

Neuro-Rehabilitation Center



HE NEURO-REHABILITATION CENTER at Barrow Neurological Institute provides a complete spectrum of care, including inpatient and outpatient rehabilitation services, work and school re-entry programs, and adaptive recreation and support groups. Barrow understands that neuro-rehabilitation is a unique and challenging journey and employs a multidisciplinary team of experienced specialists to guide patients through it. Each member of the team is committed to providing exceptional care, so patients can go on to lead fulfilling lives with a renewed sense of self-esteem.

Barrow Neuro-Rehabilitation continues to be a leader in the use of neuro-robotics and is one of the only rehabilitation facilities that is able to offer this technology across the entire continuum of care, from the Intensive Care Unit to a patient's return home.

The Barrow Neuro-Rehabilitation Center is dedicated to helping patients gain function, independence, and maximum quality of life after neurological illness or injury.



BARROW NEUROLOGICAL INSTITUTE BY THE NUMBERS





CLINICAL IMPACT

77,600+ total number of patients seen at Barrow annually

22,200+ telemedicine visits

5,700+ brain and spine surgeries



GLOBAL IMPACT

11

research fellows and visiting scholars from Brazil, Columbia, India, Ireland, Pakistan, Russia, Thailand, and Turkey

PROGRAM ACCOMPLISHMENTS

Barrow Neuro-Rehabilitation is always introducing new programs, technologies, and services to improve the lives of patients. In October 2020, the neuro-rehabilitation team secured a fleet of 35 new wheelchairs. The size and type of wheelchair assigned to each patient depends on their diagnosis, making the wheelchairs a critical tool for therapists as they help patients transition to more independent living.

Renovations across the Neuro-Rehabilitation program have continued over the last year. The gym in the acute neuro-rehab unit is undergoing upgrades to allow space for new technology that will help patients maximize their independence. The Ashlyn Dyer Aquatic Center installed an underwater obstacle course and will soon add an underwater treadmill in the rehab pool. After renovations were completed in the lobby at Barrow Neurological Institute, the Neuro-Rehab team installed a ZeroG Gait and Balance System (ZeroG). The ZeroG utilizes an overhead robotic track to provide safe support for patients who are regaining the ability to stand, balance, and walk. The high ceilings of the lobby make it ideal for the overhead piece and the placement of the staircase provides a real-world stair-climbing experience.

The Center for Transitional Neuro-Rehabilitation (CTN), led by Pamela Klonoff, PhD, offers an array of programs in a holistic milieu environment, including the home independence program and the school and work re-entry programs. Over the past year, the CTN has implemented new technologies, such as the Bioness H200, the Pilates Clinical Reformer, and a voice amplifier, allowing them to provide advanced treatment for patients with complex neurological conditions. For therapists to make optimal use of the new technologies and learn new skills, the CTN offered continuing education courses.

Additionally, the CTN welcomed a Vocational Specialist to help expand and enhance the Work Re-Entry Program. The Vocational Specialist focuses on continuing education related to competitive employment, networking in the community, and developing return-to-work resources and protocols for patients and the team.

RESEARCH ADVANCES

Barrow Neuro-Rehabilitation collaborated with Arizona State University to develop a novel temperature feedback glove. The glove has the ability to sense the temperature of objects in close proximity or direct contact and can rapidly provide different forms of feedback to the patient. This reduces the likelihood of injury and allows for greater independence



in daily activities. Additionally, two Barrow physical therapists completed a study on the safety and feasibility of partial weight support training in the hospital following a stroke. This

important work shows the positive impact that the technology has on patients when they use it to get up and moving sooner. The study was published in the Journal of Acute Care Physical Therapy in July 2021.

For the CTN, Dr. Klonoff developed a database for analyzing pediatriconset versus adult-onset acquired brain injury and performed exploratory statistical analyses using the information collected. Additionally, Dr. Klonoff completed a 30-year reunion outcome study, a caregiver grief study, and a process variable study for a book that she co-authored with other Barrow specialists. The ten-chapter training textbook of therapeutic interventions for patients with acquired brain injuries illustrates cutting-edge, holistic techniques used at the CTN.

ON THE HORIZON

Barrow Neuro-Rehabilitation has positioned itself to build the rehab center of the future. For in-patient rehab, the team is looking to introduce a new wave of technology that will help patients interact directly with their care team and have a better sense of control over their environment. The team would implement a device that allows the patient to control the temperature, lights, and T.V. in their room. They would also install a computerized screen in each patient's room, so when a doctor or nurse comes in, the patient can see their picture and and learn who they are and the care that they provide. This will create an added sense of safety and security for patients during a vulnerable time.

On the research front, the team is working to develop a strategic database for patient information, to see what is working for a certain patient's needs and then use predicative analytics to provide the best care customized for each patient with similar needs.

For the CTN, the team is looking into creating a fund to assist patients financially in covering therapeutic expenses. The team also plans to provide transportation assistance to patients and would like to open a store where patients can work and gain real-word experience.

BARROW NEUROLOGICAL INSTITUTE BY THE NUMBERS



RESEARCH

320+ active research

studies

791 patients enrolled in clinical trials

\$11.7 MILLION in federal research grant support



DONOR IMPACT

\$28 MILLION

total distributed to Barrow Neurological Institute, including:

\$21 MILLION

designated to specific centers/programs

\$5 MILLION

for basic, clinical, and translational research

\$1.7 MILLION for endowed research chairs



Candyce Williams, MD, is a spine rehabilitation specialist at the Barrow Neuro-Rehabilitation Center.

THANK YOU FOR YOUR SUPPORT

We cannot thank you enough for the support you have given to the Barrow Neuro-Rehabilitation Center continuum. We have continued to make enhancements that allow us to best prepare patients with the tools and confidence they need to return to a fulfilling life.

It is so important to have a place like Barrow Neuro-Rehab, where patients from all over the world can come to receive the best care possible. On behalf of our entire team, thank you for your support.

With gratitude, Chris St. Clair Sr. Director of Rehabilitation Services & Nursing Administration Neuro-Rehabilitation Center Barrow Neurological Institute

The mission of Barrow Neurological Foundation 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 research, and by educating the next generation of the world's leading neuroclinicians.



Barrow Neurological Foundation 2910 N 3rd Ave., Ste 450 Phoenix, AZ 85013 www.SupportBarrow.org