

FEATURE

Purposeful Horseplay

Patients are riding horses to therapeutic and rehabilitative success, led by PTs trained in hippotherapy.

By Michele Wojciechowski | March 2019

A young woman we'll call Sally seemed to have it all. She had been married for a year to the love of her life, had a new job as a teacher, and had many friends. The daughter of a pastor of a large church, Sally was popular and happy. But when she returned to her office one night to retrieve an item she'd forgotten, all that changed.



Sally's car was t-boned in a major accident. Her injuries were extensive, and she went into a coma. After finally regaining consciousness, Sally, a formerly active woman, needed to use a wheelchair and was profoundly ataxic.

When Carol Huegel, PT, began working with her, Sally already had been through other rehabilitation programs, with fair success. But she still was ataxic and using the wheelchair. Huegel—chair of the American Hippotherapy Certification Board (AHCB), a certified hippotherapy clinical specialist, and a faculty member of the American Hippotherapy Association (AHA)—incorporated hippo-therapy into Sally's physical therapy plan of care.

Over time, her balance improved so significantly that she was able to walk with a

walker. "She saw such a difference," says Huegel, who has incorporated hippotherapy into her treatment plans since 1982. In addition, Sally's life also changed for the better when she became pregnant, and physicians told her that her health had improved enough to sustain the pregnancy. She and her husband now have 2 healthy children.

What Hippotherapy Is and Isn't

According to AHA, "the term hippotherapy refers to how occupational therapy, physical therapy, and speech-language pathology professionals use evidence-based practice and clinical reasoning in the purposeful manipulation of equine movement to engage sensory, neuromotor, and cognitive systems to achieve functional outcomes. In conjunction with the affordances of the equine environment and other treatment strategies or tools, hippotherapy is part of a patient's integrated plan of care.

"Simply put," AHA continues, "hippotherapy refers to the use of equine movement (the movement of the horse) as a treatment tool within occupational therapy, physical therapy, or speech-language pathology treatment."¹ (For more information, see "Hippotherapy: Benefits and Research" on page 31.)

Bonnie Cunningham, PT, MA, MPA, further clarifies that hippotherapy is not a standalone treatment. Rather, it's used as part of an integrated physical therapy treatment plan.

"There are no hippotherapy programs," Cunningham explains. "Hippotherapy is a strategy, a tool, and an intervention. The goals are medical—to address medical needs, impairments, and functional limitations." She is a certified hippotherapy clinical specialist, as well as a past president of AHA, the organization's first executive director, and an AHA faculty member. Cunningham has taught and presented about hippotherapy nationally and internationally. "It's not the same as therapeutic riding—what AHA calls adaptive riding," she adds. "Therapeutic riding is an educational model to teach riding skills, not to address medical concerns."

"Hippotherapy is not meant to replace traditional therapy. It's meant to be an adjunct—something that's used in addition to traditional clinic therapy," says Trish Evans, PTA, of JF Shea Therapeutic Riding Center in San Juan Capistrano, California. In her role as a certified hippotherapy clinician, Evans says that the relationship between PT and PTA in that arena is the same as a traditional PT-PTA relationship would be in a clinic. "The therapist does an evaluation, then I help

support the client work on his or her weekly goals."

Although hippotherapy often is associated with pediatric patients, Huegel and many other PTs have used it with people of all ages, up into their 80s.

The clinicians who spoke to *PT in Motion* have implemented hippotherapy with patients with numerous conditions, including multiple sclerosis (both remitting-relapsing and chronic-progressive), traumatic brain injuries (TBIs), incomplete spinal cord injuries, cerebral palsy, autism spectrum disorder, stroke (adults and children), Parkinson disease, spina bifida, Down syndrome, developmental delays, DiGeorge syndrome, Prader-Willi syndrome, arthrogryposis, genetic and chromosomal disorders, spinal muscular atrophy, muscular dystrophy, and Pompe disease.



Healing on Horseback

Hippotherapy provides a kind of intervention that cannot be replicated in a clinical setting. "A horse moves through space using the same 3-dimensional movement that a human does. Therefore,

if a human is sitting on top of the horse and the horse's movement is being specifically managed and manipulated in a therapeutic way, that patient isn't just sitting on top of the horse. The therapist manipulates the movement to achieve specific outcomes and balance reactions for the patient's body," explains Susie Rehr, PT, a certified hippotherapy clinical specialist and the executive director of New Jersey-based Special Strides.

"In the clinic, I can get the patient to move in only 1 or 2 planes. It's hard to move in that third-dimensional plane, which gives individuals the diagonal and rotational motion that is so critical to sophisticated movement. The horse can do that," she says.

"Being outside in nature makes hippotherapy not feel like an element of therapy," says Cunningham. It's also tactile, she notes, in that patients get to feel the horse, and that makes a difference—as does the bond between horse and patient. For

example, Cunningham recalls a boy with autism and physical issues. The first day of treatment was unsuccessful. The team decided to change the horse. The next day, the patient had a breakthrough.

"This was a boy who never related, never made eye contact, and didn't even act as if he knew he was on a horse," Cunningham says. "When he got off the horse, he turned around and hugged it. To see this child who never made any kind of deliberate physical contact with anything turn around and hug his horse—it was unreal."

Another benefit of hippotherapy, the PTs report, is that the horse moves through space. "That movement through space and the visual flow is essential to the development of postural response and sensory integration of the motor system and of functional use of balance reaction," explains Rehr. "All of this work changes the pressure gradient in the trunk by the smooth activation of our flexors and extensors—which is continuous when the patients are on the horse, because they're constantly adapting to the forward and backward translation of motion. They're also changing their thoracic and abdominal pressures, which affects their respiratory function and postural control. Patients are enhancing breath control and breath support with every step they take."

Rehr says that patients with special needs or physical challenges frequently have ribcages that didn't develop properly, and as a result their abdominal and thoracic pressures—which are essential to breathing—are more difficult to regulate. "Through all of this dynamic flexion and extension, we're activating the diaphragm and facilitating breath control and postural control simultaneously. This helps PTs, occupational therapists [OTs], and speech-language pathologists [SLPs] because all of their patients need to breathe properly. The integration of hippotherapy strategies helps enhance breath support—both for postural control and functional speech," Rehr says.

Inclusion of hippotherapy into patients' plans of care also helps with visual motor integration—especially for those on the autism spectrum. "When they look forward, the amount of visual information they take in is huge. Everything coming at them looks like it's attacking them," says Rehr. "If we turn them rear facing on the horse, we've just cut their visual field by a third. Now they're looking as things disappear because we're walking away from those things. That's a lot easier to deal with emotionally and helps patients learn how to process, integrate, and organize the visual information so they can have appropriate postural and sensory motor responses."

Rehr describes hippotherapy as one of the most integrated therapeutic interventions used in physical therapy. "When a client transitions onto a horse, it's like a client learning to transition into a bathtub. It's the same motor plan," she says. "I don't have to guess if this is working; I test it every day. I know I'm affecting a functional outcome."

In addition, Rehr explains that while a horse's movements are predictable in, say, an arena, therapists also can take the horse into 100 acres of surrounding woods so that clients can experience differences in surface predictability. She recalls an adult client with cerebral palsy with whom she worked. Integrating hippotherapy in the woods has given her the ability to walk in the woods with her husband because she now can step over roots and around rocks. "She can do it because she felt the movement while she was on the back of a horse," says Rehr.

When treating adults, Lori Garone, PT, MS, says implementing hippotherapy into a plan of care is somewhat different from implementing it into a pediatric treatment. "Adults already have developed skills and lost them to an impairment in the body, so treatment is about habilitation and rehabilitation. With children with developmental disabilities, on the other hand, it is about creating the opportunity and preparing the system to develop with noncompensatory patterns," Garone says.

As a certified hippotherapy clinical specialist as well as the academic clinical coordinator and a professor at South University in Virginia Beach, Virginia's PTA program, Garone incorporates hippotherapy into her teaching. "We take a day trip to a barn, and the students see how patients' pelvises move while on the horse. I also let them watch hippotherapy in treatment on video—we can keep replaying specific parts so they can really see what is happening," she says.

The Power of Teamwork

Hippotherapy is always about teamwork; PTs are never alone. Cunningham says that a horse handler—someone who is trained in working with horses, knows how to "read" horse behavior, and can anticipate potential environmental problems—leads the horse, following the directions given by the PT, who walks on one side of the horse. On the other side is a volunteer "side walker" or possibly 2. "This differs based on the needs of the patient. Some are so involved that they need 2 side walkers in addition to the PT and horse handler," she says. "The patient's needs drive what the team looks like."

But this isn't the only way in which teamwork takes place. PTs might co-treat with OTs, SLPs, or both. "We'll work at the same time with the same child," says Georgia Merrifield, PT, MS. She's been using hippotherapy for 25 years, and while she's technically retired, she spends a full day a week at Treehouse Therapy in Bend, Oregon, working with 8 clients who use hippotherapy at Healing Reins Therapeutic Riding Center. "I may ask the horse handler to do a different movement with the horse, while the other therapist is doing something else with the patient."

Rehr says that PTs can and do co-treat with OTs or SLPs just as they would in other clinical settings. "Every treatment is team oriented," says Evans. "Even when we don't co-treat, we talk with the OT or SLP so that we all know each other's goals. There is a lot of cross-discipline work."

Garone also knows the benefits of co-treating. "I can be working on balance, postural control, or stabilization while an OT on the other side of the patient is asking the child to track a toy, or an SLP can work on linguistics while I'm working on postural control and respiration," she says. "It's important to know what each therapist is working on. Hippotherapy helps all of us to organize the sensory system before we ask for a motor task."

"In situations where I've co-treated, I've had by far the best outcomes," says Huegel.

Starting From Scratch

At Beyond Therapy in Schulenburg, Texas, PTs, OTs, and SLPs frequently work together. In fact, the owner, Tonia Livingston, SLP, made a joint decision with her employees to get trained to begin implementing hippotherapy with their clients. "We talked about it, researched it, and decided that for a lot of our children, it would help them make significant gains in a number of ways," she says. "We realized that engagement and progress achieved by patients in physical therapy directly correlated with improvement in speech therapy. This treatment approach helps connect the dots between postural alignment and feeding/swallowing function, as well as speech sound production."

The staff received Level I training through AHA. (Level I is a 4-day introductory level course. Level II is an advanced 4-day course.) "We did work online first, then went to training in Waco. We had both class training and arena training," says Tanner Guentert, PTA.

A private family foundation that prefers to stay anonymous has provided a state-of-the-art covered arena, so Beyond Therapy can use their horses, arena, and land. Turtle Wing Foundation provides scholarships for children who can't afford the services but could benefit from them, and the Dallas Stars Foundation (of the Dallas Stars pro hockey team) provided a \$10,000 grant for startup and equipment purchases.

Schulenburg is a rural area, and Beyond Therapy provides services for acute care patients from a local hospital. But it also receives patients from Austin, an hour away, and Houston, 90 minutes away.

The clinic recently began testing hippotherapy. "I know a few patients who will benefit from working with horses, so we've been preparing them to be on the back of a horse," says Guentert. "For example, I have 1 patient who will sit on a 'peanut' ball to practice lateral trunk and anterior pelvic movements to increase core stability and improve postural alignment."

Where to Find Facilities

PTs in various settings—from hospitals and rehab centers to private practices—may implement hippotherapy as part of their patients' treatment. But where do they do it? According to Garone, "A therapist who does not have horses or the property for horses to implement hippotherapy into a patient's plan of care needs to establish a relationship with a facility that has horses and the ability to offer them the environment they require—such as a clinical therapy room, arena, HIPAA-compliant offices, and space.

"They can contact local riding establishments, as well as the Professional Association of Therapeutic Horsemanship International and Eagala centers [programs of the Equine Assisted Growth and Learning Association]," Garone continues. "These organizations train instructors and certify their member centers so people with special needs can enjoy horseback riding adapted to their needs, as well as the equine environment."

Reimbursement

As with any physical therapy practice, some that incorporate hippotherapy are cash-based. Others may bill insurance. Either way, the therapist bills according to the appropriate CPT code for the service. "There is no CPT Code for hippotherapy. The billing code used could be for therapeutic exercise, gait training, neuromuscular reeducation—whatever describes the treatment you're

doing," Garone says.

If a PT is co-treating with another therapist, billing may be more difficult; an insurance company may not cover it. "That's an issue across the board. The therapist and/or patient needs to check with the insurance company to see if this is allowable for reimbursement," Garone says. There may be grant money or even scholarships for pediatric patients to cover the PT, OT, or SLP's therapy treatment.

She says that she wishes insurance would cover co-treatment because "it saves more money in the long run. The patient's outcomes may be reached faster, as we've gotten great results when this is done."

Equestrian PTs? Yes and No

While you don't need equestrian experience to implement hippotherapy, some PTs do have a history with horses. "My mother said that when I was born, I came out



neighing," jokes Garone, who has ridden horses her entire life. "I loved owning horses even before I knew about hippotherapy. It was just a natural progression for me."

Huegel owned a horse as a child but says her riding background was not strong because her parents couldn't afford formal riding lessons. "Everything I did was by the seat of my pants," she admits. When she married, she told her husband that someday she wanted to own horses. So, they took continuing education riding courses through the local community college and learned from the same instructor who had taught actor Burt Reynolds how to ride for movie roles. When the mother of a patient with cerebral palsy told Huegel that she knew horses could help her daughter, Huegel looked into hippotherapy—and fell in love with it.

Although Cunningham began riding when she was a child, she didn't begin to do so competitively until she was an adult. Even then, she says, she did it more to set and achieve goals than for the competition. She discovered hippotherapy when her horse trainer told her that a nearby stable was working with horses and children with disabilities. "I began working with them as a volunteer in 1987," says

Cunningham. "It was fantastic."

Livingston and Guentert also learned to ride horses early in life, with Livingston riding in rodeos and Guentert riding at an arena next door to her family's home. Guentert rode in small rodeos that were hosted by family and friends.

Evans, Merrifield, and Rehr had no previous riding experience when they began using hippotherapy. Evans incorporated hippotherapy because "I thought it sounded interesting." Rehr became hooked after learning about integrating hippotherapy and the quick outcomes it facilitates. "I can't imagine doing anything else. I joke that I'm an academic equestrian," she says.

All of the PTs and PTAs interviewed for this article said they also love hippotherapy because their patients do. "A lot of our younger clients don't get to play soccer or basketball, so, while this is therapeutic, it also gives them a unique activity," says Evans. "Even though it's their therapy, it gives them something special to talk about with friends."

Michele Wojciechowki is a freelance writer and frequent contributor to PT in Motion.

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Hippotherapy: Benefits and Research

Differences matter. Hippotherapy benefits patients in a way that no other exercise can, according to the American Hippotherapy Association (AHA). Because an average horse walks at a rate of about 100 steps per minute, patients perched on a walking horse for 5 minutes receive 500 neuromotor inputs. This means that in a therapy session of 15 to 25 minutes, patients have between 1,500 and 2,500 opportunities for neuromotor learning to take place.

Training is necessary. Hippotherapy is not as simple as placing a patient on the back of a horse and letting the horse move. "It's manipulated by the therapist, and it's a skilled service," says Lori Garone, PT, MS. PTs who implement hippotherapy into a comprehensive plan of care undergo training with AHA. They can take AHA Level I and Level II courses, and they can sit for 2 different exams to become certified by the American Hippotherapy Certification Board as either a certified hippotherapy clinician or a certified hippotherapy clinical specialist. (For more information on hippotherapy and training, visit AHA's website at www.americanhippotherapyassociation.com.)

Not all horses are the same. Georgia Merrifield, PT, MS, says she likes to ride horses to see what their movements are like. "Just as people walk differently, horses do, too. If they have a bit of a choppier movement, that works well with kids with autism. Horse choice is extremely important," she says.

Safety first. "We make sure that all of our volunteers are trained and receive ongoing training," says Trish Evans, PTA. "The whole team has to know the horse—its movement, body language, and temperament. Our number one priority is that everyone—the client, the horse, and every team member—is in a safe situation."

Feeling the movement. Garone says that clients continue to feel the movement of hippotherapy after the treatment is finished—much like when someone has been on a boat all day and still feels the movement after disembarking. She cites the example of an 8-year-old girl who used a weighted reverse walker. When the girl got off the horse after her first treatment, "she took off; she just started walking without the walker

because her body felt the movement. Her mother broke down in tears," recalls Garone.

Saddles? Yes and no. PTs use bareback pads, blankets, and different kinds of saddles for hippotherapy. It depends on the patient, says Bonnie Cunningham, PT, MA, MPA. Patients wear helmets and may use other equipment—again, depending on the patient and what he or she needs to accomplish.

Don't call them hippotherapists. Cunningham says that in the United States, there are no hippotherapists—they are hippotherapy clinicians. In Europe, though, "they get additional certification—and then they're certified hippotherapists," she explains.

Research shows that it works. Quite a bit of evidence-based research has concluded that using hippotherapy is effective. In children with spastic bilateral cerebral palsy (CP), Gross Motor Function Measure and Pediatric Balance Scale values improved significantly.¹ According to another study, hippotherapy significantly improved adductor muscle asymmetry in other patients with spastic CP.² In a pilot study on children with CP, hippotherapy was found to improve head and trunk stability.³

As for adult patients, gait velocity and step length asymmetry ratio improved in patients with stroke.⁴ Hippotherapy improved balance and functional gait, and enhanced how some adults with multiple sclerosis process sensory cues for postural control.⁵

Mechanical horses? Engineers are developing mechanical horses that they say could replace actual horses for people in urban environments. Garone disagrees. "I talked with some people who were developing a mechanical horse. Turns out, none of them had ever been on a real horse." She got them on actual horses and put them in different positions. Only then, Garone says, did the mechanical horse developers realize how their bodies felt. "Afterward, I said to them, 'When you can reproduce that, I'll come and sit on your machine,'" Garone says.

Comments

I live in Kentucky, where would be the nearest clinic for me to start my certifications?

Posted by Tracey Huff on 3/2/2019 12:19:55 PM

I am not a physical therapist but have worked in Vocational Rehabilitation & as an Accessibility Specialist & have teaching beginner riding lessons as my love ! Any suggestion as to where I could fit professionally!?

Posted by Jan on 3/2/2019 2:57:27 PM

Do you have any information regarding professional liability insurance cost for a certified provider of Hippotherapy services.

Posted by Honani Polequaptewa on 3/3/2019 1:45:24 PM

You guys ROCK! This is an AMAZING article. So comprehensive and easy to read. THANK YOU! I am in the process of presenting Hippotherapy to the Cayman Islands Health Practice Commission to have it approved in practice for the first time here and this article will surely be instrumental to assist in the presentation of the subject.

Posted by Lisa Vasquez on 3/3/2019 8:07:36 PM

I appreciated getting the updates together with comprehensive info. In one article. A great presentation for laypeople as well.

Posted by Fran Judd on 3/13/2019 2:39:28 AM

Michele did an excellent job with this article. If anyone has questions, please go to the AHA website - listed above. If you don't see what you're looking for, feel free to contact me at hippopt@aol.com

Posted by Carol Huegel on 3/18/2019 3:56:23 PM

They are people speak spanis in that, Mané Stream.?

Posted by Jose Maneiro - Hermo on 4/9/2019 5:53:31 PM

NO ONE HAS A RIGHT TO SAY THAT HIPPO THERAPY IS NOT A STAND ALONE TREATMENT- IT HAS BEEN AROUND FOR THOUSANDS OF YEARS AND IT MUST BE PROTECTED AS A THERAPY- I WILL DO THAT

Posted by ATHENA TSAKOPOULOS on 10/2/2019 1:06:47 AM

I have been a PTA for 27 years and would like to get certified as a hippotherapy clinician or hippotherapy clinical specialist. I live in Magnolia Texas. Would you

have any suggestions on where to start? Thank you in advance for your help.

Peggy

Posted by Peggy symmank on 1/7/2020 6:39:56 PM

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