



Exceptional, Innovative Rehabilitation with a Compassionate and Caring Spirit

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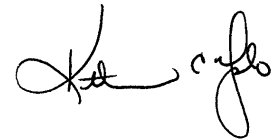
Dear Friends,

We live in a world where technology has become integrated in nearly everything we do. From smart phones placing a world of information at our fingertips to smart cars guiding us to our destinations, technology is there to support us. These labor saving devices and applications simplify and support, but they are only as effective as the end-user. This is especially true of technology in health care. It can aid and assist, but it requires the compassionate hand of skilled clinicians to ensure it is serving the needs of the patient.

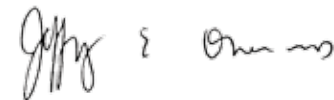
At Marianjoy we have embraced innovation and technology as a means to help us deliver exceptional rehabilitation care with the same caring spirit for which our clinicians are known. This issue of Marianjoy Matters highlights how skilled physicians and therapists utilize the latest advances in rehabilitation technology to help motivated patients achieve their rehabilitation goals. You will see how patients at Marianjoy are seeing real world results from treatments based in virtual reality, as well as the story of a woman whose faith and endurance guided her recovery through the compassion of physicians, nurses, and therapists who were committed to her success.

All of us at Marianjoy recognize the promise innovation offers our patients, but we remain grounded in the knowledge and belief that the most effective treatment comes from the guidance of clinicians who truly care for those they serve. This is the philosophy laid out by the Wheaton Franciscan Sisters more than 40 year years ago at our founding in 1972, and it will continue to drive us as we move forward serving those future patients who entrust us with their care.

Sincerely



Kathleen C. Yosko
President and CEO
Marianjoy Rehabilitation Hospital



Jeffrey Oken, MD
VP Medical Affairs,
Marianjoy Rehabilitation Hospital



The use of virtual reality systems in the field of Physical Medicine and Rehabilitation is becoming more prevalent. The technology simulates a physical presence for the patient in a real-world setting, like participating in tasks at home, at work, or even in sports. Used in conjunction with traditional therapies, it's proving to be a fun, engaging way to help patients remain motivated as they concentrate on reaching their therapy goals.

The Interactive Rehabilitation Exercise System (IREX®) is one of several virtual reality systems available at Marianjoy. For patients who are experiencing balance or coordination deficits, the system helps to improve their strength and overall conditioning, while increasing their tolerance for motion.

Patients are immersed in a variety of activities, from playing games (e.g., soccer, snowboarding) to work (e.g., retrieving boxes from a conveyor belt). The IREX® is used by patients of all ability levels, whether they are in a wheelchair, standing, needing assistance, or able to participate independently. Activity levels can be simplified or made more difficult based on the patient's individual rehabilitation goals.

The Bertec Balance Advantage™ System incorporates Computerized Dynamic Posturography to help identify and treat impairments affecting a patient's balance or causing dizziness. With its immersive virtual reality, therapists can select from a variety of settings to help a patient focus on specific areas causing their balance issues.

In some cases, environments with increased visual stimulation, such as a grocery store, can cause a patient to experience balance issues or visual motion sensitivity. With the Bertec, therapists can place the patient in a simulated grocery store, and while standing on a platform measuring pressure distribution and changing positions, the patient shifts his or her weight to simulate walking through the store. The level of difficulty can be increased by varying the speed they must walk, modifying the

**Innovation in Action
Real-World Results from Virtual Reality**

widths of the aisles, increasing the amount of product on the shelves, varying the lighting, and introducing obstacles. This intervention helps the patient integrate visual feedback challenges, along with motor challenges, in order to improve their balance and tolerance for situations with increased visual stimulation.

Other virtual backgrounds used with the Bertec include a checkerboard room or one with moving stripes. These challenge individuals who are experiencing motion sensitivity. The device is used to simulate walking over uneven surfaces, helping the patient to form behavioral solutions when faced with environments which may cause or increase their sensitivity to motion.

Finally, the Armeo®Spring and Armeo®Power are exoskeleton devices focused on improving upper-body function. The Armeo®Spring is used with patients with mild to moderate upper-extremity impairments, while the Armeo®Power is used with patients in the early stages of rehabilitation or patients with more severe impairments. The purpose of these devices is to retrain functional and

familiar movement patterns. Both support and assist the patient's weak or affected arm so they are able to engage in a variety of interactive tasks. Patients are able to practice movements related to daily activities, such as placing objects on a shelf or putting items in a shopping cart.

Through a series of initial tests, the patient's range of motion and required level of support are determined. During subsequent treatments, therapists re-assess the patient's range of motion, coordination, and level of improvement. As the patient continues to progress, the levels of intensity for each activity can be increased.

These are just a few of the latest innovative rehabilitation technologies being utilized at Marianjoy. Therapists work with patients to design a treatment program that best meets their needs and helps them to optimize their function.

To learn more about Marianjoy's Assistive Rehabilitation Technology Institute, visit <http://www.Marianjoy.org/Assistive-Technology.aspx>.

Marianjoy Physical Therapist Anne Swanstrom-McCoy works with a patient in the Bertec. The Bertec Advantage device is an immersive virtual reality system to assist patients with balance issues.



Charting a Path to Peace and Recovery

A Patient's Journey Back from a Stroke



The combination of strong faith, compassionate care, and the latest technology helped Krill regain her independence following a stroke.

As a co-partner of a law firm and mother of two teenagers, Karen Krill was used to a busy life. However, it was during a moment of relaxation when she noticed something was wrong. At dinner with her husband in January 2015, Karen suddenly felt foggy, dizzy, and fatigued, causing her to go to bed early. The next morning, things had not improved. "I felt tingly on my right side, my balance was off, and I just wasn't moving or thinking the right way," she says. Because she had a blood vessel tumor removed from her cerebellum in 2006, she decided to go to Central DuPage Hospital (CDH) for evaluation.

An MRI revealed she had a bleed in her brainstem, so she was admitted to the ICU for four days. The bleed and brainstem swelling were obscuring scans, and her physical symptoms were not worsening, so she was released with directions to stay at home to rest and recuperate, with plans for a follow-up scan after a couple of weeks to determine what was causing the bleed.

About 10 days later, still at home, Karen found herself with a more complete loss of motor skills and sensation on her right side, including her face. She also felt dizzy, numb, and nauseated, with vision and speech problems. She was admitted again to the ICU, where they discovered a new, larger bleed in the same brainstem area. Because she had experienced a more serious hemorrhagic stroke, her neurosurgeon

"The LiteGait® and KineAssist® really helped me to walk again. Without that technology, I don't think my hip and leg would have come back so quickly. They were giving my brain the input it needed to be retrained."

Karen Krill

urged her to continue her treatment at Marianjoy upon discharge from ICU. Karen recalls: "I was told, 'You've got to get over to Marianjoy. They work wonders. The sooner you can start all the therapies they offer there, the better your brain and overall recovery will be.'" Without delay, Karen was transferred to Marianjoy. "Brain hemorrhages are a type of stroke, varying in cause, severity, and progression, which can make them challenging to assess," says Dr. Richard Krieger, Medical Director of the Marianjoy Stroke Program. "The comprehensive Stroke Program at Marianjoy is well-equipped to treat the full continuum of stroke rehabilitation needs." The atmosphere was an immediate fit for her care. According to Karen, "Marianjoy becomes your home, like it or not—and I've loved it! The personal connection, demeanor, attitude, and supportive nature of the staff here are huge factors in how much people think they can recover. It inspired me to do my best while I was here. They work you very hard, with such caring encouragement, to get the results they are known for. I have been told I have made an excellent recovery so far, and I owe it all to Marianjoy."

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Over the next four months, Karen received physical, occupational, and speech-language therapy, as well as psychological support and therapeutic recreational activities both as an inpatient and outpatient at Marianjoy. "The therapists wanted to help me get back to what was important to me," she notes. "The memory and reasoning training in therapy were especially helpful to me." Getting back to work and to her recreational exercise routines were important goals for her, and her therapists helped to make that possible. Marianjoy Speech-Language Pathologist Michelle Armour recalls: "We worked on improving her speech production abilities and cognitive functioning. We targeted high-level memory, attention, visuospatial, and executive-function skills in tasks that would simulate her return to working, driving, and activities of daily living. In addition, she completed daily exercises to improve the range of movement and strength of the muscles of her face, mouth, and jaw. Through it all, she was very positive and hardworking."

Another aspect Karen found useful in her therapy was the technology utilized, part of Marianjoy's "high-touch, high-tech" approach. "I was really impressed with what they had—things I had never even heard of," she says. "Karen was very proactive about her recovery," says Donna Zielke, Karen's physical therapist. "She was open and willing to try any piece of technology we thought might be beneficial for her." Karen reflects, "In particular, the LiteGait® and KineAssist® really helped me to walk again. Without that technology, I don't think my hip and leg would have come back so quickly. They were giving my brain the input it needed to be retrained."

The approach worked so well that Karen is now able to walk without any assistance or device, and her speech has improved dramatically. "Jeremiah 29:11 reminds us that there is a plan, even if you can't see it from a dark place," says Karen. "As a result, my advice is to find joy and take peace in this knowledge." Now, Karen continues to work on her focus, equilibrium, and strength. She is back to work and back to her regular life, with one important change: "I've learned to step back and relax," she says. "Sometimes, we miss the joy in life by rushing and busyness. I think God wanted me to slow down and enjoy life."



Karen working on the KineAssist-MX® to improve balance, walking speed, and endurance.

Below: Karen with Marianjoy Physical Therapist Donna Zielke.



Rehabilitation Through Innovation: KineAssist-MX® Aids Patients During Therapy

The KineAssist-MX® is ideal for patients who have experienced strokes; incomplete spinal cord injuries; lower-limb amputations; joint replacements; Parkinson's disease; or multiple sclerosis. This technology enables patients to complete a wide variety of walking and balance-related tasks with their therapists to improve their ability to perform daily activities. The platform of this device is a computerized treadmill, in which the speed is controlled by the patient's own movement. The machine contains a safety harness attached to a robotic arm, ensuring patients will not fall if they lose their balance, while also allowing free movement.

By combining the principles of motor learning with improved balance and walking, the KineAssist-MX®, patients have the opportunity to experience challenges, but in a safe environment where they cannot fall. This helps them build confidence as they progress in their Marianjoy therapy program. "We are able to simulate real-world situations, like tripping or being bumped in a crowd—and train how to recover safely. Patients can practice different tasks—like putting their full weight on their affected leg, walking, or sit-to-stand exercises—helping their muscles to be retrained and to relearn the proper way to perform these movements," explains Melissa Burns, Marianjoy physical therapist. "In repeating these activities successfully over several sessions, we find when the patients return to traditional therapy, they are better able to maintain these correct postures and movements, improving their mobility and independence in real-world situations." Research shows that this experience leads to neuroplastic changes in the patient's brain that significantly help improve mobility and balance.

To learn more about Marianjoy's Assistive Rehabilitation Technology Institute, visit <http://www.Marianjoy.org/Assistive-Technology.aspx>.

Embracing Our Past, Celebrating Our Future

In March of 2016, Marianjoy Rehabilitation Hospital will officially become part of Northwestern Medicine, a hospital system which is ranked among the best in Illinois and one of the top in the nation. The coupling of these two prestigious institutions will provide individuals with comprehensive state-of-the-art clinical services and innovative rehabilitation care.

As we embark on the journey before us, we do so by embracing and acknowledging our roots. The Wheaton Franciscan Sisters have been the foundation of Marianjoy since our inception in 1972. Their acumen and vision to establish the first free-standing rehabilitation hospital in the western suburbs is a testament to their innovative thinking as well as their commitment to meet the needs of the communities they serve.

Marianjoy has always been known as an institution that provides exceptional, compassionate rehabilitation care with the

purpose of making a difference in the lives of individuals living with a disability. This dedication, respect, and service to those in need is a philosophy fostered by the sisters, and it is readily apparent to all those who enter our doors.

Marianjoy's future cannot be separated from our humble beginnings. We are who we are because of the sisters. We will continue to be who we are because of their legacy. Through their vision, tenacity, nurturing, and prayers, we have developed into an outstanding, nationally recognized rehabilitation facility. We profoundly thank the Wheaton Franciscan Sisters for their leadership and example, as well as inspiring us to be an instrument of their peace. Their vision was to provide us with a strong foundation; it is now our responsibility to build upon what has been achieved, and continue to thrive and grow.

May God continue to bless the Wheaton Franciscan Sisters.



The Sisters cut the ribbon at the grand opening of the new Marianjoy Rehabilitation Hospital in 2006.



Kathleen Yosko (left), President and CEO, Marianjoy Rehabilitation Hospital, honors Sister Virginia Mary Barta, Province Directress, Foundress of Marianjoy, at Marianjoy's 30th Anniversary Celebration.

Wheaton Franciscan Sisters planning the original development of Marianjoy.



GoBabyGo Workshop Drives Independent Mobility for Children



More than 50 community volunteers joined members of the Marianjoy pediatric team at the GoBabyGo workshop last October to retrofit powered toy vehicles for children with disabilities.

Four-year old Levi (above, bottom right) was all smiles in his retrofitted Jeep at the workshop. He is currently being fitted for his first power wheelchair in the Marianjoy Wheelchair and Positioning Center, which will open up a new world of independence for him. The GoBabyGo program helps make that possible.

The program, originally started at the University of Delaware, modifies battery-operated toy cars for children with disabilities to teach them about their own independent mobility and improve their social development. Through support from community sponsors, individual donors and volunteers, the Marianjoy Foundation provided modified cars — the same kinds of Disney cars used by children without disabilities — to 12 families of children with spina bifida, cerebral palsy and other congenital disorders.

For children like Levi, who has cerebral palsy, minor modifications to the car, such as special seating components or button-activated switches, can teach them how to operate the car and move independently for the first time. "GoBabyGo creates watershed moments for these children," said Kathrina Prostka, a Marianjoy therapist in the Wheelchair and Positioning Center. "If a child can learn to move by pressing a switch on the car, then that's the first step toward a power wheelchair for many children."

Levi's parents, who are in the process of ordering a power chair for Levi, praised GoBabyGo for meeting their son's mobility needs. "To take a typical toy and adapt it to meet these kids' needs is genius," said Doug, Levi's dad.

The Marianjoy Foundation will host another GoBabyGo workshop on April 30. To learn more or sponsor a modified car at the next event, visit MarianjoyFoundation.org

Marianjoy Foundation 2016 Events

April 30
GoBabyGo Spring Workshop
Marianjoy Campus

May 5
Marianjoy Auxiliary Spring Luncheon
Reserve 22, Village Links, Glen Ellyn

June 9
Scholarship Awards Ceremony
Marianjoy Conference & Education Center

June 20
Marianjoy Foundation Golf Invitational
Cantigny Golf

November 5
Marianjoy Foundation 2016 Legacy Ball
Embassy Suites Naperville

For information about these events, contact the Marianjoy Foundation at 630-909-7505

Give the Gift of Time



Help touch the lives of patients, families, and visitors by sharing your time and talents as a Marianjoy volunteer!

For more information about volunteering at Marianjoy, call 630-909-7400 or visit www.Marianjoy.org



MARIANJOY

Rehabilitation Hospital

Wheaton Franciscan Healthcare

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ABOUT MARIANJOY Marianjoy Rehabilitation Hospital is a state-of-the-art facility with 127 beds for inpatient and subacute rehabilitation care. Marianjoy offers inpatient rehabilitation programs in stroke; brain and spinal cord injury; musculoskeletal and neuromuscular disorders; and pediatrics. Our Wheaton campus features uniquely designed accessible gardens, a labyrinth, a chapel, and a meditation room. Marianjoy maintains an extensive network of inpatient, subacute, and outpatient sites, as well as physician clinics throughout the Chicagoland area. Marianjoy Rehabilitation Hospital was founded in 1972 by the Wheaton Franciscan Sisters and is a member of Wheaton Franciscan Healthcare.



Get a **TOTAL** Body Workout at the Marianjoy Center for Emerging Fitness

The Marianjoy Center for Emerging Fitness offers exercise programs for patients as they prepare for discharge from therapy and work to continue their progress independently.

Classes are being offered to improve strength, flexibility, balance, and endurance.

**New classes start
March 14, 2016.**

**For more information or to
register, call 630-909-7150.**



MARIANJOY

Center for Emerging Fitness

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