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## **HealthPartners Parkinson's Center:**

Enhancing Outcomes with a  
Full Complement of Medical and  
Neurosurgical Care



The HealthPartners Parkinson's Center provides care across the continuum of the disease. Seen here (L-R): Julia Johnson, MD, Clinical Director and Movement Disorder Neurologist; Maggie Bebler, CNS, Neurosurgery; David Tullar, PA-C, Neurology; Jon McIver, MD, Neurosurgery; Sonia Mosch, PhD, Neuropsychology.

# HealthPartners Parkinson's Center:

## Enhancing Outcomes With a Full Complement of Medical and Neurosurgical Care

By Carrie Frye

TREATING MOVEMENT DISORDERS SUCH AS PARKINSON'S DISEASE REQUIRES A COORDINATED APPROACH THAT UTILIZES A WIDE ARRAY OF CONSERVATIVE AND TECHNOLOGICALLY ADVANCED TREATMENTS.

**M**OVEMENT DISORDERS ARE a specific category of neurological diseases — including idiopathic Parkinson's disease, dystonia and essential tremor — that impair movement. Constructing a customized care plan is important for each individual case.

“Patients typically enter our system seeking a new diagnosis, a second opinion or enhanced care plans,” says David Tullar, PA-C, Physician Assistant at HealthPartners Parkinson's Center. “The first thing we do is confirm the diagnosis, because other neurological disorders may present like Parkinson's disease.”

Pharmacotherapeutic agents address mechanisms unique to each disorder, underscoring the importance of diagnostic certainty. As patients progress through treatment plans, specialists monitor their improvement and adjust treatment to include other modalities, such as surgical intervention, notes Jon McIver, MD, HealthPartners

Medical Group Neurosurgeon practicing at Regions Hospital.

### Medical Treatment

To enhance care for Parkinson's disease and other movement disorders, specialists at HealthPartners Parkinson's Center use a multimodal approach that incorporates pharmacotherapy, therapies, and neurosurgical treatments such as deep brain stimulation (DBS) into customized treatment plans. Because sleep and memory disorders may be

concomitant with Parkinson's disease, sleep and memory specialists are also readily available for consultation.

“We can offer consolidated specialty care in the same building, which facilitates a multidisciplinary approach that optimizes care,” says Julia Johnson, MD, Clinical Director of HealthPartners Parkinson's Center. “New patients initially see the movement disorders neurologist and undergo a physical therapy evaluation — all on the same day. Patients may also be referred to our Sleep Health

**HealthPartners and Park Nicollet offer Parkinson's care across the Twin Cities area. Park Nicollet's Struthers Parkinson's Center, located in St. Louis Park, is designated as a National Parkinson Foundation Center of Excellence, serving the upper Midwest region. The HealthPartners Parkinson's Center is located in St. Paul at the HealthPartners Specialty Center, near Regions Hospital, where deep brain stimulation is provided to patients participating in both programs. Each facility is expanding, with construction of an education center and expansion of rehabilitation facilities already underway at Struthers. Construction of the HealthPartners neuroscience center is scheduled to begin mid-summer.**



Center, Center for Memory & Aging, or the Department of Neurosurgery. If the patient is interested in research trials, we have a research manager who can explain that option to the patient.”

Dr. Johnson and the HealthPartners Parkinson’s Center team tailor treatment regimens, which combine medication and physical therapy, to each patient’s symptoms.

During the early stages of the disease, physical therapists at HealthPartners Parkinson’s Center proactively address functional issues that can be expected as the disease progresses and lay the groundwork for managing symptoms associated with movement disorders.

“We don’t wait for patients to have problems,” Tullar says. “Parkinson’s disease causes progressive stiffness and slowness in muscles, and patients often experience gait and balance issues. Working with patients to develop good balance in the early stages of the disease is important. These therapies provide patients with the tools to live exceptionally well with Parkinson’s disease.

“The treatment goal for every patient with a movement disorder is to optimize function and quality of life,” he continues. “The more we enhance how patients are functioning now, the better they will be long term. That goal is not reliant on any single modality, but it does rely on applying a wide array of medical resources to treat the disease, diagnose complications, and educate and support patients and their families.”

Parkinson’s can be managed with medications and physical therapy for many years, but as the disease progresses, other alternatives, such as DBS, may provide greater therapeutic benefits.

## Deep Brain Stimulation

Dr. McIver performs DBS — a highly effective treatment for selected patients with Parkinson’s disease, essential tremor and dystonia — in a dedicated operating room with a specially trained staff at Regions Hospital. To qualify for DBS, patients must have a diagnosis of one of the above disorders, along with meeting other criteria. Every patient undergoes a careful evaluation before undergoing surgery.

DBS is typically a two-part treatment. The first component of DBS therapy — and Dr. McIver’s specialty — is the complex surgical implantation of electrodes in the brain.

Dr. McIver uses CT and MRI scans of the patient’s brain to target specific anatomical regions, such as the globus pallidus, subthalamic nucleus or thalamus.

“Patients are awake during the lead placement to ensure we are in the correct location,” Dr. McIver says. “As we stimulate, we can evaluate symptom improvement. It may take one to four hours to complete the procedure, and most patients spend one night in the hospital.”

Two weeks later, the neurosurgery team implants a neurostimulator under the skin below the collarbone and connects it to the extension wire. After DBS components are implanted, the neurology team programs the intensity of the electrical impulses sent from the neurostimulator to block abnormal nerve signals responsible for Parkinson’s symptomatology.

Properly programming the neurostimulator device is a critical part of the process and involves determining the frequency of electrical impulses to coordinate the neurostimulator’s effects with ongoing

# EARLY INTERVENTION KEY TO BETTER OUTCOMES

## HEALTHPARTNERS PARKINSON’S CENTER

specializes in the diagnosis and treatment of Parkinson’s disease and other movement disorders. The neurology team provides diagnostic testing and consultation and collaboratively develops treatment plans that optimize outcomes and manage symptoms throughout disease progression. Although early diagnosis may enhance treatment options, HealthPartners Parkinson’s Center treats patients with movement disorders at every stage of the disease process.

Symptoms associated with Parkinson’s include:

- + Bradykinesia, or slow movement
- + Difficulty writing
- + Impaired speech
- + Postural instability
- + Reduced ability to perform automatic movements, such as swinging arms while walking
- + Resting tremor
- + Rigidity
- + Tremor

The National Institutes of Health recommends physicians refer patients with mild symptoms within six weeks and patients with more advanced symptoms within two weeks.

Patients whose symptoms have grown unresponsive to medical therapies may also be evaluated for neurosurgical deep brain stimulation as part of a treatment plan at HealthPartners Parkinson’s Center.

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The team regularly meets to discuss cases.



Neurostimulators contain a battery and microelectronic circuitry to deliver a controlled electrical pulse to a precisely targeted area of the brain. The device is typically implanted subcutaneously near the clavicle and connected to an extension, and a lead is implanted in the brain. This one is a single-channel device that delivers unilateral stimulation. Patients requiring bilateral therapy may receive two single-channel devices or one dual-channel device.

medical therapies to achieve optimal results. Treatment is an ongoing process.

“The neurologist plans a programming session four to six weeks after brain surgery, which allows time for any swelling to decrease so symptoms are not masked,” Dr. McIver says. “We see the patient at two weeks and six weeks and after the first programming session to monitor for any stimulation side effects, such as speech or language impairments.”

The team spans the entire continuum of care to ensure patients receive thorough post-surgical management of DBS.

“DBS is not the end of the road for patients,” says Tullar. “It is the beginning

of another chapter that requires a different approach to monitoring stimulation, management of medications and physical therapy. Often, DBS reduces stiffness and rigidity, increasing the need for physical therapy. DBS is part of an ongoing process to optimize a patient’s function, and what we do today will influence how Parkinson’s patients function in one, five and 10 years. Keeping patients on the most effective treatment regimen is essential and involves a large, dynamic team to individualize care.”

### Improving Outcomes for Parkinson’s Patients

HealthPartners Parkinson’s Center’s full complement of medical and neurosurgical treatment programs facilitates better results throughout the progression of Parkinson’s disease.

“We examine all spectrums of Parkinson’s disease,” Tullar says. “Patients are living longer, and we are seeing more cognitive issues. Our multidisciplinary clinic takes Parkinson’s care to another level and enhances the quality of care we provide through the entire treatment process.”

For example, because patients with Parkinson’s disease are at high risk for

developing acute delirium during hospitalization, HealthPartners providers have constructed proactive delirium prevention protocols to improve the patient experience during inpatient treatment.

Providers carefully monitor the progression of Parkinson’s disease, and coordinate care with a patient-centered focus to form the foundation of long-term relationships between specialists at HealthPartners Parkinson’s Center and patients and their primary care physicians.

“Throughout the treatment process, we use standardized rating scales to measure motor function, cognitive function and disease effect on activities of daily living,” Dr. Johnson says.

Delivering specialized treatment allows clinicians at HealthPartners Parkinson’s Center to maintain partnerships with community physicians and specialists throughout Minnesota and beyond.

“Close communication with referring physicians is an essential part of what we do,” Dr. Johnson says. “We receive referrals from inside and outside the Twin Cities, and making sure the referring provider is aware of the treatment plan always improves patient outcomes.”

Early intervention can effect more positive outcomes and extend quality of life for those facing the debilitating symptoms of Parkinson’s disease and other movement disorders.

“Send patients the moment the question of whether or not they have Parkinson’s disease occurs,” Tullar says. “The earlier we can affect the progression of the disease, the more long-term benefits we can provide patients.”

Although beginning treatments when Parkinson’s is in its earliest stages is ideal, patients at any stage of their illness may begin care at HealthPartners Parkinson’s Center.

“We treat all patients with Parkinson’s disease and other movement disorders, no matter how far their disease has progressed,” Dr. Johnson says.

For more information about HealthPartners Parkinson’s Center, call 651-254-7474 or visit [healthpartners.com](http://healthpartners.com).



Maggie Bebler, CNS, and Jon McIver, MD, review surgical plans.