

# CEREBRAL HAPPENINGS

Newsletter of the Brain Injury Special Interest Group

Issue 2, 2009

November 2009

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## LETTER FROM THE CHAIR Michelle D. Peterson, PT, DPT, NCS BI SIG Chair

It has been another great year for the BI SIG. Last year's programming at CSM drew many attendees and our BI SIG roster is approaching 500 members. Programming for CSM 2009 San Diego looks great. (See page 2-3 for greater details!)

As many of you know, March is Brain Injury Awareness Month. The BI SIG would like to recognize creative ideas to 'spread the word' about the importance of brain injury prevention. Please send us your ideas so we can post them on the website. Get involved in spreading the word!

We have listened to your suggestions for programming. Our round table discussion in San Diego is about mild TBI/concussion, a topic requested several years ago. We have programming plans for New Orleans that have been identified as areas of interest. One such topic is a presentation on TBI in the pediatric population. We are currently seeking a presenter for CSM 2012 on this topic. If you have a specialty in this area or know of someone who does, please send us their contact information. As well, if there are any topics you would like covered, please send us your request and we will work on tailoring the CSM BI SIG programming to the key themes.

We are continuing to request volunteers from each state to serve as the BI SIG contact. This key contact's role is to facilitate communication within the BI SIG. This will allow the BI SIG to determine needs, trends and practice issues across the country. You need only be knowledgeable about BI issues in your state. The BI SIG receives many contact from members and non-members requesting information specific to a particular city or state. It would be great to have someone in that state to assist with providing more detailed information to our consumers. We currently have 12 states represented. The map for the contacts should be up on our website soon. If you see your state is open or would like to be an additional contact in your state, please help us out and volunteer.

Thank you to all of you who have volunteered to help the BI SIG out in other ways. We have created a volunteer work group with 20 members signed up to assist the BI SIG. We will be developing projects for 2010 and sending out an email for assistance on these projects at the beginning of the year.

Thank you,  
Michelle Peterson, BI SIG Chair

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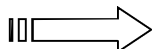
NEWSLETTER



NOVEMBER 2009

**ANNUAL COMBINED SECTIONS MEETING  
SAN DIEGO, CALIFORNIA  
FEBRUARY 17-20, 2010**

American Physical Therapy Association | Combined Sections Meeting



**For hotel information please  
click on this link  
[Hotel Info](#)**

The Combined Sections Meeting (CSM) focuses on programming designed by all 18 of APTA's specialty sections. The spectacular event brings together more than 7,500 physical therapy professionals from around the nation for 5 stimulating days of exceptional programming, networking opportunities, and an exhibit hall filled with products and services to keep you and your practice on the cutting edge.

For the neurology section program [PRESS CONTROL + CLICK MOUSE TO FOLLOW LINK:](#)

[http://www.apta.org/am/aptaapps/programming/csm/edProgMenuDetail.cfm?  
hiddenValue=category&category=Neurology](http://www.apta.org/am/aptaapps/programming/csm/edProgMenuDetail.cfm?hiddenValue=category&category=Neurology)

**Preconference Courses of Interest:**

**Tuesday, Feb 16, 2010 and Wednesday, Feb 17, 2010:**

Tuesday, Feb 16 12:30 p.m.—5:15 p.m., Wednesday, Feb 17 8:00 a.m.—5:00 p.m. Gaming Augmented Physical Therapy: Beyond the Wii

Tuesday, Feb 16 8:00 a.m.—4:00 p.m., Wednesday, Feb 17 8:00 a.m.—5:15 p.m. Neurologic Practice Essentials: Laying the Foundation for Expert Practice

**Main Conference Courses of Interest:**

**Thursday, Feb 18, 2010:**

10:30 a.m.—12:15 p.m. Physical Therapy Interventions for Children With Neurological Diagnosis: A Review of Current Concepts and Research

10:30 a.m.—12:15 p.m. Updating the Evidence on Anticipatory Postural Control in Infants and Children

## **Main Conference Courses of Interest:**

### **Thursday, Feb 18, 2010:**

**10:30 a.m.—12:15 p.m. Implementing a Neuroplasticity-Principled Rehabilitation Model Across Disease Severity in Parkinson's Disease**

**10:30 a.m.—12:15 p.m. Sensory Dysfunction Following Stroke: Incidence, Significance, Examination, and Intervention**

**10:30 a.m.—12:15 p.m. The Role of Biomechanics in the Management of Upper and Lower Extremity Dysfunction: Emerging Interventions for Individuals With Neurological Involvement**

**12:30 p.m.—2:00 p.m. Balance Assessment in Different Practice Settings: Can and Should We Use the Same Measures?**

**12:30 p.m.—2:00 p.m. Vestibular Disorders After Head Trauma: Cutting-Edge Diagnosis and Management—The Team Approach**

**2:30 p.m.—4:30 p.m. Treating the Acute Stroke Patient: Making Treatment Decisions Utilizing Best Practice Guidelines From Available Evidence**

### **Friday, Feb 19, 2010:**

**7:00—8:30 a.m.—NCS Breakfast: How Can You Become a Change Agent for Reasonable Reimbursement for Neurological Clinical Services**

**8:00 a.m.—11:00 a.m. Stepping Forward With Gait Rehabilitation**

**1:00 - 3:00 p.m. Endurance in the Neurologic Rehab Population: Assessment, Intervention, and Outcome Measures**

**1:00—3:45 p.m. A Learning Module for Neurorehabilitation Curriculum: Walking Recovery, Locomotor Training, and Incomplete Spinal Cord Injury**

**1:00—3:45 p.m. An Instrumental Step Beyond Gait Speed: Mechanisms of Gait Dysfunction and Recovery Post-Stroke**

### **Saturday, Feb 20, 2010:**

**8:00 a.m.—10:45 a.m. Functional Electrical Stimulation for Persons With Neurological Gait Dysfunction: Theories to Practice**

**1:00 p.m.—2:45 p.m. Fall Risk Assessment and Measures Used for Fall Risk: Are They the Same as Measuring Balance?**

**1:00 p.m.—2:45 p.m. Prediction and Management of Postconcussive Syndrome**

**1:00 p.m.—4:30 p.m. NIH Toolbox for Assessment of Neurological and Behavioral Function: Implications for Physical Therapy Practice and Research**

**GET INVOLVED!**

If you have ever wanted to get more involved in the APTA or the Brain Injury SIG this is your chance! We have two positions up for election this year: Vice Chair and Nominating Committee member. If you are interested in applying for either position please use the following link to access the application: <http://www.neuropt.org/go/members-only/nomination-form>. If you would like to speak to current SIG members to learn more about the positions contact **Carolyn Tassini**([carolyntassini@gmail.com](mailto:carolyntassini@gmail.com)). We look forward to working with you! We also have a volunteer position open for a Newsletter Editor open. Please contact **Michelle Peterson** [mi-chelle.peterson@med.va.gov](mailto:michelle.peterson@med.va.gov)

**KEY CONTACT VOLUNTEERS NEEDED**

We are continuing to request volunteers from each state to serve as the BI SIG contact. This key contact's role is to facilitate communication within the BI SIG. This will allow the BI SIG to determine needs, trends and practice issues across the country. You need only be knowledgeable about BI issues in your state. The BI SIG has many contacts per year requesting information specific to a particular city or state, it would be great to have someone in that state to assist with providing more detailed information to our consumers. We currently have 11 states, listed below, represented. The map for the contacts should be up on our website soon. If you see your state is open or would like to be an additional contact in your state, please help us out and volunteer.

**Following states have key contacts:**

<b>CA</b>	<b>MN</b>	<b>PA</b>	<b>VA</b>
<b>FL</b>	<b>NC</b>	<b>TN</b>	<b>WV</b>
<b>GA</b>	<b>OR</b>	<b>TX</b>	

**Pharmacotherapy to enhance arousal: what is known and what is not.** By Zafonte R, Hammond F, Dennison A, Chew E, *Progress in Brain Research*, ISSN: 1875-7855, 2009; Vol. 177, pp. 293-316; PMID: 19818909

Severe brain injury results in a disturbance among a wide range of critical neurotransmitter systems. Each neurotransmitter system places its own functional role while being interconnected to a multitude of other systems and functions. This chapter seeks to review the major neurotransmitter systems involved after severe acquired brain injury. While limited in their construct, animal models of brain injury have demonstrated agents that may assist in the recovery process and those that may further slow recovery. We review further the issue of laboratory evidence and what is transferable to the clinic. Lastly, this chapter reviews published clinical pharmacotherapy studies or trials in the arena of arousal for those with clinical severe brain injury. We discuss limitations as well as findings and present the available evidence in a table-based format. While no clear evidence exists to suggest a defined and rigid pharmacotherapeutic approach, interesting data does suggest that several medications have been associated with enhanced arousal. Several studies are underway or about to begin that will shed more light on the utility of such agents in improving function after severe brain injury. For now, clinicians must employ their own judgment and what has been learned from the limited literature to the care of a challenging group of persons.



**Here are some recent articles concerning current topics in BI**

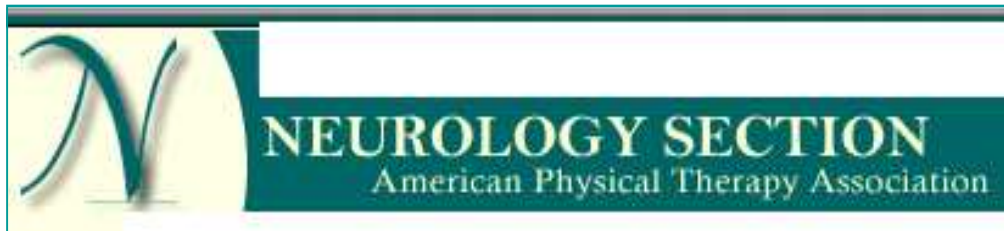
**Reliability of dynamometry to quantify isometric strength following traumatic brain injury.**

Morris SL, Dodd KJ, Morris ME, *Brain Injury*, ISSN: 1362-301X, 2008 Dec; Vol. 22 (13-14), pp. 1030-7; PMID: 19117182

**OBJECTIVE:** To investigate the within-session reliability and test-re-test reliability of hand-held dynamometry (HHD) to quantify strength in hip flexors, quadriceps, plantarflexors and triceps brachi following traumatic brain injury (TBI). **PARTICIPANTS:** Ten adults with TBI with a mean age of 32.5 years (range = 19-63, SD = 12.8) and mean time after injury of 12.2 years (range = 2.3-26, SD = 8.6). **MAIN OUTCOME MEASURES:** Isometric strength measured by HHD. **RESULTS:** Test-re-test reliability of HHD following TBI was good when repeated tests occurred within a single session. Within a session, the first trial was the most variable out of the six examined. Of the four muscles examined, re-test measures of strength for the quadriceps, plantarflexors and triceps were the most reliable. For the hip flexors an increase greater than 3.1 kg (28%) was needed before real change could be detected. Test-re-test reliability was higher for muscles tested on the more affected side ( $ICC((2,1)) = 0.55-0.93$ ) than muscles tested on the less affected side ( $ICC((2,1)) = 0.09-0.86$ ). **CONCLUSIONS:** To gain a representative measure of isometric strength using HHD in a single session, three trials are recommended. The first is for familiarization and trials 2 and 3 are averaged to provide a typical measure of isometric muscle strength. Further research needs to occur but alternative methods to quantify muscle strength might be needed if repeated measures are to be performed over a 7-day interval.

**Traumatic brain injury and vestibular pathology as a comorbidity after blast exposure.** By Scherer MR, Schubert MC, *Physical Therapy*, ISSN: 1538-6724, 2009 Sep; Vol. 89 (9), pp. 980-92; PMID: 19628578

Blasts or explosions are the most common mechanisms of injury in modern warfare. Traumatic brain injury (TBI) is a frequent consequence of exposure to such attacks. Although the management of orthopedic, integumentary, neurocognitive, and neurobehavioral sequelae in survivors of blasts has been described in the literature, less attention has been paid to the physical therapist examination and care of people with dizziness and blast-induced TBI (BITBI). To date, few studies have addressed such "vestibular" complaints in service members injured by blasts. Given the demonstrated efficacy of treating the signs and symptoms associated with vestibular pathology, vestibular rehabilitation may have important implications for the successful care of service members who have been injured by blasts and who are complaining of vertigo or other symptoms consistent with vestibular pathology. The purpose of this review is to summarize the findings of clinicians and scientists conducting research on the effects of blasts with the aims of defining the scope of the problem, describing and characterizing the effects of blasts, reviewing relevant patients' characteristics and sensorimotor deficits associated with people with dizziness and blast-induced TBI (BITBI), and suggesting clinical best practices for the rehabilitation of BITBI and blast-related dizziness.



**Section Office**  
**Janice Ford**  
1111 N. Fairfax St.  
Alexandria, VA. 22314-1488  
Phone: 703-706-3237  
Fax: 703-706-8575

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**BI SIG OFFICERS**

**Chair:**  
Michelle D. Peterson, PT, DPT, NCS  
[michelle.peterson@med.va.gov](mailto:michelle.peterson@med.va.gov)

**Vice Chair:**  
Vacancy

**Secretary:**  
Lynnette K. Leuty, MA, PT, NCS  
[leuty3@msn.com](mailto:leuty3@msn.com)


**Nominating Committee:**  
Sarah Trout, PT, NCS  
[trouts@einstein.edu](mailto:trouts@einstein.edu)

Aimee E. Perron, PT, DPT, NCS  
[Aimee.Perron@genesishcc.com](mailto:Aimee.Perron@genesishcc.com)

Carolyn G. Tassini, PT  
[carolyntassini@gmail.com](mailto:carolyntassini@gmail.com)

**Newsletter Co-Editors:**  
Melissa M. Mendoza, PT, MS, DPT, NCS  
[mendozapt@sbcglobal.net](mailto:mendozapt@sbcglobal.net)

Kimberly Yon-Davis, PTA, CBIST  
[kyondavis@earthlink.net](mailto:kyondavis@earthlink.net)



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