The University of Colorado Movement Disorders Center: Past, Present and Future

By Benzi M. Kluger, MD, MS

Movement disorders are neurological illnesses that slow movement (e.g. Parkinson’s disease), add extra movements (e.g. tremor, dystonia, tics, Huntington’s disease) or interfere with coordination (e.g. ataxia). The University of Colorado Movement Disorders Center (MDC), founded in 2012, is an internationally recognized center that improves the lives of patients and families affected by movement disorders through research, clinical care, education and community outreach.

The University of Colorado has a long and distinguished history in movement disorders. Highlights include:

• Dr. Margaret “Peggy” Hoehn published the Hoehn and Yahr Scale for Parkinson’s disease (PD) in 1967, still the most widely used scale for PD.
• Dr. Lori Ramig created Lee Silverman Voice Therapy (LSVT), the most widely used and tested speech therapy for PD, as well as Big and Loud therapy.
• Drs. Curt Freed and Robert Breeze led and conducted the first and largest series of dopamine cell transplants for PD.
• Dr. Maureen Leehey contributed to the discovery of a new movement disorder, Fragile X Tremor Ataxia Syndrome (FXTAS), and continues to do research as one of the world’s leading experts on FXTAS.

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From a clinic with one neurologist, the MDC has grown to become the largest and most comprehensive MDC in the Rocky Mountain Region. Our clinical team includes over 10 physicians (neurologists, neurosurgeons and physiatrist), four neuropsychologists, two genetic counselors, seven physical therapists, two occupational therapists, one speech therapist and more. We actively collaborate with many community and national organizations, including the Parkinson Association of the Rockies, Michael J. Fox Foundation, and Parkinson’s Disease Foundation. We are a leading center training future neurologists and researchers and maintain an active research program with several studies running presently from stem cells to exercise.

Looking to the future, our vision is to continue to improve lives through innovative clinical programs, education and research. We look forward to working with you.

‘To the Future and Back’ PD event, group exercise session, on September 27, 2014. Join us at the 2015 conference! See page 4 for more information.

Meet the MDC Directors! From left to right: Dr. Olga Klepitskaya, Dr. Benzi Kluger, Dr. Maureen Leehey, and Dr. Brian Berman
Clinical Research: Why You Should Participate
By Brian D. Berman, MD, MS

In clinical research, scientists attempt to learn more about and/or find enough evidence to support that a medical intervention would be useful for prevention, diagnosis, or treatment of a particular disease. The path for new treatments (e.g. medications, devices, diagnostic products, etc.) to make it to patients is long, difficult and expensive. First, a promising treatment is identified, usually in the lab. The potential treatment then undergoes animal or pre-clinical studies to evaluate its feasibility, safety, toxicity and possibly efficacy. Then, clinical trials are conducted to help determine the safety and effectiveness of the treatment in humans.

Clinical trials of new medications or therapeutic interventions are classified into four phases. **Phase 1:** Initial testing in about 20-100 participants to determine whether it is safe and to check for what dose of treatment may be efficacious. **Phase 2:** Further testing of a treatment’s efficacy and safety at the potentially therapeutic dose in about 100-300 participants. **Phase 3:** Testing designed to determine more definitively whether a treatment has a true therapeutic effect, and usually includes 1000-2000 participants. Depending on the quality and results of the clinical trials, the FDA may approve the treatment for human use. If so, **Phase 4** studies are often conducted to study the long-term effects and safety of the new treatment.

There are many reasons why one should participate in clinical research. In addition to helping increase our overall understanding of a particular disease and improve our ability to treat patients, patients in clinical trials actually have better outcomes than patients who do not participate in them. Patients participating in clinical trials have greater access to experts in the field and are followed more closely during the study. Another reason to participate is that the majority of clinical trials do not finish on time, which leads to increased costs and delays in getting patients access to effective medications and therapeutic interventions. Lastly, participating in clinical research is a unique gift that you can give to humanity that could have a profound and lasting impact on your health as well as the health of future generations.

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**We are looking for the following types of patients interested in research:**

| Patients with Parkinson’s disease interested in neuroimaging (MRI) research | Erika Shelton 303-724-5865 |
| Patients with blepharospasm (uncontrolled blinking) | Erika Shelton 303-724-5865 |
| Patients with any form of dystonia | Erika Shelton 303-724-5865 |
| Patients with Parkinson’s disease and problems with thinking or memory | Isabelle Buard 303-724-5973 |
| Patients with drooling from any cause interested in trial of botulinum toxin (Myobloc) injections | Kalie Petefish 303-724-8305 |
| Patients with Parkinson’s disease and dyskinesias | Kalie Petefish 303-724-8305 |
| Patients with Parkinson’s disease and not on medications, interested in exercise | Toby Wellington 720-848-6376 |
Meet the New Staff: Dr. Lauren Seeberger

Dr. Lauren Seeberger is a board-certified neurologist with specialist Movement Disorders training and long-term expertise. Dr. Seeberger moved to Colorado in 1994 following her movement disorders fellowship at Robert Wood Johnson Medical School in New Jersey. She fell in love with the mountains and people of Colorado and raised two children here while directing the movement disorders center at the Colorado Neurological Institute. Dr. Seeberger and colleagues headed up the first Centers of Excellence for Huntington’s disease and Parkinson’s disease in the region and built an active research center. In 2006, Dr. Seeberger relocated to Boise, Idaho with her family and founded the first movement disorders center in the state. She enjoyed her time in Idaho, but when her husband retired she knew it was time to come home to Colorado.

When asked, why she joined the University of Colorado at Denver (UCD)? Dr. Seeberger says, “My goals for joining the UCD Movement Disorders Center are to work within a team committed to research, to expand clinical research, and to be surrounded by the brightest minds in medicine to stimulate and foster diagnosis and care of persons with Movement Disorders.”

Deep Brain Stimulation

By Christen Epstein, NP

Deep Brain Stimulation (DBS) is a proven and effective treatment for certain patients with movement disorders. In DBS, surgically implanted brain electrodes deliver continuous electrical stimulation to targets responsible for motor control. The procedure eases symptoms of Parkinson’s disease, essential tremor, and dystonia.

Since its inception in 2002, the DBS program at the UCD has become one of the busiest and most experienced programs in the nation. The program is led by two excellent neurosurgeons, Drs. Steven Ojemann and Aviva Abosch, as well as two highly experienced DBS-trained movement disorder neurologists, Drs. Olga Klepitskaya and Lauren Seeberger. This program has implanted 658 new electrodes, with more successful implants occurring each week.

At UCD, we have a strong interdisciplinary approach to patient care. The DBS team includes neurosurgeons, movement disorder neurologists, neuropsychologists, rehabilitation specialist Dr. Heather Ene, psychiatrist Dr. Alison Heru, as well as physician assistants, nurse practitioners, physical therapists, and speech/swallow therapists. At weekly DBS case conferences all members of the team combine their knowledge to ensure appropriate patient selection for surgery. Our DBS team is committed to carefully identifying individuals who are most likely to benefit from the treatment.

To accomplish this, patients complete an evaluation with a neurosurgeon, neurologist, and rehabilitation specialist. In addition, patients have neuropsychological testing of their thinking skills and complete a MRI of the brain.

Based on these results, the team decides whether or not surgery would be a good option for the patient. If surgery is not undertaken, the team explains this to the patient and referring physician. Recommendations are provided to the referring doctor for continued care. For some, surgery may be an option at a later time.

If surgery would greatly help, then a decision is made whether to proceed with an asleep or an awake brain surgery. During an awake surgery, a member of the neurology team is present, recording electrical signals from the brain to refine positioning of the electrode. During an asleep surgery, placement of the electrode is done using sophisticated imaging techniques. After surgery, in-depth programming of the device is done by expert programmer Christen Epstein, NP. It may take three to six months to optimize the device settings for the best symptom control. Dr. Klepitskaya, Dr. Seeberger, and Christen Epstein specialize in troubleshooting the device; optimal parameters are tailored to each patient’s specific condition.

This innovative surgery can offer dramatic benefits and is the most advanced approved treatment available for movement disorders.
Get Involved!

The research being conducted by the Movement Disorders Center team at CU Anschutz Medical Campus is essential to developing tomorrow’s treatments and care. These advances hold promise to vastly improve the lives of patients and families. If you would like to learn more about research at the MDC, or how you can help move this work forward, contact Carrie Radant Flynn at carrie.radant@ucdenver.edu or call 303-724-9146.

Community Resources

Find all of these resources online!
Visit www.ucdenvermovement.org and click on the “Resources” tab.

Upcoming Events

April 30  Parkinson’s Information Fair
1-4PM, Life Care Center of Longmont, 2451 Pratt St.

June 7  Parkinson Association Vitality Walk
Registration starts at 8AM, walk starts at 9AM. Washington Park, Denver, CO
For more information, visit www.parkinsonrockies.org

June 13  Pedaling 4 Parkinson’s
8AM at Sweetwater Park, Lone Tree, CO
For more information visit www.Pedaling4Parkinsons.org

July 25  Recent Advances in Parkinson’s Disease and Essential Tremor Treatment
Glenwood Springs, CO
More details to follow

MDC In the News!
Can Medical Marijuana Ease Parkinson’s Symptoms?
Listen to Dr. Maureen Leehey’s interview on Colorado Public Radio.
Visit www.cpr.org or find the link on www.ucdenvermovement.org.

PD Connect
Have you been recently diagnosed with Parkinson’s disease (PD)? You are not alone.
Learn more about how our PD Connect program can help, contact Karen Talcott.
303-759-5904 | karet2@aol.com

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The UCD Movement Disorders Center needs a logo, and we need your help! Enter the contest, submit your ideas to movement@ucdenver.edu

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To the FUTURE and BACK II
2nd Annual Educational Parkinson’s Disease Symposium
September 26, 2015
Get more information or register at www.rsvpfutureback.ucdenvermovement.org, call 303–724–8655, or email movement@ucdenver.edu