

THE WAITING ROOM

THIS WAY IN

Nia for Parkinson's Disease

BY OLGA RUKOVETS

More and more research is finding that exercise may be particularly helpful for people who have neurologic conditions—with benefits seen in movement, balance, and even cognition. For example, in people with Parkinson's disease (PD), studies have found that mind-body practices such as tai chi create positive changes in mobility and stress levels. (See <http://bit.ly/WdjHjO>, <http://bit.ly/YJGXWU>.)

Lisa Shulman, M.D., professor of neurology at the University of Maryland School of Medicine, director of the Maryland Parkinson's Disease and Movement Disorders Center, and Fellow of the American Academy of Neurology, has studied the positive effects of exercise on people with PD. For example, she recently completed a study comparing treadmill walking to resistance exercise (using weights) in people with PD. "We found that patients with PD who did the treadmill exercise improved their cardiovascular and aerobic conditioning but not their muscle strength. And those patients who used weights showed an improvement in muscle strength, but not in aerobic conditioning," Dr. Shulman says.

In other words, various types of exercise can be beneficial—just not all in the same way. For PD in particular, mindfulness—paying attention to body movements—may be an important element of exercise because many patients experience a disconnection between the mind and body, according to Dr. Shulman.

Mindfulness is central to the exercise practice known as Nia, which has become increasingly popular among people with PD. Debbie Rosas, co-creator of Nia, tells *Neurology Now*, "Walk into a Nia class for PD and you'll see people of many ages—some standing, some sitting, some with their caregivers—guided to move in their own way and in their own time. You'll see whole-body movement and detailed movements of the fingers, feet, pelvis, chest, and head. You'll hear people using their voices and singing to help integrate the breath and body."



MUSIC AND MOVEMENT
Gloria A. Howard-Mello connects with a fellow Nia practitioner.

THE ORIGINS OF NIA

As a young child, Rosas experienced several medical conditions—all affecting the senses in some way, she recalls. She had constant ear infections, severe dyslexia, and a lisp—all of which were barriers to communication with teachers and peers in school. "I always felt different," she says. Her experience with "the body," she says—as if to underline that it didn't feel like *her* body—was one where "there was something wrong with me. I felt that everybody else had intelligence that I didn't have."

Rosas graduated from high school and attended community college. But after the birth of her second child, she experienced serious depression. Someone suggested she try exercise as therapy. When she began to exercise, Rosas says, the depression lifted.

In 1976, Rosas and a friend created an exercise studio called The Bod Squad. But six years later, Rosas felt something was missing. So with Carlos AyaRosas (her then-husband and colleague), she created Nia, a sensory-based movement practice that draws from martial arts, dance, and healing arts. Rosas,

who is now 62 years old, continues to teach, practice, and train new teachers in Nia. She still believes in "the wisdom of the body—that everybody can learn, everyone can feel better, no matter if they're well or not," she says.

NIA FOR PD

Nia is taught in 49 countries by 2,500 teachers. Classes are open to anyone, with or without a specific medical problem. However, many people with chronic health conditions—such as PD, fibromyalgia, autism, arthritis, and cancer—have found Nia beneficial.

Recently, Nia has been incorporated into several compre-

"In Nia, we ask the body, 'How can we move you towards pleasure and out of pain?'"

—CAROLINE KOHLES

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hensive treatment programs for PD. For example, the Edmond J. Safra Parkinson's Wellness Program, a partnership between New York University Langone Medical Center Parkinson's and Movement Disorders Center and the Jewish Community Center (JCC) in Manhattan, incorporates Nia in their efforts to treat PD through medicine, therapy, exercise, support, and community engagement.

Amy Lemen, L.C.S.W., a clinical neurology social worker and the program supervisor, says, "We've developed a welcoming hub for the PD community. Some people with PD experience isolation, shame, and stigma. We've really worked to reduce that as much as possible through education, engagement, and action."

When she learned about Nia, Lemen recalls, "It was like a light bulb turned on. We realized that Nia was a perfect fit for our PD patients because it incorporates movement, rhythm, vocalization—and it's fun. Also, Nia aims to take advantage of the brain's ability to adapt—even to injury and disease—throughout life." The response has been enthusiastic. "In our other fitness classes, we try to keep a low student to teacher ratio of 8 to 10, but we've had an overwhelming response to Nia, with some classes as large as 25 people," Lemen notes.

Nia has not been studied for its effect on PD symptoms. However, some studies have shown improvement in PD with tai chi, Dr. Shulman tells *Neurology Now*. "Tai Chi focuses on balance and mindfulness of movement, a philosophy which seems to be shared by Nia."

Some people with PD say Nia has helped them with balance, strength, endurance, and vocalization. Anecdotally, Lemen says, they are hearing a lot of stories from participants about their increased confidence in mobility, as well as the benefits to depression and anxiety. "They're getting a sense of 'I can do this,'" in the Nia group.

Caroline Kohles, senior director of health & wellness at the JCC, teaches classes on Nia for PD. "In any Nia class, we work with patterns and repetition," she says, noting that repetition can be very helpful to people with PD who are trying to enhance their movement and speech. She also makes room for robust self-expression. "One of the things that I do specifically with my students who have PD is to get them to sing. Since PD affects the voice, I really want them to be as expressive as possible," she says.

Most importantly, Kohles says, "we want people to have a good time. If they are having a good time, they will remember the movement and engage in it more deeply."

Some people with PD feel like their bodies have betrayed them, Kohles tells *Neurology Now*. "But in Nia, we ask the body,



NIA FOR PD Top: The Nia: Music and Movement class at the JCC in Manhattan. Bottom: Regis Duval practices Nia hand movements.



"How can we move you towards pleasure and out of pain?"

Nia can be practiced by individuals at any stage of PD—from newly diagnosed to very advanced. Kohles has some students in class who exercise in their chairs and some caregivers who accompany them. "We just do not discriminate in any way—Nia embraces every *b-o-d-y*," she says.

When Kohles asked her PD students what practicing Nia does for them, they told her: "Nia gets me out of the house," "It helps us be fluid in all of our parts," and "It uses *all* of us."

Of course, you should see your primary care practitioner before enrolling in an exercise program, Dr. Shulman advises, regardless of whether or not you have a neurologic disorder. But in particular, "people with problems with balance need their exercise programs tailored for their individual needs to avoid the risk of falls," she says. Dr. Shulman tells her PD patients that exercise is one area where they can do something important for themselves, and the best outcomes over time will come from a "combination of standard medical care, including medication, plus routine weekly exercise."

Visit nianow.com, parkinson.med.nyu.edu/wellness-center, or jccmanhattan.org/parkinsons for more information and class schedules. And see page 40 of this issue for a "Speak Up" essay about dance for people with PD.

NEUROLOGY NEWS

New Concussion Guideline from the American Academy of Neurology

Over the past few years, newspaper headlines containing the word “concussion” have become disturbingly common. Much of the time, coverage has focused on professional athletes. But concussion—which can occur when force is applied to the head, with or without impact—affects people of all ages. Among 15- to 24-year-olds, sports are second only to motor vehicle accidents as the leading cause of concussion, according to the Centers for Disease Control and Prevention. More than one million athletes experience a concussion each year in the United States.

In response, the American Academy of Neurology (AAN) has released an evidence-based guideline for evaluating athletes with concussion. This new guideline, which replaces the 1997 AAN guideline on the same topic, has been endorsed by a broad range of athletic, medical, and patient groups, including the National Football League Players Association, the Child Neurology Society, the National Association of Emergency Medical Service Physicians, the National Association of School Psychologists, the National Athletic Trainers Association, and the Neurocritical Care Society.

“Among the most important recommendations the AAN is making is that any athlete suspected of experiencing a concussion immediately be removed from play,” says co-lead guideline author Christopher C. Giza, M.D., with the David Geffen School of Medicine and Mattel Children’s Hospital at UCLA and a member of the AAN. “We are recommending that concussion be assessed in each

Signs and Symptoms of a Concussion

- ▶ Headache and sensitivity to light or sound
- ▶ Changes to balance, coordination, reaction time
- ▶ Changes in memory, judgment, speech, or sleep
- ▶ Loss of consciousness or a “blackout” (happens in less than 10 percent of cases)

NEUROBICS

The Cocktail-Party Effect

Listening, as with all perception, is an active process. We don’t pay equal attention to all the sounds in our environment. Instead, we actively focus on what we are interested in and largely ignore everything else. For instance, if you are talking to someone at a crowded party, you focus on what the other person is saying and ignore other speakers. You can also deliberately shift your attention to focus on another conversation. But you can’t pay attention to two conversations at the same time. Psychologists call this sort of selective attention the cocktail-party effect.

Here is a visual version of the cocktail-party effect. In each illustration below I’ve superimposed two wise quotations. Can you shift your attention to read one quotation, then other?

Battered to light
is candle
extinguish the
darkness

The change
you see
the heart
for hearing

These puzzles were adapted from the book *The Playful Brain: The Surprising Science of How Puzzles Improve Your Mind*, by Richard Restak and Scott Kim (Riverhead Books 2010). For more information, visit theplayfulbrain.com. — Scott Kim, scott@scottkim.com

ANSWERS ON P. 15



SOME OF THE KEY FEATURES OF THE AAN'S NEW CONCUSSION QUICK CHECK APP

- ▶ Common signs and symptoms of concussion
- ▶ What to do if the athlete appears to have a concussion
- ▶ When it is okay for the athlete to return to the game
- ▶ Where to find a neurologist near you
- ▶ State laws on concussion
- ▶ The AAN new evidence-based guideline for diagnosing, treating and managing sports concussion

athlete individually. There is no set timeline for safe return to play.”

Extra caution should be taken with athletes of high school age and younger, as evidence shows that they take longer to recover from a concussion than college athletes.

“If in doubt, sit it out,” said lead study author Jeffrey S. Kutcher, M.D., a sports neurologist with the University of Michigan Medical School in Ann Arbor and a member of the AAN. “Being seen by a trained professional is extremely important after a concussion. If headaches or other symptoms return with the start of exercise, stop the activity and consult a doctor. You only get one brain; treat it well.”

However, while an athlete should immediately be removed from play following a concussion, there is insufficient evidence supporting absolute rest, according to the authors.

The guideline was developed by reviewing all available evidence related to concussion in sports published between 1955 and June 2012. In recognition that scientific study and clinical care for sports concussions involves multiple medical specialties, a broad range of expertise was incorporated in the author panel. The authors analyzed more than 9,000 scientific studies to develop the guideline, and at least two authors independently analyzed and graded each study on the strength of its evidence.

Visit <http://bit.ly/SwSWbF> for the complete collection of *Neurology Now* articles on concussion. The AAN's new app, Concussion Quick Check, can help coaches and athletic trainers quickly recognize the signs of concussion. Available for the iPad, iPhone, and Android devices, the app can be found in the iTunes store or the Google Play store. A mobile version is available at aan.com/concussion. —Mike Smolinsky

What the New AAN Concussion Guideline Says



- ▶ Among those sports evaluated in the studies, the risk of concussion is greatest in football and rugby, followed by hockey and soccer. The risk of concussion for young women and girls is greatest in soccer and basketball.
- ▶ An athlete who has a history of one or more concussions is at greater risk for being diagnosed with another concussion.
- ▶ The first 10 days after a concussion appears to be the period of greatest risk for being diagnosed with another concussion.
- ▶ There is no clear evidence that one type of football helmet can better protect against concussion over another kind of helmet. Helmets should fit properly and be well maintained.
- ▶ Licensed health professionals trained in diagnosing and managing concussion should look for ongoing symptoms (especially headache and foggy), history of concussions, and younger age in the athlete. Each of these factors has been linked to a longer recovery after a concussion.
- ▶ Risk factors linked to long-term neurologic problems in professional athletes include prior concussion, longer exposure to the sport, and having the apoE4 gene.

ADVOCACY

The 2013 World Parkinson Congress

In 2004, the director of the National Institutes of Health, Elias Zerhouni, M.D., suggested the Parkinson's disease (PD) community from around the globe—researchers, clinicians, patients, and caregivers—should come together to share information and experience. He hoped such a meeting would help them expand their knowledge and find a common voice. Robin Elliott, executive director of the Parkinson's Disease Foundation, agreed. He promoted the idea to Stanley Fahn, M.D., H. Houston Merritt Professor of Neurology and Director of the Center for Parkinson's Disease and Other Movement Disorders at Columbia University Medical Center in New York, NY, and Fellow of the American Academy of Neurology. With Dr. Fahn on board, the non-profit World Parkinson Coalition was established.

"The sole mission of the World Parkinson Coalition is to host the World Parkinson Congress (WPC) every three years. No other group globally could take this task on," says Elizabeth Pollard, the executive director.

The WPC is unique in the PD community in that it welcomes everyone under the same roof, according to Pollard: doctors, researchers, patients, caregivers, and families. "I found it fascinating to attend sessions for patients and families, and to see that other scientists were there to learn more about patient needs and concerns," says Story Landis, Ph.D., Director of the National Institute for Neurological Disorders and Stroke.

The meeting's value became obvious to Pollard at the first WPC, in Washington, D.C., in 2006. She remembers speaking to a renowned Swedish scientist who called the meeting "amazing." He'd brought a number of his junior scientists to the event and discovered it was the first time many of them had ever met someone with PD.

The third meeting will be held this year in Montreal, Canada, from October 1 to 4. Funding comes from participant registration fees and philanthropic support, including donations from corporations (mostly pharmaceutical but some non-pharmaceutical) and foundations. This year's donors include the National Parkinson Foundation, the Parkinson's Disease Foundation, Parkinson Society Canada, and the Michael J. Fox Foundation for Parkinson's Research.

Dr. Fahn says the challenge is establishing a program that is valuable and accessible to all. "How do we create an event that interests everyone?"

"We want to feature cutting-edge science, but we also need to keep information accessible to people who aren't scientists," Pollard says.

Previous WPCs have included sessions that allow attendees to actively participate as they learn more about PD. The 2010 WPC

featured dance and tai chi lessons in addition to lectures such as "Olfactory Impairment and Other Pre-motor Symptoms in PD," "Progress Toward a Diagnosis of Pre-Motor PD," and "Deep Brain Stimulation and Parkinson's Disease."

The first WPC was designed mostly by healthcare professionals, with little input from people with PD, but "that has completely changed now," Pollard says. As evidence of this, Dr. Fahn mentions the plenary talks that are given each morning of the event: a topic such as the genetics of PD will be discussed through the lenses of researchers, doctors, and patients alike. The unique perspective brought from each view helps paint a broader picture of the disease—and generates interest and excitement.

"A real buzz comes out of these meetings," Dr. Fahn says. "The patients and caregivers bring a sense of reality to it. They are encouraged by the research and in turn encourage the scientists and doctors to keep moving forward. People in the PD community who might not talk to each other regularly are able to communicate."

The WPC also has an effect on the venue that hosts it. "We tell them ahead of time that we're not coming to your city just to have you host a meeting," Pollard says. "Our objective is to

make sure the people who live with PD in that city are better off than when we came." Hotel general managers, airport staff, and city taxi drivers are all invited to free instruction.

"It's like PD 101—the 10 things you need to know to help someone with PD," Pollard says.

But the most important legacy of the WPC is the work that results from it. A group of international nurses who met at the 2006 event joined forces to write the book *Comprehensive Nursing Care for Parkinson's Disease*. Heather MacTavish's book *Songs, Science and Spirit* came to fruition after her attendance at the 2006 WPC. The collaboration between a German scientist and a person with PD from England who met at the 2010 WPC resulted in a recent grant of 2.4 million Euros for the development of a "PD patient-friendly interface for equipment at home that helps the patients." At least two people with PD who attended recent WPCs returned home motivated to set up patient advocacy organizations in their native countries—one in Australia, the other in South Korea. And it was while preparing his video submission to the 2010 WPC that Carl Hernz, who has PD, discovered that the 1925 silent film *Phantom of the Opera* was actually filmed in 3-D. Hernz has since meticulously reconstructed the film to its original format and hopes to use it to raise funds for PD research.



NEUROBICS ANSWERS CONTINUED FROM P. 13

Better to light a candle than to curse the darkness. —Chinese proverb

Real knowledge is to know the extent of one's ignorance. —Confucius

Be the change you want to see in the world. —Mahatma Gandhi

The mind is for seeing, the heart is for hearing. —Arabic proverb