

# WRIISC Advantage

WINTER 2013

▶ Addressing exposure to  
**AIRBORNE HAZARDS**

▶ The Integrative  
**HEALTH & WELLNESS**  
Program at DC WRIISC

▶ New findings in  
**MIGRAINE RESEARCH**

Learn about innovative  
**TREATMENTS FOR VETERANS** ▶



In this edition of *WRIISC Advantage*, we talk about several innovative treatments for sleep issues, mental health, and more.

## CBT for Insomnia: *An In-depth Look*

**S**leep is an important part of overall health. At the WRIISC, we often see Veterans who are experiencing sleep difficulties.

A Veteran named “Jim” complained that he is unable to get a good night’s sleep. Upon further questioning, he says that he averages about 3 to 4 hours of sleep per night and that it often takes him several hours to fall asleep. Once asleep, he becomes frustrated by frequent awakenings (averaging about 4 to 5 times a night). His frustration increases as he watches the clock noticing that it is getting closer to his 6:00 AM wake up time for work. When he finally falls back to sleep, his alarm goes off. Feeling exhausted, he stays in bed for another 30 minutes realizing that he has a limited amount of time to get ready for work. The lack of sleep affects Jim in other ways too; he notes that he has been getting in trouble for coming in late for work which causes more stress and concern. Based on this initial intake session, “Jim” is told that he is a great candidate for Cognitive Behavior Therapy for Insomnia (CBT-I).

### *So what is this new treatment all about?*

**CBT-I** is a six-session evidence-based psychotherapy treatment aimed at providing relief for individuals such as “Jim” in their often frustrating quest to improve their sleep. Six sessions may seem like a short amount of time to reverse insomnia. Surprisingly, this treatment is so effective that some patients may see significant changes in their sleep pattern in four sessions! The two main components of CBT-I are *stimulus control* (SC) and *sleep restriction therapy* (SRT).




**SC** involves a series of instructions based on the idea that people who develop insomnia are used to being awake instead of sleeping when they should. SC attempts to break this relationship and strengthen the bedroom environment to become a cue for sleep instead of arousal. One SC strategy in practice uses the bedroom environment only for sleep and not for other behaviors like watching television. That way, over time a person becomes “conditioned” to falling asleep.

**SRT** is a technique whereby patients are:

- Initially told to restrict their sleep time in bed to the amount of sleep they are currently getting.
- Over several weeks, the patient is told to gradually increase sleep time in bed to a desired amount (for example, going from 5 hours to 8 hours).
- Additionally, the patient is told to keep a sleep diary, address unhealthy thoughts about sleep (for example, “I can never sleep”), and practice other sleep hygiene techniques.

Many patients see dramatic increases in both how well they are sleeping and how much sleep they are getting per night.

For our patient “Jim,” his SRT started with sleeping for 4.5 hours every night without napping during the day. He was also told to stop nighttime clock watching. After six sessions, “Jim” was getting close to 7 hours of uninterrupted sleep!

You can speak with your provider about CBT-I and sleep issues to get the sleep you need and deserve. 

# VA Technology-Based Treatments

WITH THE HELP of technology-based treatments, health care providers at Department of Veterans Affairs (VA) are experimenting with different ways of providing relief to Veterans coping with mental health symptoms.

## Transcranial Magnetic Stimulation and Prolonged Exposure Therapy

Post Traumatic Stress Disorder (PTSD) is a condition that may arise when you are exposed to an extremely stressful event. After exposure, you might feel on-edge, experience recurring nightmares, and avoid event reminders and social settings. Currently, effective PTSD treatments include medication and psychological interventions like exposure-based treatments to diminish or even get rid of symptoms. A key component of exposure therapy is repeatedly remembering or imagining a traumatic event in detail.

### MOBILE APPLICATIONS (Apps)

These apps offer additional techniques for managing PTSD and other symptoms but are not intended to replace professional care. Visit the Department of Defense's (DoD's) National Center for Telehealth & Technology (T2) Web site at <http://t2health.org> for these apps:



**PTSD Coach** helps you learn about and cope with the symptoms related to PTSD. It was developed by VA's National Center for PTSD and T2.



**T2 Mood Tracker** allows you to self-monitor, track, and reference your emotional experience over a period of days, weeks, and months using a visual analog rating scale.



**Breathe2Relax** is a stress management tool for a hands-on breathing exercise to decrease stress response and help manage mood, anger, and anxiety.



**PE Coach** accompanies Prolonged Exposure (PE) therapy with a mental health professional and is not a self-help tool.

Speak with your provider about using any of these apps to better manage your symptoms.

Potentially faster treatments can make the lives of Veterans with PTSD symptoms easier. In fact, exposure-based treatments have been effective in about 65% of those treated.

One type of PTSD treatment being tested at VA is transcranial magnetic stimulation (TMS) which is combined with prolonged exposure therapy (PE) to hopefully enhance and accelerate treatment results. This supervised treatment involves sitting in a chair while thinking about the traumatic event you experienced. While this happens, magnetic pulses stimulate the part of your brain that allows you to feel in control of the situation. This is because one core PTSD symptom is a sense of helplessness or lack of control over an event. Combining stimulation of this brain region with exposure to the traumatic memory is thought to allow the Veteran to replace the sense of helplessness with perceived control over the disturbing memory. TMS has already been successful in treating depression in Veterans and when combined with prolonged exposure therapy, seems to yield positive results for Veterans with PTSD.



A Veteran relaxes before receiving gentle pulses to her brain via TMS treatment.

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## Prolonged Exposure Therapy through Televideo Technology

VA researchers are reviewing the safety and relative effectiveness of conducting PE over the computer or via iPads which could save travel time and increase session attendance. For example, Veterans may have child care responsibilities, spend long hours at work, or live too far from a VA medical center. With an iPad, computer, or a smartphone, Veterans can receive similar treatment.

For more information on PTSD and available treatments, speak with your health care provider. You can also get more information at: <http://www.ptsd.va.gov>.

## HELPING VETERANS THROUGH THE Integrative Healthcare and Wellness Program at DC WRIISC

**RESEARCH SUGGESTS** that complementary and integrative medicine (CIM) approaches may enhance standard medical care for Veterans with chronic disease, mental health disorders, and multi-symptom illnesses (MSI). CIM treatments, such as meditation and acupuncture are designed to address multiple biological systems and may improve health for Veterans with chronic physical and mental health conditions. To address the treatment needs of Veterans, the DC WRIISC has provided CIM treatments since 2007. Preliminary findings suggest that Veterans report great benefit from CIM treatments and are thoroughly satisfied with the care.

The DC WRIISC's *Integrative Healthcare and Wellness (IHW) Program* was designed to provide multiple CIM modalities to Veterans in a comprehensive clinic setting. Veterans are referred to the IHW Program from clinics hospital-wide (for example, Trauma Services, Pain Clinic, Neurology, Polytrauma, and Primary Care). Before receiving treatment, Veterans are required to attend a 1-hour IHW Program orientation session. Treatments offered within the IHW Program include individual acupuncture, group auricular acupuncture, iRest® Yoga Nidra, and a health education group. The program is integrated with the Washington DC VA Medical Center and generally well-accepted by providers throughout the hospital.



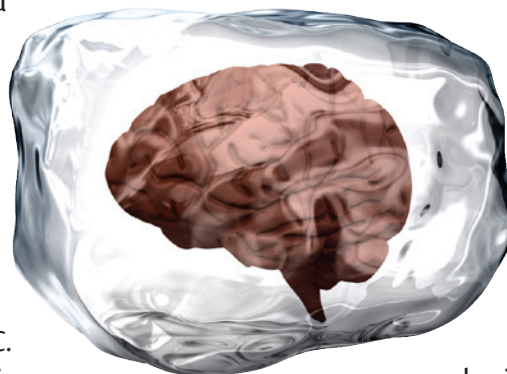
Veterans enrolled in the IHW Program have the opportunity to participate in a pilot study evaluating the program. All Veterans complete clinical questionnaires and satisfaction surveys to assess symptom improvement and patient satisfaction. Those participating in the research portion provide consent for questionnaires, surveys, and data from their medical record to be used

for research purposes. The primary goals are to evaluate patient satisfaction and physical and mental health outcomes among Veterans enrolled in the study to better understand their experience in the program. Since the IHW Program opened on August 1, 2012, 84 Veterans have enrolled in the program while 69 (82%) Veterans have consented to participate in research. [↪](#)

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## 'Brain Freeze' Study May Explain Migraine Headaches

**THAT INTENSE HEADACHE PAIN** you get after gulping down ice cream too quickly, also known as "brain freeze," may be caused by a sudden change in the flow of blood to your brain based on recent work at the NJ WRIISC. "Understanding what happens to brain blood flow as people develop headache pain could help us figure out how to prevent other kinds of headaches, like migraines and post-traumatic headaches," said Dr. Jorge Serrador, Associate Director of Research at the NJ WRIISC. Headaches affect over 50 million Americans a year and approximately 10 percent of the population suffers from migraines, according to Cathy Glaser, president of the Migraine Research Foundation,



who was not associated with this study. "We do not know what causes migraines and there are a lot of theories around, but that's why basic research is so essential."

Combat Veterans are 2 to 4 times more likely to experience migraines than the general population and we want to help identify the cause. Dr. Serrador's study used transcranial Doppler to monitor brain blood flow in healthy adults as they drank ice water through a straw pressed against the upper palate to trigger a brain freeze. Changes in brain blood flow were pinpointed. The study, jointly conducted by VA and Harvard Medical School, indicates that such headaches occur following a sudden increase in blood flow in the



brain's anterior cerebral artery, then goes away when the artery constricts. Since the skull is a closed structure, the sudden rush of blood might increase internal pressure and cause pain. The artery constricts to slow increased blood flow. This may be the brain's way of reducing sudden pressure before reaching a dangerous level.

While further research is necessary to confirm these initial findings, Dr. Serrador believes, "Such research may lead to finding ways to safely control brain blood flow and developing new treatments for these kinds of headaches." We look forward to informing you about future research on this topic. [↪](#)

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## Addressing **OEF/OIF/OND** Airborne Hazards



**P**art of our job at the WRIISC is to identify exposure concerns and how they may impact health. More than 2.4 million military personnel have deployed to the operations in Afghanistan and Iraq (OEF/OIF/OND) and many may have been exposed to a variety of airborne hazards such as particulate matter, dust/sand, and combustion derived particulates (i.e., vehicle exhaust and smoke from burning trash). Exposure to air pollution and hazardous occupational agents are known risk factors for developing chronic respiratory disease. The risk of these exposures is higher in the OEF/OIF/OND deployment environment. Work from the NJ WRIISC has reported that Veterans of these wars are concerned about these airborne hazards, and their concerns are related to their symptom burden.

As a result, the NJ WRIISC has implemented full pulmonary function testing during all comprehensive clinical evaluations to determine the extent and severity of any associated lung injury. NJ WRIISC researcher, Dr. Michael Falvo, has also developed several new research projects to further evaluate respiratory-related symptoms as well as identify mechanisms of injury. These projects will investigate respiratory gas exchange during exercise as well as the effect of exercise on lung function

and performance. In addition, Dr. Falvo will evaluate whether exposures have had an effect on cardiovascular and/or nervous system function. Preliminary findings from our clinical and research efforts were presented at the Joint VA/DoD Airborne Hazards Symposium in Arlington, VA from August 21 to 23, 2012 – a symposium of invited experts to address growing concerns of airborne hazards. [↪](#)

The NJ WRIISC welcomes **Michael J. Falvo, PhD**, a Research Physiologist who moved from fellow to faculty during the summer of 2012. Dr. Falvo's research projects on the effects of airborne hazards were recently awarded funding from VA's Office of Research & Development. This 2-year award will enable the NJ WRIISC to address growing concerns of the potential health effects of airborne hazards and identify potential mechanisms which may lead to new treatments to improve the health of affected Veterans.



# Around the WRIISC *News*

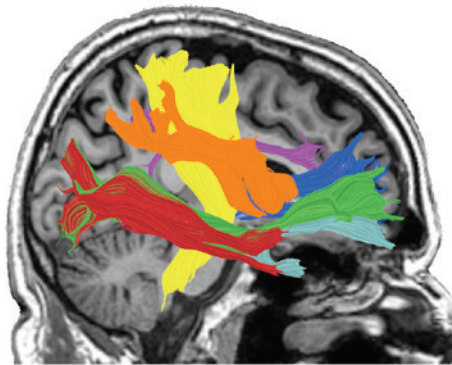
## CA WRIISC

### Differentiating TBI and PTSD in Veterans with Multiple Symptoms

At the CA WRIISC, research studies continue to help Veterans with traumatic brain injury (TBI) and other combat-related disorders.

In a recent study, a magnetic resonance imaging (MRI) method called diffusion tensor imaging (DTI) was utilized. This technique measures the diffusion of water along nerve fiber tracts which can provide information on whether nerve pathways are working or have been disrupted by trauma, inflammation, or tumors. The study's principal investigator, Dr. Maheen Adamson, chose to analyze MRI scans of the cingulum (white matter fibers that allow for communication with other parts of the brain) based on reports by others that said this is an important area.

Dr. Adamson hypothesized that there might be visible differences in these nerve fiber tracts in Veterans with PTSD only and PTSD *with* TBI. CA WRIISC collected different kinds of information from seven WRIISC patients diagnosed with PTSD only and 15 WRIISC patients diagnosed with PTSD *and* TBI. Early evidence from this study highlights that the cingulum of a Veteran with PTSD might differ from the cingulum of a Veteran with PTSD and TBI, or there might be differences in the cingulum between those with and without TBI. The CA WRIISC has plans to increase the number of subjects, include Veterans with TBI only, and add a control group. Future analysis will also focus on the effect of additional health problems. For more information about this particular study, please contact Dr. Adamson by emailing [wriisc.ca@va.gov](mailto:wriisc.ca@va.gov) or calling 1-888-482-4376.



The purple tracks represent the cingulum area of the brain.

## DC WRIISC

### Dr. Michael Hodgson Joins WRIISC Team

The DC WRIISC is pleased to announce that Dr. Michael Hodgson, pictured right, has joined our staff as a senior clinician. As an internist and occupational physician, Dr. Hodgson's responsibilities will include evaluating Veterans with deployment environmental exposure concerns, conducting research, and teaching. Prior to joining the DC WRIISC, Dr. Hodgson led VA's Occupational Health Strategic Health Care Group and Program from 1999 to 2012. He previously held academic positions at the University of Pittsburgh (1983 to 1991) and the University of Connecticut (1991 to 1998) where he established and directed an occupational medicine residency. He also served as an Epidemic Intelligence Service Officer (US Public Health Service Commissioned Corps) for the Centers for Disease Control and Prevention.



In the mid 1990s, Dr. Hodgson served as a medical consultant to the American Legion around the complex conditions labeled "Gulf War Illnesses." He authored over 90 peer-reviewed publications, has edited two books, and published on a broad range of topics, from moisture, lung disease, and indoor environments; solvents, liver, and central nervous system disorders; chronic disease and environmental exposures; and "the Sick Building Syndrome."

Most recently, Dr. Hodgson has been selected as a subject-matter expert to work on the Camp Lejeune historic contaminated water task force that VA formed. In this capacity, he will use his expertise to lead a subgroup that will address exposure assessments for Camp Lejeune. Additionally, Dr. Hodgson is working closely with VA clinicians to provide staff education on the history of exposure to contaminated water at Camp Lejeune.

Dr. Hodgson's expertise will be invaluable to the DC WRIISC as we care for Veterans with post-deployment health concerns!



## NJ WRIISC

### Social Work Helps Lives of Veterans

Our social workers follow up with Veterans seen at the NJ WRIISC in person or with phone calls at intervals of one month, six months, and one year after their initial visit. In addition, they are instrumental in helping Veterans implement their medical recommendations and reintegration into the community. In the follow up calls, social workers track progress for Veterans and provide appropriate assistance through advocacy or guidance. Feedback on this process has been excellent: countless numbers of Veterans report having followed up on their recommendations and doing better to date in several areas of health.

The WRIISC social workers examined the records of 353 OEF/OIF Veterans evaluated at the NJ WRIISC between June 2008 and July 2010. The team looked at demographics, military service information, and mental health status variables from the initial health questionnaire that Veterans fill

Veterans' Most Common Concerns	
Pain	66%
Sleep	58%
Employment Issues	49%
Education	49%
Cognitive Issues	44%
Relationships	40%
Anger	39%

out prior to being seen at the WRIISC as well as categories of psychosocial concerns and social work recommendations from chart reviews. It was found that on average, Veterans in the sample had five concerns and nearly five recommendations (See their most common concerns above).

It was also determined that Reserve/National Guard Veterans were more likely to report sleep problems while active duty Veterans were more likely to report problems with work. Our social workers most frequently recommended case management (83.5 percent) to coordinate, facilitate, and provide ongoing assistance following up on WRIISC recommendations. In future research, they plan to examine to what extent Veterans have implemented the recommendations provided, what barriers are preventing their progress and, therefore, how well the needs of the Veterans are being met. This work has been accepted for presentation at the annual Society of Social Work Research in January 2013. ↪

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