



The primary operational TBI component of the Defense Centers of Excellence for Psychological Health and Traumatic Brain Injury

Brainwaves

DVBIC Brainwaves • Winter 2010

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Message From

Jamie B. Grimes, MD

COL, MC, USA
National Director, DVBIC



One kind word can warm three winter months.

~ Japanese Proverb

At this time of the year, we are called to reflect on the deeper meaning of “family” including our extended DVBIC family of diverse sites, clinical and research communities, and partnerships with other organizations. Most critically, we link together those in need of care with others who can provide that care, to maximally, comprehensively support our wounded warriors on their journey of healing.

This link can be tangibly measured in 300,000 TBI educational products and tools that have been distributed this year, a rate that has been doubling every year.

Our DVBIC-VA collaboration solidifies in team visits to civilian DVBIC sites, first to DVBIC-Johnstown and now to Virginia NeuroCare. Both sites received three-year certification by the Commission on Accreditation of Rehabilitation Facilities (CARF) this year.

One DVBIC priority is to get our service members the fastest, most effective TBI care in-theater and ensure this care is part of the healthcare record. In an exciting initiative, we are moving to enhance software that medics and corpsmen use to screen service members for mild and moderate TBI on-scene. The software will enable responders to perform the Military Acute Concussion Evaluation (MACE) in minutes, on a handheld device, and then upload screening results to the electronic medical record via mobile AHLTA.

DVBIC and the Defense Centers of Excellence for Psychological Health and TBI (DCoE) are working to track and analyze in-theater data from implementation of the TBI Directive Type Memorandum, to better understand concussion after blast and translate what we learn into better practices for deployed TBI care.

Looking ahead, we welcome CAPT Paul Hammer, MD, MC, USN, incoming Director of DCoE. This is truly a pivotal time to leverage collaborations and initiatives to improve TBI prevention and care.

“My goal, working with DVBIC, is to have TBI thought of no differently than a knee injury. If you injure your knee, you go get it fixed. With a TBI, you may need short-term treatment or a major intervention, depending on the severity and lingering symptoms. A TBI can affect relationships, job and future health, so it pays to address it now.”



Paul Hammer, MD
CAPT, MC, USN
Incoming Director, DCoE



Virtual Services Reach Troops Where They Are

In an effort to step up TBI services at smaller military treatment facilities, DVBIC is helping to deliver both assessment and treatment—via telemedicine. In May 2009, DVBIC’s tele-TBI staff rolled out a tele-headache clinic to aid active duty service members at Fort Knox. Since then, DVBIC has added remote neuropsychological testing services to Marine Corps Base Quantico, West Point’s Warrior Transition Unit, Fort Sill and Camp Lejeune. DVBIC has also opened a new virtual headache clinic at Fort Lee.

In a year and a half, the tele-TBI clinic has held upwards of 200 remote sessions, run by a team of providers that includes DVBIC neuropsychologists, neurologists and other medical staff at Walter Reed Army Medical Center. Participation in the tele-TBI program has been high: Service members keep almost 100 percent of their virtual appointments—and if they can’t make one, another service member can substitute in from a different site. And, while eliminating missed appointments, the tele-TBI clinic also reduces the need for service members to make repeated trips to larger facilities for TBI care.

Given the demand for TBI rehabilitation services at isolated military treatment facilities, DVBIC plans to expand its tele-TBI clinics to new sites and to include new services such as cognitive rehabilitation, pain management, occupational therapy, speech and language, and physical therapy for temporomandibular joint (TMJ) disorder.



DVBIC Site Profile: VA Palo Alto Health Care System



The DVBIC team at Palo Alto provides comprehensive inpatient and outpatient care in TBI.

The VA Palo Alto Health Care System (VAPAHCS) was established as a lead DVBIC site in 1992. The System began operations in 1924 and has grown into one of the largest in the Veterans Health Administration and the sixth largest in the state of California. It includes the Polytrauma Rehabilitation Center, which is one of four Level 1 VA Polytrauma Centers in the country. As partners,

VAPAHCS and DVBIC emphasize clinical care coordination, comprehensive education and outreach—including special attention to families’ needs—and research on diagnosis, treatment, and rehabilitation for veterans and service members who have sustained a TBI.

Clinical Care

The DVBIC team at Palo Alto serves as a core part of the multidisciplinary Polytrauma System of Care, an integrated VA service delivery system developed to provide comprehensive inpatient and outpatient medical, surgical and rehabilitation care in TBI. Additionally, VAPAHCS holds the Spinal Cord Injury Center, Western Blind Rehabilitation Center, National Center for PTSD, and the War Related Injury and Illness Study Center. VAPAHCS is also building a new rehabilitation center for its polytrauma services, including DVBIC. Set to open in 2013, it will be the U.S. government’s largest rehabilitation center.

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A traumatic brain injury (TBI) is caused by a blow/jolt to the head or penetrating head injury that disrupts the normal function of the brain. Not all blows/jolts to the head result in a TBI. TBI severity may range from **mild** (a brief change in mental status or consciousness) to **severe** (an extended period of unconsciousness or amnesia after injury). The terms **concussion** and **mild TBI** are interchangeable.

Aiding TBI Through Research



Researchers collaborate across DVVIC's sites and with other organizations to better understand, assess, prevent and treat TBI. Studies include safety and prevention of TBI in deployed and non-deployed settings, effects of blast exposure on the brain, usefulness of medications and treatment interventions, TBI imaging technologies, and post-TBI return to duty/work/community.

Here is a closer look at three of the many research projects currently under way at DVVIC.

Interactive Metronome Study

The Interactive Metronome study at Fort Carson started enrolling patients in July, 2010. Study investigators are testing computer-based training to improve the motor planning, sequencing and sustained attention of service members with cognitive sequelae of mild TBI. To be eligible, service members must show signs of mild neurocognitive dysfunction.

The intervention—a video-game like interface—seeks to retrain the soldiers' motor planning, attention and processing speed by timing their responses to constant tempovisual and auditory cues.

Preliminary results with a small sample of pilot subjects are promising, the researchers say: After 15 one-hour sessions over five weeks, participants are showing improvements on primary neuropsychological outcomes, including processing speed, sustained attention, working memory and executive functions.

After the initial phase of the study, the goal is to expand the trial to multiple sites in hopes that the results continue to be positive and that findings can be applied to help service members recover from their injuries.

SCORE!

The Study of Cognitive Rehabilitation Effectiveness

for mTBI (SCORE!) is a randomized controlled trial targeting individuals with a history of mild TBI (mTBI) who have persistent symptoms. Congress mandated the study to inform the Tri-service Management Agency (TMA) of the reliability of cognitive rehabilitation in treating this population. Through the Defense Centers of Excellence, DVVIC worked with DoD and VA subject-matter and regulatory experts on the design and development of the study.

The study, based at San Antonio Military Medical Center (SAMMC), will recruit 160 patients over two years and test which components (or combination of components) of cognitive rehabilitation treatment are most effective. They will also investigate which participant characteristics are associated with better treatment outcomes.

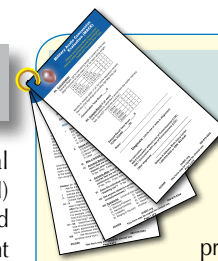
Allowing for follow-up and data analysis, the goals are for SCORE! to 1.) advise TMA policy in 2013 regarding coverage of cognitive rehabilitation for mTBI and 2.) contribute to the best practices for treatment of mTBI.

MACE Normative Project

Since 2006, military personnel have used the Military Acute Concussion Evaluation (MACE) to evaluate service members for TBI in-theater. Developed by DVVIC, the tool is based on the Standardized Assessment of Concussion (SAC), an instrument primarily developed and validated for the assessment of sports-related concussion. The MACE Normative Project is designed to standardize several alternate forms of the tool for clinical evaluation of service members for TBI.

The objective is to keep service members' results from being compromised by repeated screenings. Alternate forms of the MACE are needed to keep practice effects from earlier exposure to MACE questions — or memorization of stimuli — from affecting the validity of results. The normative project, being conducted at Brooke Army Medical Center/

Tools Available for In-Theater TBI Screening



DVVIC produces several products to help medical providers screen for TBI and provide clinical care for mild TBI (mTBI) in-theater. These include:

- Clinical practice guideline (CPG) pocket card — 4 X 7 laminated card with all four relevant CPGs for treatment of mTBI in-theater.
- CPG wallet card — 3.75 X 2.5 business card-sized version of the pocket card with accordion-style presentation.
- Military Acute Concussion Evaluation (MACE) pocket card — 4 X 7 laminated card to assist with screening for TBI.
- MACE wallet card — 3.75 X 2.5 business card-sized version of the pocket card with accordion-style presentation.

To order these and other products, e-mail info@DVVIC.org or call (800) 870-9244.

Fort Hood and the Naval Medical Center San Diego/Camp Pendleton, will also establish a SAC database that is more appropriate for a military population, say its leaders. They expect the project to be completed by the spring of 2011.

Points of contact for the studies are:

MACE Normative Project: Michael McCrea, PhD, ProHealth Care Neuroscience Center & Research Institute

SCORE!: Amy Bowles, MD, and Doug Cooper, PhD, San Antonio Military Medical Center

Interactive Metronome Study: Lonnie Nelson, PhD, Fort Carson

To contact the sites, visit the Locations page at www.DVVIC.org.



DVVIC Site Profile: VA Palo Alto Health Care System ...continued from page 1

Education, Training and Outreach

Palo Alto kicked off a "Strategies for Academic Success" workshop series in March 2010 as an education outreach to those in the community college system working with service members and veterans who have sustained a TBI. The series seeks to equip faculty, counselors and other staff to better serve student veterans.

Research

The DVVIC Palo Alto site's clinical investigative research program works in tandem with VAPAHCS and Stanford University on both local studies

and long-term, multisite projects, including the Prospective Clinical Tracking Form (CTF) study, Methylphenidate in early TBI recovery study, and the Long Term TBI outcome study. Among Palo Alto's more recent projects is a feasibility study designed to improve the quality of clinical services provided to patients through assistive technology. The goal is to better serve veterans by expanding services to those in remote locations.

Contact Information

For more information and to learn more about regions served, visit: www.paloalto.va.gov and www.DVVIC.org.

DVVIC Headquarters:

Building 1, Room B209
6900 Georgia Avenue, NW
Washington, DC 20307-5001

Phone: (800) 870-9244
Requests: info@DVVIC.org

Military healthcare providers:
TBI.consult@us.army.mil

DVVIC Website: www.DVVIC.org



DCoE Website: www.dcoe.health.mil

Phone: (703) 696-9460