



# SCI SIG NEWSLETTER

APTA Neurology Section  
Summer 2009

## MESSAGE FROM THE CHAIR

I recently attended the 4<sup>th</sup> International Congress on Rehabilitation Exercise and Sport in Amsterdam (see the conference notes below) and the folks I met there were dumbfounded at the current length of stay for SCI rehabilitation in the US. One therapist from the UK asked “why do they leave? Why don’t they lock themselves to the bed?” I answered that I thought part of the issue was not knowing what they didn’t know.

Let me give you some idea of the current rehabilitation stays in Europe. In the Netherlands SCI inpatient rehabilitation can be up to nine months and in Sweden 6 months but with yearly follow up. In the UK 6 months for the tetraplegia or incomplete injuries and 3 months for paraplegia is pretty standard. Admittedly the Netherlands therapists think that perhaps nine months is too long setting up some institutionalization, and admittedly these examples are from more socialistic societies with a higher tax base. (My Dutch friend remarked with indignation “how low can you go?” when discussing Obama’s campaign promise to drop taxes on 95% of the population) Nonetheless the **talk** was of how shamefully substandard and inadequate US healthcare and in particular rehabilitation is. Time and again speakers would make statements like “we can no longer do that in the USA” or “no time for that in the US”. The most gracious statement was that the US rehabilitation was “intense”. For me the clincher was after a lecture on weight management and disability where the speaker showed those maps of the US with the overweight and obese populations shown by color code. After this lecture a colleague from Holland quipped “you folks are an endangered species” and from there the jokes went on about how the downfall of the US would not be economic but from morbid obesity in a healthcare system not designed for prevention and health maintenance. Finally, I saw a glimmer of hope.

Implicit in our problems with rehabilitation time (read: dollars) is the fact that the pockets paying for health care are **not** the pockets paying for the unemployment, disability, lack of participation, caregiver services etc. But they **do** pay for healthcare. So we SCI PTs must use this to advocate for comprehensive rehabilitation at the onset of SCI. There is science to support that if we don’t establish healthy weight and physical activity with adequate conditioning and functional skills to participate in healthy lifestyles there is less chance that the individual ever will. And there is a greater incidence of obesity and metabolic syndrome in individuals who are not physically active post SCI. Wheelchair skills and functional activities ability have been shown to correlate with participation and increased physical activity. So arguments for more time to increase endurance and fitness and functional skills to **prevent** health complications of obesity, which are **many** and will directly cost health insurers may be the better tactic. See the following references to support your argument.

Rimmer, J.H. and D. Braddock, *Health Promotion for people with physical, cognitive and sensory disabilities: an emerging national priority*. Am J Health Promot, 2002. 16 (4): p 220-4

Gater D. Obesity after spinal cord injury. *Physical Medicine & Rehabilitation Clinics of North America* [serial online]. May 2007;18(2):333

Forchheimer M, Kalpakjian C, Tate D, Chiodo A. Psychosocial factors associated with obesity in spinal cord injury. *Topics in Spinal Cord Injury Rehabilitation* [serial online]. April 2007;12 (4):94-104.

Jennifer Hastings, PT, PhD, NCS

## **The Kentucky Appalachian Rural Rehabilitation Network**

Of the 420 counties that comprise Appalachia, those located in eastern Kentucky are among some of the poorest. Approximately 80% of these Kentucky counties have a shortage of designated health professionals and healthcare resources to address life changing injuries/illnesses. This shortage is a particular burden to individuals with neurological impairment (e.g. SCI, TBI, stroke), who require a collaborative interprofessional approach in order to achieve long-term improvement in health outcomes and quality of life. The Kentucky Appalachian Rural Rehabilitation Network (KARRN) has been established as a collaborative team including individuals impacted by neurological impairments, providers who serve them, members of communities in which they live, advocates, educators, and researchers who investigate these impairments. Our goal is to identify, develop and disseminate information and strategies, and maximize resources to improve outcomes and quality of life for individuals with neurological impairments living in rural Kentucky Appalachian counties.

Initial funding for the KARRN was through a grant by the Experimental Program to Stimulate Competitive Research (EPSCoR; funded through the National Science Foundation). The initial study examined the health and quality of life related supports and challenges from the perspective of individuals with spinal cord injury (SCI) and their families and from the healthcare providers who treat these individuals. Multiple themes were established with respect to barriers and supports to healthcare in rural KY. These included the lack of and need for connection among those with SCI living in the community, issues related to limited personal and systemic resources, a need for increased specialized SCI knowledge among rural health care providers, and a need for greater advocacy for and among this population.

**Network Development:** From the groups that participated in the initial study, as well as other key persons, a network was developed that formally met and conducted an assessment of available community assets (Asset Mapping). Especially given the increased economic uncertainty, it has become more and more imperative that the surprisingly extensive amount of community-based assets/resources be effectively identified and utilized to help improve the quality of life and community integration of individuals with neurologic impairments living in those communities. Our asset mapping focused on the following areas: institutions, organizations, individuals, environment, and economic/political. In addition to the community asset mapping, a formalized shared mission for the network was developed.

Results from the first study as well as the asset mapping were used to develop short-term and long-term goals for the group. Short term goals include developing mentor programs for individuals and for providers, developing a network website for information sharing, developing a data base of people impacted by SCI in KY and identifying constituents we are missing. Longer term goals include developing a foundation for future educational programs and research projects for KARRN, advocacy, and ultimately improving the quality of life and health outcomes for people living with SCI in these counties. To this end a second educational conference has been planned for September 30<sup>th</sup>, 2009 that will address topics important for the long-term care of individuals with SCI. These topic areas include:

1. The importance of assessing the Quality of Life and Community Integration of individuals with SCI. Dr. Gale Whiteneck from Craig Hospital in CO will be the presenter.
2. Importance of Exercise and Nutrition following SCI. Dr. David Gater Jr. from Richmond VAMC & Virginia Commonwealth University will be the presenter.

## The Kentucky Appalachian Rural Rehabilitation Network

3. Long-term Healthcare Issues for Individuals with SCI. Dr. James Krause from the University of South Carolina will be the presenter.
4. Medical Management of SCI Induced Secondary Complications. Dr. Sara Salles from the University of Kentucky and Cardinal Hill Rehabilitation Hospital will be the presenter.
5. Developing a Peer-mentor Support System. Ms. Inger Ljungberg from the National Rehabilitation Hospital in Washington, D.C. will be the presenter.
6. Additional local partners in vocational rehabilitation specific to KY will also present.

Consistent with the philosophy of the KARRN, this conference has been developed for consumers, health care providers, students (our future healthcare providers), educators, researchers, and other community partners to come together and receive and discuss the same information. We believe by doing so we will help to develop a common language that will be essential for the continued development and growth of the network as well as its effectiveness to influence the healthcare in Eastern KY.

The KARRN is in early phases of development of our short-term and long-term research, education, and service/practice directions. We are continuing to identify individuals (e.g. persons with neurological disorders, caregivers, community advocates, and healthcare providers) as well as organizations interested in partnering with us to help to improve the overall health and quality of life individuals with neurological disorders living in Appalachian KY.

Persons interested in learning more about the KARRN can contact: Patrick Kitzman MSPT, PhD, Division of Physical Therapy and the Rehabilitation Sciences Doctoral Program, The University of Kentucky. [Phkitz1@email.uky.edu](mailto:Phkitz1@email.uky.edu). 859-323-1100 ext 80580

Patrick Kitzman, PhD, MSPT

### Conference Notes:

4<sup>th</sup> International State-of-the-Art Congress  
Rehabilitation: Mobility, Exercise and Sports  
April 7-9, 2009 VU University Amsterdam

This congress strives to be an active collaboration between rehabilitation professionals and human movement scientists. The congress was strongly framed in the ICF model with presentations in all aspects. A quote from the congress introduction: "Important questions revolve not only around functions and structures of individuals with different diagnostics but also how these impact activities, participation and quality of life" The stated goal of the congress is to seek evidence-base for mobility, exercise and sports ...in the context of long-term functioning.

While the majority of the presenters were from the Netherlands there were 14 other countries represented in the oral presentations alone including Slovenia, Israel and Spain. Attendees represented an even broader spectrum making social networking times exceedingly interesting. The official conference language was English. I encourage any who have the means to venture to international conferences it is truly worth it to get a more worldly perspective. This particular conference will run again in 3-5 years. RehabMOVE is the brand.

## CLINICIANS' CORNER: INFORMATION AND INSIGHTS FROM THE FIELD

### Independent Transitional Movement Training

Functional movement strategies are invaluable tools for physical therapists to teach patients with neurological impairments, especially with regards to the transitional movements that are required during activities of daily living. Movement strategies such as supine-to-sit, sit-to-stand, and lateral transfers, depending on the patient's abilities and needs should be a priority during their initial physical rehabilitation. By giving patients the skills to move about and negotiate their environment early we can give them a stronger foundation to build from to maximize not only their independence, but also such things as strength, endurance, and confidence.

The profound benefits of functional movement training were seen in the following case: The patient was a 24 year old male who sustained a Hangman's fracture and C4 incomplete spinal cord injury following a motor vehicle accident six years ago. This patient arrived at the university's on-site teaching clinic for continued physical therapy with the goals of improving standing balance in addition to increasing efficiency and endurance with ambulation using his platform walker, which had been the focus of prior episodes of therapy. His ability to ambulate was limited due to his need for moderate assistance to stand from his wheelchair and to place his forearms and hands on the walker platforms and contact guard. He demonstrated considerable gait deviations, relied heavily on the walker for support, showed increased tone due to increased effort, and reported fatigue after walking approximately 75 feet. His primary mode of mobility was a power wheelchair with joystick control. He presented with intact sensation, but limited motor control due to significant hypertonicity throughout his upper and lower extremities with resulting decreased range of motion and weakness. He had fairly good trunk control. His upper extremities were more involved than his lower extremities and his right side was more involved than his left.

This patient was never taught any independent mobility skills, transferring or how to stand up from his wheelchair without assistance, despite the degree of intact motor function in his trunk and lower extremities. This detail made his ability to ambulate for short distances using a platform walker nonfunctional. During an eleven week episode of care working with a student physical therapist one day per week, this patient was able to attain the skills to stand independently. With facilitation and training delivered by a student therapist, he gained the ability to transition from sitting in his wheelchair to standing, take several small steps to turn and sit on his bed, and also to use his wheelchair to assist himself in transitioning from short-sitting to supine. These newly learned movement strategies opened a door for this patient to progress his functional activities in standing and in supine independently, thereby giving him means to address his initial goals of improving balance, endurance, and ambulation. In turn, this may lead to the functional use of ambulation in his home to perform activities of daily living.

Simply by learning sit-to-stand and sit-to-supine transitions, this patient reported feeling significantly more confident and much more optimistic about regaining functional use of his body, even though the physical impairments that he presented with were not changed. Had he learned a sit-to-stand transition or other basic independent mobility skills during his initial rehabilitation, one can only imagine the functional capacity he may have attained throughout the six years of therapy he has had since then.

Hillary Robins, SPT  
University of Puget Sound



## The University of Puget Sound

### Length of Inpatient Rehabilitation Stay Following a C6 or C7 SCI and the Effects on Wellness, Function, and Community Participation Volunteers wanted for a research study

**WHO:** We are recruiting individuals who have sustained a C6 or C7 spinal cord injury who are over the age of 18, neurologically stable, and at least 1-year post injury. Participants cannot have co-morbidities such as cancer or brain injury and must be able to read and understand English.

**WHY:** This research is being done to determine the relationship between the length of in-patient physical therapy rehabilitation and overall functional outcome for patients with a C6 or C7 SCI. Determining an optimal length of stay will be beneficial in the recovery process following a traumatic spinal cord injury for developing an appropriate rehabilitation protocol.

**BENEFITS AND RISKS:** There is unlikely to be any risks or direct benefits from being in this study. The primary benefit is to help health care providers determine how long people with spinal cord injuries should remain in rehabilitation in order to have the best outcomes.

**WHEN AND WHAT:** This study is a series of surveys that can be filled at home and returned via mail, fax, or email.

**HOW:** If you would like to participate in this research study, please contact us via email at [kmerschel@ups.edu](mailto:kmerschel@ups.edu) or by phone at 253-879-2445.

Mike Murphy SPT, Kelly Merschel SPT, Rachel Harris SPT  
Principal Investigators  
University of Puget Sound- Physical Therapy Program  
1500 N. Warner, Tacoma, WA 98416