



St. Charles Rehabilitation

Catholic Health Services

At the heart of health



CUTTING-EDGE TECHNOLOGY FOR STROKE PATIENTS TO BE STUDIED AT ST. CHARLES

St. Charles Hospital will undertake an investigative study about Transcranial Magnetic Stimulation (TMS), a technologically advanced rehabilitation treatment for patients who have suffered a stroke. During TMS sessions, “paddles” which emit magnetic pulses will be placed over study participants’ heads. The magnetic pulses will pass through participants’ brain tissue to deliver pain-free electrical stimulation to the superficial layer of the brain. Researchers at St. Charles will apply TMS repetitively to explore how this stimulation may affect activity in specific areas of the brain changed by stroke. Physicians from St. Charles will identify and select appropriate individuals for the study from among their acute care rehabilitation patients.

“There is strong evidence suggesting that TMS improves patients thinking processes and the way in which the brain, nervous system and muscles work together following a stroke. However, TMS is a relatively new form of treatment that is not used routinely,” explained Jun Zhang, MD, a psychiatrist at St. Charles, and the principal investigator in the study.

Dr. Zhang continued, “St. Charles is conducting this study as we continually seek new technology. We aim to give our patients access to the most advanced rehabilitation treatments and to make a contribution in identifying the best treatment options available.”

For the past 30 years, Transcranial Magnetic Stimulation (TMS) has been used to study brain function as well as treat various medical conditions, such as depression, Parkinson’s disease, traumatic brain injury, stroke and more. It was recently approved by the FDA as a form of therapy for depression that fails to respond to medication. As stroke rehabilitation has focused more intently on examining changes that occur in the brain and nervous system following stroke, specialized rehabilitation centers have begun exploring the use of TMS as a new treatment option. More studies, like the one being conducted at St. Charles, are needed to explore TMS application to different areas of the brain and to better understand types and timing of therapy.

For more information on Transcranial Magnetic Stimulation (TMS), please call **(631) 474-6797**.



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St. Charles Rehabilitation Offers Falls Prevention Course to Address Prevalent Community Health Issue



St. Charles Rehabilitation is offering a free course to help prevent falls, the leading cause of injury and death among individuals age 65 and older. The seven-week course, entitled *Stepping On*, is already underway at the Town of Brookhaven's Rose Caracappa Senior Center. St. Charles hopes to open more sessions in the future.

"The *Stepping On* program is regarded internationally as one of the most efficient methods to reduce fall risk—with a 31% reduction in falls," explained John Rossi, PT, a physical therapist at St. Charles and one of two instructors of the St. Charles course.

Stepping On teaches participants how to achieve greater balance and strength through exercise, home modifications, community safety, vision, medication review, safe footwear and sleep habits. Classes are highly participative and aim to build participants' confidence in their ability to manage their health behaviors, reduce their

risk of falls, and maintain active and fulfilling lives.

The link between falls and injury and death among seniors is well documented. Up to 30% of people who fall suffer moderate to severe injuries such as lacerations, hip fractures or head traumas. Even if no injuries occur after a fall, many people develop a fear of falling, which in turn often causes them to limit their activities. This can result in reduced mobility and loss of physical conditioning, increasing their risk of falling. The *Stepping On* program is one example of how St. Charles is delivering community-based programs to address health needs.

For more information on the *Stepping On* course, call **(631) 474-6797**.



St. Charles Partners with Brain Injury Association of New York State (BIANYS) on Concussion Management Tool

St. Charles Rehabilitation and the Brain Injury Association of New York State (BIANYS) have come together to bring Long Island student athletes, coaches, athletic trainers and parents a concussion management tool, known as the **R.E.A.P.** Project Guidebook. The guidebook offers athletes, their families, school and medical 'teams' specific action plans to **Reduce** further brain injury following a concussion, **Educate** and collaborate on diagnosis and treatment, **Accommodate** for the recovering athlete and **Pace** the athlete's return to play.

St. Charles Hospital's **ThinkSMART!** Concussion Management Program uses the strategies described in the **R.E.A.P.** guidebook in the treatment and management of student athletes following a concussion.

To obtain a copy of the **R.E.A.P.** book for Long Island athletics or learn more about **ThinkSMART!**, please call **(631) 474-6797** or visit <http://www.stcharles.org/concussion>.

St. Charles Rehabilitation Collaborates on Concussion Research with Stony Brook University

St. Charles Rehabilitation is collaborating with Stony Brook University on a clinical research study to determine if dual task testing is a valuable indicator of concussion, a common but serious traumatic brain injury.

In dual task testing, individuals are asked to perform a physical task and a cognitive (thinking) task separately and then together at the same time. Researchers hope to gain valuable information about concussion treatment and understand more precise measures for determining concussion recovery and safe return to play. Athletes who return to the field before making a full recovery from concussion increase their risk of additional brain damage.

“Concussion is a disorder that affects balance and cognition more than other brain functions, which is why these parameters are routinely used to monitor recovery,” explained study researcher Jennifer Gray, DO, a physiatrist at St. Charles and medical co-director of *ThinkSMART!*[™], St. Charles Hospital’s Concussion Management Program.

“Concussion can cause small changes in these functions and improving the ways we

detect these minor alterations will assist physicians in making return to play decisions. Dual task testing may prove to be a more sensitive tool than current assessments because it combines two of the most troublesome areas for concussed patients.”

Study participants will be asked to perform a series of single balance tasks, such as standing on a hard and soft surface with eyes opened and closed. They will then be asked questions which test their attention and memory while attempting these same balance activities. The performance of concussed individuals will be compared to those of a control group who did not suffer a concussion to see if there are significant differences between the two groups. While all study subjects are expected to struggle with dual tasks, researchers believe dual tasks will prove more difficult for concussed participants than for those without this traumatic brain injury.

Stony Brook University’s Raymond McKenna, PT, PhD, who is the principal investigator for the study, will work with St. Charles Rehabilitation physicians to identify patients from *ThinkSMART!*[™], St. Charles Hospital’s Concussion Management Program. The *ThinkSMART!*[™] program combines St. Charles Hospital’s clinical expertise in the evaluation, treatment and rehabilitation of traumatic brain injuries with baseline testing services and concussion education initiatives aimed at ensuring the safety and health of Long Island high school athletes.

Jennifer Gray, DO, (right) a physiatrist at St. Charles and an investigator on the joint St. Charles-Stony Brook concussion study, assesses an athlete for possible concussion.





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St. Charles Hosts Moviethon to Celebrate Individuals with Disabilities

St. Charles Rehabilitation recognized the 25th Anniversary of the Americans with Disabilities Act (ADA) by hosting a Moviethon during National Rehabilitation Awareness Week 2015. Each evening from Monday, September 28, to Friday, October 2, St. Charles showed a film which documents, celebrates or raises awareness about individuals living with disabilities. The Moviethon was free and open to the public.

"I couldn't think of a better way to recognize both the outstanding advances achieved by the ADA than bring awareness to our community of the struggles, accomplishments and achievements that individuals with disabilities face on a daily basis," explained Jennifer Semel, MD, medical director, Physical Medicine and Rehabilitation, St. Charles, and the developer of the Moviethon idea.

She added, "I'm proud of the work we do at St. Charles. Together with our patients, we work to achieve the highest level of independence possible."

The Americans with Disabilities Act was signed into law on July 26, 1990, by President George Bush. It is one of America's most comprehensive pieces of civil rights legislation in that it prohibits discrimination and guarantees that people with disabilities have the same opportunities as everyone else to participate in the mainstream of American life.

For more information about St. Charles Rehabilitation, please call (631) 474-6797.



St. Charles has been honored to support those with disabilities for the past 108 years. Here are a few.