

THAT'S ENTERTAINMENT:

Giving New Meaning to
The Term 'Healing Arts'



PTs and PTAs are using singing, dancing, and even magic to help improve patient outcomes.

By Keith Loria

In the 21st century, physical therapists (PTs) are tapping into many forms of participatory entertainment to help their patients. Many are using music in a variety of ways. Some PTs evoke vaudeville acts for senior citizens with memory impairment. Some even practice magic to improve patients' gross motor function, improve strength and balance, and relieve pain.

Employing the performing arts in physical therapist practice can be rewarding for patients and clinicians alike. Since motivation is important to clinical success, the motivating power of the arts can help produce quicker healing.

THE DANCE ADVANTAGE

Since 2005, Gammon M. Earhart, PT, PhD, director of the Program in Physical Therapy within the Washington University School of Medicine in St Louis, has been studying the benefits of tango dancing for balance, walking, and other aspects of function among people with Parkinson disease (PD). Additionally, over the past few years, her program has examined the effects of music and singing on walking performance among that population.

"Tango and other dance classes for people with PD now are offered around the nation and the world," she observes. "Our studies suggest that dancing for

an hour twice a week is sufficient to convey gains. Elements of dance also can be incorporated into treatment sessions," she notes, such as strategies to promote turning, walking backward, and other specific movements.

One study compared people with PD who danced twice a week for an entire year with people who continued their typical activities without any specific exercise prescription. The results showed that the trajectory of the disease process was less steep in those who danced the tango.¹ Other studies have explored the effects of tango versus other types of dancing, the benefits of tango versus treadmill use or stretching, the pluses of tango versus ballroom dancing for rehabilitation, and whether telerehabilitation can be used when working with patients doing the tango.²⁻⁷

While Earhart's data suggest improvements at the group level with dance, patients also self-report the ways in which they feel dance has helped them. For example, she recalls, 1 patient said that after dancing for 3 months, he noticed how much more easily he could walk and move within his home. He was excited to report that he could go to his closet, get his slippers, then take a few steps backward to get out of the closet. Before, he would get stuck because he was unable to move backward safely.



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GAMMON M. EARHART



“Our reasons for using dance include building core musculatures, increasing lower extremities strength, increasing balance...and dancing is fun!”

EUNICE SHEN

“We have seen people with mild to moderate PD improve, with the greatest improvements noted for those with the greatest mobility impairments prior to beginning to dance,” Earhart says. “Our studies require that people are able to walk independently for at least 10 feet.”

Eunice Shen, PT, DPT, PhD, physical therapy education coordinator with California Children’s Medical Services, Department of Public Health, started integrating dance into her therapy sessions in 2005.

“As a consultant and volunteer in my community, I started working with a high school freshman who was identified as having a learning disability and motor planning problems,” Shen says. “She could not pass a regular physical education class and was referred by her Individualized Education Plan [IEP] to take an adaptive physical education class at her high school.”

This student was assigned to take a dance class recommended by the IEP planning team, but the teen had difficulty learning the movements and lacked adequate coordination and balance. Her family asked Shen to evaluate and work with her so that she could participate in the dance class.

Based on her evaluation of this patient, Shen provided a short-term physical therapist intervention of 60 minutes twice a week for 8 weeks to improve the teen’s coordination skills. Shen also contacted a local dance instructor, and the 2 provided private lessons to the teen for 1 hour, 1 or 2 times a month, for 3 months. Shen videotaped the teen

learning the dance steps and used the footage as part of her home education program.

Since then, Shen and her team have used dance as a component of physical therapy and occupational therapy for children with various medical conditions and diagnoses, including juvenile idiopathic arthritis, cerebral palsy, ataxia, Erb’s palsy, brain cancer resulting in poor balance and walking ability, and mild arthrogryposis.

“Our reasons for using dance include building core musculatures, increasing lower extremities strength, increasing balance, learning movement sequences and creative movement requiring balance, increasing body awareness, encouraging creativity, increasing flexibility and mobility, increasing



group interaction, increasing participation, and encouraging community reintegration,” Shen says. “And,” she notes, “dancing is fun.”

HITTING THE RIGHT NOTES

Older adults with dementia retain the ability to sing familiar songs and play musical instruments late into the disease. In a recent presentation to the American Physical Therapy Association of Massachusetts, Sara Knox, PT, DPT, said that music therapy has been shown to enhance communication in people with dementia and to increase cognitive functions such as speech and attention. There’s even evidence to suggest that music therapy can decrease aggression, agitation, and wandering. Knox, associate chair of the Department of Physical Therapy at the MGH Institute of Health Professions in Boston, is a board-certified clinical specialist in geriatric physical therapy.

Over the past 2 years, Cindy Flom-Meland, PT, director of clinical education at the University of North Dakota’s School of Medicine & Health Sciences, has been teaming up with a music therapist to bring together students from each program at the school to work with clients living with neurological impairments, activity limitations, and participation restrictions.

“We paired 2 physical therapy students and 1 music therapy student with a client in our community, and they worked together for 13 weeks,” she explains. “Weeks 1 and 13 were assessment weeks. During the middle 11 weeks, they provided collaborative intervention for the client under my direct supervision and that of the music therapist.”

Based on assessment findings and the client’s goals, a plan of care was developed including both physical

therapy and music therapy. The 3 music therapy techniques employed were rhythmic auditory stimulation (RAS), patterned sensory enhancement (PSE), and therapeutic instrumental music performance (TIMP).

“RAS was more beneficial with gait activities, PSE with sit-to-stand transitions and step taps, and TIMP with reaching activities,” Flom-Meland says. “The assessment measurements included the Timed-Up-and-Go [TUG], cognitive TUG, 5-times-sit-to-stand [FTSTS], Berg Balance Scale [BBS], gait analysis with use of GaitRite, and a quality-of-life measure. The majority of clients improved in several of these assessments.”

For example, one client improved her TUG time from 58 seconds with minimal assistance at week 1 to 35.34 seconds with contact guard assist by week 13, and her FTSTS improved from 38.66 seconds to 22.81 seconds. Another client improved her BBS from 33/56 to 45/56 and her FTSTS from 19 seconds to 11.16 seconds.

“We also were able to simulate ‘beach walking’ for one client who had a vacation planned with her family and wanted to walk rather than be pushed in a wheelchair. This meant the world to her, and it was such a joy to hear about her vacation when she returned,” Flom-Meland says. “The music the music therapist used was based on the client’s preferences, so the client found it motivating. It was fun to see how the music and techniques used in conjunction with facilitation from the PT helped clients move better and improve in functional status. We truly are better together.”

Donna Frownfelter, PT, DPT, MA, program director of the transitional doctor of physical therapy (DPT) program at Rosalind Franklin University of



Medicine and Science in North Chicago, Illinois, has been using music and imagery in physical therapy for years. Lately, though, she’s seen it change.

“I always was involved with music—from church choirs to musical groups in high school to performing in musicals—and have long incorporated music and imagery with my patients who have difficulties relating to cardiovascular and pulmonary performance,” she says. She became even more involved when her daughter, Lauren Frownfelter Viljamaa, MT-BC, who taught music for 15 years, went back to school to become a music therapist.

Over the past 2 years, the 2 found commonalities and opportunities to collaborate, and developed ways to optimize patient outcomes with both music and therapy. They presented a session at APTA’s Combined Sections Meeting earlier this year outlining the concepts of combining physical therapy and music therapy, and demonstrating applications in practice.

“I have used music with my patients, and I used it myself when I had my knees replaced. I have seen its effect on patients—either getting them more involved with activity and motivated in pulmonary or cardiac rehab programs, or calming them during stressful procedures,” Frownfelter says. “Many PTs have seen the literature regarding

benefits for people with neurological impairments such as CVA [cerebrovascular accident], autism, and Parkinson disease but are not as aware of music’s benefits for people with CVP [cardiovascular and pulmonary] issues.”

When she sends patients home with a walking program, Frownfelter has identified music that motivates them and is fun to listen to while walking the recommended 30 minutes a day. The music therapist, she notes, can help identify the appropriate pace of walking and can include music with faster or slower paces to encourage the desired gait.

“Virtually anyone can benefit from music with activity, but evidence [from studies conducted] with doctors and nurses has shown that music has a very positive effect on people with CVP issues by producing desired decreases in vital signs and providing a sense of well-being and motivation,”⁸⁻¹² Frownfelter says. “I am interested in patients who were hospitalized not being re-hospitalized with CVP issues. Activity, exercise, and airway clearance can help.”

Frownfelter also recently has begun collaborating with a music therapist at a local hospital. They team up to play music during procedures that patients may find frightening, difficult, or painful—such as magnetic resonance imaging and pre-surgery angiograms.

She has seen success with having patients listen to Mozart—seeing heart rate, blood pressure, respiratory rate, and cortisol levels decrease. Furthermore, she notes, in some intensive care units music is played to have a calming effect.

“The music needs to be preferred or self-selected—not just something someone decides to play for a patient,”



“Every number has a specific balance, gait, or cardiovascular intention hidden in the dance and choreography. As a result, the participants push themselves harder and have fun while working on specific issues.”

CHRISTINE CHILDERS

Frownfelter says. “Some music can trigger negative memories and can be disturbing rather than calming, so care must be taken to optimize the experience.”

Other researchers also have found benefits to music. For example, in addition to her positive experiences with dancing, Earhart was involved in a study that showed promise for singing as an effective cueing technique that may be as good as or better than traditional cueing techniques for improving gait among people with PD.¹³

BLASTS FROM THE PAST

Christine Childers, PT, assistant director of the DPT program at the University of St Augustine in San Marcos, California, has developed a program around movement and music that uses choreography themed to music appropriate for patients who are older—such as songs that were popular when those individuals were considerably younger.

“I conduct a 60-minute workout with older adults, including those in assisted living and memory care units,” she says. “It is an intensive workout, but every number has a specific balance, gait, or cardiovascular intention hidden in the dance and choreography. As a result, the participants push themselves harder and have fun while working on specific issues.”

Like Frownfelter, Childers presented a session at CSM this year. Titled “Can Treating Geriatrics Be ‘Sexy’?”

Yes, by Adding Evidence, Movement, and Music,” Childers’ presentation explained her program of incorporating music and movement into interventions to improve balance, strengthening, and functional mobility.

Childers first started using music when she was asked to conduct an afternoon activity session at an assisted living facility. At the time, she was working on an assignment involving cognitive and self-efficacy theory that emphasized performance accomplishment or prior mastery of a skill.

“I know that many members of our current geriatric cohort—the so-called ‘Silent Generation’—danced as a hobby and that dance venues were where they hung out on weekends,” she says. “I decided to put the 2 things together—dancing themed to incorporate physical therapy concepts that were critical for aging adults, such as balance strategies.”

Childers primarily conducts movement and music sessions at assisted living facilities, using students from her program in a service learning capacity. That, she says, helps them learn to better communicate with older adults—and to see how hard they safely can push them.

“Any of our older adults can benefit from this type of exercise concept, as it increases their physical activity, which is a primary component for fall prevention,” she says. “The themed work also can focus on specific balance deficits. It

also can be used with individuals with a specific diagnosis, such as Parkinson disease, as we can incorporate the concepts of increasing amplitude of movement.”

ABRACADABRA

Kevin Spencer has been working with providers and their patients for more than 20 years using simple magic tricks to accompany therapy. He founded Healing of Magic when he realized the challenges of motivating patients during a long rehabilitation.

“I developed a systematic, organized approach to using magic tricks” to give PTs and occupational therapists [OTs] another tool in their therapeutic programs,” he says. “The most important aspect of this technique is the client’s ability to transfer the skills learned by performing magic tricks into activities of daily living. Learning and performing magic tricks offers them a means to safely explore their skill level while providing a fun way of reaching therapeutic goals.” He has received approved provider status from the American Occupational Therapy Association (AOTA).

He started using magic for treatment after becoming involved in a serious car accident when he was in his late 20s. Learning and performing magic became an important part of his own recovery.

“Each magic trick I learned improved my motor skills and strength, and increased my independence,” Spencer says. “It also bolstered my confidence and self-esteem, helping to reshape my self-concept—something that is crucial for every recovering patient.”

Spencer recently worked with physical therapist students at the University of Iowa, teaching them how to tie “magical” knots, make a wand seemingly float in the air, and make rubber bands



jump from finger to finger. He explains that each of these tricks has implications for physical therapy.

“Performing magic tricks as a therapeutic intervention is merely the incorporation of task-specific manual exercises specifically designed to achieve rehabilitation goals,” he says. For example, learning to “magically” tie a knot in the middle of a rope can be used to improve upper-body range of motion, strength, and standing balance; and can help build core strength.

“Because learning a magic trick is intrinsically motivating, I have seen many patients make faster progress in their rehabilitation because they are focusing on learning the trick,” Spencer says. “In more traditional forms of therapy, patients may simply tolerate



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KEVIN SPENCER



the activities rather than become fully engaged in them.”

Richard Shields, PT, PhD, FAPTA, attended the university workshop and, as reported in a local newspaper, said afterward, “This is powerful. The interface between any treatment and being effective on humans is motivating them.” Shields is chair of the university’s Department of Physical Therapy and Rehabilitation Sciences.

“Motivation” is a word that comes up time and again when PTs talk about the patient’s attraction to magic. Following the presentation of a continuing education program for rehabilitation therapists at Elon University, Charity Johansson, PT, PhD, an Elon professor, said, “The fact that magic tricks do not look like work is what makes them so effective when integrated into a

therapeutic program. The activities are inherently engaging and motivating. And because performing a magic trick is intrinsically rewarding, patients tend to practice the task far more readily and extensively than when performing more tedious exercises designed to achieve the same goals, thus facilitating more rapid achievement of their goals.”

Spencer’s workshops are designed for PTs, OTs, and speech-language pathologists, and sometimes a combination of all three. Following a workshop at Somerset Medical Center in Somerville, New Jersey, Nancy Morasso Reger, PT, MHS—the facility’s Director of Rehab Services—said: “This course focused on the utilization of simple magic tricks and their integration into the therapeutic interventions for physical, occupational, and speech therapy patients....I appreciated the fact that

[Spencer] challenged the class, both physically and mentally, to analyze how a simple trick related back to therapeutic interventions addressing multiple patient goals: cognitive, perceptual, psychosocial, and motor.”

Applications of magic as a treatment technique address a broad spectrum of patient populations. These include patients with developmental disabilities, mental health conditions, physical disabilities, geriatric rehabilitation needs, and specific disease-related deficits.¹⁴ “The technique can be used effectively with a wide variety of patient ages and diagnoses,” Johansson says. For many years, incorporating magic into therapy has successfully been used in acute care, rehabilitation, outpatient hand therapy clinics, and pediatrics, Spencer says.

Kevin Spencer (right) teaches a magic trick to a young patient with paraplegia.

Spencer's Healing of Magic isn't the only program that includes magic as a rehabilitative intervention. Magician and illusionist David Copperfield initiated "Project Magic" in 1982. In describing the program, one study comments: "It was similar to 'Healing of Magic' in that it recognized the overlooked power of incorporating magic into the therapy program of patients bouncing back from head trauma and spinal cord injuries. Occupational and physical therapists, clinicians, and other healthcare professionals had voiced their satisfaction of Copperfield's innovation."³ AOTA endorsed Project Magic in 1982 and gave Copperfield its Health Advocate Award in 1988.^{15,16}

Rehabilitation programs employing magic also can be found in other countries. For example, Great Britain's Breathe Magic program—operated by the not-for-profit organization Breathe Arts Health Research—incorporates magic tricks into an intensive therapy program to help children who have conditions such as hemiplegia. A 10-day summer camp for youth aged 7-19 includes not only magic but also circus skills, costume design, and theater production. The magic tricks, the organization explains, "are designed to develop hand and arm function, cognitive abilities, self-confidence, and independence."¹⁷

Magicians from The Magic Circle—a worldwide society dedicated to promoting the art of magic—work alongside PTs and OTs. The camp culminates in a final magic show that the young people perform accompanied by Magic Circle magicians. The camps are followed by 3 day-long Breathe Magic Club meetings over 6 months, plus 1-to-1 therapy in group settings for individually tailored interventions. A "next step" program allows youth who attended the camp to

advance their magic abilities and add new skills such as origami and juggling.

Taking a different approach is Chicago-based Open Heart Magic's "Bedside Magic" programs. The organization establishes partnerships with hospitals and assigns a specific magician to visit children at a set time each week. Program representatives may visit partner hospitals up to 3 times a week.

The program trains volunteers to be bedside magicians. The training is structured to take individuals with no magic experience "and turn them into confident entertainers who can engage even the most hard-to-reach child. This

may be a child in pain, a child in the burn unit, or a child in isolation due to a suppressed immune system."¹⁸ Although the program focuses less on rehabilitation than do some of the others, it nevertheless emphasizes the existence of a therapeutic element: "When kids learn magic tricks they can perform for family members, friends, and hospital staff, it helps them regain a sense of control, confidence and hope."

ARTS FOR ALL

Earhart believes partnering with local artists is a great way to help patients. She encourages patients, for their part,

THE RIGHT STUFF TO TREAT ACHES AND PAINS.

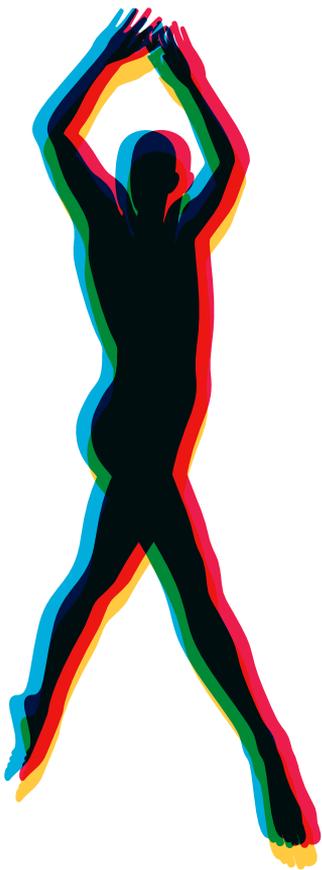
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to seek out opportunities in their area supported by national groups, such as the American Parkinson Disease Association.

“With the movement system expertise of a physical therapist paired with the dance expertise of a community partner, dance can be integrated into physical therapy sessions, then continued over the longer term in community settings,” she says.

Spencer’s website, MagicTherapy.com, offers training for PTs who want to learn several research-based magic tricks and explore the therapeutic goals for each one. Spencer also notes that simple magic tricks can be found online. The key, he says, is identifying routines that will challenge patients without discouraging them.

“Magic is as universal as is music,” he says. “It is perhaps the oldest of all the performing arts because it so easily translates from one culture to another. But magic also taps our curiosity—and curiosity is a powerful motivator. The social aspects of learning a magic trick encourage a patient to learn and practice the trick many times before showing it to anyone. Each time they practice, they are doing their therapy.

And performing the trick for a family member or friend can provide positive social experiences and help them reintegrate.”

In Childers’ opinion, anyone can use music to encourage patients to participate in their rehabilitation and recovery. It can be as simple, she suggests, as asking patients about their favorite music, then adapting the exercise program to the music.

“This encourages increased participation, makes clients push themselves harder and—because it is fun—has much more impact than would a basic exercise program,” she says. “The concept is based on a solid, well-established theory, and anything that increases physical activity in our older adult population is a ‘win.’”

Flom-Meland has worked mostly with patients who have some type of neurological health condition—such as CVA, PD, or brain tumor resection with resultant hemiplegia. However, she says, the benefits of collaboration between PTs and music therapists aren’t limited to people with these conditions. Patients with dementia and with movement difficulty related to a condition can benefit, as well.

“The expertise of 2 different professionals comes together for the good of the client,” she says. ■

Keith Loria is a freelance writer.

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