

# CLINICAL REHAB *perspectives*

Sister Kenny® Rehabilitation Institute, located at 28th Street and Chicago Avenue in Minneapolis, Minn., is the leading rehabilitation provider in the region. The Institute provides programs and services at five Allina hospitals — Abbott Northwestern in Minneapolis, United in St. Paul, Unity Hospital in Fridley, Mercy in Coon Rapids and Buffalo Hospital in Buffalo — and outpatient care at 18 community-based Sister Kenny Sports & Physical Therapy Centers.

The grand opening event for the **42nd International Art Show by Artists with Disabilities** will be on April 21, 2005, at Abbott Northwestern Hospital. The show is one of only a handful of judged art shows in the country for those with a physical or mental impairment. To be added to the mailing list or to receive further information about this year's event, call 612-863-4463 or send an e-mail to [sisterkenny@allina.com](mailto:sisterkenny@allina.com).

## *A letter from our leader*



I'm proud to report that Sister Kenny Rehabilitation Institute has many exciting projects in the works for 2005.

This spring, we will expand our physical

therapy services in the metro and open new clinics in Shoreview and Forest Lake (see related article on p. 4).

We are also in the process of obtaining funds from grants and philanthropy to create a Sister Kenny Research Center to ensure that our community has the access to the latest breakthroughs in rehabilitative care.

### ***Research is vital to providing the best patient care***

How do you make sure you or a family member is receiving the most advanced care possible? By choosing a rehabilitation facility that is also a leading research center, where patients often have access to an innovation in just one year from the time the discovery is made rather than the five years it can take if a discovery is made elsewhere.

At Sister Kenny, we have a history of conducting research that has led to new, more effective rehabilitative techniques, particularly in the area of technology-enhanced rehabili-

tation (see related article on p. 3). This use of technology to improve rehabilitation is already helping our patients — and patients across the country — achieve faster, better results.

However, Sister Kenny Rehabilitation Institute's research efforts are hampered by the lack of a dedicated research staff, including doctorate-level principal investigators. Without these resources, it is difficult for the Institute to attract the federal grants that are so important in sustaining a long-term research program. A research center will also allow us to act as the lead researcher, enabling us to choose the research projects and collaborators that will most benefit our patients.

I am convinced that a successful research center will improve patients' outcomes, advance the skills of current clinicians, and help us attract new clinicians interested in working for an organization focused on discovering and applying the best rehabilitative techniques.

Learn more about the Sister Kenny Research Center in a future issue of *Clinical Rehab Perspectives*.



Roberta (Bobbie) Dressen, vice president, Sister Kenny Rehabilitation Institute



## Hand rehabilitation: specialized care for hand, arm and shoulder problems

**Hand therapists conduct a thorough assessment of range of motion, strength, sensibility, edema, dexterity and functional hand use.**

Treatment may include:

- wound care
- edema control
- scar management
- sensory re-education
- soft tissue and joint mobilization
- splinting (static and dynamic)
- modalities like whirlpool, ultrasound, electrical stimulation, continuous passive motion, hot and cold packs
- biofeedback
- functional retraining.



Patients with hand injuries or diseases affecting the hand can experience significant problems with the tasks of daily living, including job performance, household duties and self-care.

In addition, the complexity of the hand's skeletal, joint, muscle and nervous system, combined with the constant demands we place on them, can make healing and recovery difficult.

Sister Kenny Rehabilitation Institute provides comprehensive evaluation and treatment for patients who have an injury or disease that affects the hand or arm. The staff includes a number of certified hand therapists who have specialized training and experience in hand rehabilitation.

“The practice of occupational and physical therapy has come to be more specialized in recent years,” said Marcia Sitz, a certified hand therapist at Sister Kenny. “To be certified in hand therapy, a therapist must have at least five years experience and 4,000 hours in direct hand therapy.”

Hand therapy is helpful for a wide variety of conditions, including osteoarthritis and degenerative arthritis, traumatic injuries to the hand, arm or shoulder, and cumulative trauma disorders. Patients with fractures, tendon injuries, joint replacements, nerve injuries, amputations, crush injuries and reconstructive surgeries are frequently helped by hand rehabilitation. Two recent cases illustrate how hand therapy can aid recovery.

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*A jazz guitarist who had recently changed his performance routine developed pain and stiffness in his left shoulder, elbow and hand. Working with a certified hand*

*therapist, he often brought his guitar as well as his portable stool to therapy sessions. The therapist helped him improve his positioning and recommended specific strengthening exercises. She also used biofeedback to determine exactly where tension developed as he played. Now he is back to playing pain-free.*

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*A patient whose arm had been immobilized as she recovered from a broken elbow experienced significant pain and limited mobility of her arm. She was referred to a certified hand therapist and was diagnosed with complex regional pain syndrome. Her treatment required gentle stretching, manipulation and medication to calm hypersensitive nerve endings. Gradually the therapist introduced exercises to strengthen the hand, arm and shoulder. While she still has some hand stiffness, the patient gained significant strength and range of motion in her arm.*

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Sitz notes that early referral is important to prevent problems from escalating.

“The therapist can also help determine if referral to an orthopaedic surgeon or other specialist is necessary,” she said.

Hand therapists are available at most Sister Kenny locations, including Abbott Northwestern Hospital in Minneapolis, Mercy Hospital in Coon Rapids, and at Sister Kenny Sports & Physical Therapy Center clinics in Edina, Fridley, Plymouth and Richfield. For more information or to make a referral, call 612-863-5036.

## Virtual reality adds new dimension to rehabilitation

Virtual reality now has a role in the rehabilitation setting.

A new technology called Interactive Rehabilitation Exercise, or IREX, is being used at Sister Kenny Rehabilitation Institute to help patients with strength, endurance and balance problems.

The system includes a computer loaded with virtual reality software, a digital camera and a monitor. The camera projects the patient's image on the monitor, which also shows a virtual reality environment such as a ski hill, soccer field or shark-filled ocean. The patient interacts with the environment by catching or kicking balls, ducking to escape danger, or moving to avoid an obstacle.

"This is one more treatment modality that we can use to keep therapy challenging and interesting," said Matt White, OTR/L.

IREX can be used with a variety of patients, including those recovering from spinal cord injury, stroke and traumatic brain injury.

One of the benefits of IREX is that it encourages functional use of an affected limb. "In many cases, patients respond better to therapy that is purposeful in nature and is also creative and challenging," said White.

But the real advantage may be in motivating patients to challenge themselves in therapy. As one patient said, "I could do this all day...because it's fun."

"This is one more treatment modality that we can use to keep therapy challenging and interesting."

*Matt White, OTR/L*



*Patients like Norman Friederichs, right, use the virtual reality system IREX to improve strength, endurance and balance.*

## 3rd Annual Art Gala and Auction set

Sister Kenny Foundation's Third Annual Art Gala and Auction will be on June 14, at the Minnetonka Center for the Arts. The event, a fundraiser to benefit the Sister Kenny Rehabilitation Institute, includes live and silent auctions for original work from local artists and other unique items. The event also features live music, wine and an hors d'oeuvre

buffet. More than 200 people attended last year's event, which raised more than \$50,000 to fund the Institute's innovative patient services, clinical research, advanced technology and professional education. To learn more about the event, call 612-863-4145.

**JUNE  
14**

# Focus on a facility: Sister Kenny Sports & Physical Therapy Center-Edina

The Sister Kenny Sports & Physical Therapy Center—Edina is located in Suite 200 of Abbott Northwestern's Center for Outpatient Care, on the northeast corner of highways 169 and 494. Four therapists provide physical and hand therapy at this clinic location. They work closely with patients to treat, manage and prevent various injuries, including back and sports-related injuries.

One of the unique services at the center is running videoanalysis, which is the use of digital cameras and a computer (along with a standard musculoskeletal assessment) to analyze an individual's running gait. The analysis is used to understand why an individual experiences pain or injuries while running, and to develop an individualized



treatment plan. A patient must be referred by a physician to receive this service.

For more information about the Sister Kenny Sports & Physical Therapy Center-Edina, call 952-914-8065.

## New PT clinics to open in 2005

Sister Kenny Sports & Physical Therapy Center will soon open two new clinics in the following locations:

**Forest Lake** — scheduled to open in spring. The clinic will be located on Broadway Avenue, near Highway 35.

**Shoreview** — scheduled to open in March. The clinic will be adjacent to the Allina Medical Clinic-Shoreview on North Lexington Avenue, just north of Highway 694.

Look for more information in the next issue of *Kenny Independent* or visit [www.sisterkennyinstitute.com](http://www.sisterkennyinstitute.com).

## Best practice guide ensures quality of care

A study designed to evaluate the effectiveness of a physical therapy treatment guide for non-surgical shoulder pain showed that patients improved in subjective, functional and objective status.

The evidence-based practice guide for non-surgical shoulder pain was based on a literature review. After training physical therapy staff in using the practice guide, the Sister Kenny Sports & Physical Therapy Center evaluated its impact. Patients in the study reported a significant reduction in pain and improvement in functional use. Objective measurements of range of motion and strength also showed significant improvement.

The study followed 90 subjects of all ages with a variety of shoulder conditions, including impingement, strain, sprain, tendonitis and bursitis.

Lori Froehling, PT, MS, coordinator of Clinical Quality and Consistency, said best

practice guides are important for both patients and referring physicians because they ensure a consistent level of quality throughout Sister Kenny Sports & Physical Therapy Center. "It means physicians can expect the same treatment outcome no matter where the patient is seen in our system, and it also ensures the best treatment for the patient."

Sister Kenny Sports & Physical Therapy Center has also completed practice guidelines on:

- non-surgical cervical pain
- non-surgical lateral epicondylitis
- non-surgical anterior knee pain
- plantar fasciitis
- hip pain/bursitis

For more information or to receive a copy of the evidence-based practice guide for non-surgical shoulder pain, call Froehling at 651-686-0098.



# Inpatient stroke rehabilitation fosters independence

At Sister Kenny Rehabilitation Institute, stroke rehabilitation begins almost the moment a patient arrives. Intensive therapy, a dedicated team of stroke rehabilitation specialists and state-of-the-art technology has helped the pro-program achieve exceptional outcomes (see sidebar).

Inpatient stroke rehabilitation is provided through Sister Kenny's two dedicated rehabilitation units — one at Abbott Northwestern Hospital in Minneapolis, and the other at United Hospital in St. Paul.

**“For every patient, we look at the whole picture,” said Tama Almquist, CRRN, case management specialist. “That includes looking at the home setting and their support system. Rehabilitation is tailored to the individual’s discharge plan.”**

The goal of stroke rehabilitation is to prevent medical complications, help restore the patient's ability to perform daily tasks, and return patients to their highest level of independence.

“Our whole focus is independence,” said Almquist. “Even something like having the right wheelchair can affect independence. If you don't have a good wheelchair that is right for the patient, it affects posture, trunk control, skin care — and it fosters dependence.”

Stroke patients receive a minimum of three hours of therapy each day. Nursing care is also rehabilitation-focused. “Many of our nurses are certified rehabilitation nurses and we also have nurses who have many years of rehabilitation experience,” said Almquist. Other caregivers, such as psychologists, chaplains and integrative medicine practitioners may also be involved.

The program places much emphasis on multidisciplinary treatment planning and implementation, which includes physical and occupational therapists, speech-language pathologists, a social worker, therapeutic recreation specialist and sometimes a psychologist. According to Almquist, the inpatient stroke team meets every day to review the current status of all patients. In addition,

caregivers meet once a week for an in-depth care conference on each patient. “That's where we look at every aspect of a patient's situation — self care, bowel and bladder control, mobility, swallowing, communication, psycho-social issues, coping and adjustment, discharge planning — and discuss if he or she is on track for the goals and plan.”

Because the Sister Kenny stroke rehabilitation programs are located in hospital settings, patients benefit from easy access to specialists such as neurologists, neurosurgeons, orthopaedists and others.

New technology has also been put to use in stroke rehabilitation. Sister Kenny's advanced rehabilitation technologies include:

- enhanced biofeedback using specialized computer programs to increase strength and function
- driving simulator that allows health professionals to see how a patient's skills correlate to the demands of driving
- virtual reality platform that uses a game-like environment to address problems in range of motion, agility, balance and eye-hand coordination.

Other therapeutic programs include constraint induced movement therapy, an apartment environment to assess a patient's daily living skills, and a therapeutic swimming pool.

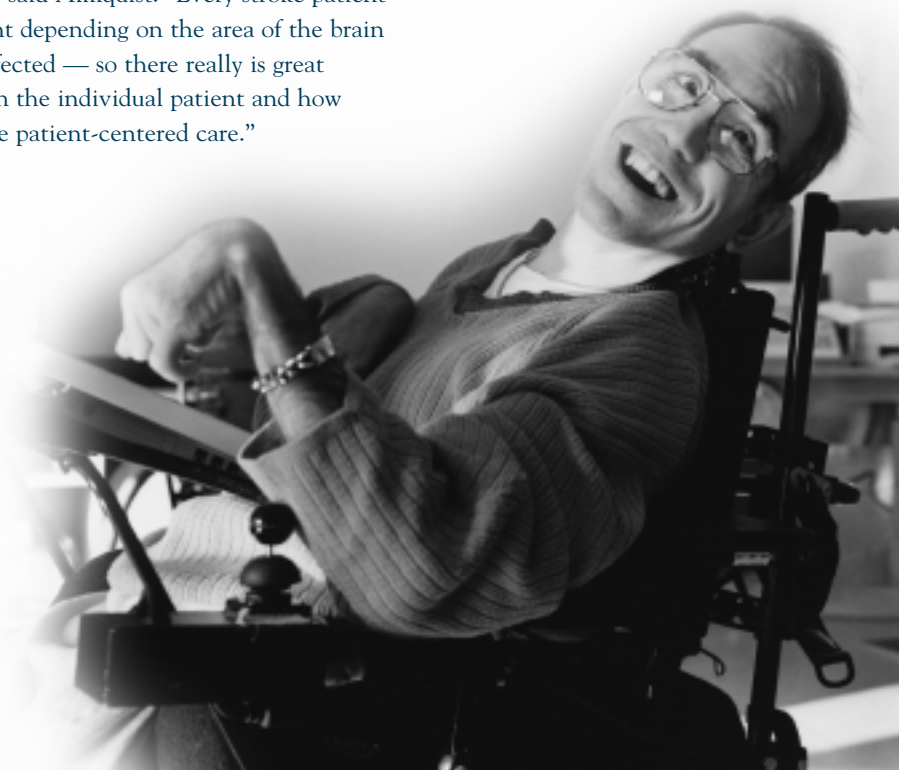
“There is a lot of energy and excitement among our staff in working with stroke patients,” said Almquist. “Every stroke patient is different depending on the area of the brain that is affected — so there really is great interest in the individual patient and how to provide patient-centered care.”

## 2004 Outcome Data for Sister Kenny Rehabilitation Institute vs. National Average

Stroke patients accounted for an average of 27.5 percent of the Institute's inpatient population at Abbott Northwestern and United hospitals.

Percent of patients discharged to community is well above national average.

Average length of stay is below national average, but gain in functional independence is comparable.





Mary Beth Ferguson, M.A. CCC

## Clinician profile: Mary Beth Ferguson, speech-language pathologist

Mary Beth Ferguson is a speech-language pathologist at Sister Kenny Rehabilitation Institute at United Hospital in St. Paul. With more than 37 years experience, she currently works with adults and adolescents who have a wide variety of communication and swallowing disorders. She has developed a specialty in paradoxical vocal fold movement, a voice disorder in which the vocal folds close when they should open. Ferguson's other specialties include working with adults who had their larynx removed, patients who needed communication compensations after a tracheotomy

or who are on a ventilator, and those with communication issues related to traumatic brain injury. In the past, Ferguson has also worked extensively with pediatric patients with speech, language and swallowing disorders.

"Over the years, I have worked closely with the speech-language pathologists throughout our Twin City community," said Ferguson. "What I enjoy most about being a part of the Sister Kenny staff is the excitement of working together to maximize our efforts and achieve our patient's best abilities."

**June 10**

Stroke Conference  
at Abbott Northwestern Hospital  
in Minneapolis

## Upcoming conference

A stroke conference will be held on Friday, June 10, at Abbott Northwestern Hospital in Minneapolis. Presentation topics include acute stroke treatment; post-stroke fatigue; driving issues related to stroke; partial

weight bearing gait therapy; lingraphica treatment for aphasia; constraint induced movement therapy; sexuality and stroke; and visual scanning. For more information, call 612-863-5495.

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