Florida Atlantic University has filed a provisional patent for a unique robotic device to assist with the physical rehabilitation process of patients suffering from neurological damages or other upper extremities similar to those due to strokes or Parkinson's disease. Inventors Dr. Oren Massory, chair and professor of mechanical engineering in the College of Engineering and Computer Science, and Melissa Morris, FAU engineering graduate student, designed and built the device to aid physical therapists and their patients to regain muscle strength.

The invention is composed of moving parts, including motors, cables, and spools, enclosed within an acrylic case with a handle that is indirectly connected to the system through magnetic attraction. This device is the first-known cable-driven robot to utilize a barrier between the operator and the moving mechanisms of the system. The system does not contain any rigid parts that could suddenly harm or injure the user, and the device can be used in a physical therapy office or at home without supervision. In addition, the system has a safety button embedded in the handle and if released during operation, a signal is sent to the controller that the patient has lost contact with the handle and the system immediately shuts down.

The device is designed to operate in various modes which guide the patient through a series of routine exercises. One mode enables the patient to begin by tracing a path, initiating by following a preprogrammed path that is repeated every time the robot corrects them if they move outside of the path. In this way, the robot would be able to optimize the patients by providing gentle resistance. It also offers varying resistance at all points within the platform to simulate contact with objects and increase muscle strength. An additional mode offers a significant advantage over traditional physical therapy programs that rely on a therapist's instructions, allowing movement anywhere within the platform for the purpose of diagnostic measurements. Furthermore, this device allows the physical therapists to take charge of the program to create new paths or change the level of resistance. The device also assists physical therapists by taking over the tedious work of repetitive training.

The system is capable of supporting quantitative measurement of the patient's progress and performance as well as feedback. The robot tracks the patient's progress and records data such as position and speed. This data can later be analyzed by the physical therapists to determine adjustments in the treatment that can be made as needed to help the patients progress in their treatment.

Right now, physical therapists have no way of collecting empirical data that can measure the path, force, or degree of any patient's movement. This device can help alleviate that problem.

As medical science progresses, more individuals survive previously catastrophic conditions which leave them with some type of physical impairment. As a result, patients who have had a stroke or have Parkinson's disease or multiple sclerosis require physical therapy or rehabilitation programs to assist them to recover some, if not all, of the affected limbs.

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Mary Harrison Named Chairperson of Hospice by the Sea Foundation, Inc.

Mary Harrison, a resident of Boca Raton and senior vice president of the Health Care Group at Life Care Services, LLC, in Delray Beach, has been named chairperson of the Hospice by the Sea Foundation, Inc.

Prior to heading the foundation, Harrison served as chairperson of Hospice by the Sea's board of directors for 30 years. She was the driving force behind the creation of Hospice by the Sea and its efforts to obtain a Certificate of Need and full licensure, and was instrumental in developing hospice care throughout South Florida in the late 70s and early 80s.

Harrison earned an MBA and undergraduate degrees in social work and health care administration from Florida Atlantic University. Over the past 20 years, she has held executive positions at life care communities in Palm Beach County.