The American Institute of Stress

COMBAT STRESS

BRINGING YOU ALL THE WAY HOME

Volume 6 Number 1 February 2017

SLEEP: The Missing Link

Sleep Assessment and Interventions for Combat Veterans with Disrupted Sleep

Also in this issue:

The Epidemic of Veteran Suicides
The Myth of 22 Suicides Per Day

What Veterans with PTSD Should Know About Their Claims

Dreampad: New Home-based Technology to Improve Sleep and Reduce PTSD Symptoms

The mission of AIS is to improve the health of the community and the world by setting the standard of excellence of stress management in education, research, clinical care and the workplace. Diverse and inclusive, The American Institute of Stress educates medical practitioners, scientists, health care professionals and the public; conducts research; and provides information, training and techniques to prevent human illness related to stress.

AIS provides a diverse and inclusive environment that fosters intellectual discovery, creates and transmits innovative knowledge, improves human health, and provides leadership to the world on stress related topics.

Your source for science-based stress management information

COMBAT STRESS

We value opinions of our readers.

Please feel free to contact us with any comments, suggestions or inquiries.

Email: editor@stress.org

Combat Stress is a quarterly newsletter published in February, May, August and November with news and advertising designed with Service Members, veterans and their families in mind. It appeals to all those interested in the myriad and complex interrelationships between combat stress because technical jargon is avoided and it is easy to understand. Combat Stress is archived online at stress.org. Information in this publication is carefully compiled to ensure accuracy.

AIS Combat Stress Board

Chaired by Colonel Platoni, the role of this board is to develop initiatives and communications to serve the stress management needs of Service Members and veterans.

Sleep: The Missing Link

Sleep Assessment and Interventions for Combat Veterans with Disrupted Sleep

Christiane O'Hara PhD and
Helen (Netta) Putnam, PA, OTR

Introduction

This article is a follow-up to the *Preventing Sleep Casualties: Studies, Statistics, and Solutions* (Mysliwiec et al., November 2014) issue of *Combat Stress*. It summarizes how sleep problems acquired or exacerbated during deployments can contribute to behavioral, interpersonal, relationship, and medical problems for veterans and their families; discusses ways to assess veterans with sleep issues and when to refer to sleep clinics for evaluation; and describes best practices in sleep interventions to assist veterans with correcting abnormal sleep patterns. This summary of sleep research and interventions with veterans serves as an introduction to the emerging recognition of sleep as a critical feature of health, and a frame of reference for the article in this issue of *Combat Stress* on the Dreampad® and CES.

Sleep and Military Service

Service members and veterans, particularly those with multiple deployments, often demonstrate significant disruptions in sleep cycles and patterns that may continue long after deployment. Most have little awareness of, or education regarding, normal sleep cycles and rhythms, how deployments can interfere with these cycles (establishing neurophysiological patterns acquired during deployments, but that become dysfunctional upon returning home), and how sleep disruption contributes to poor health and overall life disruption.

For combat veterans, both during and post-deployment, disrupted sleep and untreated sleep problems can exacerbate symptoms of combat stress, post-traumatic stress, and brain injuries. Prolonged sleep dysfunction can have catastrophic effects on health, work, security clearances, and family/community relationships. The impact of prolonged sleep disruption has been demonstrated to affect daytime cognition (attention, concentration, short-term memory, mental flexibility), mental health and interpersonal relationships (irritability, anxiety, and depression), and physiological systems (cardiac, digestive, sexual, and endocrine) (Castriotta et al., 2009; Castriotta & Murthy, 2011; Lucke-Wold et al., 2015; Institute of Medicine, 2006).

In addition, veterans who have sustained mild Traumatic Brain Injuries (mTBI) are even more at risk for sleep dysfunction. The research literature has tied sleep disorders with mTBI for decades:

"Sleep disruption is common following traumatic brain injury and the majority of patients develop a chronic sleep disorder. It appears that sleep disturbances may be influenced by the mechanism of injury in those with combat related traumatic brain injury, with blunt injury potentially predicting the development of 0SAS (obstructive sleep apnea syndrome)" (Collen et al., 2012).

Additional sleep disorders within this population include insomnia, circadian rhythm sleep disturbances (Ayalon et al., 2007); post-traumatic hypersomnia, and narcolepsy (Collen et al., 2012; Lankford, Wellman, & O'Hara, 1994). In light of the significant corre-

lation of sleep disorders with mTBI, and the *finding that over 97.4% of combat veterans with mild and moderate traumatic brain injuries report sleep complaints* (Collen et al., 2012), it is essential that veterans with mTBI symptoms or diagnoses be screened for sleep problems and referred for an accurate sleep diagnosis and treatment.

Prevalence of Sleep Disorders in Combat Veterans with mild to moderate TBI*

In a group of 116 consecutive patients, all combat veterans w TBI, who underwent comprehensive sleep evaluations:

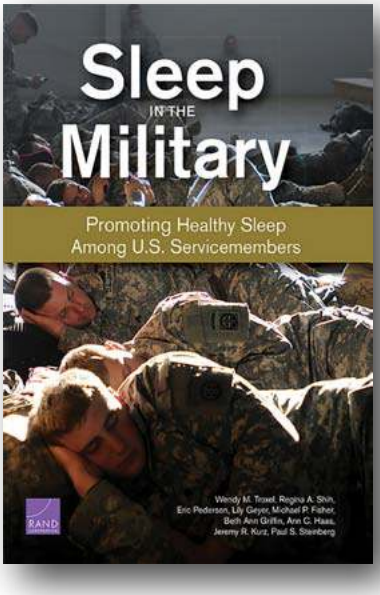
97.4% - had sleep complaints
82.5% - hypersomnia
55.2% - insomnia
54.3% - sleep fragmentation
34.5% - obstructive sleep apnea syndrome

* Collen, J., Orr, N., Carter, K., & Holley, A. (2012). Sleep Disturbances among Soldiers with Combat-Related Traumatic Brain Injury. Chest, 142(3):622-630.

The Performance Triad and the DOD/ Rand Collaboration

In 2013, Lieutenant General Patricia D. Horoho, US Army Surgeon General, responded to the growing recognition of sleep problems in the military by launching an organizational initiative to improve the health, readiness, and resilience of the Army family. The creation of the *Performance Triad* targeted the implementation of a comprehensive plan to promote the balance of sleep, activity, and nutrition among Army personnel and family members to improve wellness. The inclusion of sleep within a military health and wellness model was a remarkable shift in recognizing the huge toll that disrupted sleep takes on individual Service Members, on performance readiness, and on operational safety. The Triad Model allows for individual Service Members and families to identify sleep problems and set targets to improve sleep via individualized online profiles. The Triad also monitors nutrition and activity (formerly described as exercise), both of which had been targeted as cornerstones of military fitness, long before sleep was included.

Following suit, the Department of Defense, concerned about the role of sleep disruption and deprivation across all branches of service, partnered with the Rand Corporation in 2014 to bring sleep researchers and clinicians together to study sleep patterns and their impact on mission and individual Service Member performance. The goals of this summit were to identify research and best practices to improve Service Member sleep, to address gaps in research, clinical management, and training settings, and to make recommendations in each of these areas. The results are available in *Sleep in the Military: Promoting Healthy Sleep Among U.S.* Servicemembers (Troxel, Smith, et al., 2015), available for free download (http://www.rand.org/pubs/research_reports/RR 739.html). This document represents the first collaborative effort among all service branches, researchers, and clinicians to review the sleep research related to Service Members. It identifies best research-based recommendations for practices in sleep, as well as gaps that need to be addressed by researchers and clinicians to continue building a compendium of effective sleep interventions for our Service Members.



Factors Disrupting Sleep

Several *external factors* can affect sleep that are not specific to military service or combat.

These can include:

- size and type of bed, mattress, and pillows
- sleeping patterns of bed partners
- noise, light, and room temperature
- pets and children
- using electronic devices while in bed.

Providing instruction in how best to manage these factors is a way to normalize the discussion of sleep with combat veterans and their partners. It is recommended that bedding types (firmness, foam vs. innerspring, pillow, etc.) be sampled for the best individual and partner fit; that noise and light be reduced as much as possible, and that cool air be circulated while sleeping. Pets and children may disrupt sleep, and should not be in the room or in the bed. Partners should discuss sleep patterns and how to reduce awakening one another. All electronic devices (phone, TV, radio, videogames, music) should remain off, other than setting an alarm for a planned wakeup. For Service Members who are "permanently attached" to checking messages or who are conditioned to falling asleep with television or music on, turning off electronics can be a difficult but necessary transition.

Similarly, *internal factors* can affect sleep. Discussion of these factors with Service Members and partners initiates the conversation about how to manage them.

Each Service Member requires individualized assessment of which factor(s) contribute to sleep disruption and how to manage each one:

- caffeine intake and volume
- alcohol intake
- medications, including prescribed, over the counter, and illegal
- physical issues, including chronic pain (service-related pain can include skeletal injuries from carrying/wearing heavy equipment, falls, jumping/climbing, running)
- tinnitus and/or hearing loss (from exposure to engines, mortars, rockets, RPG's, small arms fire, etc.)
- worry and stress
- undiagnosed/untreated sleep disorders
- changes in circadian rhythm for Service Members working shifts, travelling across time zones or stationed in submarines or aboard other Naval vessels.

In addition, *deployments in combat zones* can add to and/or exacerbate sleep problems. It is helpful to distinguish deployment

factors from those affecting all civilians and non-deployed Service Members, as deployment factors can disrupt sleep in ways that have the potential to significantly compromise normal sleep patterns. Examination of sleep patterns which were adaptive during deployment, but no longer functional post-deployment, can shift the perceptions from being "broke" and "disordered", to having adapted to deployment sleep conditions that now require reconditioning or additional adaptations post-deployment. This move from the realm of psychiatric patient and a threat to one's family, community, and the military allows for a significant shift in hope, particularly when combat veterans learn that there are interventions to restore sleep. This also allows combat veterans to separate combat-related sleep issues from other sleep issues that may not be related to combat, recognize that non-veterans also have sleep problems, and opens up discussion that all sleep problems have effective interventions to treat them.

Veterans need to know the combat-related experiences that may affect sleep, which include:

Exposure to:

  - toxic smells and substances (smoke, fumes, burn pits, etc.)
  - toxic/loud sounds (mortars, engines, gunfire, music, etc.)
  - extremes in temperature (both cold and hot)
  - extreme light (sun, flashes, flares, etc.)
- reduction in "down time" when sleep may be a lower priority than eating, emailing family and friends, and falling asleep may be elusive
- lack of privacy/control over external factors affecting sleep
- unpredictable length and timing of missions, leading to "catching naps" and missing regular sleep cycles around the mission
- variability in sleep location and bedding (including sleep on the ground, sharing a cot by shift, sleeping in a moving vehicle)
- experiencing atrocities of war (mutilation/death of peers, children, women, enemies)
- sleeping with "one eye open, weapon at the ready"
- increase in caffeine intake and substances to increase alertness
- managing escalation of pain and stress (physical, emotional)
- circadian rhythm disruption with every flight home, downrange, and across time zones
- blast injury/concussion
- autonomic hyperarousal

These factors can affect the sleep physiology, quality, and quantity of every Service Member who has been deployed, and can have deleterious effects on conditions associated with PTSD (Worcester, 2012) and mTBI, including learning and memory consolidation (McDermott, LaHoste, Chen C, et al., 2003; Capaldi et al., 2011; Luxton et al, 2011).

The neurophysiology of sleep *shifts* over the course of each deployment to accommodate geographical and war-specific circumstances.

These include:

- adaptation for self-preservation (such as being aroused easily)
- sleeping through noise, light, and noxious smells that would normally wake one up
- adjusting to less sleep over time
- conditioning the autonomic system to a state of hyperarousal
- circadian rhythm changes, depending on assignment
- managing traumatic memories that emerge in nightmares

Most combat veterans have no training in the impact of combat on sleep, the need to re-train the brain to reduce hyperarousal and re-adjust circadian rhythms and arousal states to stateside clocks and conditions, and the need to seek assistance for nightmare management/reduction and other sleep problems such as profuse night sweats. Nor are those with diagnoses of Post-Traumatic Stress Disorder (PTSD) or mTBI aware of how disrupted sleep contributes to some of the symptoms of these diagnoses (irritability, problems with memory and concentration, startle response, hypervigilance, nightmares, etc.) (Ayalon et al., 2007; Baumann et al,. 2007; Castriotta et al., 2009).

One question asked in assessing Service Members for changes in sleep is whether they "check the perimeter" (locks, doors, and windows) of their home repeatedly before and during hours of sleep. This repetitive behavior is likely to be an excessive need for safety and security carried over from deployment and must be addressed along with other sleep disruptions. Similarly, repetitive and/or frequent nightmares with combat-related content and themes speak to unresolved memories, as well as sleep problems. These combat-specific factors warrant assessment and treatment beyond that of "sleep hygiene" information. The sleep of our combat veterans is in many ways the "last frontier" in helping them return home well.

Assessment of Sleep

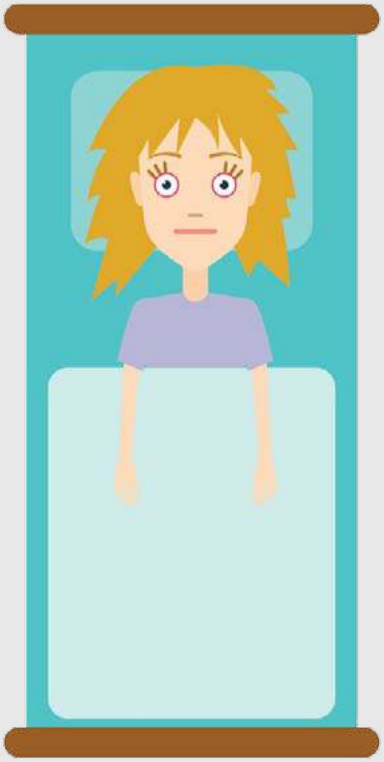
Assessment includes administration of standardized sleep scales, such as the Epworth Sleepiness Scale (Johns, M. W., 1991), the Pittsburgh Sleep Quality Assessment (PSQI, Buysse et al., 1989), and the Insomnia Severity Index (Morin et al., 2011), and the completion of sleep logs (the latter kept by Service Members for up to two weeks to identify patterns of sleep, length, quality, etc.). When available, a roommate or sleep partner may provide corroborating observations of the Service Member's sleep

disruptions, including restlessness, insomnia, night sweats, nightmares, snoring, etc. Assessment should also include the identification of prescribed medications, over the counter medications, substances such as alcohol, and medications prescribed to someone else.

Assessment of sleep can be done by the Service Member using the Performance Triad, Insomnia Severity Scale, or Epworth Sleepiness Scale. Sleep quality can also be assessed by clinicians who conduct interviews with veterans and their sleep partners and who have access to standardized assessment tools. It is recommended that assessment of sleep be included as part of the initial intake with combat veterans, and that changes in sleep quality be assessed during each follow up visit. Referral to a sleep clinic for overnight study, and/or development of an individualized protocol for sleep restoration, however, requires more training on how and where to refer, and how to differentially treat the multitude of sleep disorders that are delineated in the International Classification of Sleep Disorders, Third Edition (ICSD-3) (American Academy of Sleep Medicine, 2014).

The Department of Defense and Veterans Administration are in great need of expanding clinician training to make appropriate referrals and to treat sleep disorders with a careful combination of medication and non-medication interventions.

When to Refer to a Certified* Sleep Clinic



- Falling asleep while driving or at traffic lights
- Gasping for breath when sleeping (3x+/week)
- Muscle weakness when someone tells a joke
- Frequent daytime sleepiness despite adequate nighttime sleep
- Violent nighttime behavior
- Atypical nighttime behavior
- Self-medicating to aid sleep
- Nightmares, if medication requested
- Score above 10 on Epworth Sleepiness Scale

*by the American Academy of Sleep Medicine

Referral to a sleep clinic (which should be certified by the American Academy of Sleep Medicine) should be made when the any of the following is present:

- a score greater than 10 on the Epworth Sleepiness Scale
- falling asleep while driving or at traffic lights
- violent night time or atypical night time behavior
- prolonged use of OTC, prescribed, "borrowed" medications or alcohol (including substance abuse) to aid sleep
- severe nightmares
- muscle weakness when someone tells a joke
- frequent daytime sleepiness despite adequate night time sleep, and/or
- gasping for breath when sleeping (three times a week or more)

Sleep Interventions

All *medications* have known side effects, but remain frontline interventions for sleep disturbances. Medications are specific to the type and severity of sleep disorders and other co-morbid conditions; for example, their use for insomnia and hyperarousal is to calm the brain's overstimulation to allow for sleep, while medication for narcolepsy helps to stimulate daytime alertness. Medications for chronic, severe migraines, such as BOTOX injections, can provide combat veterans pain relief sufficient to allow for improvement in sleep (Botulinum Toxin and Headache Virtual Issue, July 2012; Khalil et al., 2014). Medication management for sleep and comorbid conditions continues to evolve as the mechanisms of mTBI, PTSD, and neurochemistry of medications are identified in research trials.

Additional interventions have been demonstrated to work in conjunction with medication, with the goal of reducing and eliminating sleep medications, while restoring sleep.

The goals of sleep restoration include:

- identification and instruction of the patient in effective sleep strategies
- improvement of the patient's perception of and understanding of sleep health (e.g., Sleep Health, 2015)
- initiation of sleep restriction as needed, and adjustment of sleep restriction over time
- reduction in nightmares
- reduction of night sweats
- reduction of medications for sleep

Improvement of quality and quantity of sleep Interventions may include:

- medication
- education about normal sleep and internal, external, and combat-related factors disrupting sleep
- stimulus control
- sleep restriction
- the use of CBT-I (cognitive behavioral therapy for insomnia)
- sleep "hygiene" (a term describing good/practical decisions to maximize sleep)
- nightmare management

- adaptive technology
- complementary alternative medicine (CAM) interventions
- management of chronic pain including
  - migraine headaches (Mauser & Rosen, 2012)
  - tinnitus (Humes et al., 2006), and
  - other physical changes secondary to deployment that disrupt sleep
- referral to a sleep clinic to identify and treat specific sleep disorders (where additional interventions may be tailored to sleep diagnoses/disorders identified in an overnight or 24 hour sleep study).

Stimulus control includes using the bed for sleep and sex only, resisting the urge to look at a clock in bed, getting out of bed when unable to sleep for 20+ minutes (and doing sedentary, non-functional activities), and setting a pattern to get up within 10 minutes of the same time, seven days a week.

Sleep restriction facilitates the consolidation of sleep by restricting the "Time in Bed" each night to the average number of hours slept each night during the previous week. A sleep log is used to estimate the time asleep versus the time in bed. Sleep is never restricted to less than 4-5 hours. Each week that the veteran achieves at least 85% sleep efficiency (asleep at least 51 minutes out of each 60 minutes in bed), he or she rewards him/herself by going to bed 15 minutes earlier each night for the next week. This intervention allows for the graduated increase of sleep per night from what may be initially misperceived as "I never sleep" to an awareness of gradually increasing sleep length and sleep restoration (Vallieres et al., 2013).

Cognitive-Behavioral Therapy for Insomnia

The highest report of sleep disturbance among veterans is insomnia. Cognitive-behavioral (CBT) has a robust empirical evidence base (Butler et al., 2006), and the application of CBT to insomnia (CBT-I) has been demonstrated to be an effective treatment for insomnia (Morin & Benca, 2012; Ashworth et al., 2015) and endorsed by the VA's Center for Integrated Health Care (Veterans Health Administration, 2011).

CBT-I corrects misperceptions about insomnia (for example, "if I miss sleep tonight, I will never make it through work tomorrow; I will get fired; I will fall asleep on the job," etc.) that are not likely to happen. It also corrects associations that perpetuate sleep problems and result in maladaptive habits, such as reading or watching TV in bed, and taking naps.

CBT-I incorporates numerous techniques, including sleep restriction, cognitive restructuring, and stimulus control. *CBT-i Coach* is an insomnia app published in 2013 by the Centers for Telehealth and Telemedicine (T2) for use in conjunction with CBT-I treatment. The app, designed for use by veteran patients, includes a sleep diary and options to calculate the total time in bed, total time asleep, and sleep efficiency. A summary of CBT- I in military populations is included in the Rand Sleep in the Military publication (Troxel et al., Ibid.). *CBT-i Coach*, and several other T2 apps that may indirectly assist with sleep, are available for free download on phones and androids (http://t2health.dcoe.mil/apps/CBT-i).

Sleep Hygiene

"Sleep hygiene" refers to a list of recommendations that were (and in many cases, are still) given to civilians and veterans as the standard first line of non-medication interventions to enhance sleep. Research studies have since indicated that it should not be the first line of therapy, although there are common sense changes in habits that should accompany research-based interventions.

These include:

- limiting caffeine and tobacco late in the day
- limiting exercise within two hours of bedtime
- sleeping in a cool, dark room
- sleeping without noise, electronics, pets, children in the room
- using relaxation techniques

For *combat veterans*, these recommendations may also include:

- providing *for the safety* of family, bed partners, and pets, particularly if nightmares, physical movements and thrashing, and startle responses with aggressive or guarding responses are present
- management of *night sweats,* such as changing to a dry set of clothing, lining the bed with a waterproof liner and/or towels, and reporting the frequency/intensity and duration of sweats and nightmares to the attending physician for further possible assessment
- management of tinnitus, chronic pain (head, neck, skeletal, etc.) and other injury related issues affecting sleep
- management of hyperarousal

Adaptive Technology

The most widely used and well-researched adaptive technology available to treat sleep disordered breathing is a machine to assist breathing known as a CPAP (Continuous Positive Airway Pressure), which pushes regulated air into the nose and mouth while sleeping. Obstructive sleep apnea (OSA, or OSAS) and central sleep apnea (CSA) are types of these disorders that have been increasingly diagnosed in Service Members and veterans (Collen et al., 2012; Castriotta et al., 2011). CPAP or BIPAP (Biphasic Intermittent Airway Pressure) devices can be ordered by sleep specialists who first confirm a sleep disorder diagnosis (typically by overnight sleep study), then select and fit a mask and machine matching the diagnosis and the patient's needs. In some cases, these devices are lifesaving.

Patients undergo training to use these machines nightly, however, compliance can decline over time and periodic check-ins with veterans using CPAPs and BIPAPs should be made.

Commercial devices that have been developed to track and/or enhance sleep have expanded as military (and national) interest in improving sleep has grown. One such aid, the Dreampad®, developed by Dr. Randall Redfield, is a pillow that integrates bone conduction technology (transducers) with music to enhance relaxation and sleep. In this issue, Dr Redfield's article describes the Dreampad® technology and initial research studies with small sample sizes across ages and populations.

Personal Readiness Devices (PRDs) are adaptive aids that are typically worn on the wrist to track sleep and activity. One well known product is the FitBit®, a wristband with wireless tracking of activity and sleep that syncs with its own phone app that can set and track goals; Jawbone Up® and other wristband products offer similar sleep trackers. Commercial sleep tracker apps used on or near the bed, such as Sleepace®, RestOn®,

and Relax Melodies® offer light, white noise, and/or multiple background sounds which can vary volume. Some devices include a clock and or alarm for automatic turn off, and the capacity to monitor and analyze sleep quality.

The major concern related to such apps and devices is the limitation (if not absence) of published peer reviewed research to support their efficacy in improving sleep quality and quantity. While they can provide daily feedback, they have not been demonstrated to correct sleep disorders. If this were to be undertaken, particularly with veterans as subjects, the wide use of smart phones and other electronic/technology devices would offer the potential to engage huge numbers of veterans in improving their sleep. A variety of *over-the-counter* nasal external removable devices and stick-on bandages purport to open nasal passages, improve breathing, and reduce snoring. Similarly, over-the-counter nasal sprays, sublingual drops, and creams have come on the market, several of which include melatonin, magnesium, valerian root, GABA, and other nutrients and herbs. Even products with these *natural sleep-enhancing agents* have insufficient well-controlled research to support their use for veterans (Kemp et al., 2004). One exception is a study of NFL players given supplements, exercise, and other lifestyle changes that yielded improvement in cognitive function and corresponding improvement on SPECT (single-photon emission computerized tomography) scans (Amen et al., 2011); these results warrant further study of supplements alone.

For Service Members and families unaware of best practice options available to correct sleep problems, the search for ways to improve sleep are often left to such hit or miss over-the-counter options that may prolong referrals for appropriate diagnosis and treatment.

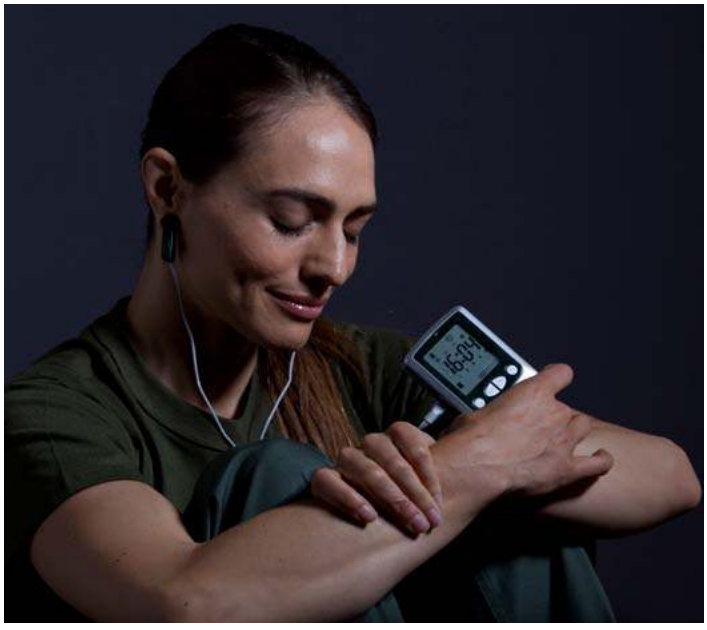
SYMPTOMS OF SLEEP APNEA

- **Snoring**
- **Periodic Choking or Gasping**
- **Inability to Fall Asleep or Stay Asleep**
- **Disturbed Sleep**
- **Waking Up Frequently with a Dry or Sore Throat**
- **Weight Gain**
- **Feeling Sleepy/Falling Asleep During the Day**
- **Forgetfulness**
- **Mood Swings**
- **Lack of Interest in Sex**

* **http://health.facty.com/ailments/sleep/10-symptoms-of-sleep-apnea**

One adaptive technology intervention showing promising research is the use of *light therapy,* an intervention used in sleep medicine primarily to re-set circadian rhythm disorders, seasonal affective disorder, and dementia (Shirani & St. Louis, 2009). A recent study by Ponsford et al. (2012) suggests that morning bright light might improve fatigue in patients with TBI's. Additional studies are underway to assess the effects of both morning bright light, and other types of light such as near-infrared light (Morries, Cassano, & Henderson, 2015).

Finally, *Cranial Electrotherapy Stimulation* (CES) is one of the most promising interventions that is both an adaptive technology and a Complementary Alternative Medicine intervention (see next section). CES is a US Food and Drug Administration–approved, prescriptive, noninvasive electromedical treatment that can increase sleep time, reduce sleep disturbances, and improve overall sleep quality for those suffering from insomnia. The effects of treatment over several weeks have demonstrated significant physiological improvements, including an increase in alpha and decrease in delta and beta brainwave activity, and positive effects on blood plasma and serum cortisol (Kirsch & Gilula, 2007). CES involves the administration of a miniscule electrical current from a transmitter through electrodes which are attached to clips placed on each earlobe of individuals suffering from depression, anxiety, and insomnia (Kirsch & Nichols, 2013). Lande & Gragnani (2013) have demonstrated positive effects in a small sample of active duty military personnel at Walter Reed, despite using a shortened length of treatment warranting further research on larger samples in longer trials.



Alpha-Stim CES Device

Complementary and Alternative Medicine Interventions (CAMs)

Complementary and alternative medicine interventions (CAMs) have been demonstrated to be effective interventions in the civilian population, and among the military/veteran population with PTSD and other co-morbid disorders (Herman et al., 2017; Libby et al., 2013). Terminology has emerged over time from "adjunctive" treatments to "CAMs" as a body of research builds for interventions that include yoga (Spencer, 2013; Stoller et al., 2012), meditation (Hilton et al., 2016; Travis, 2010), Transcendental Meditation® (Barnes et al., 2013), Tai Chi, massage, acupuncture (Chang & Sommers, 2014, Grant et al., 2016; Shin et al., 2017), biofeedback, expressive arts therapies (Balfour et al., 2014; Kosygin & Lebedev, 2015; Lobban, 2014; Lovenbury, 1996), and cranial electrotherapy stimulation (CES, described in previous section), among others. Many of these interventions have been demonstrated to be effective, to reduce symptoms of PTSD, and to reduce psychotropic medication use (Barnes et al., 2013, 2016), but few studies specifically assess the impact of CAMs on veterans' sleep.

While CAM research studies on veterans' sleep are small in number, they suggest that yoga and meditation reduce hyperarousal,

improve sleep quality, and reduce insomnia. Inadequate controls and small sample sizes warrant more systematic evaluation to demonstrate the efficacy of not only of yoga and meditation on sleep, but other CAMS as well, particularly as more veterans request these interventions as they try to avoid the side effects of medications for sleep (Troxel et al., 2015).

One problem with studying CAMs is that they are frequently used simultaneously with other interventions, such that studying their specific effects on sleep is difficult to quantify. One exception, *Cranial Electrotherapy Stimulation* (CES, introduced in previous section) has been researched for decades in treating insomnia (Kirsch & Gilula, 2007), with positive outcomes, minimal side-effects, and at low cost. Alpha-stim CES has been used in a combat operational setting in which video teleconference training was given to military clinicians on the ground, and individual devices supplied to Service Members. The intervention was summarized as a "helpful tool in conserving the strength of the fighting force" (Hare et al., 2016). At this time, over 90 Veterans Administration Medical Centers offer this intervention to veterans.

As the cost of training veterans in CAMs is relatively inexpensive and show promise in improving sleep and reducing psychotropic medication (Barnes et al., 2016), they warrant further funding for research of specific CAMs, and for training clinicians to provide these therapies to our Service Members and veterans.

Nightmare Management

Nightmares disrupt sleep quantity and impair sleep quality (Harb et al., 2013). Combat veterans may have intense, repetitive nightmares about specific horrific incidents, with accompanying emotional arousal, which can lead to avoidance of sleep/dreaming or heavily self-medicating to avoid dreams. Imagery rehearsal therapy (IRT) is a type of cognitive behavioral treatment in which the patient describes a distressing dream/nightmare and its accompanying emotional content, then develops and rehearses a new dream with less distressing content and a more desirable outcome over several sessions (Kraków et al., 1995). The results of several studies of veterans with combat-related PTSD demonstrate that IRT can reduce nightmare intensity and frequency and recurring nightmares (Cook et al., 2010; Harb et al., 2013; Long et al., 2011). In addition, this intervention has been demonstrated to be effective and enduring in group as well as individual treatment delivery, although individual treatment shows a stronger overall effect (summarized in Troxel et al., 2015). In 2016, The Department of the Army began offering a course to military clinicians in "Cognitive Behavioral Therapy for Insomnia and Nightmares" (Davis, J., et al., 2016), sponsored by the Post Traumatic Stress and Resiliency Branch, AMEDD Center and School, Fort Sam Houston, TX, that

includes IRT training to increase its availability to our combat veterans, many of whom are still unaware of this effective intervention. Such training needs to be expanded within all branches of the Department of Defense and the Veterans Administration.

Summary

There are a number of promising interventions and technology to improve the sleep of our Service Members and veterans, particularly those with significant sleep disruption. Progress in assessment and treatment is moving forward, but requires closure of significant gaps between sleep assessment and treatment guidelines, scientific studies, and current practices within the Department of Defense and VA (Troxel et al., 2015). More robust research is needed in each of the areas described above.

In addition, there are effective cognitive behavioral and CAM interventions that are unknown and unavailable to many Service Members and veterans. The dissemination of the information in this summary and the Rand Report, as well as directives on how to find clinicians offering these treatments, is urgently needed in order for our veterans to correct and improve their sleep and as a result, the subsequent quality of daytime function.

Finally, researchers and clinicians need to keep testing new interventions. We are in an emerging field with huge numbers of veterans in need of interventions to improve and restore their sleep, and hence, their quality of life.

Disclosure: While the authors work with military Service Members, the materials presented in this article represent the compilation of materials and opinions of the authors. They do not reflect the official policy or position of the Department of Defense or the Veterans Administration. The authors neither endorse nor have any financial relationship with any sleep devices described in this article.

About the Authors

Christiane O'Hara, PhD has served as a Red Cross volunteer clinical psychologist for 8 years at Eisenhower Army Medical Center, Fort Gordon, GA, where, with Netta Putnam, she has trained service members about sleep in the TBI Clinic's Functional Recovery Program. She is a contributor to the Rand/DoD collaboration's Sleep in the Military: Promoting Health Sleep among U.S. Servicemembers (2015). She serves as an Advisor to Women Veteran Social Justice Network (WVSJ) and to GratitudeAmerica, Inc., two national nonprofits providing resources for Service Members and veterans, including retreats. She is co-author of Rehabilitation with Brain Injury Survivors: An Empowerment Approach (1991); "ArtReach Project America and other Innovative Civilian-Military Partnering" chapter in War Trauma and its Wake: Expanding the Circle of Healing (2012); and "Veterans and the Arts as Healing Interventions" in Combat Stress (2014). She completed postdoctoral training in Neuropsychology and Rehabilitation Medicine at the Atlanta Veterans Administration Medical

Center and Emory University Center for Rehabilitation. She is the daughter of a Navy veteran, and mother of a Service Member in the U.S. Army.

Helen N. (Netta) Putnam, PA, OTR has served as the Physician Assistant in the Neuroscience and Rehabilitation Center TBI Clinic at Eisenhower Army Medical Center, Fort Gordon, GA and as an Occupational Therapist in Acute Care at Doctors Hospital, Augusta GA for the last 8 years. She graduated from Converse College, Spartanburg, SC in 1973 with majors in Behavioral Psychology and Comprehensive Science. She completed her graduate studies in Occupational Therapy from the University of Pennsylvania School of Allied Health in 1981and graduate studies in Medical Science from the Emory University Physician Assistant Program in 2006. Prior to working with the military, she worked as an Orthopedic Surgical PA in private practice. In addition, she has worked as an occupational therapist in acute care, rehabilitation, public schools and early intervention. She has completed post graduate training in CBT-I from the University of Pennsylvania, the Sleep Medicine Course for PAs from the Atlanta School of Sleep Medicine and Cognitive Behavioral Therapy for Insomnia and Nightmares, AMEDD Center and School. She frequently attends the International Sleep conference, which is the joint meeting of the American Academy of Sleep Medicine and the Sleep Research Society. Ms. Putnam is the descendent of American veterans, beginning with the Revolutionary War. She is the daughter of a Naval Officer, sister of Navy and National Guard vets and the mother of an Army veteran.

References

Amen, D.G., Wu, J.C., Taylor, D. &Willeumier, K. (2011). Reversing brain damage in former NFL players: Implications for traumatic brain injury and substance abuse rehabilitation. Journal of Psychoactive Drugs. 43(1): 1–5.

American Academy of Sleep Medicine. (2014). International Classification of Sleep Disorders – Third Edition (ICSD-3) Online. www.aasmnet.org; http://www.aasmnet.org/store/product.aspx?pid=849;

Ashworth, D., Sletten, T., Junge, M., Rajaratnam, S., (2015). A Randomized Controlled Trial of Cognitive Behavioral Therapy for Insomnia: An Effective Treatment for Comorbid Insomnia and Depression. Journal of Counseling Psychology, 62(2):115-123.

Ayalon, L., Borodkin, K., Dishon, L., Kanety, H., & Dagan, Y. (2007). Circadian rhythm sleep disorders following mild traumatic brain injury. Neurology, 68(14), 1136-1140.

Barnes, V.A., Rigg, J.L., & Williams, J.J. (2013). Clinical Case Series: Treatment of PTSD with Transcendental Meditation in Active Duty Military Personnel. Military Medicine, 178, 7:e836-40.

Barnes, V.A., Monto, A., Williams, J. J., & Rigg, J.L. (2016). Transcendental Meditation® and Psychotropic Medication Use among Active Duty Military Service Members with Anxiety and PTSD. Psychosomatic Medicine, 77(3), A54.

Balfour, M., Westwood, M., Buchanan, M. (2014). Protecting into Emotion: Therapeutic Enactments with Military Veterans Transitioning Back into Civilian Life. Research in Drama Education: The Journal of Applied Theatre and Performance, 19(2), 165–181.

Baumann, C.R., Werth, E., Stocker, R., Ludwig, S., & Bassetti, C.L. (2007). Sleep-wake disturbances 6 months after traumatic brain injury: a prospective study. Brain, 130(7), 1873-1883.

Botulinum Toxin and Headache, Virtual Issue. (July, 2012). Guest Editors E.D. Mauser & N.L. Rosen, Headache: The Journal of Head and Face Pain, American Headache Society.

Buysse, D.J., Reynolds, C.F., Monk, T.H., Berman, S.R., & Kupfer, D.J. (1989). The Pittsburgh Sleep Quality Index (PSQI): A new instrument for psychiatric research and practice. Psychiatry Research, 28(2), 193-213.

Capaldi, V.F., Guerrero, M.F., Killgore, W.D.S. (2011). Sleep disruption among returning combat veterans from Iraq and Afghanistan. Military Medicine, 176 (8), 879-878.

Castriotta, R.J., Atanasov, S., Wilde, M.C., Masel, B.E., Lai, J.M., Kuna, S.T. (2009). Treatment of sleep disorders after traumatic brain injury. Journal of Clinical Sleep Medicine, 5(2), 137-144.

Castriotta, R.J. & Murthy, J.N. (2011). Sleep disorders in patients with traumatic brain injury: a review. CNS Drugs, 25(3):175-85.

Chang, B.H. & Sommers, E. (2014). Acupuncture and relaxation response for craving and anxiety reduction among military veterans in recovery from substance use disorder. The American Journal on Addictions, 23(2), 129–136.

Collen, J., Orr, N., Carter, K., & Holley, A. (2012). Sleep Disturbances among Soldiers with Combat-Related Traumatic Brain Injury. Chest, 142(3):622-630. doi:10.1378/chest.11-1603.

Cook, J.M., Harb, G.C., Gehrman, P.R., Cary, M.S., Gamble, G.M., Forbes, D., & Ross, R.J. (2010). Imagery Rehearsal for Posttraumatic Nightmares: A Randomized Controlled Trial. Journal of Traumatic Stress, 23(5), 553-563.

Davis, J.L, Balliette, N., Friedlander, J.N., Pruiksma, K.E., & Miller, K.E. (2016). Exposure, Relaxation, and Rescripting Therapy for Military and Veterans (ERRT-M) for Chronic Trauma-Related Nightmares and Sleep Disturbances: A Treatment Workbook. ERRT Workgroup (unpublished).

Grant, S., Kandrack, R., Motala, A., Shanman, R., Booth, M., Miles, J., Sorbero, M., & Susanne Hempel, S. (2016). Acupuncture for substance use disorders: a systematic review and meta-analysis. Drug and Alcohol Dependence, 163, 1–15.

Harb, G.C., Phelps, A.J., Forbes, D., Ross, R.J., Gehrman, P.R., & Cook, J.M. (2013). A Critical Review of Evidence Base of Imagery Rehearsal for Posttraumatic Nightmares: Pointing the Way to Future Research, Journal of Traumatic Stress, 26(10), 570-579.

Hare, J. P., Misialek, L. H., Palis, K. & Wong, C. (2016). Using Cranial Electrotherapy Stimulation Therapy to Treat Behavioral Health Symptoms in a Combat Operational Setting. Military Medicine, 181(11):1410-1412.

Healthy Sleep: Concussion and Mild Traumatic Brain Injury. (June 2014). Dvbic.dcoe.mil

Herman, P.H., Lorenz, K., Taylor, S.L. (January 2017). The Use of Complementary and Alternative Health in the OEF/OIF/OND Veteran Population, VA Health Cyber-Seminar.

Hilton, L., Maher, A. R., Colaiaco, B., Apaydin, E., Sorbero, M. E., Booth, M., Shanman, R. M., & Hempel, S. (2016, August 18). Meditation for Posttraumatic Stress: Systematic Review and Meta-analysis. Psychological Trauma: Theory, Research, Practice, and Policy. http://dx.doi.org/10.1037/tra0000180

Humes, L.E., Joellenbeck, L.M., Durch, J.S., Eds. (2006). Tinnitus, Noise and Military Service: Implications for Hearing Loss and Tinnitus Associated with Military Service from World War II to the Present. National Academies Press, 116-145.

Institute of Medicine (US) Committee on Sleep Medicine and Research. (2006). Extent and Health Consequences of Chronic Sleep Loss and Sleep Disorders. Chapter 3 in Sleep Disorders and Sleep Deprivation: An Unmet Public Health Problem. Colten, H.R. & Altevogt, B.M. (Eds.). Washington DC: National Academies Press. https://www.ncbi.nlmnih.gov/books/NBK19961/

Johns, M.W. (1991). A new method for measuring daytime sleepiness: the Epworth Sleepiness Scale, Sleep, 14, 540-545.

Kemp S., Biswas, R., Neumann, V., & Coughlan, A. (2004). The value of melatonin for sleep disorders occurring post-head injury: a pilot RCT. Brain Injury, 18(9):911–919.

Khalil, M., Zafar, H.W., Quarshie, V., & Ahmed, F. (2014). Prospective analysis of the use of OnabotulinumtoxinA (BOTOX) in the treatment of chronic migraine. The Journal of Headache and Pain, 15(54). DOI:10.1186/1129-2377-15-54.

Kirsch, D.L. & Nichols, F. (2013). Cranial electrotherapy stimulation for treatment of anxiety, depression and insomnia. Psychiatric Clinics of North America, 36(1):169-176.

Kirsch, D.L. & Gilula, M. (2007). CES in the Treatment of Insomnia: A Review and Meta-Analysis. Practical Pain Management, 7(7):28-39.

Kosygin, A. & Lebedev, A. (2015). Therapeutic Functions of Humour in Group Art Therapy with War Veterans. International Journal of Art Therapy, 20(2), 40-53.

Lande, R. G. & Gragnani, C. (2013). Efficacy of cranial electric stimulation for the treatment of insomnia: A randomized pilot study. Complementary Therapies in Medicine, 21(1):8-13.

Lankford, D.A., Wellman, J.J., & O'Hara, C. (1994). Posttraumatic narcolepsy in mild to moderate closed head injury. Sleep, 17(8), 25-28.

Libby, D.J., Corey, E.P., & Rani, D. (2013). Complementary and alternative medicine use among individuals with post-traumatic stress disorder. Psychological Trauma: Theory, Research, Practice, and Policy, 5(3), 277–285.

Lobban, J. (2014). The Invisible Wound: Veterans Art Therapy. International Journal of Art Therapy, 19(1), 3–18.

Long, M.E., Hammons, M.E., Davis, J.L., Frueh, B.C., Khan, M.M., Elhai, J.D. & Teng, E.J. (2011). Imagery Rescripting and Exposure Group Treatment of Posttraumatic Nightmares in Veterans with PTSD. Journal of Anxiety Disorders, 25(4), 531-535.

Lovenbury, K. (1996). Soldiers Heart: Survivors' Views of Combat Trauma. Art Therapy: Journal of the American Art Therapy Association, 13(3), 213-214.

Lucke-Wold, B.P., Smith, K.E., Nguyen, L., Turner, R.C., Logsdon, A.F., Jackson, G.J., et al. (2015). Sleep disruption and the sequelae associated with traumatic brain injury. Neuroscience & Biobehavioral Review, 55:68–77. PubMed PMID: 25956251.

Lucke-Wold, B.P., Logsdon, A.F., Nguyen, L., Eltanahay, A., Turner, R.C., Bonasso, P., Knotts, C., Moeck, A., Maroon, J., Bailes, J. & Rosen, C. (2016). Supplements, nutrition, and alternative therapies for the treatment of traumatic brain injury, Nutritional Neuroscience, DOI:10.1080/1028415X.2016.1236174

Luxton D.D., Greenburg D., Ryan J., Niven A., Wheeler G., Mysliwiec V. (2011). Prevalence and impact of short sleep duration in redeployed OIF soldiers. Sleep, 34(9), 1189-1195.

McDermott, C.M., LaHoste, G.J, Chen, C., Musto, A., Bazan, N.G., & Magee, J.C. (2003). Sleep deprivation causes behavioral, synaptic, and membrane excitability alterations in hippocampal neurons. Journal of Neuroscience, Oct 22; 23(29), 9687-95.

Morin, C. M., Belleville, G., Bélanger, L., & Ivers, H. (2011). The Insomnia Severity Index: Psychometric Indicators to Detect Insomnia Cases and Evaluate Treatment Response. Sleep, 34(5), 601–608.

Morin, C.M. & Benca, R. (2012). Chronic insomnia, The Lancet, 379(9821) 1129–1141.

Morries, L.D., Cassano, P., Henderson, T.A. (2015). Treatments for traumatic brain injury with emphasis on transcranial near-infrared laser phototherapy. Neuropsychiatric Disease and Treatment, 11, 2159-75.

Mysliwiec, V., Williams, S., Baxter, T., Germain, A., O'Reilly, B., & Luxton, D. (2014). Preventing Sleep Casualties: Understanding the unique aspects of sleep and sleep disorders in active duty service members. Combat Stress e-magazine, The American Institute of Stress, 3(4), 8-25.

Ponsford, J.L., Ziino, C., Parcell, D.L., Shekleton, J.A., Roper, M., Redman, J., Phipps-Nelson, J, & Rajaratnam, S. (2012). Fatigue and sleep disturbance following traumatic brain injury--their nature, causes, and potential treatments. Journal of Head Trauma Rehabilitation, 27: 224-233.

Shin, N.Y., Lim, Y.J., Yang, C.H., & Kim, C. (2017). Acupuncture for Alcohol Use Disorder: A Meta-Analysis. Evidence-Based Complementary and Alternative Medicine, Article ID 7823278, doi:10.1155/2017/7823278

Shirani, A. & St. Louis, E.K. (2009). Illuminating rationale and uses for light therapy. Journal of Clinical Sleep Medicine, 5(2), 155-163.

Sleep Health. (2015). Journal of the National Sleep Foundation. 1(1), 40-43. http://www.sleephealthjournal.org/article/S2352-7218(15)00015-7/fulltext

Spencer, M. (2013). B.A.G.H.D.A.D. Yoga: A Shift in Consciousness: Fear to Love, War to Peace. Live4Love LLC, Rancho Murieta CA.

Stoller, C.C., Greuel, J.H., Cimini, L.S., Fowler, M. & Koomar, J. (2012). Effects of Sensory-Enhanced Yoga on Symptoms of Combat Stress in Deployed Military Personnel, American Journal of Occupational Therapy, 66(1), 59-68. doi:10.5014/ajot.2012.001230

T2 Telehealth Defense Centers of Excellence Mobile Apps http://t2health.dcoe.mil/search/node/app%20download

Travis, F. & Shear, J. (2010). Focused Attention, Open Monitoring and Automatic Self-Transcending: Categories to Organize Meditations from Vedic, Buddhist and Chinese Tradition, Consciousness and Cognition, 19(4), 1110–1118.

Troxel, W.M., Shih, R.A., Pedersen, E., Geyer, L., Fisher, P., Griffin, B.A., Haas, A.C., Kurz, J.R, & Steinberg, P.S. (2015). Sleep in the Military: Promoting Health Sleep among U.S. Servicemembers. Rand National Defense Research Institute, Rand Corporation, Santa Monica CA. http://www.rand.org/pubs/research_reports/RR739.html

Vallières, A., Ceklic, T., Bastien. C.H., & Espie, C. (2013). A Preliminary Evaluation of the Physiological Mechanisms of Action for Sleep Restriction Therapy. Sleep Disorders, Article ID 726372. doi:10.1155/2013/726372 http://dx.doi.org/10.1155/2013/726372

Veterans Health Administration, Office of the Assistant Deputy Under Secretary for Health for Policy and Planning. (2011). Complementary and Alternative Medicine Survey, U.S. Department of Veterans Affairs. As of April 16, 2016: http://www.research.va.gov/research_topics/2011cam_finalreport.pdf

Worcester, S. (2012). Sleep deprivation predicts PTSD in soldiers. Clinical Psychiatry News, 40 (1), 35, doi: 10.1016/S0270-6644(12)70024-3.

Dreampad: New Home-based Technology to Improve Sleep and Reduce PTSD Symptoms

Randall Redfield and Ron Minson, MD

Introduction:

My father suffered from PTSD. As an 18-year old in combat in WWII, he lost an eye and suffered physical and psychological pain which went untreated and plagued him for the rest of his life. What we now call "invisible injuries" were even more invisible then - the term "PTSD" didn't even exist. He had nightmares, he woke up in cold sweats, he drank. My mother had her hands full with four kids. She had no idea how to deal with his mood swings and depression. I was four when he took his own life.

Fast forward 50 years: I developed a product, a pillow called the Dreampad, to calm children with high levels of stress. The Dreampad plays music through gentle vibration, which triggers the body's relaxation response, and is being used by hundreds of clinics around the country, including the pediatric hospitals of Duke, Stanford, Harvard and Emory universities. Studies by clinical researchers suggest that the Dreampad has the same positive effect on adults as children, and can reduce stress and improve sleep for a variety of groups, including those with PTSD-related symptoms. My goal to make it available and affordable for our Soldiers and their families in the hope that it can alleviate, and even prevent, the suffering that my own family endured. In writing this article, I have asked Ron Minson, MD, Clinical Director at Integrated Listening Systems and one of the world's top experts on the therapeutic application of sound, to lend his vast medical expertise as my co-author. - Randall Redfield

For years we have known that sleep deprivation exacerbates PTSD symptoms and also poses a major obstacle to successful treatment. The standard recommendations for improving sleep – CBTI (cognitive behavioral therapy for insomnia), exercise, reducing alcohol and food intake, as well as screen time before bed, and in addition to the utilization of calming activities such as yoga and meditation, are all proven to be helpful in facilitation of productive sleep. Oftentimes, however, these sleep hygiene techniques are simply insufficient in overcoming the serious sleep challenges presented by a hyper-aroused nervous system, recurrent nightmares and other PTSD symptoms. Medication is always an option, and in some cases a hugely valuable one; however, most, if not all, professionals recognize the pitfalls of relying on medications and would much prefer "prescription" of more non-pharmacological options. A new device, called the Dreampad, is one such option. The Dreampad uses bone conduction technology to deliver music through vibration, a vibration which is both pleasant to listen to and therapeutically calming. This article will carefully review the Dreampad, the mechanism by which it works, and supporting research regarding its effectiveness in the areas of stress and sleep, including a pilot study, which holds significant promise for military personnel experiencing stress, poor sleep and PTSD-related symptoms.

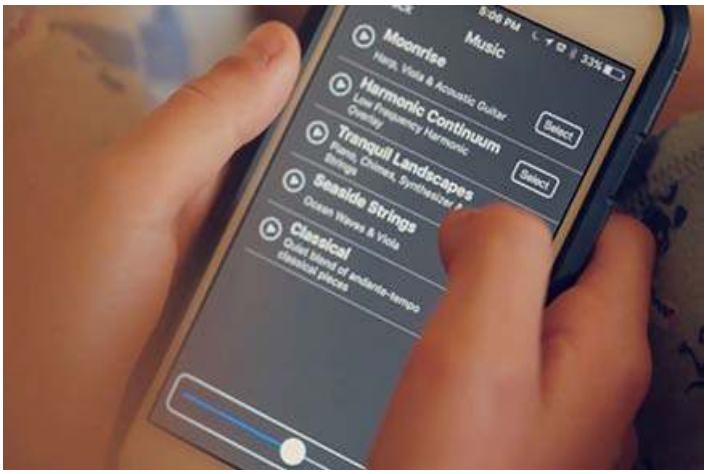
By way of introduction, readers may be aware that bone conduction technology is used as a communication tool in loud environments, such as in heavy equipment movers at construction sites and in the helmets of armored tank personnel (the Navy SEALs who assassinated Osama bin Laden used bone conduction headsets to communicate during the raid). In bone conduction headsets, a transducer is embedded within the headset so that it rests against the skull. Our bones are excellent conductors and the sound signal received through the bone conductor is immediately transmitted along the bones of the skull to the inner ear (versus a traditional headset, or speaker, which sends an airborne signal through the outer ear).

The Dreampad is the first product to experiment with bone conduction technology in the areas of sleep and trauma therapy. The device is actually a comfortable pillow that contains two embedded bone conduction transducers that play music, which cannot be heard until the user lays their head directly on the pillow. Once the user's head is on the pillow, the music heard does not sound altogether different from music heard through one's outer ear. On a physiological level, however, something quite different is occurring. Preliminary studies suggest that within a few minutes of the vibration traveling to the bony area surrounding the middle and inner ear, the body's relaxation response, elicited by the parasympathetic nervous system, is activated. For those diagnosed with PTSD, this has the effect of countering or calming the fight-or-flight state resulting from traumatic experiences. For the working professional with mild sleep difficulties, it tends to quiet down the "monkey mind" - that non-stop churn of thoughts left over from the day - and allows one to let go of stress and relax enough to permit drifting off to sleep.

The Dreampad comes with a free music app, which offers a selection of 10 songs. These "songs" are specifically designed per sleep research related to tempo, frequency bandwidths and structure. (1) The music app is downloadable to a smart phone and includes a volume control and timer. This allows the user to customize the playing experience per their own sleep habits. It can be set to play for a half hour to facilitate falling asleep, or if one tends to awaken in the middle of the night, it can be set it to play all night so that upon awakening, it lulls the user back to sleep. Studies measuring the effectiveness of the Dreampad have shown that there is an immediate relaxing effect. For instance, using it for 15 minutes not only allows sleep to occur, but offers a long-term effect as well, which carries over beyond the listening time. (2,3)

Heart rate variability (HRV) is generally accepted as a reliable and objective measure of a relaxed state, i.e., parasympathetic nervous system activity. A pilot study conducted by a sleep company in Colorado, used HRV to determine the effect of the Dreampad on healthy adults. Employing a single-subject design, the researchers first collected an HRV baseline for each subject while listening to music played through a speaker. The same music was then played through the Dreampad in order to compare the baseline HRV with the Dreampad HRV. Eleven full data sets resulted from the study. Nine of the eleven showed a significant increase in HRV within 5 minutes of listening to music through the Dreampad. (2)

Another study, conducted by Columbia University Medical Center (3) and published in December of 2016, measured the effect of the Dreampad on adults with stress-related sleep problems (but without a diagnosis of insomnia). This study demonstrated statistically significant results in the area of sleep quality, with Dreampad users having fewer nighttime awakenings during the night. A study conducted on autistic children with sleep difficulties and high levels of anxiety showed positive results with all participants in terms of falling asleep, staying asleep, and functional abilities/behavior on days following use of the Dreampad. (4) While these studies are relatively small (the larger study, by Columbia University, included 29 adults), they are encouraging and indicate the need for more research in the area of sleep disturbances and any number of psychological disorders in which sleep disturbances accompany other diagnostic features.



Clinical feedback over the past few years began with children diagnosed with autism spectrum disorders and has gradually expanded to a broad variety of adult groups who are seeing similar positive effects, including adults with trauma-related symptoms. As a first step toward measuring the effect of the Dreampad on PTSD, the HeartSprings Rehabilitation Clinic in Fargo, North Dakota conducted a pilot study with 10 war veterans. (5) During the 30-day study, each participant recorded their sleep habits and pain levels prior to and while using the Dreampad. The initial

results found that all ten veterans were helped by the Dreampad in at least one of the following ways:

- Falling asleep faster
- Falling back asleep after a nightmare (and, in many cases, changing the pattern and intensity of recurring dreams)
- Reducing symptoms such as sweating, heart pounding and hyper-vigilance

Three months after the study was completed, 8 of the 10 veterans reported that they continued to use the Dreampad and to experience improved sleep. Their comments, a several of which are listed below, indicate that the Dreampad is not a cure-all for the complex array of symptoms associated with PTSD; however, it may be a very powerful tool for alleviating symptoms and improving sleep:

"I use the pillow three times a week. It helps me get back to sleep within 10 to 15 minutes instead of hours like it used to take." - C.S.

"I use the pillow 3 to 7 times a week. I am still restless, but it helps reduce the nightmares." - C.D.

"I LOVE that pillow! I am sleeping almost all night, every night for six hours!" (therapist comment: "Before that she was sleeping less than three hours a night.") - J.S.

"I use the Dreampad every night. It's reduced the time it takes to fall asleep. It is calming and reduces my anxiety! I have less frequent nightmares and it helps in falling back to sleep."- B.K.

"I use the Dreampad almost every night. I fall asleep faster and stay asleep longer, feeling more refreshed in the morning. After having a nightmare, it takes me 10 to 15 minutes to fall asleep and my nightmares are less in number and less in intensity…I have gone through lots of counseling, treatment and groups for pain, PTSD and sleep. Having the Dreampad is a useful tool to help drown out the noise and ringing in my head. I think the vibration in the pillow helps my brain relax." - B.A.

Just like the brain, the autonomic nervous system (the system that regulates functions like heart rate and blood pressure and activates a "fight or flight" response under stress) is plastic and can "learn" to stay more activated than necessary. Many of these veterans' comments are examples of living in a state of chronic defensiveness, further fueled by a lack of sleep. Stress and poor sleep become a vicious cycle that affects almost all aspects of life, including everything from mood and diet to the immune system functioning. This constant drain of energy makes social engagement and participation in life an exhausting and negative experience. However, in the same way the body/mind system learned to stay vigilant, it can learn to relax. Sleep is the first and most important step in that healing process. Once we are well rested, taking on therapies which entail lifestyle changes becomes a real possibility; with-

out sleep, this is nearly impossible. As the autonomic nervous system changes and finds a healthy balance, we can settle into a more relaxed state of being, which supports motivation and social engagement.

The ability of the Dreampad to play a role in shifting one's physiological and psychological state from tension to relaxation is very well worth investigating, particularly in light of the potential negative side effects of medications and compliance challenges surrounding cognitive behavioral therapies. We hope that the medical and military communities are open-minded and willing to give the Dreampad a more comprehensive look, and to measure how it might assist the populations they are serving in overcoming sleep disturbances. For our part, with the utmost empathy for those who are impacted by sleep and trauma as a result of serving their country, we will do everything possible to support further research and access to the product by members of the Armed Forces community.

Contact Information:
The Dreampad is available at a discounted price for Combat Stress readers at www.dreampadsleep.com/ais. There is a 30-day return policy for a full refund for all purchases. Professionals working with PTSD please contact info@dreampadsleep.com to learn more.

References:

1. Wang Chun-Fang, et al. Music therapy improves sleep quality in acute and chronic sleep disorders: A meta-analysis of 10 randomized studies. International Journal of Nursing Studies, Jan 2014.
2. Olson, Kelly. Measuring relaxation response to the iLs Dreampad; a pilot study using Heart Rate Variability as a measure for parasympathetic engagement, 2014. See the Dreampad website research page.
3. Gutman, Sharon. Comparative effectiveness of three sleep interventions, a randomized controlled study. OTJR Occupation, Participation and Health, 2016.
4. Schoen, Sarah. A sleep intervention for children with autism. The Open Journal of Occupational Therapy, Spring 2017.
5. Nelson, Jan, T., Heartsprings Community Healing Center, Fargo, North Dakota.

About the Authors
Randall Redfield co-founded Integrated Listening Systems (iLs) in 2007 in an effort to integrate two modalities of therapy: sound and movement. Since then, iLs has trained 9,000 professionals and is used in conjunction with occupational, speech and physical therapy in more than 20 countries. In 2009, he utilized bone conduction technology to develop a pillow to help calm children with high levels of anxiety, particularly those with autism. Redfield was awarded a patent in 2012, and then worked with the iLs product development team to create a new line of more comfortable Dreampads designed for adults. As the CEO of iLs, he is working to bring the stress-relieving effects of the Dreampad to those who have served in the military, as well as to the broader population impacted by trauma and poor sleep.

Ron B. Minson, M.D. is board-certified in psychiatry and neurology. His experience includes serving as a family physician, clinical psychiatrist, Chief of Psychiatry for Presbyterian Medical Center, and Director of Behavioral Sciences at Mercy Hospital in Denver. Dr. Minson is the Clinical Director and Advanced Trainer for Integrated Listening Systems, a company which improves brain function through a combined music and movement program. As one of the leading authorities on the clinical application of sound, Dr. Minson writes and presents to medical and educational audiences exploring the new field of brain fitness.

Using Cranial Electrotherapy Stimulation Therapy to Treat Behavioral Health Symptoms in a Combat Operational Setting

Summary

Treating combat operational stress reactions (COSR) during deployment can be a challenge due to the infeasibility of traditional treatment such as psychotherapy and the side effects and restrictions imposed by medications. Studies show that COSR symptoms include sleep issues, and mood swings such as anxiety and depression are common issues in the theatre of war.

Based on a model in place at Embedded Behavioral Health Team 4 at Evans Army Community Hospital, Fort Carson, Colorado, a study was conducted in an outpatient clinic during military deployment to Kandahar, Afghanistan. This study proved that cranial electrotherapy stimulation (CES) offers relief from symptoms associated with COSR. The CES device used was the Alpha-Stim (www.alpha-stim.com).

"The use of CES and the model of establishing an outpatient clinic were both extremely beneficial to the mission. In many instances, this treatment option appeared to carry less stigma than the options of medication and therapy, branding the treatments as 'performance enhancing' rather than a medicine for 'sick and broken' individuals with COSR. This approach made CES popular among many ranks and occupational specialties. CES does not necessitate licensed providers to constantly supervise sessions, so it was cost and manpower efficient in the deployed setting."

Read the full article >

The 5 Most Important Things Veterans with PTSD Should Know About Their Claims

1 You need a verified in-service Stressor

Your stressor is the traumatic event you experienced during service that led to PTSD. It could be direct exposure, indirect exposure, or witnessing the event involving death, threatened death, or serious injury. Your stressor needs to be verified, or corroborated, meaning you have to prove that it actually happened. There are exceptions to this and special rules, such as if you were diagnosed with PTSD in-service, if your stressor involves fear of hostile military or terrorist activity, or if you were in combat. You will want to provide evidence to verify your stressor or know if your stressor fits into one of the exceptions.

2 Be aware of your Symptoms

Symptoms of PTSD fall into four categories: 1. Intrusion, such as nightmares and flashbacks. 2. Avoidance, such as avoiding crowds, people, or places that are closely associated with the traumatic event. 3. Negative alterations in cognitions and mood, such as staying away from relationships and viewing the world as dangerous. 4. Hyperarousal, such as difficulty sleeping, trouble concentrating, always feeling alert, and being easily startled. These symptoms are what make up a diagnosis of PTSD. Your rating will be based on the effect that these symptoms have and the limitations they impose on your social and occupational functioning. If you are experiencing these symptoms go see a doctor and get a diagnosis.

3 Have a current Diagnosis

It is not enough to be experiencing the symptoms listed above. You need to have a diagnosis of PTSD. The diagnosis needs to be made by a qualified mental health practitioner, such as a psychiatrist or psychologist. You need to be currently suffering from PTSD. The diagnosis must meet the VA's specific criteria that can be found in 38 C.F.R. § 4.125 so it is important for

the diagnosing doctor to fully describe why and how you meet the specific criteria for PTSD, according to the DSM-V.

4 You still need a Nexus

Even after you have verified your in-service stressor and you have a current diagnosis of PTSD, you still need to establish the link between your diagnosis and in-service stressor in order to establish service connection. This means providing evidence to show that "it is at least likely as not" that your diagnosis of PTSD is a result of your in-service stressor. This needs to be proven by medical evidence, such as an opinion from a qualified doctor. Another way to do that is records from a Vet Center, where they have licensed social workers that will document the connection between veterans' stressor and their current diagnosis.

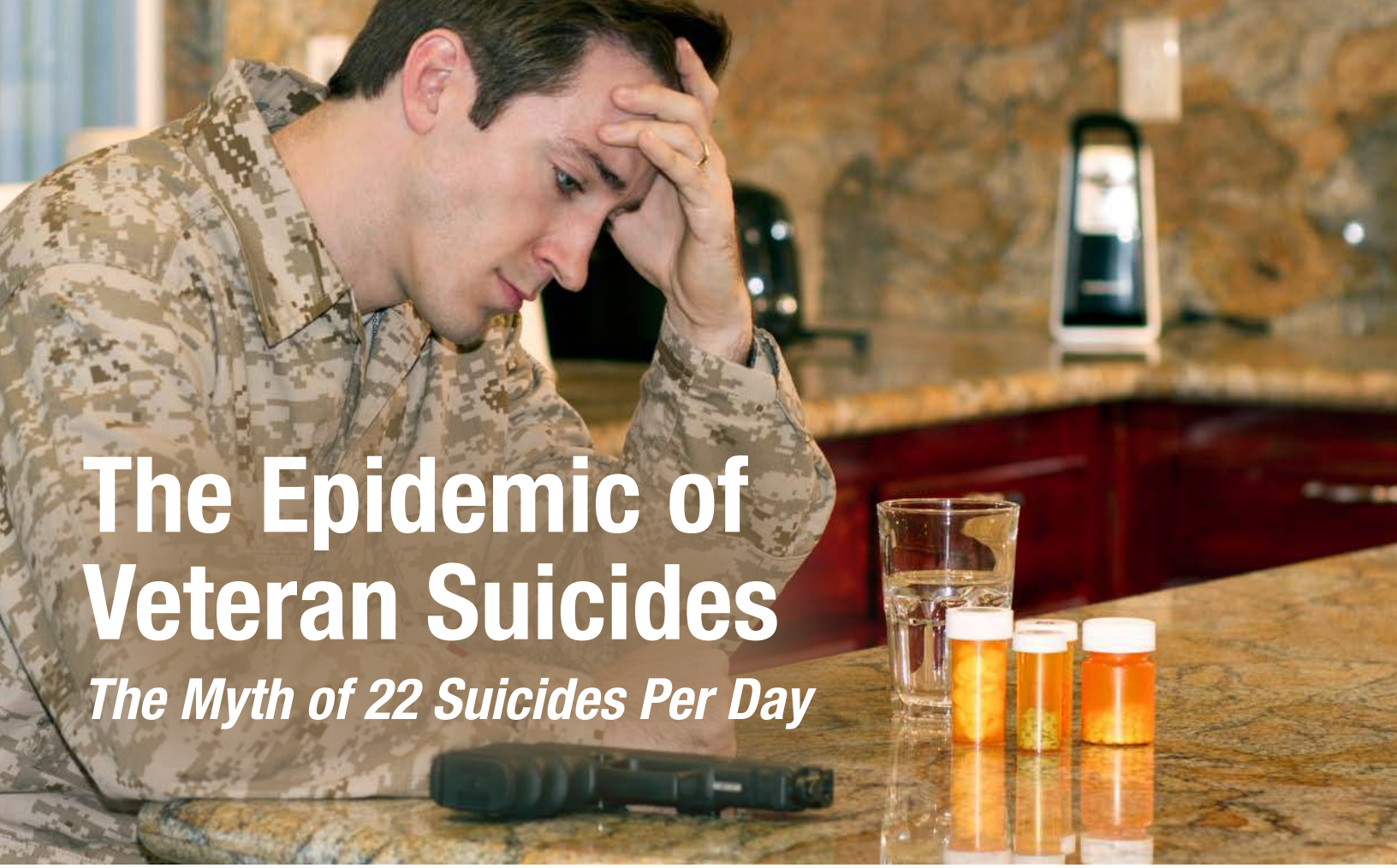
5 Don't forget to use Buddy Statements

Buddy statements can be very helpful to your claim. Your buddy statements could be used to corroborate your stressor, where fellow veterans who served with you can describe what you experienced together in order to prove that it happened. You can also use buddy statements to show the severity of your PTSD. You can have family members and friends talk about a change in your behavior from before service to after service, or even have co-workers and employers talk about your behavior at work and how your symptoms affect your employment.

This resource list was put together by Veterans Advocates of Hill & Ponton, PA.

For More Information
Call 1-888-477-2363
Or visit https://www.hillandponton.com

OFFICE LOCATIONS
Mail Processing Center: P.O. Box 449, Deland, FL 32721
Orlando, FL: 605 E. Robinson Street Suite 635, Orlando, FL 32801
Deland, FL: 1607 South State Road 15A Suite 12 Deland, FL 32720
Satellite Offices
Melbourne, FL: 100 Rialto Place, Suite 700 Melbourne, FL 32901
Washington, D.C.: 1776 I Street, NW, 9th Floor, Washington, D.C 20006
Atlanta, GA: 1201 Peachtree St., 400 Colony Square, Suite 200, Atlanta, GA 30361
Houston, TX: 3200 Southwest Freeway, Ste. 3300, Houston, TX 77027
Los Angeles, CA: 11601 Wilshire Blvd., 5th floor, Los Angeles, CA 90025
San Jose, CA: 2880 Zanker Road, Ste. 203, San Jose, CA 95134
Phoenix, AZ: 40 North Central Avenue, Suite 1400, Phoenix, AZ, 85004
Tucson, AZ: One South Church Avenue, 12th Floor, Tucson, AZ, 85701
Chicago, IL: 55 E. Monroe Street, Suite 3800, Chicago, IL, 60603
Brooklyn, NY: 300 Cadman Plaza West, One Pierrepont Plaza, 12th Floor, Brooklyn, NY, 11201
Cincinnati, OH: 300 E Business Way, Suite 200, Summit Woods Corporate Center, Cincinnati, OH, 45241
Cleveland, OH: 600 Superior Ave. East, Fifth Third Building, Suite 1300, Cleveland, OH, 44114
Columbus, OH: 100 E. Campus View Boulevard, Suite #250, Columbus, OH, 43235
Portland, OR: 650 N. E. Holladay Street, Suite 1600, Portland, OR, 97232
Philadelphia, PA: 1 International Plaza, Suite 550, Philadelphia, PA, 19113
Pittsburgh, PA: 201 Penn Center Boulevard, Suite 400, Pittsburgh, PA, 15235
Charleston, SC: 4000 S. Faber Place Drive, Suite 300, Charleston, SC, 29405



The Epidemic of Veteran Suicides

The Myth of 22 Suicides Per Day

Kathy Platoni, PsyD, DAAPM, FAIS
Clinical Psychologist
Colonel, Retired, US Army
Colonel, Ohio Military Reserve/State Defense Forces

Twenty-two Veteran suicides a day is a misnomer and a widely misunderstood calculation (Bare, 2015). This figure has rallied a nationwide movement and electrified the devotee mantra of promoting the performance of 22 pushups a day, setting in motion hype of titanic proportions among media outlets and politicians. This has all come about at the expense of a highly inaccurate and misinterpreted context and the genuine problem of epidemic proportions that lies at the root of veteran suicides. In the words of VA Secretary Shulkin, one Veteran suicide is already far too many (Shulkin, 2016). Shockingly, Veteran suicides have exceeded those killed in action in the combat theater for an extended period of time. This is a national tragedy of colossal proportions.

The Veterans' Administration 2012 Suicide Date Report stemmed directly from an analysis of death certificates from only 21 states and from 1999 through 2011. This constituted only a small sample of states providing data and "evidence of uncertainty in Veteran identifiers on US death certificates" (Bare, 2015).

A survey of 1.3 million Veterans discharged from the military between 2001 and 2007 disclosed that 1,650 Veterans died in the line of duty between 2001 and 2009, as compared to 7,703 non-deployed Veteran deaths during the same time frame. Among these were 351 deaths by suicide within the population of deployed Veterans and 1,517 suicides among non-deployed Veter-

ans (Bare, 2015). In undertaking the math, this equals less than one Veteran death per day during a nine-year time period. Furthermore, the suicide rate within the Veteran population is estimated to be 50 percent higher than the population of those who have never served in the military. Even more confusing is the data that reveals a higher suicide rate among Veterans who have never deployed. War trauma, deployment, and reintegration are therefore not the only factors to consider in understanding the magnitude of the suicide problem within the Veteran population.

In 2012, the Department of Defense (DOD) began to count suicides differently for calendar years 2012 and 2013, separating Reserve and National Guard troops from the Active Military Component, slightly lowering the overall numbers of suicides (DOD Quarter, 2014). According to this publication, 2,300 Service Members lost their lives in Operation Enduring Freedom (primarily in Afghanistan). During the very same period of time (2001-2014), 1.5 times the number of active duty Service Members or approximately 3,000 Service Members died by suicide. In calendar year 2012, the numbers of active duty suicides spiked with 320 Service Members taking their lives, with a total of 522 suicides when including Reserve Component Service Members. This exceeded the combined numbers of Service Members killed in action in Operations Enduring Freedom, New Dawn (Iraq), and Operation Iraqi Freedom (OIF ended on 31 August 2010 and was followed by the initiation of Operation New Dawn) (Torrean, 2016).

Once again in 2012, it was the Veterans Administration that estimated that 22 veterans took their lives per day, but this data was extrapolated from records collected from only 21 states from 1999 to 2011. This suggests the need to interpret this data with considerable caution. Additionally, data from four larger states (California, Texas, Arizona, and North Carolina) was not even included in these calculations (Kime, 2016).

The Veterans Suicide Data Report released in August of 2016 yielded the following data, based upon a review of the 55 million Veterans' records from 1979 to 2014 and from all 50 states:

- "In 2014, an average of 20 Veterans a day died by suicide.
- The report concluded that 65 percent of all Veterans who died from suicide in 2014 were at least 50 years of age or older.
- Veterans accounted for 18 percent of all deaths from suicide among U.S. adults.
- This is a decrease from 22 percent in 2010.
- Since 2001, U.S. adult civilian suicides increased by 23 percent, while Veteran suicides increased by 32 percent during the same time period. With the establishment of controls for age and gender, the risk of suicide is 21 percent greater for Veterans.
- Since 2001, the rate of suicide among U.S. Veterans who utilize services through the VA increased by 8.8 percent. The rate of suicides among Veterans who have not accessed VA services increased by 38.6 percent.
- During this same time period, the rate of suicide among male Veterans who utilized VA services increased by 11 percent, while the rate of suicide increased by 35 percent among male Veterans who did not utilize VA services.
- During the same time period as well, the rate of suicide among female Veterans who used VA services increased by 4.6 percent, while the rate of suicides increased 98 percent among female Veterans who did not use VA services" (U.S. Department of Veterans Affairs, 2016).

During the first quarter of 2016 (more current quantitative date is not yet available) all branches of military service reported the following:

- 58 reported deaths in the Active Component of four branches of the Armed Forces (Army, Air Force, Navy, and Marines)
- 18 reported suicides in the Reserve Component
- 34 deaths by suicide in the National Guard (DOD Quarterly Suicide Report, 2016).

Interestingly enough and over the course of the last several years, a considerable body of research has indicated that there is no clear or direct correlation between completed suicides and deployment. It is a widely-known fact, however, that deployment overseas to the wartime theater is an extremely stressful and life-altering experience and one that is extremely disruptive to the fabric of the family and to the existing "social and interpersonal structure" of the Service Member's life, as well as all relationships in general (DOD Quarterly Suicide Report, 2016). There is far more likely an "interplay of feelings of belongingness" (DOD Quarterly Suicide Report, 2016). Across the board and additionally within the civilian population, major life transitions are considered risk factors for suicide (DOD, 2016). The question as to why more non-deployed Service Members take their lives as opposed to those who have served their time and paid their dues in the wartime theater, has yet to be adequately answered. And although Operation Iraqi Freedom and Operation Enduring Freedom veterans are more likely to take their own lives within the first three years of returning from the combat theater of operations, they are doing so at a rate of approximately one and not 22 per day (Bare, 2015). What we do know is that the problem exceeds and extends past the trauma of war (Zarembo, 2016). This in no way diminishes the tragic and disturbing nature of the problem.

There is much more to this story when taking into consideration the issues of "belongingness, connectedness, acquired capability," and bonding among Service Members as this applies to the intensely powerful impact of combat exposure upon suicidal risk. The wartime theater demands some, if not an enormous degree of interpersonal support for psychological survival. Recent research suggests that the support of the kinship of Service Members and their convergence during overseas wartime deployments constitute a protective factor, though environmental and differences between the various branches of the Armed Forces may dictate the provision of varying degrees of interpersonal support, often dependent upon factors such as geography, location, mission, and remoteness of assignments in the wartime theater. Furthermore, this may be dependent on the types and intensity of combat exposure, which is also likely to impact the acquired capability; in other words, the ability to withstand increasing degrees of intensely stressful experiences with increasing levels of exposure to it and immersion in it. When considering factors that contribute to suicidal risk and the numbers of tragic deaths by suicide across four different branches of the Armed Forces and their three components, it is essential to consider the widespread interactions and relationships between both risk and protective factors (DOD Quarterly Suicide Report, 2016).

Protective factors are comprised of those attributes, skills, coping strategies, resources and support systems within the individual, the family, support systems, and the community that mitigate or reduce risk in the case of suicidal intent, gestures, attempts, and/or completed suicides (Wikepedia, 2016). Risk factors are those associated with the increased potential for suicide attempts and successful suicides, though these are not necessarily causative factors. (www.sprc.org/sites/default/files/migrate/library/RiskProtectiveFactorsPrimer.pdf)

Finally, this 2016 DOD Quarterly Suicide Report recommends "unit level and community support and training interventions that increase protective factors within the culture of the military" (DOD, 2016). Unfortunately, and as the data reveals, DOD has

fallen far short of this goal. Suicide prevention training is frequently perceived as a compulsory check-the-box class that generates just enough interest to put attendees to sleep. Beating the problem to death with power point presentations offers no cure for a problem of such immense proportions. Asking Soldiers to care about other Soldiers when leadership failures demonstrate otherwise, serves only to aggravate the existing problem of falling down the rabbit hole of isolation and desolation for those who believe themselves to be a terrible burden to everyone and every aspect of the world that surrounds them.

Then there is the problem of the significant numbers of older Veterans (those over the age of 50) who take their lives by suicide. Why pay attention to those who are going to die anyway? (Carney, 2014). This does not refer only to Vietnam Veterans. Several of us who are well over the age of 50 have also deployed multiple times to the combat theater of operations since 2001. Additionally, and very sadly, Korean, Vietnam, and Gulf War Veterans are very often overlooked with respect to mental health and VA legislation, as if they already fail to exist, providing only for service entitlements for Iraq and Afghanistan war Veterans. This is far more than a pathetic oversight. Hordes of Vietnam Veterans, unwelcomed, assaulted, abused upon their return, pelted with feces and other bodily fluids at airports from coast to coast, and frequently referred to as just crazy old homeless fools that live under the overpass, are those often most desperately in need of medical and mental health services. The percentages of Vietnam Veterans suffering from post-war PTSD is estimated to be at 30 percent, as opposed to the 20 percent figure granted to Operation Iraqi Freedom and Operation Enduring Freedom Veterans. Both estimates are likely to be very seriously submerged, as many of these Veterans never interface with the system charged with service provision for them or seek intervention; oftentimes because they are unaware it exists or they avoid mental health and medical services through the VA at all costs. The numbers of suicides in this age group is twice that for those 50 and older among their non-veteran counterparts. This is due in part to the stigma of obtaining mental health services so desperately needed, which continues to be an obstacle of a momentous magnitude. Add to this, as with the aging population in general, deteriorating health, the onset of chronic and intractable pain as a result of war injuries and any number of other progressive medical conditions, the increasing loss of mobility, as well as the rising numbers of losses all of us experience with the passage of years, and we have a formula for loneliness, abandonment, and further isolation (Carney, 2014). As a nation, our stunted attention span allows us to quickly forget the sacrifices made by all war Veterans and to ignore a problem of such enormity, that is unlikely to change for Iraq and Afghanistan war Veterans over time. They will ultimately inherit the very same problems.

Then there are the explosive numbers of problems inherent in the VA that have frequently been the subject of media exposes. During the last 12 months, the author has personally blown the whistle on our local VA hospital, on their director, and on the Secretary of the VA, Secretary Bob McDonald for nonpayment as a non-VA provider. My reward: 12 months of non-payments, though this was only very recently and partially corrected, with a two-foot thick file of correspondence as evidence, much of it highly offensive and insulting. Being already thousands of dollars in the hole, I had nothing to lose by going into attack mode. I also refuse not to see Veterans for treatment and will not abandon them as the VA has, regardless of whether or not I will ever be paid.

As far back as 2001 when our nation began to gear up for the Global War on Terrorism, the VA should have known better than not to do the same. The failures of the system are incalculable and infinite, the stuff of enormous numbers of investigative reports. This is not fake news. Firstly, the VA has failed to track veterans upon their departure from the military and there is no system in place to make this happen to the best of my knowledge. In fact, it is standard operating procedure and commonplace for military personnel not to receive information about the multiplicity of VA services for which they are entitled. I treat Vietnam and Gulf War veterans who were completely uninformed of their entitlements as military veterans, decades after leaving military service. This is a problem that cannot be resolved simply by increasing VA funding and programming or by hiring 9000 more mental health professionals, many of whom have never served in the military themselves (Parnell, 2015). The problems inherent in VA care too often involve a problem of access to it, but this is only a minuscule part the problem. In the author's experience and in that of the Veterans that I treat, there is also a huge disconnect between care provided by those who have served and those who have never worn the uniform. Primary among them is the absence of trust in those who have never served and a rapport that can never be established for that very reason. There is little basis for trust in providers whose experience does not include marching through the same trenches. If one has never been to war, there can be no understanding of the experiences and burdens that Veterans carry home; it is just that simple.

It is the frayed and demolished life to which many Veterans return to in rocket velocity, without any opportunity to transition or de-escalate from combat to the comparative lavishness of civilian life, that often shatters their once firm foundation and sends Service Members into a rapid downward spiral. For far too many returning Veterans, disembarking on American soil often makes eating the barrel of one's weapon seem to be the most preferable next meal.

Regardless, this is hardly the critical factor to consider. The sobering nature of the issue is far too profound to be quantified. Whether in the wartime theater or the home front, wounds that do not bleed can still be ripped open, allowing spillage of immeasurable anguish and despair. It is the suffocating hopelessness and promises of only more of the same, the damnation of infinite burdens that can no longer be shaken off, and time and time again, having come face to face with the inevitability of one's own demise, that makes it easy to find the belt or the barrel that will lead to desperately desired relief (Carlson, Task and Purpose, 2016). Accepting this offers the ease of sanctions that can readily lead to a simple squeeze of the trigger; "a flight from a world that just doesn't

care" and reprieve from an ugliness that cannot be put into words (Carlson, 2016). For those of us who have ever worn the uniform, we have all been there and yearned to taste gun metal.

When there are more losses to post-war suicide than in combat, we have a serious problem on our hands. We are a long way from grasping the bona fide burdens of war that Veterans carry home. Enduring and suffering the plain awful experience of readjustment to civilian life, shackled by continuous back to back deployments, and further complicated by the 99 percent of the American populace that just "doesn't get us," makes for a new kind of isolated hell from everything that not so long before delivered tremendous value, meaning, and purpose to our lives. We are ignored, misunderstood, alienated, and banished from the kingdom of life on the home front and a country that sent us off to war and forgot us when we came home from war" (Parnell, 2016). In short, we don't have a policy shortfall, but a cultural shortfall" (Parnell, 2016). This is hardly a recipe for the genuine cohesion and camaraderie that sustained us in war, but instead, one of desolation and alienation from a society pretends to welcome us with open arms, but remains largely untouched by war and its aftereffects. Being hurled back into this reality sends us running for cover from a homeland that rejects us, forcing us to bear the true costs of war entirely alone.

Researchers who interviewed 72 Soldiers at Fort Carson, CO found that among the 33 reasons given to them for selection as reasons for their suicide attempts, the one that stood out among all the others was the overwhelming desire to stop the pain of intense emotional distress. According to now retired Army COL Carl Castro, the desire to harm oneself is only secondary to the longing for the anguish and despair to stop, from which there seems to be no exit or escape. By the same token, this study revealed that Soldiers typically listed an average of ten reasons for contemplating or attempting suicide, which clearly demonstrates the highly complex nature of the problem at hand. Additional commonplace reasons given by Soldiers studied include feeling compelled to put an end to "chronic sadness," finding the means to escape people, presumably those who fail to understand such desperation, and using suicide as the pathway to express such utter despondency (Zoroya, 2012).

The veil of purposeless and loss of camaraderie, the absence of belongingness, often lead to the confiscation of all things meaningful. The harshest consequences of war often come afterwards. We, as a culture, continue to tone down the collateral damages of war (Senior, 2011) and the fact that we "may be more dangerous to ourselves than the enemy." What sustained us in war has been torn away, leaving behind an amputated spirit and a life devoid of significance, usefulness, worth, or purpose. There is no good place for one's head to rest. Darkness is the only color so many of us come to know. The collateral damage of war is that it embezzles your entire life as you knew it. There is no old self hanging in the closet. Truthfully, there are too many of us who just want to make it stop…the anger, the unceasing threat level and the assurance that everyone around us is trying to hurt us, which is often not just supposition, and the overpowering desire to feel so alive just one more time.

Reproduced by permission from Lemonwire.com.

About the Author

Kathy Platoni, Psy.D. has been a practicing clinical psychologist for more than 35 years and maintains her private practice in Centerville, Ohio. In service of her country and as an Army Reserve clinical psychologist, she has deployed on four occasions in time of war. Dr. Platoni served as commander of the 1972nd Medical Detachment (Combat Stress Control) at Guantanamo Bay Cuba from 2003-2004, where combat stress control became a critical element of the Joint Task Force mission in support of Operation Enduring Freedom in the Global War on Terrorism. Having volunteered to return to active duty within weeks of her redeployment from Joint Task Force-GTMO, Dr. Platoni deployed to Iraq in support of Operation Iraqi Freedom, holding the position of Deputy Commander of Clinical Services for the 55th Medical Company (CSC) in Baghdad and seven subsequent locations, finally as Officer in Charge of Team Ar Ramadi, situated the seat of the insurgency and during times of intensive combat. At the invitation of the 3rd Brigade Commander, 3rd Infantry Division upon the conclusion of her tour of duty in the wartime theater, Dr. Platoni reported to the Home of the Infantry, Fort Benning, Georgia for an additional six month mission in order to provide for the reintegration services of the 2nd Battalion, 69th Armored Regiment due to elevated numers of psychological casualties among combat arms soldiers. Dr. Platoni was last deployed to the combat theater of Afghanistan from 2009 through late 2010 with the 467th Medical Detachment (Combat Stress Control) in support of Operation Enduring Freedom, serving as Clinical Advisor for the medical detachment and Officer in Charge of Team Wilson, Kandahar Province, and Camp Phoenix in Kabul, Afghanistan. She was assigned to the 1493rd Medical Detachment (CSC) in Cary, North Carolina until the time of her retirement. As a survivor of the tragic Ft. Hood Massacre in November of 2009, she is an ardent activist for reconsideration of this shooting incident as an act of terrorism to assure that the wounded and the families of the deceased are awarded long overdue benefits and was very instrumental in the awarding of the Purple Heart Medal to the Fort Hood wounded and to the families of those who lost their lives on that tragic day.

Dr. Platoni is a graduate of the School of Professional Psychology of Nova University (now Nova Southeastern University) in Davie, Florida. Subsequent to the conclusion of her doctoral studies under the auspices of the United States Army's Health Professionals Scholarship Program, she completed her internship on active duty Army status at William Beaumont Army Medical Center in El Paso, Texas in 1984. From 1984 through 1987, she served as Chief of Psychology at DeWitt Army Community Hospital, Fort Belvoir, Virginia. During her more than three decades of both active and Army Reserve status, including a six month tour of duty during Operation Desert Storm, Dr. Platoni developed combat stress control, debriefings and crisis management programs utilized throughout the U.S. Army. She held the position of Army Reserve Clinical Psychology Consultant to the Chief, Medical Service Corp for six years and is a graduate of the US Army Command and General Staff College. Dr. Platoni retired from the US Army with the rank of Colonel in October of 2013.

Dr. Platoni maintains an appointment as Assistant Clinical Professor with the School of Professional Psychology, Wright State University. She is a skilled hypnotherapist and possesses expertise in the sub-specialty areas of behavioral medicine and the treatment of chronic pain and chronic, debilitating, and terminal illnesses. Due to her father's

exposure to radiation during the bombing of Nagasaki during World War II, she was born with congenital defects that have required extensive maxillofacial (bone) reconstructive and bone grafting procedures. No stranger to chronic pain herself, Dr. Platoni has undergone 59 major and minor surgeries over the course of the last 24 years to correct these defects, 18 of them with hypnosis as the sole anesthetic. Her last major plastic surgery was featured in a segment of ABC News "20/20" in 1999. She is in the process of completing a series of scholarly articles on this subject and has also published in a number of professional and lay journals on topics relating to Gulf War Syndrome, the psychological aftermath of the events of "9/11", and professional/ medical ethics. Two landmark books, written and edited by Dr. Raymond Scurfield and Dr. Platoni on the subject of war trauma, Expanding the Circle of Healing~Trauma in Its Wake and Healing War Trauma~A Handbook of Creative Approaches, were published in 2012. She was awarded Diplomate status by the American Academy of Pain Management and was recently appointed Fellow of the American Institute of Stress and distinguished membership in the Institute of Traumatic Stress 2013 Board of Scientific and Professional Advisors and of Veterans 360. In addition, Dr. Platoni holds professional memberships in the American Psychological Association, Ohio Psychological Association, the American Society of Clinical Hypnosis, the Society of Clinical and Experimental Hypnosis, the Association of Military Surgeons of the United States, the Dayton Area Psychological Association, and International Critical Incident Stress Foundation. She also holds the position of Editor of Combat Stress.

Since the "9/11" tragedy and attacks on the United States, Dr. Platoni voluntarily deployed to New York City on two occasions in order to provide disaster mental health and critical incident stress debriefing services to members of the New York City Police Department. She currently serves as the Dayton SWAT psychologist and Mental Health Advisor to the Dayton Hostage Negotiation Team.

As a nationally renowned expert in the treatment of Post-Traumatic Stress Disorder, Dr. Platoni has been featured in Fox News, CNN, USA Today, Newsweek, US News and World Report, AP News, The Guardian, Huffington Post, Washington Post, NPR Radio, Stars and Stripes, San Antonio Express News, San Francisco Chronicle, Boston Globe, The Ohio Psychologist, the Wall Street Journal, TIME Magazine, and The National Psychologist.

For her professional contributions to the field of psychology and decades of humanitarian service, Dr. Platoni was awarded a lifetime achievement award by her alma mater, Hobart and William Smith Colleges, in 2008 and was selected for the very prestigious Dayton's Ten Top Women Award for the Class of 2012. She was awarded the Legacy Award for community service and volunteerism in the Southwest Ohio area in April of 2013. She was awarded the Legion of Merit for exceptionally meritorious service by the United States Army on 19 July 2014. Dr. Platoni was the recipient of the 2016 IVAT Returning Veterans Resiliency in Response to Trauma Award. This award is given by the Institute on Violence, Abuse and Trauma (IVAT) to a veteran who has experienced specific trauma in war and whose efforts and advocacy have had a notably restorative impact on a traumatized population.

On 14 March 2015, COL Platoni was sworn in as a member of the 4th Civil Support and Sustainment Brigade, Ohio Military Reserve; back in uniform for her 35th year, this time as Chief Psychologist for State Defense Forces.

References

Bare, S. (2015, June 2). The Truth About 22 Veteran Suicides Per Day. Retrieved from http//:taskandpurpose.com/truth-22-veteran-suicides-day/

Carlson, S. (2014, December 10). Let the Damn Army Clean Up the Mess: A Story of Almost Suicide. Retrieved from http//:taskandpurpose.com/let-damn-army-clean-mess-almost-story-suicide/

Carney, J. (2014, April 13). Why Are So many Older Veterans Committing Suicide? Retrieved from http://www.veteranstoday.com/2014/04/14/why-are-so-many-older-veterans-committing-suicide/

Donnelly, J. (n.d.). MEMO: The Scope of Military Suicides. Retrieved December 15, 2016, from http://www.donnelly.senate.gov/download/memo-the-scope-of-military-suicides.

Franklin, K., Ph.D., LCSW (n.d.). Department of Defense Quarterly Suicide Report Calendar Year 2016 First Quarter (USA, Department of Defense, Defense Suicide Prevention Office).

Kime, P. (2015, April 1). Study: No Link Between Combat Deployments and Suicide. Retrieved 2016, from http://www.militarytimes.com/story/military/benefits/health-care/2015/04/01/suicide-troops-veterans-combat-study-says-no-link-between-combat-deployment-suicides/70771276/

Kime, P. (2016, February 4). VA: Veterans Suicide Must Be a Top Priority. Retrieved 2016, from, http://www.militarytimes.com/story/veterans/2016/02/04/va-veterans-suicide-must-top-priority/79821504/

Kime, P. (4 April 2016). Reserve Suicides Up 23 Percent. Retrieved 2016, from www.militarytimes.com/story/.../04/.../reserve-suicides-up-23-percent.../82619724

Loomis, R. (29 October 2016). Detailed Study Confirms High Suicide Rate Among Recent Veterans. The Los Angeles Times.

Senior, J. (2011, February 6). The Prozac, Paxil, Zoloft,, Celexa, Effexor, Valium, Klonopin, Ativan, Restoril, Adderall, Ritalin, Haldol, Risperdal, Seroquel, Ambien, Lunesta, Elavil, Trazadone War. New York Magazine.

The Editorial Board. (2016, July 16). For Suicidal Veterans, A Frayed Lifeline. The New York Times.

US Department of Veterans Affairs, Office of Public Affairs. (3 August 2016). VA Releases Report on Nation's Largest Analysis of Veteran Suicide. https://www.va.gov/opa/pressrel/pressrelease.cfm?id=2807.

Zarembo, A. (2015, 8 June). Suicide Rate Among Female Veterans Called "Staggering". The Los Angeles Times.

Zoroya, G. (10 July 2012). Study Reveals Top Reason Behind Soldiers' Suicide. USA Today.

GET INSIDE OUR HEAD

It's Not Our Credentials That Make AIS So Impressive, It's the Fellows That Go with Them.

The American Institute of Stress is a non-profit organization established in 1978 at the request of Dr. Hans Selye (the Founder of the Stress Concept) to serve as a clearinghouse for information on all stress related subjects. AIS Founding Fellows include:


Paul Rosch


Linus Pauling


Alvin Toffler


Bob Hope


Michael DeBakey


Herbert Benson


Charles Spielberger

Join our prominent psychologists, physicians, other health care practitioners and health conscious individuals who are interested in exploring the multitudinous and varied effects of stress on our health and quality of life.

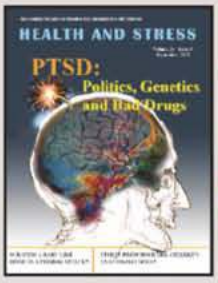
The American Institute of Stress invites YOU to enhance your credentials with FAIS and add your name to our Gallery of Distinguished Fellows.

Over the last 35 years, we've expanded our services and broadened our reach, but our dedication to science hasn't changed a bit.

Our four focus areas include:

1. Combat Stress
2. Daily Life Stress
3. Workplace Stress
4. Expanding Human Potential

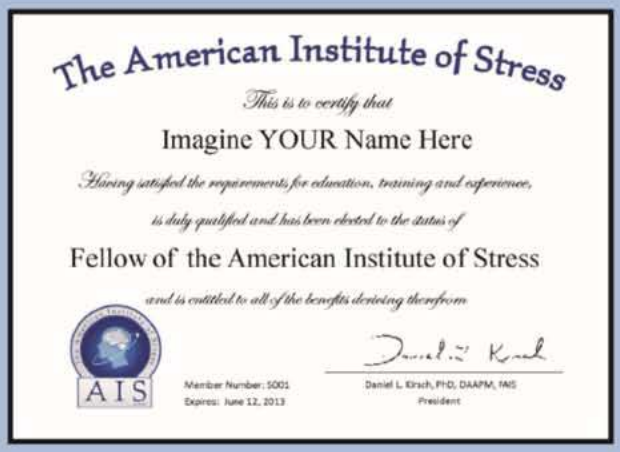
We produce three e-magazines focused on different stress related topics...



We are always looking for new contributors to our magazines. If you would like to submit an article, email your idea to editor@stress.org

Join us in our mission to
Engage, Educate and Empower
the global community with science based stress management information, tools and techniques so people can live happier, healthier and longer lives!

Visit stress.org to download your FAIS or DAIS application


The American Institute of Stress

This is to certify that

Imagine YOUR Name Here

Having satisfied the requirements for education, training and experience, is duly qualified and has been elected to the status of

Fellow of the American Institute of Stress

and is entitled to all of the benefits deriving therefrom

AIS

Member Number: 5001
Expires: June 12, 2013

Daniel L. Kirsch, PhD, DAAPM, FAIS
President

American Institute of Stress
9112 Camp Bowie West Blvd. #228
Fort Worth, TX 76116

www.stress.org

USA Main: (682) 239-6823
Fax: (817) 394-0593
Email: info@stress.org

Book Review

The Ragged Edge: A US Marine's Account of Leading the Iraqi Army Fifth Battalion

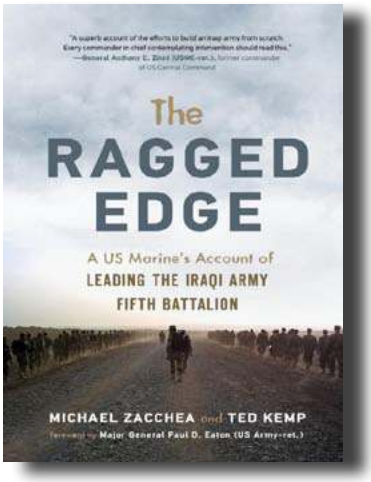
Synopsis

Deployed to Iraq in March 2004 after the overthrow of Saddam Hussein, US Marine Michael Zacchea thought he had landed a plum assignment.

His team's mission was to build, train, and lead in combat the first Iraqi Army battalion trained by the US military. Quickly, he realized he was faced with a nearly impossible task.

With just two weeks' training based on outdated and irrelevant materials, no language instruction, and few cultural tips for interacting with his battalion of Shiite Arabs, Sunni Arabs, Kurds, Yazidis, and others, Zacchea arrived at his base in Kirkush to learn his recruits would need beds, boots, uniforms, equipment, and water!

His Iraqi officer counterparts spoke little English. He had little time to transform his troops — mostly poor, uneducated farmers — into a cohesive rifle battalion that would fight a new insurgency erupting across Iraq. In order to stand up a fighting battalion, Zacchea knew, he would have to understand his men.



This book is a must-have for anyone who loves:

- Narrative Nonfiction
- Foreign Policy and Global Issues
- History
- Military Stories

From the Author

In 2008, I joined forces with journalist Ted Kemp at CNBC Digital to help me shape the narrative of what it was like to train the Iraqis to fight a war. The task was gargantuan and daunting. The only historical precedent for my experience dated to WW I. Ted interviewed dozens of principals and witnesses from several nations.

As I wrote, Ted discovered themes and narrative threads that had not been apparent to me, as I was living it. He illuminated relationships and rationales for the participants. Like an artist sculpting, Ted edited the massive block of my more than 1,200 pages into a stunning, emotional, cohesive narrative that captured the chaos, courage, and relationships we experienced in Iraq.

In re-reading what we've written, it strikes me how relevant these experiences are to the world today. I'm very proud of what we've created and that's why I want to share it with you. I look forward to hearing your thoughts about the book!

Semper Fi
Michael J. Zacchea
LtCol USMC (ret)

Not a subscriber?

Have "Combat Stress" delivered to your inbox each quarter!

The American Institute of Stress
6387B Camp Bowie Blvd #334
Fort Worth, TX 76116
www.stress.org

info@stress.org
Main: (682)239-6823

The American Institute of Stress is a qualified 501(c)(3) tax-exempt organization.