

Muhammad Ali Parkinson Center



↑ Dr. Holly Shill conducts a telemedicine appointment during COVID-19.

THE BASIC PRINCIPLES for identifying Parkinson's disease haven't changed in two centuries since Dr. James Parkinson wrote "An Essay on the Shaking Palsy." Diagnosis centering on tremors, stiffness, slowness and postural instability may not accurately identify the disease. Thus, one in five Parkinson's diagnoses by a movement specialist may be inaccurate.

Even with a diagnosis, doctors cannot confidently predict how the disease will progress. Managing symptoms is often trial and error. When new drugs are tested, clinical trials can tell whether they work but not why. This takes a toll on patients and caregivers.

The Muhammad Ali Parkinson Center at Barrow Neurological Institute has been honored for its patient care as the only Parkinson's Foundation Center of Excellence in the Southwest. Now the Center is striving to match that distinction with research. Until scientists fully understand how Parkinson's changes the brain, a cure remains impossible.



60,000

diagnosed with
Parkinson's each year



1,000,000

patients living with
Parkinson's in U.S.



Men are

1.5 TIMES

more likely to have
Parkinson's

BY THE NUMBERS



CLINICAL IMPACT

100,878

BNI Clinic Visits

77,000+

Patients Treated

5,000+

Brain & Spine Surgeries



GLOBAL IMPACT

47

Visiting Scholars from
Argentina, Austria, Brazil,
China, Chile, Colombia,
Germany, India, Italy, Ireland,
Israel, Mexico, Pakistan,
Philippines, Portugal,
Romania, Russia, Spain,
South Korea, Turkey,
United Kingdom

PROGRAM ACCOMPLISHMENTS

The Lonnie and Muhammad Ali Legacy Care Program ensures high-quality, personalized care for every patient like the care Dr. Abraham Lieberman provided Muhammad Ali during his battle with Parkinson's. Palliative care addresses symptoms, stress, and suffering experienced by patients while still allowing them to maintain independence and quality of life as the disease progresses.

The Center has an established infrastructure for telemedicine. As a result, when the COVID-19 crisis hit, we were able to pivot overnight from in-person visits with care providers to telemedicine appointments. Telemedicine allowed our vulnerable patient population to continue seeing their doctors without risking possible exposure. We converted 85% of our appointments to telemedicine. The remaining 15% of our Parkinson's patients needed to see providers in person for urgent symptoms or adjustments to deep brain stimulation devices.

Our remote outreach efforts continue to grow and diversify. In FY20, we made 22,266 contacts with individuals in Phoenix, its surrounding areas and the state of Arizona. People in Mexico, Canada, Central America, South America, and even Southeast Asia benefitted from our online resources. We reached these individuals through a variety of activities including newsletters, support groups, and exercise groups. Our activities ramped up significantly with the COVID-19 crisis.

RESEARCH ADVANCES

Our Parkinson's research investigates the underlying causes of the disease, works to identify medications to slow or relieve symptoms, and develops new protocols to track progression.

Holly Shill, MD, director of the Muhammad Ali Parkinson Center, published several peer-reviewed studies. These included interventions to minimize complications in hospitalized patients with Parkinson's and an analysis of the relationship between social anxiety disorder and the motor symptoms of Parkinson's.

Ryan Walsh, MD, PhD, developed an innovative approach to imaging to detect subtle changes in the brains of people with Parkinson's disease. Dr. Walsh and his team are analyzing data from Parkinson's patients to understand how functional, structural, and blood flow brain networks interact over time in Parkinson's which should allow improved diagnostic capacity, understanding of response to treatment, and provide novel targets for better treatments.



The Lonnie and Muhammad Ali Legacy Care Program, generously funded by The Bob & Renee Parsons Foundation, provides multi-disciplinary care and resources to empower Parkinson's patients and support their caregivers.

David W. Coon PhD, Med, an internationally recognized behavioral scientist working at ASU, is working with Barrow neurologists to better understand caregiving needs in Parkinson's through focus groups and deliver an intervention to improve patient and caregiver communication throughout the disease process.

ON THE HORIZON

Dr. Shill and Frederic Manfredsson, PhD, are planning a clinical trial combining the anti-depressant Vilazodone and dopamine replacement therapy L-DOPA to prevent or reduce impaired voluntary movements caused by Parkinson's. The trial will require regular clinical visits with participants to assess the severity of movement challenges and other symptoms related to Parkinson's.

A grant from the Parkinson's Foundation will fund genetic testing and genetic counseling for patients with Parkinson's disease with special emphasis on underserved populations.

While Barrow is recognized by the Parkinson's Foundation for expertise in clinical care, we seek to become a center of research excellence as well. The Morris K. Udall Centers of Excellence utilize a multi-disciplinary approach to reveal the causes of Parkinson's, as well as to fast-track improvements in diagnosis and treatment for patients. Barrow will expand our basic, translational and clinical research to better position the Muhammad Ali Parkinson Center to become the first Udall Center of Excellence in the Southwest.

BY THE NUMBERS



RESEARCH

1,377

Active Research Studies

959

Patients Enrolled in Clinical Trials

\$11.3 MILLION

Federal Research Grant Support



DONOR IMPACT

\$2.4 MILLION

Basic & Translational Research

\$5.28 MILLION

Strategic Initiatives

\$1.63 MILLION

Education and Fellowship Programs

\$1.97 MILLION

Community Outreach Programs



THANK YOU FOR YOUR SUPPORT

Thank you for improving the lives of people living with Parkinson's disease and their caregivers through unsurpassed patient care and innovative research. We look forward to working side-by-side improving the lives of even more patients with Parkinson's in the years to come.

With Gratitude,
Holly Shill, MD
Director, Muhammad Ali Parkinson Center
Barrow Neurological Institute

↑ The clinical team from the Lonnie and Muhammad Ali Legacy Care Program

Barrow Neurological Foundation's mission is simple: to be the catalyst of our donors' passion for transformation by providing the resources for Barrow Neurological Institute to achieve its mission of saving human lives through innovative treatment, groundbreaking, curative research and educating the next generation of the world's leading neuro clinicians.



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