Happy Holidays and Best Wishes in 2015!

It has been an exciting year in our lab. In addition to important funding and recognition from the Cerebral Palsy International Research Foundation and the Foundation for Physical Therapy Magistro Family Foundation Research Grant, we were awarded an NIH K01 career development award allowing dedicated time to advance our research. We are also grateful for private donations this past year, which support family/child travel and participation. As our pediatric laboratory is part of the Brain Plasticity Laboratory, we have collaborative opportunities such as the MnDRIVE fellowship awarded to PhD student Tonya Rich OTR/L. In our upcoming research, we are excited to be partnering with the Rehabilitation/Neurology team at Gillette Children’s Specialty Healthcare to perform our next trial in brain stimulation and rehabilitation in their clinical setting. We are constantly invigorated by the children and parents/caregivers who participate in our studies as evidenced by the Spotlight piece from Eva Froehle, a CHASA college scholarship awardee, and former study participant. We wish you and your families a wonderful holiday season and the potential of working with you in the New Year!

RESEARCH PARTICIPATION OPPORTUNITIES
We are currently recruiting participants for two studies who are between the ages of 8-21, with congenital hemiparesis and no evidence of seizures in the last 2 years.

1. COMBINED INTERVENTION FOR HAND FUNCTION. Does brain stimulation and intensive therapy improve movement?
Investigation of a unique form of non-invasive brain stimulation with a specific form of constraint-induced hand rehabilitation training to promote an intervention targeted at improving hand function. Using the stimulation, brain cells that were inactive due to stroke injury have the potential to become active and contribute to improved function. Using constraint-induced movement therapy, the hand that is less affected by the stroke is temporarily constrained with a sling, allowing unique training of the hand which is more affected. The study consists of 2 days of testing, 2 weeks of camp (2 hours/day) with a follow-up visit (3 months) 6 months after completion of the study.
Location: Gillette Children’s Specialty Healthcare and University of Minnesota. All therapy costs covered.

2. LOCATION, LOCATION, LOCATION
How do we best find the spot where the brain moves the hand? Stimulation over targeted areas of the brain can influence the activity of brain cells that may be dormant after a stroke. A traditional method that has been used to locate the area of the brain that controls hand function uses standard measurements based on the size of the skull. However, new evidence suggests that these measurements do not indicate the best site of stimulation for hand control in children with hemiparesis due to stroke. Another method of locating the optimal site for stimulation is to use non-invasive magnetic brain stimulation applied on the scalp. This study will compare the accuracy of these two methods in one 90-minute session. Location: University of Minnesota. $50 Visa gift card upon completion of participation.

UPDATES

RECENT ARTICLES


PRESS
• Health Talk U of M Experts—Bernadette Gillick (health.umn.edu/newsroom/experts/pediatric-hemiparesis)

CURRENT FUNDING
• Cerebral Palsy International Research Foundation Exploratory Research Grant 2014-2016 (cppfr.org/research/active-projects)
• UMN CTSI Biostatistical Design and Analysis Center 2014-2016
• National Institutes of Health K01 Career Development Award from the Eunice Kennedy Shriver National Institute of Child Health and Human Development, 2014-2019
• Foundation for Physical Therapy, Magistro Family Foundation Research Grant, 2015-2017

AWARDS
• MnDRIVE Fellowship PhD Student Tonya Rich, MA, OTR/L (mndrive.umn.edu)
• UMN CTSI 2014 Mentor of the Year Dr. Kelvin Lim (on right), primary mentor to Dr. Gillick
We believe that all children with cerebral palsy have the potential to influence their level of function throughout their lifetime, applying the latest advances in neuroscience with rehabilitation.

Spotlight—Study Participant

My name is Eva Froehle. Around the time my mother was twenty-six weeks pregnant, my parents were informed that I had suffered a stroke. Their lives took a 180-degree turn. They were told I would never be able to do the things I am doing today, such as walking, talking, or attending college. I am grateful for the countless hours my parents have devoted to me, just as the many others, including grandparents, guardians and doctors, who care for children who have disabilities. It is with my parents’ enduring love, that I was, and am, able to grow up living a normal life. Throughout my life I took part in activities, some coaches more accepting of who I was than others. In 2012, I had the utmost privilege of working with Dr. Bernadette Gillick and her staff, taking part in one of her numerous studies. I learned more about myself in two consecutive visits than I have in my nineteen years of walking on this Earth. I consider myself someone who has the right and responsibility to give back to my community in any way I possibly can and therefore I participate in research. As younger people with stroke, we will encounter many times that will frustrate us, and find reasons to give up, simply because of who we are. But we must prove not only to ourselves that we can accomplish anything we set our minds to, but also prove to those who doubted us. Recently, I asked Bernadette to write a letter of recommendation for a Children’s Hemiplegia and Stroke Association (CHASA) College Scholarship. I was awarded one of the scholarships the organization offers to children with hemiplegia. I am now attending college in northern Minnesota, and have found my biggest motivator in college is to prove to those who doubted me that I will succeed. That I can achieve my goals of earning a degree in elementary education, and become an elementary school teacher anywhere I am needed. I truly am grateful for Bernadette and her team. Without the relationships I have gained in my life, I would not have the opportunities I have today.

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