

# On The Move!

The official newsletter for the University of Colorado Movement Disorders Center

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## In This Issue

Exercise for PD .....	1
tES for Cervical Dystonia...	2
Meet the Team.....	2
Upcoming Events .....	3
Calling All Artists .....	3
Ongoing Classes .....	3
MDC is Expanding .....	4
Research Recruitment .....	4
Get Involved! .....	4

## Exercise for Parkinson Disease

By: Brian Berman, MD, MS

We all know that exercise is good for us and there is growing evidence that exercise may even protect brain cells from dying in degenerative neurological disorders. There are still, however, many unknowns when it comes to prescribing exercise to those diagnosed with Parkinson disease. For example, what types of exercise are safe for newly diagnosed Parkinson disease patients? And what dose of exercise is best for treating its motor symptoms? These questions were recently addressed, and the answers published, by investigators affiliated with the University of Colorado Movement Disorders Center.



In a clinical trial known as the Study in PARKinson's disease of eXercise or "SPARX" trial, a total of 128 participants with a recent diagnosis of Parkinson's disease from four sites across the country were enrolled in a 6-month study of the safety and effects of a treadmill exercise program. Participants were randomized to exercise three to four times a week with their heart rates kept for 30 minutes at either 80-85% of their maximum heart rate (high-intensity) or at 60-65% of their maximum heart rate (moderate-intensity). Changes in their motor symptom severity at the end of the study were compared to a control group of participants who did not engage in the prescribed exercise program.

The results of the SPARX trial showed that individuals with recently diagnosed Parkinson disease can safely exercise on a treadmill three times a week at moderate-

and high-intensity levels. Additionally, the results showed that those who were assigned to the high-intensity exercise had no worsening in their motor symptoms at six months as assessed with the Unified Parkinson Disease Rating Scale (UPDRS). Participants in the moderate-intensity exercise group, however, did show some worsening in their UPDRS scores (about

1.5-point increase) as did those in the control group (about 3-point increase).

This study was the first of its kind to test the effects of high-intensity exercise on participants with Parkinson disease. Another strength of the study is that none of the participants enrolled were taking dopaminergic

medications to treat their motor symptoms, which helped ensure that the results of the study were related to exercise and not affected by medication. These findings help support that high-intensity exercise is safe in those with newly diagnosed Parkinson's disease and that 30 minutes of this type of exercise three times a week may help slow the progression of motor symptoms.

The results of the SPARX study were published in 2018 in JAMA Neurology (Volume 75, Issue 2, pages 219-226). The principal investigator and lead author of the study was Margaret Schenkman, PhD, Associate Dean for Physical Therapy Education at the University of Colorado Anschutz Medical Campus. Co-investigators and co-authors from the University of Colorado Movement Disorders Center included Brian D. Berman, MD, MS, and Benzi M. Kluger, MD, MS.

# Transcranial Neurostimulation for Cervical Dystonia

By Brian Berman, MD, MS

Thanks to the generous philanthropic gift from Mary Rossick Kern and Jerome H. Kern, Brian D. Berman, MD, MS, has launched a study to investigate the effects of transcranial electrical stimulation on brain function in participants with cervical dystonia and test whether the stimulation technique has the potential to lessen its motor symptoms.

Deep brain stimulation has been successfully used to treat Parkinson's disease, tremor, and dystonia, as well a variety of other neurological and psychiatric conditions. This type of surgical treatment, however, can cause adverse effects in some patients and not all patients are eligible or interested in undergoing the implant procedure. Transcranial electrical stimulation methods, which use scalp electrodes to deliver low levels of current through the skull to the brain cortex, could provide an alternative treatment approach for these neurologic conditions without requiring an invasive surgery. Studying the effects of transcranial electrical stimulation on brain function and its potential to treat a variety of neurologic and psychiatric conditions are exciting and growing areas of research.

Cervical dystonia is a neurological disorder that causes excessive and often painful neck muscle contractions and leads to abnormal neck postures and movements. While botulinum toxin injections and some medications can be partially helpful, new and better therapies are needed.

## **Transcranial electrical stimulation for the treatment of cervical dystonia**

The Department of Neurology is looking for people with Dystonia to participate in a Research study examining the differences in how the brain works in people with Dystonia compared to healthy controls.

### **Main Procedures Involved:**

- Magnetic resonance imaging (MRI)
- Transcranial magnetic stimulation (TMS)
- Transcranial electrical stimulation (tES)

### **Inclusion criteria:**

- 18 years of age or older
- Diagnosis of adult onset Cervical Dystonia
- Right-handed
- On a stable dose of all medications for the past month

### **Exclusion criteria:**

- Any contraindication to MRI scanning, TMS or tES
- Must not have had injection of botulinum toxin within the past 10 weeks
- Any other significant medical disease, including other neurological disorders
- Significant cognitive impairment

Please contact Nicola Haakonsen at 303-724-4644 or [nicola.haakonsen@ucdenver.edu](mailto:nicola.haakonsen@ucdenver.edu) to learn more and see if you qualify.

## **Meet the MDC**

### **Team:**

*Christina Vaughan  
MD, MHS, MS  
Assistant Professor*



Dr. Vaughan joined the Neuro-palliative section of Neurology in August 2017. Her interest in neurology is long-standing as she was inspired by the neurodegenerative illnesses of two close family members. Upon completion of her predoctoral fellowship at the National Institute of Neurological Disorders and Stroke (NINDS), she pursued a MHS in Mental Health from the Johns Hopkins School of Public Health. She received a grant from the American PD Association (APDA) to conduct research with The Morris K. Udall Parkinson's Disease Research Center of Excellence and continued at Johns Hopkins to work on clinical research in PD. Although the research was stimulating, Dr. Vaughan realized she was more interested in taking care of patients with neurologic disease and decided to pursue a career in Movement Disorders as a physician.

She went to medical school in her home town at the State University of NY at Buffalo. She was awarded a summer fellowship through the PD Foundation (PDF) to participate in research in deep brain stimulation in PD and pursued this at the University of Pennsylvania. She completed residency and served as Chief Resident at the University of Pittsburgh Medical Center and then completed a two-year fellowship in Movement Disorders at Rush University Medical Center. While at Rush, and for several years afterwards, she served as the Medical Advisor to the Help Line with the PDF. Once training was completed she worked as a movement disorders specialist at the Medical University of South Carolina for four years. During this time she had the opportunity to serve as Associate Program Director for the neurology residents, fellowship director for the Movement Disorders program, and faculty advisor for the medical Student Interest Group in Neurology. After several years of practice, she realized she wanted to broaden the scope of the care she could provide and went back to training for one more year and completed a fellowship in Palliative Medicine/Hospice in San Diego, CA. Dr. Vaughan considered this training one of the highlights of her career and thoroughly enjoyed learning more about comprehensive care of patients and families.

She is thrilled to combine her background and palliative medicine training with a position in the Neurology Department at CU and enjoys being part of such a wonderful team.

# Upcoming Events

## HD Care and Research Conference

**WHAT:** an educational event covering topics on Huntington disease, including genetics, research, palliative care, and management of symptoms.

**WHEN:** Saturday, May 05, 2018  
9:00 AM—12:00 noon

**WHERE:** CU Anschutz Medical Campus, Aurora, CO  
**WHO:** Individuals with HD, families and friends impacted by HD, health care providers, and anyone interested.

This event is **FREE** and open to the public, but **registration is required**.

For more information or to register, please visit <http://HDConference.ucdenvermovement.org> or contact Sarah Rogers ([sarah.rogers@ucdenver.edu](mailto:sarah.rogers@ucdenver.edu)|303-724-8655).

## 5th Annual PD Symposium

**WHAT:** an educational conference about Parkinson disease covering topics such as medications, nutrition, exercise, research, advanced treatments, and many more

**WHEN:** Saturday, October 27, 2018  
Time TBD

**WHERE:** CU Anschutz Medical Campus, Aurora, CO  
**WHO:** Patients, families, and caregivers affected by Parkinson disease.

This event is **FREE** and open to the public, but **registration is required**.

For more information or to sign up to be among the first to know when registration opens, please contact Nicole Leith ([nicole.leith@ucdenver.edu](mailto:nicole.leith@ucdenver.edu)|303-724-8984).

# Calling All Artists!

**Logo Search** The Movement Disorders Center is looking for a logo for our center and we would like to invite our movement community to submit their ideas. Our ideal logo will encompass the spirit and mission of the MDC. If you would like more information or to submit your art to be considered for our logo, please send your work to [ucdenvermovement@ucdenver.org](mailto:ucdenvermovement@ucdenver.org).

**Art for 2018 PD Symposium** The Movement Disorders Center will host our first ever silent auction at our 5th Annual Parkinson Disease Symposium on October 27, 2018. In addition to raising funds for our center, we are excited to show off the artistic talents of our community. Proceeds from the auction will help support the many parts of the Movement Disorders Center, including (but not limited to) patient education, training future Movement Disorders specialists, and research.

If you are interested in contributing your art or for more information, please contact Nicole Leith at [nicole.leith@ucdenver.edu](mailto:nicole.leith@ucdenver.edu) or 303-724-8984.

# Ongoing Classes

The Movement Disorders Center is proud to encourage patient and caregiver advocacy by offering several ongoing classes to help further education.

Our **Newly Diagnosed Parkinson Disease** and our **Advanced Treatment Options for Parkinson Disease** Small Group Educational Sessions are offered on an alternating monthly basis. These classes include a brief presentation from a PD specialist, an open discussion in a small group setting, and handouts for support and resources. Light snacks and coffee are provided. Thanks to a generous donation from Acadia Pharmaceuticals, these classes are offered free of charge. Newly diagnosed classes take place Thursday of every other month from 1:30-3:30 PM. Advanced treatment classes take place on the second Tuesday of alternate months. Both classes are held in the UCH Anschutz Outpatient Pavilion. To register, please call 720-848-2195 or visit <https://neurologyevent.ucdenver/mdc>.

**PD SELF** is a national pilot program of the Parkinson Foundation that provides people who have been diagnosed with PD for fewer than three years with an in-depth understanding of the disease and the self-efficacy tools to manage it with confidence. The program is delivered by a health care professional and a person with Parkinson disease who are both trained in the application of self-efficacy for PD. The class meets once a month for 2.5 hours for nine months. There is no cost to attend. For more information, about PD SELF in Denver, contact Hal Pottle at 303-319-0626 or [hal@halpottle.com](mailto:hal@halpottle.com). PD SELF is being conducted in Denver with collaboration of the UCDenver Department of Neurology Movement Disorders Center.



# The MDC is Expanding!

As part of an continual effort to increase the community we are able to serve, the Movement Disorders Center is expanding to more satellite clinics.

## **Boulder Family Medicine and Specialty Clinic**

5495 Arapahoe Avenue, Boulder, CO 80303 | P. 720-848-9200

Dr. Heather Baer, Dr. Brian Berman, and Dr. Drew Kern now see patients at the Boulder Family Medicine and Specialty Clinic. Dr. Baer sees patients every Tuesday and Friday at this location. Dr. Berman sees patients on the second and fourth Fridays and Dr. Kern sees patients every Thursday afternoon and on the first and third Fridays.

## **Lone Tree Health Center**

9548 Park Meadows Drive, Lone Tree, CO 80124 | P. 720-848-2200

Christen Epstein, NP continues to see patients every Monday and Friday for return-visit appointments at our Lone Tree clinic.

## **Anschutz Medical Campus**

1635 Aurora Court, Aurora, CO 80045 | P. 720-848-2080

All of the Movement Disorders Center faculty continue to see patients at our main location on the Anschutz Medical Campus.

# Get Involved!

Our world-class team of physicians and researchers are dedicated to providing the highest quality of care for patients today while developing cures and novel treatments for tomorrow.

Private support is essential to pushing the boundaries of science and bringing life-changing research and care to the patients who need it most. With your support, we will continue providing the region's most comprehensive patient care and conducting innovative research that will transform healthcare around the country.

## **Learn how you can help:**

Carrie Radant Flynn  
Carrie.Radant@ucdenver.edu  
303-724-9146  
giving.cu.edu/parkinsons

## **We're always looking for patients interested in research. We're currently looking for the following patients:**

- Patients with Parkinson disease who have problems with thinking or memory
- Patients who have recently diagnosed, early stage Parkinson disease
- Patients with Parkinson disease and a wearing off of medication or dyskinesias
- Patients with Parkinson disease and an interest in a brain imaging study
- Patients with Parkinson disease and needs for supportive care or challenging symptoms
- Patients with dystonia or blephrospasm diagnosis
- Patients who have cervical dystonia and an interest in a brain imaging study
- Patients with Huntington's disease
- Patients with Essential Tremor, Progressive Supranuclear Palsy, Corticobasal Degeneration, or Multiple Systems Atrophy
- Patients with a diagnosis of ataxia
- Patients who have Parkinson disease with tremor and an interest in medical marijuana

For more information or to get involved with our research, please contact our Research Recruitment Specialist.  
303-724-4644

## **Do you have an event you would like to share with the community?**

We are happy to include relevant events on our website!

Please e-mail Nicole Leith (nicole.leith@ucdenver.edu) the details, including flyers and registration sites.

## **Stay Informed**

- Join our mailing list and receive updates on events, research, and more. Visit [ucdenvermovement.org](http://ucdenvermovement.org), click on "Resources" and then "Subscribe."
- For upcoming events, classes, and other resources, visit [ucdenvermovement.org](http://ucdenvermovement.org) and click on the "Resources" tab.
- Do you have a topic that you would like to see covered in our newsletter? E-mail your idea to us and we'll try to cover it in an upcoming issue: [ucdenvermovement@ucdenver.edu](mailto:ucdenvermovement@ucdenver.edu).