

# SCI SIG NEWSLETTER

APTA Neurology Section  
Spring 2010

## MESSAGE FROM THE CHAIR

Physical Therapist: The Change Agent

I believe that the *change agent* matters when it comes to physical therapy outcomes. Research provides us with information on what interventions produce significant change on specific outcome measures. It highlights concepts such as activity based plasticity and focuses on dose and frequency. Lately it seems we've become excited about the concept of *neural recovery*. But is the concept of neural recovery really new to physical therapy, or have we just found a new word to describe what we have been doing for years?

In conversation with experts in SCI rehabilitation, it becomes apparent that some of these clinicians are taken aback by recent research focus. Comments include:

"I've been doing activity based rehab for 20 years and now it is supposed to be new? What do you suppose we've been doing?"

And: "How about teaching folks to live with disability? Compensatory training is said like a dirty word, but how are you going to live with SCI if you don't transfer or learn how to use a wheelchair?"

As we advance and refine our research and treatment

strategies, I suggest a pause. It is time to consider the characteristics and expertise of who is providing the intervention. Pragmatically speaking, if the intervention is just a matter of a specific activity at a specific dose and frequency, then the practitioner, the physical therapist, becomes irrelevant. I don't believe it.

Think about the interventions that research has not supported. This does not necessarily mean that these interventions do not work, although that may sometimes be the case. It means that these studies did not find statistical significance to show that any change in outcome scores was beyond chance. Now consider the very nature of research, especially studies large enough to capture the sample size to allow generalization of the results. Often these studies do not utilize expert clinicians to provide the intervention. Frequently research assistants and graduate students are the ones who apply the intervention. Expert clinicians work outside the confines of a research protocol. Expert clinicians synthesize prior knowledge, understanding of movement, observation, and analysis of the patient response to treat-

ment in order to design and adapt treatment of individual patients. The importance of this expertise should not be discounted.

So I am concerned about a disconnect. I am concerned about the loss of clinical skills and knowledge as our expert clinicians move toward retirement and are replaced with younger, dynamic DPTs who are indoctrinated in evidence-based practice without a respect for the *change agent* and practice-based evidence. I think we need some research that studies *whose hands* are rendering the care and what about those hands (and minds) is important for successful patient outcomes.



Jennifer Hastings, PT, PhD,  
NCS

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## CSM 2010 SCI SIG Programming

The SCI SIG programming at this year’s CSM featured two topics very relevant to treating people with SCI. Our first session, the roundtable, was led by Joy Bruce MSPT, ABD, NCS, from the Shepherd Center. The international focus of this session drew 33 attendees, which was an amazing turnout. It is great to see that so many of us are interested in what is going on outside of our own country. Topics discussed included the aftermath of the recent earthquake in Haiti, how less developed countries struggle with appropriate care and proper education, and the success of some exciting programs in more developed countries. We had several attendees who had experienced SCI care in other countries and their contributions were very insightful and enlightening. Thanks to Joy for leading this dynamic group.

The educational component of the business meeting was presented by Kendra Betz, MSPT, ATP from the VA Central Office. We also had a great turnout for this session, despite being at the end of the day on Saturday (the last day of the conference). Kendra’s expertise with the SCI Clinical Practice Guidelines was shared with the audience and she used the “Comprehensive Review with a Focus on Upper Limb Preservation” as an example of how these guidelines can be applied clinically. Kendra provided us with excellent information and insight as well as numerous photos and videos to illustrate her points. Thanks to Kendra for this wonderful presentation.



We are currently working on our programming for next year so stay tuned.

### Upcoming Educational Opportunities

**Occupational and Physical Therapy Management of SCI** ([www.sciseminars.com](http://www.sciseminars.com))  
 New York, NY April 23-25, 2010  
 San Francisco, CA May 1-2, 2010  
 Temple TX May 15-16, 2010  
 Lexington, KY July 17-18, 2010  
 San Pedro, CA November 6-7, 2010

**SCI Practice: Making Sense of a Complex Problem** ([www.ric.org/education](http://www.ric.org/education))  
 Chicago, IL July 28-30, 2010

**North American Neurorehabilitation Symposium 2010** ([www.nanrs2010.com](http://www.nanrs2010.com))  
 Shepherd Center in Atlanta, Georgia, USA August 27-28, 2010

**ISCOS Preconference for SCI Physiotherapists** ([www.iscos2010.com](http://www.iscos2010.com))  
 49th ISCoS Annual Scientific Meeting October 27-28, 2010  
 New Delhi, India  
[admin@iscos.org.uk](mailto:admin@iscos.org.uk)

## RESEARCH CORNER

**Pain assessment after SCI: Eva Widerstrom-Noga, DDS, PhD**

Most people who have sustained a SCI develop persistent pain over time. Some of these pains are nociceptive (e.g. musculoskeletal pain due to overuse) whereas others are neuropathic and a direct result of the injury. Importantly, most people experience more than one concomitant pain problem. Although the neuropathic pains are particularly therapy resistant and therefore difficult to cope with, the nociceptive pain types, such as shoulder pain, may also cause significant problems and impair an individual's functional independence by interfering with common daily activities such as wheelchair operation including transfers. When an individual with SCI has to cope with several simultaneous and persistent pain problems in addition to the physical impairment, it causes a significant increased burden and distress. Therefore, improved pain relief is of primary importance for an optimal quality of life after SCI.

In the clinic, information about pain provides a basis for treatment decisions concerning pain. Health care professionals who treat patients with SCI routinely collect clinical information, however, a standard way to collect pain data is lacking. A standardized assessment of pain in clinical practice and in clinical trials would enhance the exchange of meaningful clinical information

between clinical centres and facilitate research collaboration and multicenter clinical trials.

The International Spinal Cord Injury Pain basic Dataset (ISCIPDS:B)<sup>1</sup> was developed by a working group consisting of individuals with published evidence of expertise in SCI-related pain regarding taxonomy, psychophysics, psychology, epidemiology and assessment and clinical practise. The members were appointed by four major organizations with an interest in SCI-related pain: International Spinal Cord Society, American Spinal Injury Association, American Pain Society and International association for the Study of Pain [IASP]). The ISCI-PDS:B has been endorsed by several major pain organizations and spinal cord injury societies and is available free of cost from the American Spinal Injury Association <http://www.asia-spinalinjury.org/> and the International Spinal Cord Society <http://www.iscos.org.uk/> websites.

The ISCI-PDS:B includes clinically relevant questions concerning SCI-related pain that can be collected by healthcare professionals with expertise in SCI. The questions concern pain severity, physical and emotional function and include a pain intensity rating, a pain classification and questions related to the temporal pattern of pain for

each specific pain problem. The impact of pain on physical, social and emotional function, and sleep is also evaluated.

In order to improve the management of SCI related pain it is important to implement a standard pain evaluation as part of the routine care of persons with SCI. This will both facilitate collaboration among facilities and multicenter trials and raise awareness of this difficult clinical problem.

1. **Widerström-Noga E**, Biering-Sorensen F, Bryce T, Cardenas DD, Finnerup NB, Jensen MP, Richards JS. The International Spinal Cord Injury Basic Dataset. *Spinal Cord*. 2009;46:818-823.



**CLINICIAN'S CORNER**

Rachel Tappan, PT, NCS

Too often in physical therapy, we separate ourselves into “neuro” therapists and “ortho” therapists, with treatment of pain delegated to the “ortho” therapists and treatment of spinal cord injury (SCI) delegated to the “neuro” therapists. Whether we seek mentorship or guidance from therapists with expertise in musculoskeletal practice or we pursue advanced training ourselves, we “neuro” therapists owe it to our patients to do everything we can to identify musculoskeletal pain in our patients with SCI and treat it in a sophisticated way.

Oftentimes, it is assumed that pain is related to the SCI itself and must be medically managed. However, people with SCI can have musculoskeletal pain just like anyone else. In fact, the posture impairments and weakness that we commonly see in people with SCI could make them more likely to have musculoskeletal pain. Treating pain becomes more challenging when the patient is unable to perform a full range of movements. For example, someone with a SCI may not be able to perform functional mobility tasks with proper posture or good body mechanics to help manage pain due to weakness. Someone with SCI may also be unable to perform pain management techniques in the typical way due to limited functional mobility, wheelchair positioning, or spinal precautions early after injury.

Ideally, therapists will collaborate to use our combined expertise to help our patients with SCI manage their pain. With some problem-solving, the impediments to evaluation and treatment of musculoskeletal pain in people with SCI can be overcome. Following is an example of such a patient:

**Case Study**

This patient had a T6 SCI following a fall in March 2007 with resulting incomplete paraplegia (AIS D). At the time of her outpatient PT evaluation, she walked with a walker without any bracing for most of her day, sometimes with a straight cane at home. She demonstrated a sidebent posture to the left, which was initially thought to be due to trunk weakness and muscle imbalance. Since her injury, she had had severe pain in her low back and throughout her lower extremities which had been diagnosed as neuropathic pain related to her SCI. She had been seen in the Pain Management Clinic and was taking the following medications for pain: Methadone, Percocet, Lyrica, Naproxen, and Celebrex. Within a few months of her initial PT evaluation, she developed more localized pain at her left knee with associated buckling. She frequently experienced acute onset of knee pain and buckling with activities such as reaching toward the floor and negotiating the stairs to her second floor apartment. Her knee pain then remained worse after these activities. X-rays of her knees were negative. She had generalized swelling and redness in her left knee and pain with end range knee flexion and extension. However, after PROM testing to the knee, she had no change in her pain once she resumed walking.

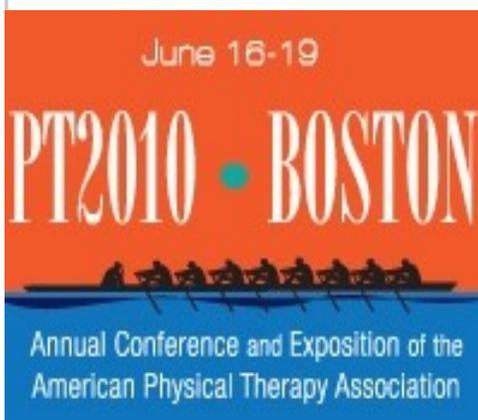
**CLINICIAN'S CORNER (Continued from Pg. 4)**

Rachel Tappan, PT, NCS

As we considered her case, we determined that there was likely a musculoskeletal component to her pain since there were movements that made it worse. We continued our assessment by clearing the patient's lumbar spine. We found that repeated lumbar flexion in standing made the patient's knee pain worse when we followed these spine movements with reaching toward the floor in standing. We also found that repeated lumbar extension in standing decreased the patient's knee pain during reaching toward the floor in standing. In addition, she demonstrated improved knee extension strength after standing lumbar extension. **Eureka!** At least some of this patient's lower extremity pain was mechanical in nature and referred from the lumbar spine. And we were even able to improve her leg strength immediately after repeated spine extension! We had her begin with standing or prone lumbar extension every hour throughout the day and after any continuous flexion activities such as prolonged sitting or reaching to the ground.

The patient continued with frequent lumbar extension exercises, but within a few weeks there was a plateau in improvement. On re-examination, her lumbar extension PROM had improved to within normal limits. Her left knee still buckled at times, but with less frequency. She still demonstrated a left sidebent posture. On movement testing, she had limited ROM to right lumbar sidegliding (shoulders move to the right and hips move to the left) more than left. With repeated right lumbar sidegliding she demonstrated more upright posture from her previously left sidebent position and a further decrease in left knee pain when reaching to the floor. Her home exercise program was then upgraded to a set of right sideglides in standing followed by lumbar extension in standing every hour. With this intervention, she experienced further decrease in back and left knee pain as well as decreased incidence of knee buckling. After two weeks, she was able to return to negotiating stairs using a reciprocal pattern without knee buckling. She demonstrated increased stability and endurance for walking with a straight cane. The redness and swelling in her left knee diminished and her trunk alignment was more upright. Though the patient still had neuropathic pain, her quality of life was better – she had a lower intensity pain, she returned to walking with a cane at home, and she was able to take control of her pain with movement strategies.

I couldn't have accomplished this outcome alone. I was lucky to collaborate with a PT with Certification in Mechanical Diagnosis and Treatment utilizing the McKenzie method. Together, the two of us combined our expertise to develop an optimal pain management plan for this patient. We PTs are experts in movement and pain management. And if pain has a mechanical component – meaning that if the intensity or the location of pain is related to movement, posture, or position – we have the tools to make a positive impact.



October 29 - 31, 2010  
49th ISCoS Annual Scientific Meeting  
New Delhi, India

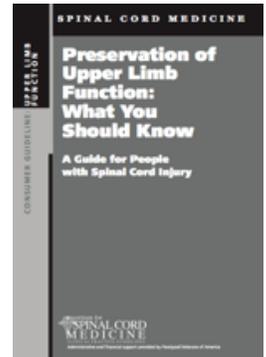
[admin@iscos.org.uk](mailto:admin@iscos.org.uk)  
[www.iscos2010.com](http://www.iscos2010.com)

## Clinician and Consumer Guides

People with spinal cord injuries and their caregivers have a new resource to help with improving the quality of their lives:

Preservation of Upper Limb Function Following Spinal Cord Injury: A Clinical Practice Guideline for Health-Care Professionals

It is new from the Consortium for Spinal Cord Medicine. See the next page for additional Consortium guidelines that are available free-of-charge. Click on each Guideline for a link to the ordering page.



 This block features the logo for the American Spinal Injury Association (ASIA). The logo consists of the letters 'ASIA' in a large, blue, stylized font, with a silhouette of a person's spine integrated into the letter 'I'. Below 'ASIA' is the text 'AMERICAN SPINAL INJURY ASSOCIATION'. To the right of the logo, the following text is displayed:
 

**36th Annual Scientific Meeting**  
 Nashville, TN  
 May 25-28, 2010

 At the bottom of this section, a dark blue horizontal bar contains the text 'AMERICAN SPINAL INJURY ASSOCIATION' in white, serif, all-caps font.

This block features the logo and slogan for the American Physical Therapy Association. A large, hand-drawn blue circle frames the text. The slogan 'Move Forward.' is written in a large, orange, cursive font. Below it, the text 'Physical Therapy Brings Motion to Life' is written in a smaller, black, sans-serif font. At the bottom, 'American Physical Therapy Association' is written in a black, sans-serif font.

