ritter agrees that scar tissue reduces elasticity and limits mobility of the tendon.

Ultrasound and rechecks by the attending veterinarian determine how much laser therapy is required with a tendon injury. As healing continues, the aqua treadmill becomes part of the process.

"We have both in-ground and above-ground units. With

tendon rehab, we use the in-ground aqua treadmill because it offers more buoyancy," said Ritter, noting that this controlled weight-bearing exercise stimulates the remodeling process. "Once the tendon can withstand some stress, the time in the aqua treadmill provides controlled exercise in a balanced way. It is more controlled exercise than jogging on the track.

"Sometimes a horse will develop inflammation during the process once you start putting a little stress on the tendon, so you might alternate between the aqua treadmill and cold saltwater spa, if needed."

Although owners and trainers want to know a timeline for healing, Ritter says it all depends on the severity of the injury.

"If you're just dealing with inflammation, the timeline for rehab is different than if you have a lesion in the tendon," she said. "The first thing is to have veterinary assessment immediately if you think something is happening with a tendon."

As Ritter notes, most trainers are checking legs every day to stay on top of any situation before it can become a problem.

"At the track, we 'ice' horses all the time. Here, we can use the cold saltwater spa as proactive therapy to prevent injuries, or, if you have a horse with an old tendon injury, the spa can be proactive to keep inflammation from developing," she said.



DR. AMY ROCK, DC, CVCP, LLC
 Licensed & Certified Veterinary
 Chiropractor

(859) 940-5696

<http://www.rockequine.com>

P.O. Box 526
 Versailles, KY 40383

*Providing The Highest Level of
 Chiropractic to the
 Equine Athlete!*

Published Author in Multiple Equine
 Publications, Including the
 Blood-Horse Stallion Register