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“SCIENTIST DEMONSTRATES PERSONAL TRIUMPH OVER CEREBRAL PALSY AS SHE TREATS CHILDREN WITH BRAIN INJURIES AT BURKE MEDICAL RESEARCH INSTITUTE”

WHITE PLAINS, NY – July 30, 2013 – For millions of children, buttoning their shirts or tying their shoes are simple tasks of everyday life. This was not the case however for Kathleen Friel and the approximately one million people in the U.S. who suffer from cerebral palsy, a disorder of movement and posture caused by injury to the developing brain.

Around her first birthday, Kathleen was diagnosed with cerebral palsy and was given a poor prognosis for becoming an independently-functioning adult. But with unfettered determination, Kathleen began developing compensatory motor strategies to make up for her significant deficits with movement. Being unable to grasp Cheerios, her favorite cereal, she developed a strategy of licking her fingertip, inserting them into the center of the O and bringing the snack to her mouth.

It is with this keen understanding of cerebral palsy and the ability to develop solutions to seemingly unsolvable problems that Kathleen Friel, Ph.D., joins Burke Medical Research Institute’s Early Brain Injury Recovery Program that became fully functional at the end of July. Being part of this program lends itself to her mission of helping others who suffer from the same disease she has battled throughout her life.

“In neurology, anatomy is considered destiny, with the pattern of brain injury determining which neurological functions are lost,” explains Dr. Friel, the newly named director of the Clinical Laboratory for the Early Brain Injury Recovery at Burke, “but we believe that for children with early brain injury, anatomy is not destiny and we can improve their neurological outcomes.” Just as Dr. Friel figured out how to compensate for her lack of motor function during her childhood, Dr. Friel and Jason B. Carmel, M.D., Ph.D., who will direct the clinic portion of the Early Brain Injury Recovery Program, have found that the uninjured regions of the developing brain also have the ability to take over and compensate for the injured portions, when trained properly.

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The Early Brain Injury Recovery Program, which consists of a clinic and a laboratory, will be the first of its kind in New York and the Northeast, and will serve as an important new resource for parents of children with cerebral palsy or who have experienced a traumatic brain injury. To date, scientific efforts have focused largely on protecting brain cells at the time of injury and there are currently no FDA-approved treatments for improving neurological function in children with brain injuries. This program is one of the few in the nation that aims to restore function in children with chronic injuries.

The program’s approach will be two-fold. First, the clinic will evaluate the neurological function of children, set goals for rehabilitation and monitor progress to provide insight into brain regions and connections affected by injury. This will help determine which alternative brain pathways might be used to restore lost motor function. Second, the laboratory will enroll qualified children in clinical trials to test newer treatment methods including high-intensity training programs and non-invasive brain stimulation. Both have been proven as safe and practical treatments to restore neurological function based on research that previously has been conducted at the Institute.

“The addition of Dr. Friel to the Early Brain Injury Recovery Program is a great stride in our quest to restore motor function and improve neurological outcomes in children with injury to their developing nervous systems,” says Dr. Carmel, who initiated the program and also heads Burke’s Motor Recovery Laboratory. “Her deep understanding of the use of intensive hand rehabilitative training on children will help us better understand brain structure and function in children with cerebral palsy and be able to devise new therapies for them.”

Dr. Friel, who was recruited from Columbia University in New York City where she was an assistant professor in the Division of Experimental Therapeutics, has spent more than a decade studying various aspects of brain injury and repair. Her research uses sophisticated techniques to non-invasively study the anatomy and function of the brain and spinal cord as well as how brain structure and function may change as children receive rehabilitative training. Her studies show the utility of activity-based therapies for restoring motor function. She brings these insights and understanding to the Early Brain Injury Program where she will focus on improving hand function in children with cerebral palsy.

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According to Rajiv R. Ratan, M.D., Ph.D., executive director of the Burke Medical Research Institute and professor of neurology and neuroscience at Weill Cornell Medical College, “The goal of the Burke Medical Research Institute is to provide the tools necessary to reduce neurological disabilities, the number one causes of disability in the United States. The addition of Dr. Friel to our research staff and the opening of the Early Brain Injury Recovery Program bring us another step closer to achieving this goal.”

Dr. Friel is a resident of White Plains, New York. She received her doctorate in neurophysiology from the University of Kansas Medical Center and conducted her post-doctoral studies at Columbia University. These studies were seminal in demonstrating the importance of motor activity in neurorehabilitation.

Founded in 1978 as the medical research affiliate of the Burke Rehabilitation Hospital, the Burke Medical Research Institute is one of the only free-standing rehabilitation research facilities with dedicated programs in basic research (understanding how the normal brain functions and how it is affected by disease), translational research (understanding how to bring basic research to the patient bedside), and clinical research (testing of new therapies in patients). These research endeavors are funded by private donations and through highly competitive grants awarded by the National Institutes of Health (NIH) and private and public foundations.

Like the Institute, Dr. Friel and Dr. Carmel’s work in the laboratory and clinic is supported in several ways, receiving funding from the National Institutes of Health (NIH), the March of Dimes, and the Christopher and Dana Reeve Foundation, as well as from private donations. For more information about Dr. Friel’s research and the Early Brain Injury Recovery lab, please call (914) 368-3116.

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