

Parkinson's Post

to educate, inspire and empower individuals affected by Parkinson's

Welcome to the Spring 2022 edition of Parkinson's Post!

Julie Pavelka, MS, APRN-NP
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The Department of Neurological Sciences at the University of Nebraska Medical Center/Nebraska Medicine is very excited to announce:

Parkinson Disease in 2022: A Conference for Parkinson Disease Patients, Family, and Care Partners

Monday, October 10, 2022

Scott Conference Center,
6450 Pine Street, Omaha, NE

This year, we are offering both an in-person and webinar conference, therefore, if you are unable to attend then event, you still can participate through the webinar. The registrations will all be completed online (for both in-person and webinar options), and we will begin registration in August!

April is Parkinson's Awareness Month and I encourage each of you to continue to educate anyone you encounter about Parkinson's disease (PD)! If you're not involved in PD Support Groups, Exercise and Wellness, or activities that promote a healthy lifestyle, April is a great month to start! If you are involved in groups and activities, invite others you know to join you! We will continue to navigate this journey together as PD is just a bump in our road and we will not allow it to define us!

Happy Spring!!!



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Letter from Dr. Danish Bhatti:

As I write these lines in the clinic, it is my last day at University of Nebraska Medical Center and I will greatly miss Nebraska. I landed in Omaha on June 3, 2009 with my wife, one year old daughter and three pieces of luggage, not knowing anyone or any place. We were still relatively new to U.S. having lived for one year in suburbs of Washington D.C., and were still trying to figure things out in U.S. We found ourselves in the dead center of this huge country feeling lost.

On our second day in Omaha (still staying in a hotel), we locked ourselves out of our rental car by locking the keys in the trunk in front of a salvation army store; we panicked. At least it was June (we haven't seen our first Nebraskan winters, yet which was the worst in 20 years that year in 2009). We had just rented an apartment and were trying to find things for it. I still vividly remember this old lady (the only other vehicle parked besides us in that vast empty parking lot) walk up to

us, likely due to the look on our face and a one year old in lap; and asked us so kindly what happened and produced a yellow phone book out of her trunk (I know, she carried one in her trunk!) and refused to leave us by ourselves until someone from the rental car service arrived with master key to unlock the trunk. All anxiety left us as we chatted with her for half an hour in that huge empty parking lot and that day, I understood what Nebraska meant. I often think about that angel as I see my patients and I hope I have been able to pay some of that debt off. I wish I would have asked for her contact.

I can try to tell you all the reasons I am leaving but to be honest it's usually mostly fate. We come up with reasons after the fact. Once things have happened, we try to place it within a logical structure that can justify things. Our first daughter grew up here, our second daughter was born here and about a year ago we had our 3rd child in



Danish Bhatti, MD

Nebraska. We became naturalized U.S. citizens in Nebraska two years ago. We will always be Nebraskans and wearing the red proudly for the rest of our lives no matter where life takes us.

Regards, Danish

Upcoming Events

UNMC/Nebraska Medicine PD Care Partner Support Group

1st Wednesdays | 1 – 2 p.m.

Please use the following link to register (after you register, you will receive a confirmation email from Sallie Weathers with ZOOM connection information):

<https://unmc.zoom.us/j/96363247570?pwd=anR4bUs3VkNDVXhaZm9mM3poa0l2QT09>

UNMC/Nebraska Medicine Women with PD Support Group

2nd Wednesdays | 1 – 2 p.m.

Please use the following link to register (after you register, you will receive a confirmation email from Sallie Weathers with ZOOM connection information):

<https://unmc.zoom.us/j/93447704600?pwd=NWhYR0N1RlVDb0g4SXZZN1QwRXR0Zz09>

UNMC/Nebraska Medicine PD Support Group

3rd Wednesdays | 1 – 2 p.m.

Please use the following link to register (after you register, you will receive a confirmation email from Sallie Weathers with ZOOM connection information):

<https://unmc.zoom.us/meeting/register/tJwqcOyorzliG9Tpv20WhassRKCuoROl9whTN>

Bellevue Parkinson's Education & Outreach Group

3rd Tuesdays 10 – 11:30 a.m.

Bellevue Medical Center, Medical Office Bldg, Garden Level, Conference Rooms A & B

No RSVP Necessary. Questions or concerns contact Lauren Kesteloot: lakesteloot@nebraskamed.com | 402-763-3740

Parkinson's Foundation Program

Living with Parkinson's – Your Emotional and Social Wellness with PD

Wednesday, April 13, 2022

check-in and exhibits open at 4pm

Scott Conference Center at Aksarben
6450 Pine Street, Omaha, NE

Register at Parkinson.org/WellnessNE
or call 830-253-0011 (flyer attached with additional information).

Parkinson's Moving Day OMAHA Walk

Saturday, June 4, 2022

Stinson Park, 2285 S 67th Street
Omaha, NE

Register at MovingDayOmaha.org or
contact Aaron Bennett at 913-416-4098 or
abennett@parkinson.org.

Welcome Dr. Erin Cameron-Smith!!!

Erin Cameron-Smith, MD, is a new faculty member and Movement Disorder Specialist (MDS) at UNMC/Nebraska Medicine.

Name: Erin Cameron-Smith, MD

Hometown: Craig, Nebraska

Title and department at UNMC:

Assistant Professor

UNMC Department of Neurological Sciences, Division of Movement Disorders

Research/professional interests:

- Nutrition in Parkinson's Disease
- Deep Brain Stimulation (DBS) Outcomes in Parkinson's Disease
- Rural and Community Outreach
- Medical Student and Resident Education

How I fell in love with neurological sciences:

I took a psychology course in high school and found myself absolutely fascinated by the brain. That fascination only grew through college and into medical school, making neurology my dream choice as a medical subspecialty. I specialized further in movement disorders because we deal with many chronic neurodegenerative conditions, and it's a privilege to be the neurologist who is with the patient and their family as they navigate through it.

Degrees:

- BS, psychology and neuroscience, University of Nebraska at Omaha
- MD, UNMC
- Residency, neurology, UNMC
- Fellowship, movement disorders, UNMC

Memberships:

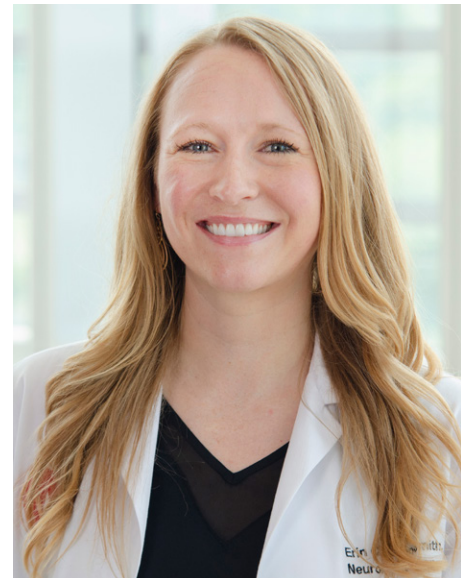
- Alpha Omega Alpha (AOA)
- Gold Humanism Honor Society (GHHS)
- Movement Disorders Society (MDS)
- American Academy of Neurology (AAN)

Three things people may not know about me:

- Neurology is truly a family affair for me — my older sister works with brain and spinal cord injury patients as an occupational therapist, my twin sister is a neurology resident here at UNMC, and my brother-in-law is a fellow in movement disorders here!
- My twin and I have been to 100s of concerts and have gotten to meet most of our favorite bands. We've waited eight-plus hours in Nebraska winters to be in the front row.
- I come from a family of true Nebraskans. My grandfather was presented the Pioneer Award for our family farming the same land for more than 100 years.

Clinic location:

- Twin Creek, Bellevue
- Clarkson Doctors North Building, UNMC Main Campus



Erin Cameron-Smith, MD

For appointments and referrals: Ask your primary care doctor for a referral or call 402-559-8600 to schedule an appointment.

Nebraska Medicine Comprehensive Multidisciplinary Parkinson's Disease Clinic

People with Parkinson's Disease (PD) can have a variety of both physical and non-physical symptoms.

This may result in people with PD needing to seek out care from many different providers and specialists. This can be challenging to schedule and takes time to travel and navigate different clinics and locations. To respond to this need, in 2015, Drs. John Bertoni and Danish Bhatti launched the Nebraska Medicine Comprehensive Multidisciplinary Parkinson's Disease Clinic. This is the only clinic of its type in Nebraska and one of only a few in the Midwest. The goal of the clinic is simple: to provide more integrated care for people with PD. This is accomplished by gathering a team of healthcare professions with specialized training in care of people with PD. This team includes a movement disorders neurologist (neurologist who specializes in PD), PD nurse case manager, physical therapist, occupational therapist, speech and language therapist, dietician and a social worker. We believe that effective care of people with PD involves a multidisciplinary team and there is also increasing evidence to support this. Outpatient multidisciplinary care programs have even reported short-term improvement in movement symptoms, as well as improved gait speed, stride length, speech, depression and health-related quality of life. We want to provide quality and personalized care to people with PD; and this clinic allows us to do this.

What to expect at a Comprehensive Clinic visit?

At this comprehensive clinic, all newly referred patients are seen by each member of the team during a single office visit. This approach allows the multidisciplinary team to work together

to collectively discuss each patient and prepare a unified treatment plan tailored for their unique symptoms. We encourage patients to bring in their medication list and to be ready to discuss their symptoms as well as other medical conditions. It can also be helpful to bring in a family member or caregiver who can help answer questions but can also serve as an extra "set of ears" in recalling what was discussed at the appointment. At the conclusion of the appointment, handouts including discussion of major recommendations are given to each patient. The full assessment is also sent to a patient's primary care provider and/or primary neurologist to ensure that the entire care team for each patient is involved.

Any person who has a diagnosis of PD or a suspected diagnosis of PD can be referred to the clinic. This can include people with recent onset of symptoms as well as those who have had the diagnosis for several years. Once a person with PD is established in our Nebraska Medicine Movement Disorders Clinic, they will continue with regular appointments with either a Nebraska Medicine movement disorder neurologist or with their local general neurologist (based upon patient preference).

Recent changes in the Comprehensive Clinic Faculty

Starting in 2022, there has been a change in the movement disorder neurologists who are directing this clinic. Drs. Mara Seier and Erin Cameron-Smith have taken over as the co-directors of the clinic and will be seeing patients each week with the rest of the multidisciplinary team. Dr. Seier, who has been with UNMC/Nebraska Medicine since



Mara Seier, MD

Assistant Professor | Department of Neurological Sciences | University of Nebraska Medical Center Movement Disorders Center | Nebraska Medicine

2017, joined the movement disorder team after completing her movement disorder fellowship in Portland, Oregon. She also is co-director of the Atypical Parkinsonism Multidisciplinary Clinic. Dr. Cameron-Smith joined the movement disorder team in 2021, after she completed her movement disorder fellowship here at UNMC. Dr. Cameron-Smith is also the assistant program director for the UNMC movement disorder fellowship.

Managing Constipation with Nutrition

Jenna Wuebker, MS, RD, LMNT

Nutrition Therapist | Neurological Sciences Department | Nebraska Medicine

Constipation is a common issue in Parkinson's disease (PD) and may affect up to two-thirds of people with PD. Often people will experience constipation years before any other PD symptoms start. Constipation is infrequent bowel movements or having difficulty passing stools. It is generally defined as having fewer than three bowel movements a week.

Causes of constipation in PD can include physical weakness, being less active, not drinking enough fluids, and medication side effects. Slowing of the digestive system including the intestines can be seen in PD which can also contribute to constipation.

There are two main strategies you can implement to help prevent or manage constipation symptoms. These include drinking an adequate amount of fluids and adding extra fiber in your diet. In addition, consuming probiotics may also help with constipation.

FLUIDS

Drink non-caffeinated fluids for good hydration. This can include water, flavored water, fruit juice, sports drinks, milk, and nutrition shakes/supplements. Set a goal to drink at least 8 cups a day. Fluids help your body process fiber without discomfort and keep things moving through your intestines.

Coffee can act as a natural laxative for some people. Senna tea may also provide benefit with constipation.



FIBER

Slowly increase fiber intake to a goal of 25-35 grams of fiber a day. Adding fiber too quickly into your diet could worsen constipation symptoms. Add one new fiber-rich food every few days. Check nutrition facts labels to determine the fiber content of foods by reading the "Dietary Fiber" line. Examples of high fiber foods:

- Grains: bran cereal, wheat/oat/rice bran, oatmeal, whole grain bread, brown rice, quinoa
- Fruits: pears, raspberries, blackberries, apples, dates, prunes/prune juice, figs, avocados
- Vegetables: potatoes with skin, peas, spinach, squash, broccoli, Brussels sprouts
- Nuts/seeds: chia seeds, flaxseeds, pumpkin seeds, almonds, pistachios, pecans
- Beans/lentils: baked beans, kidney beans, black beans, chickpeas, lentils

PROBIOTICS

Other foods to consider having include probiotics such as yogurt, kefir, sauerkraut, and kombucha. Probiotics promote healthy gut bacteria and may be helpful for constipation. There are also probiotic supplements if unable to have these probiotic sources. Look for supplements with multiple probiotic strains in the ingredients.

The Three Phases of Swallowing

Vicky Czerwinski MS, CCC-SLP

Speech-Language Pathologist | University of Nebraska Medical Center

As you may already know, the ability to swallow safely can be significantly impacted by Parkinson's disease (PD).

But what you may not already know is there are three different phases of swallowing. These phases can be affected simultaneously, individually, and/or at variable degrees as PD progresses. Here is some information on each phase and difficulties you may experience in each. A speech-language pathologist (SLP) or gastroenterologist (GI) are the healthcare providers who diagnose and treat these phases of swallowing. It is important to stay on top of your difficulty swallowing as it can lead to poor nutrition and even pneumonia.

Oral phase: This is the first phase of swallowing. It starts with the ability to accept food or drink from a spoon, fork, cup rim, or straw. It then takes that food and chews it up properly and in a timely manner. Once the food is chewed up, or the liquid is in your mouth, your tongue then condenses the food/liquid into one piece for swallowing. Once condensed, your tongue will move it to the back of your mouth to initiate your swallow reflex. Difficulties in this phase you may experience are taking food from a spoon/fork, taking drinks from a straw, losing food/liquid from the front of your mouth while chewing, taking too long to chew, not being able to condense food/water to swallow into one piece, and leaving residue in your mouth after a bite. Difficulties in this phase of swallowing are managed under the care of an SLP.

Pharyngeal phase: This is the second phase of swallowing. It starts once the food/liquid is in your throat and your



swallow reflex is triggered. During this phase a piece of cartilage called your epiglottis folds over to protect your airway as the remainder of your throat muscles squeeze together to push the food/liquid to your esophagus. Difficulties in this phase you may experience include aspiration (things going 'down the wrong way') and excessive residue which can give you a feeling of something getting stuck in your throat. Difficulties in this phase of swallowing are managed under the care of an SLP.

Esophageal phase: This is the third phase of swallowing. It starts once the food/liquid enters your esophagus. The food/liquid is then transported to your stomach via contractions of your esophageal muscles. Difficulties in this phase you may experience are things getting stuck and reflux. Difficulties in this phase of swallowing are managed under the care of a GI doctor.

If you think you are having difficulty swallowing it is important to alert your physician so they can provide you with the proper referrals to have your difficulties managed.

Coping with a Diagnosis of Parkinson's disease

Joshua Matyi, Ph.D.

Neuropsychology Fellow | Neuropsychology Division | Department of Neurological Sciences

Erica Aflagah (Schmidt), Ph.D.

Clinical Neuropsychologist | Assistant Professor | Department of Neurological Sciences | University of Nebraska Medical Center

You have likely experienced symptoms for some time before hearing the words “Parkinson’s disease” though reactions to diagnosis can differ from person to person.

You may be relieved to have put a label on what you’re experiencing. You may be eager to seek treatment options. You may be devastated, and your mind quickly jumps to what the future will hold. Relief, apprehension, and worry are just a few of many initial reactions to a Parkinson’s disease (PD) diagnosis, and no matter what you experience when hearing those words, there are many ways to cope.

Reactions to a medical diagnosis differ for a variety of reasons, including the following:

1. Prior coping patterns
2. Knowledge of the disease
3. Personal perceptions of the disease or course

Prior coping patterns

How have you reacted to or coped with complicated or stressful information in the past? This question requires some self-reflection. Sometimes, we may avoid difficult or painful experiences or even deny they are happening. Other times, we may accept these experiences as part of what makes us human. Most of us have a combination of avoidance and acceptance skills that we have used throughout different situations in our lives. However, when it comes to a degenerative illness such as PD, research shows that individuals who approach the diagnosis with more acceptance often show more resilience and an increased quality of life. Acceptance is not the same as giving up or resignation. Rather, acceptance may allow us to understand our current situation more fully, including



the aspects we can change or influence. Acceptance is also a skill that we can build over time. Spending a few minutes each day noticing your feelings and thoughts surrounding your diagnosis, without trying to change them, is a great first step. Once you more fully understand your reaction, spend some time reflecting both on what you cannot change and what you may be able to influence. When we develop and use a plan to address what we can change or influence, we are using problem-focused coping, which has been shown to be related to less distress and increased quality of life. Remember, building acceptance and problem-focused coping skills takes time, and we may have to keep practicing them as our situation changes. Additional resources on these

skills can be found through self-help materials or through professional counseling.

Knowledge of Parkinson's disease

Knowledge of a disease may also influence initial reactions and contribute to personal perceptions of the expected course. Limiting your information about PD and its progression may sound like a tempting option to reduce distress, and ultimately practice avoidance. However, having a healthy level of knowledge about the common symptoms, progression of the disease, and available treatment options often allows for opportunities to practice understanding and acceptance and to make an action plan. Keep in mind

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that everyone will likely have a different journey with PD including different levels of symptoms or changes, though knowing common themes and how to adapt to them beforehand can lead to more time available and better ability to spend time doing what you value. Your neurologist and treatment team are amazing resources of knowledge and information, as well as the many international, national, and local groups serving individuals with PD included at the end of this newsletter.

Perceptions of Parkinson’s disease

Like our knowledge of PD, our perceptions of the disease or course may also influence our initial reaction and ability to cope. Knowledge and perceptions are fundamentally different. We can view knowledge as facts, such as “Parkinson’s disease is a neurodegenerative disorder.” In

this context, a perception is our own interpretation of facts and what they mean to us. Our perceptions are influenced by our experiences throughout our life, resulting in both negative and positive interpretations. Maybe you have witnessed a family member struggle emotionally with a chronic illness? Or maybe you have watched them be especially resilient? Research in chronic illness has looked at several factors that contribute to our disease perceptions including disease identity (the labels and number of symptoms we attribute to the disease), cause, consequences, timeline or course, and treatment/control. Not surprisingly, stronger negative perceptions regarding illness identity, more serious consequences, and low personal control in PD are linked with more distress. Just as with practicing acceptance, a good first step to minimize these effects is to identify your possible negative perceptions of PD. Do you use negative labels, black and white thinking,

or over-generalizing (e.g., “always bad” and “never good”) when describing what Parkinson’s disease means to you? After you can identify your negative perceptions, challenge yourself to provide a neutral or even positive way to explain your experience. You are not expected to fully believe the alternative thought, rather use it as a way of practicing opening your perceptions of Parkinson’s disease.

We all react to complex information differently, and a diagnosis of Parkinson’s disease is no exception. Over time, as you become mindful of your initial reaction, you may find that practicing acceptance, identifying and challenging negative illness perceptions, and using problem-focused coping may increase your resilience and improve your quality of life. Remember, there are a variety of resources to assist you in this process including your treatment team, national and community agencies, and your personal support systems.

Why Reactions to a Parkinson’s Disease Diagnosis Differ Amongst People		Adaptive Coping Skills	Additional Resources
Prior coping patterns	How have you reacted to or coped with complicated or stressful information in the past?	<ul style="list-style-type: none">• Acceptance• Problem-focused coping	<ul style="list-style-type: none">• www.parkinson.org/Understanding-Parkinsons/Diagnosis/Coping-with-a-Diagnosis• davisphinneyfoundation.org/podcast-parkinsons-diagnosis-with-dr-aaron-haug/• davisphinneyfoundation.org/youve-been-diagnosed-with-parkinsons-now-what/• www.michaeljfox.org/resources-people-newly-diagnosed-parkinsons
Knowledge of the disease	What facts did you already know about the disease and its expected symptoms and course?	<ul style="list-style-type: none">• Gain knowledge of common symptoms, progression, and available treatment options to inform your action plan	
Personal perceptions	What is your own interpretation of facts and what they mean to you?	<ul style="list-style-type: none">• Identify possible negative perceptions.• Check perceptions for cognitive distortions (black and white thinking, overgeneralization)• Challenge yourself to provide a neutral or even positive way to explain your experience	

Cognitive Changes in Parkinson's Disease

Daniel L. Murman, MD, MS, FAAN | Director, Behavioral and Geriatric Neurology Program | Vice Chair, Clinical and Translational Research
Professor | Department of Neurological Sciences | University of Nebraska Medical Center

Changes in memory and thinking (i.e. cognition) are more common in patients with Parkinson's disease (PD) than once thought.

James Parkinson's first description in 1817 of patients who would now be diagnosed as having PD described that "the senses and the intellect are uninjured." We now know that 50 to 60 percent of patients living with PD have some measurable changes in cognition.

Several aspects of cognition can change in patients living with PD. For example, in patients with PD it is common for patients to notice that; the speed of their mental processing slows down, it is harder for them to multi-task or divide their attention, harder to retrieve information or facts that they know, harder to perceive visual information, and their cognitive performance varies from day to day or even within a day.

About 25% of patients with PD have mild cognitive impairment (PD-MCI), where they have mild changes in cognition, but

are fully independent in their everyday activities. An additional 30% of patients with PD will develop more significant cognitive changes and develop dementia (ie Parkinson's disease with dementia or PDD). Patients with PDD have enough cognitive changes to interfere with their ability to do everyday activities such as finances, driving, or cooking without some assistance. Patients with PD who are older, have more severe disease, a longer duration of disease or a poor response to PD medications are at higher risk of developing PDD.

Let your PD provider know if you are having cognitive impairment symptoms. They can see if you have treatable conditions other than PD that are making your cognition worse (e.g. vitamin deficiencies, low thyroid levels, sleep apnea, etc.). They will also review your medications to make sure you are

not on medications making your memory worse (e.g. anticholinergic medications such as Benadryl). Finally, there are FDA-approved medications that can improve cognition in patients with PDD.

If you are experiencing cognitive changes there are several practical things you can do to lessen the impact of these changes. For example, working on one thing at a time and decreasing distractions helps. Using a detailed planner and calendar can organize your day and should be kept with you so that you can refer to it as needed. Use a timer or your smart phone for important reminders, including medication administration times. Always place important items in the same place, so you always know where to find them. Finally, reflect on the events of the day as a memory exercise before you go to sleep.

Outpatient Rehab Services at Nebraska Medicine

Alison Johnson, OTD, OTR/L, CHT

Manager | PWR! Moves Certified | Outpatient Rehab Services | Nebraska Medicine

Nebraska Medicine offers comprehensive care for patients with a variety of neurological conditions. We are a "one stop shop" at both the Bellevue Medical Center and the Nebraska Medical Center campuses.

We offer occupational therapy, physical therapy, and speech therapy at these locations. We have recently expanded our services at Village Point where we offer occupational and physical therapy.

We have eight therapists in the department who are Parkinson's

Wellness Recovery (PWR!) Moves certified and four who hold the LSVT-BIG certification. We have a wide variety of equipment and treatment methods for patients with Parkinson's disease including boxing/punching bags, balance equipment, and many options for completing the PWR moves.

We would love to treat you, your loved one, and your patients at any of our locations! Please do not hesitate to reach out for an appointment or to get further information about services.



Meet the Bellevue Medical Center Therapy Group, from left to right, Joel Esters, PT; Lauren Kesteloot, PT; Alexa Frost, PTA; and Hounge Le, OT

For scheduling or other questions, please call 402-559-4465.

Research Study

Kelly Gonzales, PhD, APRN-NP, FNP-C
Assistant Professor | College of Nursing – Omaha
Division | University of Nebraska Medical Center

An inter-disciplinary team from UNMC and the University of Nebraska at Omaha (UNO) are completing a research study examining the feasibility of the Balance Capture (BACA) mobile application to promote self-management in individual with Parkinson's disease (PD). They will examine specific aspects of self-management including communication between individuals with PD and their healthcare providers, self-efficacy, patient activation, and provide additional evidence of data quality of the BACA mobile application and its usability by individuals.

They are seeking to recruit individuals from across Nebraska who are 19 years of age or older, have a medical diagnosis of idiopathic PD, and have the capacity



to provide informed consent to be included in the study. Participants must be able to walk for 10 meters with or without an assistive device. Participants must be able to follow instructions and perform clinical balance status tests independently. Participants will self-identify as having familiarity with and be

a previous user of either Apple or Android smart phones. They will be recruiting for this study through May 2022.

Participation can be done remotely or in-person at one of our study sites including: Omaha, Kearney, Atkinson, and North Platte. This study has been approved by UNMC Institutional Review Board (IRB).

If you have any questions about the study or are interested in participating, please call or email:
Claire Yao, Communication Lead | 402-559-8836 | z.yao@unmc.edu

Coordination Loss with Parkinson's disease

Anne Mahnke, OT and Michaela Mendick, OT
Occupational Therapist | Neurologic Conditions | Outpatient Rehab Services | Nebraska Medicine

As occupational therapists, one of the major concerns we hear and see from clients is an overall lack of coordination.

This shows up in various ways that impact daily occupations and functional activities. It can look like decreased ease with fine motor tasks such as handwriting, buttoning, or putting on makeup. It can also look like difficulty with knowing where your feet are on stairs, not turning all the way before trying to sit in a chair, or general balance challenges. Even the movement needed for the motion of brushing your teeth or washing with a washcloth can be impacted.

Another example of this with a current client is "My reaction time during pickleball has been off. Sometimes I swing too early or too late".

So what's to blame? Part of the reason can be an overall lack of body awareness or proprioception. Proprioception is the body's ability to know where it is and how it is moving. During therapy sessions we work on proprioception and reaction time using technology to practice hitting targets, adding weights to tasks, and cues for body mechanics.



Repetition of movements is the best way to improve coordination and reaction time required for specific tasks. If you feel your activities of daily living have been impacted, bring up your concerns or questions to your OT and they can help improve this skill set.

Reactive but not predictive balance is impaired in young Parkinson's disease patients

Jing Hu, SPT

Physical Therapy Student | College of Allied Health Professions | University of Nebraska Medical Center

Balance deficits are common in patient's diagnosed with Parkinson's disease (PD) contributing to an increased risk for falls.

Their falling rate is five times greater than age-matched peers resulting in reduced mobility and quality of life. Nearly half of these falls occur during dynamic tasks such as walking. Gait analyses are usually made while walking on firm and predictable surfaces which is not representative of variable real world circumstances. Unexpected gait perturbations are present in daily gait and have been shown to result in a higher rate of falls in older individuals. In PD patients, their risk for falls could be further increased during unexpected loss of balance. Recovery performance can be divided into predictive and reactive balance. Reactive balance relies on the detection of unexpected perturbations and depend on sensory information processed during the event. Predictive balance adjustments are based on knowledge information processed prior to the intended perturbation and improves dynamic balance reducing the risk for falls. Age also plays a role in balance. It is well known that balance performance decreases with age increasing the risk for falls. There is a growing number of young-onset PD patients (under 51 years old) suffering from gait and balance impairments. The mean age of PD onset is 65 years. There is very little research about young PD patient's balance during perturbed walking. Identifying the deficits in balance during perturbed walking in young-onset PD patients would contribute to the development of adequate training interventions aimed at reducing falls in young patients. A



study in 2016, compared the difference between reactive balance and predictive balance among young PD patients. The author initially discovered lower balance in PD patients when walking on normal surface at the same speed as a non-PD control group without perturbation. With the expectation of a perturbation, both young PD and Healthy controls showed similar predictive balance. With the reactive balance testing, the young PD patient group exhibited decreased balance response compared to the Healthy control group. This suggests that decreased balance may already be present in young PD patients reducing their reactive balance response and increasing their risk for falls. From a physical therapy perspective, four points-of-interest were identified. First, the author reported that Dopamine therapy may result in impaired motor learning along with evidence that Levodopa may be related to dystonia and dyskinesia in the young PD patient. As a result, non-pharmacological treatment such

as physical therapy may be one of the most effective ways to improve balance and lower the risk for falls in young PD patients. Secondly, this study found a deficiency in young PD patient's reactive balance which increased their risk for falls. Third, task-specific training that includes gait with perturbations may induce adaptations in a feedback-controlled manner and contribute to improved balance reaction which would transition into real world conditions reducing the risk for falls in young PD patients. Lastly, balance deficits show up early in young PD patients so start physical therapy early to address any balance deficits.

Reference:

Moreno Catalia M, Woitalla D, Arampatzis A. Reactive but not predictive locomotor adaptability is impaired in young PD patients. *Gait Posture*. 2016;48:177-182. doi:10.1016/J.gaitpost.2016.05.008

Neurological Sciences
988440 Nebraska Medical Center
Omaha, NE 68198-8440

unmc.edu

Reliable Parkinson Resources

NOTE: This list is not complete, nor is it endorsed by UNMC or Nebraska Medicine

American Parkinson Disease Association

www.apda.org

Davis Phinney Foundation for Parkinson's

www.davisphinneyfoundation.org

International Parkinson and Movement Disorders Society (WE MOVE)

www.movementdisorders.org

Michael J. Fox Foundation for Parkinson's Research

www.michaeljfox.org

Movement Disorder Society

www.movementdisorders.org

National Institute of Neurological Disorders and Stroke

www.ninds.nih.gov

Parkinson's Action Network

www.parkinsonaction.org

Parkinson's Foundation

www.parkinson.org

Parkinson's Foundation Heartland Chapter

www.parkinson.org/heartland

Parkinson's Nebraska

www.parkinsonsnebraska.org

Parkinson's Resource Organization

www.parkinsonsresource.org

The Parkinson Alliance

www.parkinsonalliance.org

The Parkinson's Disease Foundation

www.pdf.org

The Parkinson's Resource Organization

www.parkinsonsresource.org



To download a copy of ALL *Parkinson's Post* newsletters, please visit:

unmc.edu/neurologicalsciences/news/parkinsons-post-newsletter

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Medical Center