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**Warrior Pose: Building Readiness through
Resilience—Yoga and Meditation**

by Ajit V. Joshi

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On the cover: Captain Enrique Inle is the Headquarters and Headquarters Company Commander of the 19th Expeditionary Sustainment Command at Camp Walker in Korea. He finds healing and improved physical performance through his personal practice of yoga and strongly advocates for implementing yoga throughout the military. PHOTO BY ROBERT STURMAN, [HTTPS://ROBERTSTURMANSTUDIO.COM](https://robertsturmanstudio.com), APRIL 2017/USED WITH PERMISSION

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WARRIOR POSE: BUILDING READINESS THROUGH RESILIENCE—YOGA AND MEDITATION

The rigors of military service create unique stressors on uniformed Service members and their families. Better mental, spiritual, emotional, behavioral, and physical health may reduce violence and aggression, which can be unhealthy outlets for accumulated stress. Harvard Medical School yoga researcher Dr. Sat Bir Singh Khalsa suggests that yoga and meditation change the perception of what is stressful—the indicators for measuring that are improved emotional and stress reactivity as a function of increased resilience.¹ Yoga is one tool, among others, for increasing resilience and readiness. United States Army Captain Enrique Incle observes:

Yoga has been a tremendous source of strength to me. It has enabled me to obtain inner peace, and control the memories which caused me anxiety for many years. Yoga is a tool for injury prevention, rehabilitation, and health promotion, and it needs to be championed because our Soldiers deserve every chance to continue to serve and stay in the fight. I was once a skeptic, but now I'm proof of its effectiveness and restorative properties. In the near future, I hope that yoga is implemented on a broader scale across our military formations.²

Incle's moving testimonial suggests that yoga, systematic relaxation, meditation, and breath-focused mindfulness programs can improve even a skeptic's individual resilience and bolster enterprise-level readiness, if such programs are adequately supported. It is time for senior leaders to institutionalize, amplify, and elevate the importance of a set of evidence-based tools (yoga, systematic relaxation, and meditation, which rely on active use of the breath) for improved readiness, resilience, and comprehensive fitness in the joint force. This paper provides analysis through four focus areas: (1) the yogic toolbox, (2) current program structure and policy architecture, (3) the evidence base, and (4) an evaluation of arguments in favor and opposed to programmatic interventions. The final section addresses five common arguments: lack of time, increased cost, unwilling participants, concern about yoga's "Eastern" origins, and structure. It concludes with recommended organizational cultural changes to improve resiliency programs and implementation guidance for those reforms.

Captain Incle's experience invites exploration into how the U.S. military might introduce and systematically ensure these tools are available for all Service members during all deployment phases to increase readiness and resilience in the total force. The Army defines resilience as "the mental, physical, emotional, and behavioral ability to face and cope with adversity, adapt to change, recover, learn, and grow from setbacks."³ The purpose of yoga, systematic relaxation, focused breathing, and

1. Dr. Sat Bir S. Khalsa, Harvard Medical School, telephone interview by author, 24 January 2018.

2. Captain Enrique Incle, "Enrique Incle, A True Warrior at Ease," Warriors at Ease, accessed 8 March 2018, <http://warriorsatease.org/a-warrior-at-ease/enrique-incle-a-true-warrior-at-ease/>.

3. Staff Sergeant James Avery, "Mindfulness Training for Mental Toughness Coming to Fort Drum," 3 August 2017, U.S. Army, https://www.army.mil/article/191776/mindfulness_training_for_mental_toughness_coming_to_fort_drum.

meditation is to connect the mind and body through the breath so one is fully present, conscious in the moment, and ready and willing to face life's challenges and opportunities.

There are three measures—effectiveness, a needs assessment, and a feasibility analysis—to consider when examining the resourcing required to implement a program.⁴ First, there is ample research of the benefits on yoga, systematic relaxation, and meditation among civilians, veterans and Service members. Second, the need for these tools is based on the need for resilience. The risk of suicide among veterans is 21 times higher than the U.S. population; on average, 20 veterans a day die from suicide. The late Senator John McCain said, “Combatting this epidemic will require the best research and understanding about the key causes of veteran suicide, including whether overmedication of drugs, such as opioid pain-killers, is a contributing factor in suicide-related deaths.”⁵ The statistics and concerns cited by the Senator suggest the need for a deeper examination of root causes including identifying out-of-the-box tools to increase resilience among Service members. “Mental health disorders have historically accounted for significant morbidity, health care utilization, disability, and attrition from military service. From 2007 through 2016, a total of 853,060 active component Service members were diagnosed with at least one mental health disorder and 115,378 were diagnosed with mental health problems related to family/support group problems, maltreatment, lifestyle problems, or substance abuse counseling.”⁶ Third, programs and instructors (Service members, family members, and civilians) already exist on military installations and Department of Veterans Affairs (VA)-run programs, providing a template for the joint force when institutionalizing yoga, systematic relaxation, and meditation training.

The Yogic Toolbox for Readiness and Resilience

The set of tools in the realm of readiness and resilience have a variety of names and definitions. The main concepts of yoga, trauma-sensitive yoga, systematic relaxation, iRest Yoga Nidra, breathing, meditation, and mindfulness all have a role to play in updated resiliency programs. This section analyzes how targeted implementation of these concepts would most benefit Service members.

Yoga and the Yogic Toolbox

Yoga, as understood and practiced among members of the armed forces, veterans, families, and the American public writ large, is primarily *hatha yoga*—a Sanskrit phrase that includes *asana*—a steady and comfortable posture or more specifically, physical poses accompanied by breath work, focused inhalation and exhalation, to move energy mindfully and efficiently to achieve a specific goal. Systematic relaxation, at its simplest, is a scan of the body from head to toe, mindfully paying

4. Major Brian T. Gregg, e-mail message to author, 2 March 2018.

5. John McCain, “Senator John McCain Reintroduces Legislation to Prevent Overmedication and Combat Suicide Among Veterans,” 31 March 2017, John McCain, <https://www.mccain.senate.gov/public/index.cfm/2017/3/senator-john-mccain-reintroduces-legislation-to-prevent-overmedication-combat-suicide-among-veterans>.

6. Shauna Stahlman and Alexis A. Oetting, “Mental Health Disorders and Mental Health Problems, Active Component, U.S. Armed Forces, 2007–2016,” *Medical Surveillance Monthly Report* 25, no. 3 (March 2018), 2.

attention to each part of the body.⁷ A short 3 to 10 minute systematic relaxation is useful after any vigorous physical exercise, daily physical training (PT), or a hatha yoga practice. Meditation, on the other hand, is a seated practice done primarily for stilling the mind, and that relies on *pranayama* (breath work), as a foundation.⁸

Trauma-Sensitive Yoga

Trauma-sensitive yoga focuses on awareness of the breath, with the goal of greater integration between the sympathetic and parasympathetic nervous systems for improving heart rate variability, a marker for physiological health.⁹ Trauma-sensitive yoga has four themes: (1) training one's attention to the present moment experience by non-judgmentally focusing on breath and body sensation, (2) making self-supporting healthy choices in the moment, (3) taking effective action to adjust to each moment's developments, and (4) creating a rhythm for oneself, to be more in sync with the basic rhythm of life in the body and with life itself.¹⁰ Trauma-sensitive yoga is relevant for any individual affected by a traumatic experience, including combat veterans, and survivors of sexual assault or trauma. In her foundational work on trauma, Judith Lewis Herman reminds us that trauma is not new to America's military.¹¹ Terms like shell shock, battle fatigue, and combat exhaustion emerge in the lexicon as a result of involvement in World War I combat experience.¹² There were also 1.4 million cases of battle fatigue in World War II.¹³ However, these terms were forgotten as those with "psychiatric disabilities ... had become an embarrassment to civilian societies eager to forget."¹⁴ These issues came to a head, as Herman describes, with the Vietnam War as "the moral legitimacy of the antiwar movement and the national experience of defeat in a discredited war had made it possible to recognize psychological trauma as a lasting and inevitable legacy of war."¹⁵ In fact, through the advocacy of Vietnam veterans, trauma-

Trauma-sensitive yoga is relevant for any individual affected by a traumatic experience, including combat veterans, and survivors of sexual assault or trauma.

7. Sarah Guglielmi, "Fundamentals of Systematic Relaxation," Himalayan Institute, accessed 9 March 2018, <https://www.himalayaninstitute.org/wisdom-library/workshops/fundamentals-systematic-relaxation/>.

8. Swami Rama, "The Real Meaning of Meditation," Yoga International, accessed 9 March 2018, <https://yogainternational.com/article/view/the-real-meaning-of-meditation>.

9. Besel Van Der Kolk, *The Body Keeps Score: Brain, Mind, and Body in the Healing of Trauma* (New York: Penguin Books, 2014), 266–271.

10. David Emerson and Elizabeth Hopper, *Overcoming Trauma Through Yoga: Reclaiming Your Body* (Berkeley, CA: North Atlantic Books, 2011), 39–57.

11. Judith Lewis Herman, *Trauma and Recovery: The Aftermath of Violence from Domestic Abuse to Political Terror* (New York: Basic Books, 1992), 20–28.

12. Emerson, *Overcoming Trauma Through Yoga*, 12–13.

13. *The Mental Toll: The Perilous Fight: America's WWII in Color*, PBS, accessed 9 March 2018, http://www.pbs.org/perilousfight/psychology/the_mental_toll/.

14. Herman, *Trauma and Recovery*, 23.

15. Herman, *Trauma and Recovery*, 27.

related symptoms were included in the Diagnostic and Statistical Manual of Mental Disorders in 1980 under the diagnosis Posttraumatic Stress Disorder (PTSD).¹⁶

Since then, one modality has emerged—the use of yoga, broadly defined—for treating trauma. Yoga is helpful for those who have experienced trauma as the yoga practitioner can shift attention from the mind to the body. That shift allows an individual to manage trauma without talking and safely release traumatic memories in the body.¹⁷ Injury and trauma may be physical, mental, or most likely, be related to one another in terms of one’s ability to function in life. Posttraumatic stress psychiatrist Besel Van Der Kolk used yoga to treat trauma-related symptoms reported by a Vietnam veteran suffering from PTSD. The patient, a former medic, now serves as a yoga teacher and finds practicing yoga helps him maintain a sense of control over his body and prevents his trauma from dominating his life.¹⁸ In practical terms, according to certified yoga therapy teacher, iRest, and Warriors at Ease teacher Renee Warren, a trauma-sensitive class for a military population adjusts aspects of typical yoga instruction avoiding phrases such as corpse pose and surrender.¹⁹ This approach accommodates amputees, individuals with traumatic brain injury, and creates a calming and safe environment. Trauma-sensitive yoga provides choices in poses which are particularly valuable for survivors of sexual assault and harassment. Additionally, daily practice and routine may be a factor in improved physiological and psychological changes, including accepting pain, and the willingness to experience it, including associated emotions.²⁰

Trauma-sensitive yoga and meditation allow for tending to moral injury. Moral injury is “perpetrating, failing to prevent, bearing witness to, or learning about acts that transgress deeply held moral beliefs and expectations.”²¹ Litz et al., identify self-forgiveness as an “Examination of maladaptive beliefs about the self and the world,” as one of the treatment strategies in treating moral injury.²² *Vichara* is the Sanskrit phrase for self-inquiry, and *vikalpa* is a maladaptive response or reaction to life’s circumstances, including life-defining moments such as trauma.²³ When this belief or pattern defines one’s behaviors, one feels separate from a sense of meaning and the purpose of

16. Emerson, *Overcoming Trauma Through Yoga*, 13; Matthew J. Friedman, “PTSD History and Overview,” 23 February 2016, U.S. Department of Veterans Affairs, https://www.ptsd.va.gov/professional/treat/essentials/history_ptsd.asp.

17. Lynn Stoller, “Sensory-Enhanced Yoga for Self-Regulation and Trauma Healing: An Evidence-Based Program,” in *Warriors at Ease Training Manual* (Silver Spring, MD: Warriors at Ease, 2012), 31.

18. Van Der Kolk, *The Body Keeps Score*, 229.

19. Renee Warren, multiple interviews by author, Carlisle Barracks, Fall 2017 and Winter 2018.

20. Anava A. Wren et al., “Yoga for Persistent Pain: New Findings and Directions for an Ancient Practice” *Pain* 152, no. 3 (March 2011), 477–480.

21. Brett T. Litz et al., “Moral Injury and Moral Repair in War Veterans: A Preliminary Model and Intervention Strategy,” *Clinical Psychology Review* 29 (2009), 700, <https://icds.uoregon.edu/wp-content/uploads/2015/03/Litz-et-al-2009-Moral-Injury-and-Moral-Repair-in-War-Veterans.pdf>.

22. Litz et al., “Moral Injury,” 703.

23. Rod Stryker, *The Four Desires: Creating a Life of Purpose, Happiness, Prosperity, and Freedom* (New York: Delacorte Press, 2011), 142.

one's own life.²⁴ Identifying a vikalpa is an empowering approach as one can identify that pattern, and then choose to do something about it. Choice and agency are key tools for healing from trauma. When one identifies a vikalpa and one's life purpose, *dharma*, one can create a powerful new approach to healing.²⁵ Options for tending to moral injury include Acceptance and Commitment Therapy and mindfulness.²⁶ Similarly, yogic philosophy, yoga, meditation, and pranayama are part of a toolkit of complementary options; one can decide on a pose, how to breathe in that pose, experience one's self through that increased mind-body awareness, be aware of any feelings that arise during the asana, pranayama, meditation, and in a vichara practice. Through this witnessing process, one becomes more aware of anger and anxiety, which can be manifestations of moral injury.²⁷ One can shift perspective from being a victim to being a survivor and demonstrate resilience—the ability to bounce back from adversity.

Systematic Relaxation and Yoga Nidra

Systematic relaxation approaches range from progressive muscle relaxation to paying attention to the breath at the abdomen, to bringing the mind to 31 or 61 points of the body, *shavayatra*, in Sanskrit.²⁸ Systematic relaxation can also combine points in the body with awareness of the breath, as in a practice known as 75 breaths, *shitili karana*. According to preeminent yoga and meditation teacher Rod Stryker of ParaYoga, Yoga Nidra is when “the body is [in] rest ... while the mind remains fully conscious.” It is “sleep, with a slight trace of awareness ... where neither thoughts nor images are present, and the practitioner experiences conscious, deep, dreamless sleep, possessing awareness of the surroundings—without either thinking about or interacting with them.”²⁹ As classically taught, Rolf Sovik, a senior yoga instructor, describes Yoga Nidra as a process including five steps beginning with (1) stretching, (2) exercise without movement or what the author would term progressive muscle relaxation, (3) systematic relaxation—(61 points) and (75 breaths), (4) breath awareness, and (5) the core of Yoga Nidra, conscious sleep.³⁰ Yoga Nidra takes the practitioner into alpha, beta, and theta states where one is asleep yet awake.³¹

24. Sue Neufeld, “Vikalpa: Separation from Your Life's Purpose,” Yoga International, video, accessed 20 March 2018, <https://yogainternational.com/article/view/vikalpa-separation-from-your-lifes-purpose>.

25. Stryker, *The Four Desires*, 143.

26. Marek Kopacz et al., “Moral Injury: A New Challenge for Complementary and Alternative Medicine,” *Complementary Therapies in Medicine* 24 (2016): 31, https://www.researchgate.net/profile/Craig_Bryan/publication/286920174_Moral_injury_A_new_challenge_complementary_and_alternative_medicine/links/566b03ad08ae1a797e39756d/Moral-injury-A-newchallenge-complementary-and-alternative-medicine.pdf.

27. Shira Maguen and Brett Litz, “Moral Injury in the Context of War,” 23 February 2016, U.S. Department of Veterans Affairs, https://www.ptsd.va.gov/professional/treat/cooccurring/moral_injury.asp.

28. Rolf Sovik, “61 Point Meditation Technique for Deep Relaxation,” 19 September 2013, Yoga International YouTube Channel, video, accessed 9 March 2018, <https://www.youtube.com/watch?v=IqtzQ3k6P0M>.

29. Rod Stryker, “ParaYoga Online Curriculum Glossary,” 2016, YogaGlo, accessed 13 April 2018, <https://www.yogaglo.com/>; Rod Stryker, *The ParaYoga Nidra Master Training Manual* (Carbondale, CO: ParaYoga, 2017). Definitions provided to author by ParaYoga.

30. Rolf Sovik, “Yoga Nidra: Introduction to the Complete Practice,” Yoga International, video, accessed 9 March 2018, <https://yogainternational.com/article/view/yoga-nidra-introduction-to-the-complete-practice>.

31. Rolf Sovik, “Awake Yet Asleep,” in *Yoga Nidra e-course*, video, accessed 25 March 2018, <https://yogainternational.com/ecourse/yoga-nidra/>.

iRest Yoga Nidra

American psychologist, yoga scholar, and co-founder of the International Association of Yoga Therapy Richard Miller, adapted Yoga Nidra to a protocol called iRest, earning the endorsement of several leaders within military health care.³² iRest, or integrative restoration, is a self-care healing approach that helps one connect to himself/herself and life.³³ Robin Carnes, who studied with Rod Stryker and Richard Miller, incorporated iRest into a Walter Reed National Military Medical Center PTSD treatment program.³⁴ Lieutenant General (Retired) Eric Schoomaker notes:

iRest made substantial contribution to the recovery of deeply emotionally wounded veterans of a decade of armed conflict at the Walter Reed Army Medical Center in Washington, D.C. Richard's work and that of others in the yoga community led the Army Surgeon General's Pain Management Task Force in 2010 to recommend these practices in the treatment of chronic pain.³⁵

Carnes co-founded Warriors at Ease, one of the most widely-recognized programs that trains certified yoga teachers on how to adapt classes for active duty and veteran populations. Warriors at Ease specialized training and programs are trauma-sensitive, military culture-informed, and evidence-based.

Breathing

Behavioral scientists have studied the effectiveness of utilizing breathing techniques in several high stress professions. Lieutenant Colonel (Retired) David Grossman, in *On Combat*, explains the concept of autogenic training, a form of breath-focused meditation, termed tactical or combat breathing.³⁶ Tactical breathing consists of four rounds of the following pattern: four-count inhalation, four-count hold, four-count exhalation, four-count hold. He describes how first responders, Service members, and victims of accidents are using this breathing technique, which is taught in the training. Tactical breathing, along with meditation and mindfulness, is part of a comprehensive roadmap for resilience for Service members and their families.³⁷ This pattern is one of many pranayama techniques taught in yoga. It incorporates both *brahmana* (activating)

32. Integrative Restoration Institute, "About iRest," accessed 9 March 2018, <https://www.irest.us/projects/irest>.

33. Richard C. Miller, *The iRest Program for Healing PTSD: A Proven-Effective Approach to Using Yoga Nidra Meditation and Deep Relaxation Techniques to Overcoming Trauma* (Oakland, CA: New Harbinger, 2015).

34. Warriors at Ease, "Teaching Yoga and Meditation to Military Communities," in *Omega Institute Course Workbook* (Silver Spring, MD: Warriors at Ease, 2013); Charles Engel Jr. et al., *Yoga Nidra as and Adjunctive Therapy for Post-Traumatic Stress Disorder: A Feasibility Study* (Bethesda, MD: Walter Reed Hospital and Integrative Restoration Institute, n.d.), accessed 13 April 2018, https://www.irest.org/sites/default/files/WRAMH_PTSD_YN_Results_0.pdf.

35. Eric B. Schoomaker and Audrey N. Schoomaker in Richard C. Miller, *The iRest Program for Healing PTSD*, vii.

36. Dave Grossman with Loren W. Christensen, *On Combat: The Psychology and Physiology of Deadly Conflict in War and Peace*, 3rd ed. (Mascoutah, IL: Killology Research Group, 2012), 332.

37. Donald Meichenbaum, *Roadmap to Resilience: A Guide for Military, Trauma Victims, and their Families* (Belleair, FL: Institute Press, 2012), 93, 94, and 173.

and *langhana* (soothing)—the holds after the inhale and exhale reinforce those two qualities.³⁸ Regulating inhalation and exhalation through a number of counts and holds can modulate one’s response to a situation.³⁹ Rolf Sovik, who is well-versed in pranayama, writes that breathing is a healing tool and one that can be regulated.⁴⁰ A key benefit of breath control is control of the autonomic nervous system.⁴¹ In fact, diaphragmatic breathing and becoming aware of one’s breath are two of the five stages needed for getting the mind still, as Sovik describes in his book *Moving Inward, The Journey to Meditation*.⁴² Grossman has taught his tactical breathing technique in a variety of high-stress or traumatic situations and environments including school shootings and said:

As a warrior, your concern is always to help others, and to do that you must be the rock of calm. When the whole world is coming unglued and all about you are losing their heads and blaming it on you, your job is to be that rock that others can anchor themselves to, and tactical breathing is one powerful tool that helps make this possible ... as a warrior you must be an example of calm, and in that capacity, you can and must pass on the calming benefits of this exercise to others.⁴³

Meditation

Meditation is the pinnacle of yoga practice. It offers an opportunity for a Service member to test their readiness, and the connection between their body and mind through the breath. A daily practice of meditation allows a Service member to monitor consistently where they are on the mind-body continuum and become more self-aware, through self-study, of which tools need more attention and time (yoga, pranayama, systematic relaxation, or yoga’s sister science, Ayurveda—the basis for nutrition by living with the rhythm of life and the seasons).⁴⁴

Mindfulness

Mindfulness is a technique used by a wider variety of individuals than conventional wisdom would suggest. At a U.S. Army War College lecture, a four-star general officer shared that he practices mindfulness regularly and deeply believes that mindfulness plays a key role in building resilience. One definition of mindfulness from the University of Massachusetts Medical School’s Center for Mindfulness (whose founding executive director is mindfulness expert Jon Kabat-Zinn) is “the

38. Rod Stryker, “On Pranayama,” 19 November 2015, ParaYoga, <https://www.parayoga.com/onpranayama/>.

39. Stryker, “On Pranayama.”

40. Rolf Sovik, “Regulate Your Breath,” Yoga International, accessed 9 March 2018, <https://yogainternational.com/article/view/regulate-your-breath>.

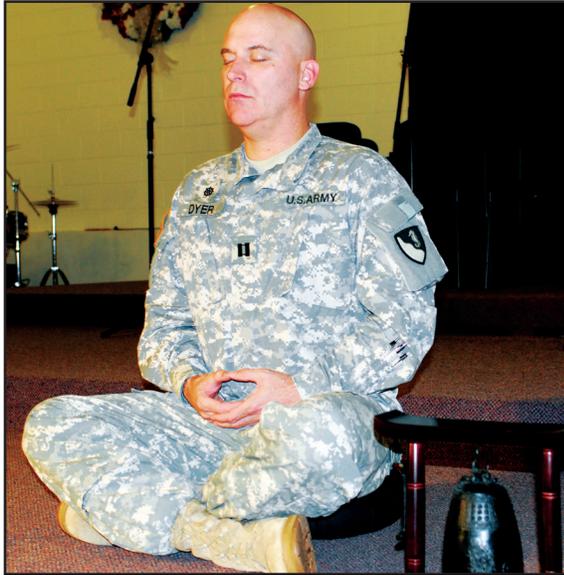
41. Ram B. Singh et al., “Pranayam Yoga Breathing Practices Modulate the Mind Body Connection,” *International Journal of Disability and Human Development* 8, no. 2 (2009), 141–153.

42. Rolf Sovik, *Moving Inward: The Journey to Meditation* (Honesdale, PA: Himalayan Institute Press, 2005), 53–92 and 117–152.

43. Grossman and Christensen, *On Combat*, 337.

44. Vasant Lad, “Ayurveda: A Brief Introduction and Guide,” The Ayurvedic Institute, accessed 9 March 2018, <https://www.ayurveda.com/resources/articles/ayurveda-a-brief-introduction-and-guide>.

intention to pay attention to each and every moment of our life, non-judgmentally” including “purposeful action, focused attention, grounded in the current experience, and held with a sense of curiosity.”⁴⁵ The previously mentioned four-star general officer noted that mindfulness tools are critical to success in future warfare and that success is contingent upon a warrior being able to learn and systematically practice mindfulness or meditation. The need for psychological profiling for human factors utilizing biological markers to identify individuals with advanced capabilities was also discussed, and that profiling would help the joint force get ahead of PTSD.



Chaplain (Capt.) Thomas Dyer engages in Zenposture meditation on 5 December 2011 at Sightseeing Road Chapel. PHOTO BY VINCE LITTLE/U.S. ARMY

A Service member can practice yoga, systematic relaxation, breathing, meditation, Yoga Nidra, or iRest Yoga Nidra separately; however, the most effective sequence is yoga, systematic relaxation, breathing, and meditation—all informed by the breath. This sequence allows the mind to rest and enjoy the benefits of meditation. It can also easily translate to a military environment, which places a premium on physical fitness and training. It could take place after a PT session that might include cardio or strength training. A Service member would wind down active exercise with a few minutes of active stretching, (i.e., breath-focused yoga), lie down in a final relaxation for a few minutes, then conclude with a breathing or meditation exercise to integrate the benefits of PT and be ready for the next task. Yoga Nidra and iRest Yoga Nidra can be done as stand-alone practices.

It is important to note that one specific tool may not be sufficient. Several combinations have produced promising results: mindfulness meditation, meditation through the repetition of mantra, yoga, and relaxation; however, each modality needs to be identified and tailored to the needs of the patient.⁴⁶ What may be appropriate for a junior enlisted Service member or West Point cadet—say vigorous physical asana—may not be appropriate for someone who has served multiple combat tours—iRest Yoga Nidra may be more suitable. A person suffering from post-traumatic stress may need iRest Yoga Nidra combined with other modalities, including trauma-sensitive yoga and meditation. One veteran suffering from insomnia and headaches described how these practices helped him, “It’s that hour I get once a week

45. Center for Mindfulness in Medicine, Health Care, and Society, “What is Mindfulness,” accessed 9 March 2018, <https://www.umassmed.edu/cfm/mindfulness-based-programs/faqs-mbsr-mbct/>.

46. Marina Khusid, “Self-Care Mindfulness Approaches for Refractory Posttraumatic Stress Disorder,” *Psychiatric Annals* 43, no. 7 (July 2013), 340–344, <https://search.proquest.com/docview/1555292854/fulltext/D604B7E0DFC74066PQ/1?accountid=4444>.

to knock the squirrel off that wheel in his cage going 100 miles per hour and actually relax for an hour without the use of prescription pills.⁴⁷ And for all, a preventative approach of integrative health includes yoga, systematic relaxation, and meditation. A typical military model will not necessarily work, however. A former Marine says, “People who want to ‘boot-camp-ify’ their yoga have not been in the military ... I heard of one group that advertised their yoga classes as blood, sweat, and tears. Is that what you want to give the military community? They’ve got that already. Wouldn’t it be OK to just learn stress-management techniques?”⁴⁸

Current Program Structure and Policy Architecture

Service members, veterans, and their families practice yoga, meditation, and systematic relaxation on military installations and VA-funded facilities globally, either in person, virtually (e.g., DOD-supported downloads such as those from the Navy and Marine Corps Public Health Center), or on their own at private gyms and yoga studios.⁴⁹ Anecdotes and vignettes about a Service member or family member taking the initiative to teach yoga, systematic relaxation, iRest Yoga Nidra, and meditation at military installations, particularly in the Army, are fairly common. Service members may also learn about or access allopathic or conventional medicine, or complementary and alternative medicine (CAM) via medical providers. Integrative medicine bridges CAM and conventional medicine and denotes the relationship between the provider and the patient.⁵⁰ Providers from both conventional and CAM pathways recommend breath-focused yoga, systematic relaxation, and meditation to patients. Yoga, meditation, and relaxation are among the 10 most common complementary tools used among adults in the United States.⁵¹ The National Institutes of Health National Center for Complementary and Integrative Health is researching the efficacy of mindfulness meditation for Service members and veterans.⁵² Service members and veterans alike are increasingly using CAM modalities, including yoga and meditation.⁵³

47. Lindsay Wise, “Vets Find Ways to De-Stress Using Yoga, Meditation,” *Houston Chronicle*, 20 January 2012, <https://www.chron.com/news/houston-texas/article/Vets-find-ways-to-de-stress-using-yogameditation-2655409.php>.

48. Neal Pollack, “Warriors at Peace,” *Yoga Journal*, 5 August 2010, <https://www.yogajournal.com/lifestyle/warriors-at-peace>.

49. Navy and Marine Corps Public Health Center, “RelaxRelax,” accessed 9 March 2018, <https://www.med.navy.mil/sites/nmcphc/health-promotion/psychological-emotional-wellbeing/relax-relax/pages/index.html>.

50. University of Arizona Center for Integrative Medicine, “What is Integrative Medicine,” accessed 9 March 2018, <https://integrativemedicine.arizona.edu/about/definition.html>.

51. National Center for Complementary and Integrative Health, “Use of Complementary Health Approaches in the U.S.,” *National Institutes of Health*, accessed 9 March 2018, <https://nccih.nih.gov/file/3039#textversion>.

52. National Center for Complementary and Integrative Health, “Complementary, Alternative, or Integrative Health: What’s in a Name?” *National Institutes of Health*, accessed 9 March 2018, <https://nccih.nih.gov/health/integrative-health#cvsa>.

53. Richard P. Petri and Roxana E. Delgado, “Integrative Medicine Experience in the U.S. Department of Defense,” *Medical Acupuncture* 27, no. 5 (1 October 2015): 328–334. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4624245/>.

The Undersecretary of Defense for Personnel and Readiness provided evidence of these tools' effects to the Chairman of the House and Senate and House Armed Services Committees and the House and Senate Appropriations Committees in 2014:

- Yoga: Patients reported a decline in psychological symptoms and improvement in overall health.
- Breath-based practices: Patients were better able to remain sober and reduce overall stress levels.
- Meditation: Patients reported a reduction in anxiety levels and improved sleep.⁵⁴



Soldiers with the 2nd Brigade Combat Team, 101st Airborne Division (Air Assault), practice yoga during one of the weekly classes offered by Joined Forces Yoga at Fort Campbell, Kentucky, 23 April 2015. Joined Forces Yoga is a nonprofit organization that provides free yoga classes to Service members, veterans, family members, and Department of Defense civilians. PHOTO BY SGT. SIERRA A. FOWN, 2ND BRIGADE COMBAT TEAM, 101ST AIRBORNE DIVISION (AIR ASSAULT) PUBLIC AFFAIRS

The Services and the VA have taken unique approaches to introduce yoga, systematic relaxation, and meditation into their resiliency programs. Comprehensive Soldier and Family Fitness (CSF2), a U.S. Army program, is built on three primary components: online self-assessment, training, and evaluation. The program has five major dimensions of strength: social, emotional, family, spiritual, and physical.⁵⁵ One soldier noted, “I definitely want to look into bringing my daughter [to yoga] ... because it ... doesn’t really cost anything [and] it’s something that could help build a family together.”⁵⁶ One cannot understate the role of family in the military. The CSF2 program responds to several challenges—suicide, post-traumatic stress, and the rigors of modern military life.⁵⁷ The Performance Triad, which focuses on optimizing health through sleep, activity, and nutrition, operationalizes CSF2.

The triad also includes spiritual health, and the soldiers’ families.⁵⁸ It offers two mobile

54. Jessica L. Wright, “Response to Senate Report 112–196,” memorandum for Chairmen of Armed Services Committees, Defense, and Appropriations, Washington, D.C., 8 January 2014, <https://health.mil/Reference-Center/Reports/2014/01/08/Integrative-Medicine-in-the-Military-HealthSystem>. Letters to Senator Carl Levin, Representative Buck McKeon, Senator Richard Durbin, Representative Rodney Frelinghuysen, responding to Senate Report 112–196, page 231, accompanying H.R. 5856, the Department of Defense Appropriations Bill, 2013.

55. Uniformed Services University Consortium for Health and Military Performance, “R2: Ready and Resilient,” accessed 10 March 2018, <https://www.hprc-online.org/page/total-force-fitness/r2-ready-and-resilient>.

56. Samantha Hurst et al., “Yoga Therapy for Military Personnel and Veterans: Qualitative Perspectives of Yoga Students and Instructors,” *Complementary Therapies in Medicine*, 26 October 2017, 5.

57. Rhonda Cornum, Michael D. Matthews, and Martin E. P. Seligman, “Comprehensive Soldier Fitness: Building Resilience in a Challenging Institutional Context,” *American Psychologist* 66, no. 1 (January 2011), 4.

58. Performance Triad (P3), “What is the Performance Triad,” 31 January 2018, U.S. Army, <https://p3.amedd.army.mil/what-leaders-need-to-know/what-is-the-performance-triad>.

applications to assist soldiers' with breathing and mindfulness practice.⁵⁹ Meditation and yoga are among six CSF2 adaptive strategies: journaling; mentally reframing the issue; physical exercise; meditation and yoga; active problem solving; and talking to a trusted friend, chaplain, or family member.⁶⁰ CSF2 options include yoga, systematic relaxation Yoga Nidra, and meditation via in-person class or self-directed video.

The Army Public Health Center's Spiritual Health program provides additional articles on meditation.⁶¹ The Army Wellness Centers, located on installations, offer suggestions for stress management including biofeedback and stress relief skills.⁶² The Army Surgeon General endorses Yoga Nidra as a "tiered approach for the effective integration of Integrative Modalities to augment pain management."⁶³ These tools are not foreign to the Army.

Programs are taking place all around the world. "Warriors at Ease facilitates yoga programs on military installations and in VA facilities across the U.S. that are often under-resourced and sustained only by a dedicated force of volunteer teachers."⁶⁴ iRest programs are available at 12 military hospitals and bases, 38 VA hospitals, and 49 nonmilitary organizations including facilities in Canada, the United Kingdom, and Australia, as of January 2018.⁶⁵ Dr. Amishi Jha, director of Contemplative Neuroscience, Mindfulness Research & Practice Initiative at the University of Miami, and Dr. Elizabeth Stanley, creator of the DOD-supported Mindfulness-based Mind Fitness Training (MMFT) and practitioner of Somatic Experiencing—a body-based trauma therapy, have evaluated meditation and mindfulness programs for the Army and the Marines. Dr. Jha's most recent research took place in Fort Drum, New York.⁶⁶

59. Performance Triad (P3), "Performance Triad: Optimize Health with Sleep, Activity, and Nutrition—Download Center," *U.S. Army*, accessed 10 March 2018, <https://p3.amedd.army.mil/downloads>.

60. Colonel Tom Vail, "Comprehensive Soldier Fitness: Building Resilience in the U.S. Army," (PowerPoint slides, Military Health System Conference, National Harbor, Maryland, 24 January 2011), <http://www.dtic.mil/dtic/tr/fulltext/u2/a556289.pdf>.

61. Army Public Health Center, "Spiritual Health," accessed 10 March 2018, <https://phc.amedd.army.mil/topics/healthyliving/bh/Pages/SpiritualHealth.aspx>.

62. Army Public Health Center, "Army Wellness Center Services," accessed 10 March 2018, <https://phc.amedd.army.mil/topics/healthyliving/al/Pages/ArmyWellnessCenters.aspx>.

63. Office of the Army Surgeon General, *Pain Management Task Force: Final Report* (Washington, D.C.: U.S. Army, May 2010), 43, <http://www.dvcipm.org/site/assets/files/1070/pain-task-force-final-report-may2010.pdf>. To underscore how widespread and discussed these tools are, in a keyword search on 19 February 2018 from the U.S. Army Medical Command Office of Surgeon General website to army.mil, the word yoga yielded 340 hits on army.mil, meditation returned 193, and nidra brought up two. There were 29 results when using all three words (yoga, relaxation, and meditation), 2,500 for breathing, and more than 9,000 for mindfulness.

64. Susan Alden, executive director of Warriors at Ease, telephone interview by author, 18 December 2017.

65. Integrative Restoration Institute, "iRest in Current VA or Military Settings," January 2018, <https://www.irest.us/projects/veterans/settings>.

66. Avery, "Mindfulness Training for Mental Toughness."

The Navy and Marine Corps Public Health Center provides an extensive set of resources to sailors ranging from relaxation, meditation, and breathing.⁶⁷ The Navy has further consolidated the range of available tools into a relaxation toolkit that has 12 breathing lessons, 9 progressive muscle relaxation lessons, 13 guided imagery lessons, 9 meditation lessons, 9 mindfulness lessons, and a set of catch-all modules including 10 combination strategy lessons and 10 special topics.⁶⁸ The Naval Medical Center in San Diego offers unique downloads in that they include instruction by fellow sailors. Offerings range from breathing, meditation, guided imagery, mindfulness meditation, progressive muscle relaxation, body scan, as well as Qigong—a “five-thousand year-old Chinese health method that combines slow graceful movements with mental concentration and breathing to increase and balance a person’s vital energy.”^{69,70} It is unclear whether these tools are being used regularly or their impact on users has been measured.

The Air Force Reserve Command, like the Army, offers yoga and meditation classes.⁷¹ Under the DOD Yellow Ribbon program, reserve and guard members have the opportunity to participate in iRest Yoga Nidra.⁷² At the state level, the Connecticut National Guard offers a yoga program.⁷³ Walter Reed National Military Medical Center’s Mind Body Program, at the enterprise level, complements these Service-specific approaches.⁷⁴ Walter Reed’s program consolidates these tools, including a useful home practice sheet that offers guidance on the relaxation response, positive psychology, mindfulness, yoga, and a suggested reading list.⁷⁵

Walter Reed has a very unique set of downloads that, from a Tantric Hatha Yoga school of thought, allow a practitioner to move energy to achieve a desired outcome. For example, this set of downloads range from iRest Yoga Nidra to alternate nostril breathing—two techniques known

67. Navy and Marine Corps Public Health Center, “Psychological and Emotional Well Being: Relaxation,” accessed 10 March 2018, <http://www.med.navy.mil/sites/nmcphc/health-promotion/psychologicalemotional-wellbeing/pages/relaxation.aspx>.

68. Navy and Marine Corps Public Health Center, “Psychological and Emotional Well Being: Relax Relax Toolkit,” accessed 10 March 2018, <http://www.med.navy.mil/sites/nmcphc/healthpromotion/psychological-emotional-wellbeing/relax-relax/pages/index.html>.

69. Introduction to the Practice of Qigong,” Qigong Institute, accessed 19 November 2018, <https://www.qigonginstitute.org/category/4/getting-started>.

70. Naval Medical Center San Diego, “Mind Body Medicine-Guided Meditations to Stream or Download,” accessed 10 March 2018, http://www.med.navy.mil/sites/nmcscd/Pages/Care/Mind-BodyMedicine_GM.aspx.

71. Technical Sergeant Heather Rose Skinkle, “Reservists Learn Meditation Techniques,” 29 June 2015, *Air Force Reserve Command*, <http://www.afrc.af.mil/News/Features/Display/Article/602144/reservists-learn-meditation-techniques/>.

72. Emily Hain, “iRest Meditation at Yellow Ribbon Reintegration Events,” *Integrative Restoration Institute*, accessed 10 March 2018, <https://www.irest.us/News27-iRestYellowMed>.

73. Warriors at Ease, “Nicole Arel, Certified WAE Instructor, Manchester CT,” accessed 11 March 2018, <http://warriorsatease.org/teacher-spotlights/nicole-arel-certified-wae-instructor-manchester-ct/>.

74. Walter Reed National Military Medical Center, “Mind-Body Medicine,” accessed 10 March 2018, <http://www.wrnmcc.capmed.mil/Health%20Services/Medicine/Medicine/Internal%20Medicine/MindBody/SitePages/Home.aspx>.

75. Walter Reed National Military Medical Center, “Mind Body Medicine Program Practice,” accessed 10 March 2018, <http://www.wrnmcc.capmed.mil/Health%20Services/Medicine/Medicine/Internal%20Medicine/MindBody/SitePages/Home.aspx>.

for calming the nervous system.⁷⁶ Walter Reed offers daily classes Monday through Friday to its patients. The unique classes offered include adaptive yoga for those with limited mobility, injuries, and amputees, and guided relaxation and meditation including the use of zero gravity chairs.⁷⁷

Offerings at the VA include yoga, meditation, relaxation, and availability ranges from on-site programs at medical centers to literature available for further reading. The VA's War Related Illness and Injury Study Center Integrative Health and Wellness Program offers different services at various locations in the United States. For example, the Washington, D.C., location website offers relaxation and meditation downloads to its clients, and the Palo Alto, CA, location offers virtual and in-person resources.⁷⁸ In one study at the Palo Alto location, patients who received yoga training, either in person or via telehealth, showed equal benefits in terms of their symptoms.⁷⁹ Finally, just as incarcerated civilians can access these tools, meditation is authorized in military correctional facilities.⁸⁰

The Evidence: Research and Timeless Tools for Managing Stress in War

Existing research indicates that these tools are used primarily to treat veterans for pain management and post-traumatic stress. However, there is emerging evidence that these tools are increasingly used to treat active duty soldiers from an integrative health approach. Research on yoga and trauma-sensitive yoga by Dr. Sat Bir Singh Khalsa of Harvard, systematic relaxation or iRest Yoga Nidra by Dr. Richard Miller of iRest, and meditation by Dr. Amishi Jha and Dr. Elizabeth Stanley, suggests there is sufficient evidence for offering these tools to the joint force. A synopsis of this research, as well as the science related to yoga and meditation, could be a Ph.D. dissertation in and of itself.⁸¹ As such, this section simply scratches the surface of the extensive literature available in this field.

76. Walter Reed National Military Medical Center, "Free Mind-Body Downloads," accessed 10 March 2018, <http://www.wrnmcc.capmed.mil/Health%20Services/Medicine/Medicine/Internal%20Medicine/MindBody/SitePages/Resources.aspx>.

77. Walter Reed National Military Medical Center, "Mind-Body Medicine Calendar," accessed 10 March 2018, <http://www.wrnmcc.capmed.mil/Health%20Services/Medicine/Medicine/Internal%20Medicine/SitePages/Mind-BodyCalendar.aspx>.

78. War Related Illness and Injury Study Center, "Integrative Health and Wellness," *U.S. Department of Veterans Affairs*, accessed 10 March 2018, <https://www.warrelatedillness.va.gov/WARRELATEDILLNESS/clinical/integrative-health/index.asp>.

79. R.J. Schulz-Heik et al., "Results from a Clinical Yoga Program for Veterans: Yoga via Telehealth Provides Comparable Satisfaction and Health Improvements to In-person Yoga," *BMC Complementary and Alternative Medicine* 17, no. 198 (2017): <https://www.ncbi.nlm.nih.gov/pubmed/28376861>.

80. Department of Defense, *Administration of Military Correctional Facilities and Clemency and Parole Authority*, DOD Instruction 1325.07 (Washington, D.C.: Department of Defense, 22 September 2017): 21, <http://www.esd.whs.mil/Portals/54/Documents/DD/issuances/dodi/132507p.pdf>.

81. In fact, there are now three accredited master's level degree programs for yoga: (a) SOAS, <https://www.soas.ac.uk/religions-and-philosophies/programmes/ma-traditions-of-yoga-and-meditation/>, (b) Loyola Marymount, <http://bellarmine.lmu.edu/yoga/>, and (c) Maryland University of Integrative Health, <http://www.muih.edu/academics/masters-degrees/master-yoga-therapy>. This paper does not review the extensive scientific and leadership literature on the connection between yoga, systematic relaxation, breathing, and meditation and the brain, the vagus nerve, or major systems in the body.

Yoga

Khalsa's review of the literature indicates the following about yoga:⁸²

- The effects of the relaxation response from yoga practice improve genes linked to inflammatory response and stress.⁸³
- Yoga can improve mood.⁸⁴
- Yoga can improve one's tolerance to pain.⁸⁵
- Yoga increases blood flow to the brain in areas that are related to emotion and autonomic function.⁸⁶
- Yoga improves the ability to manage stress.⁸⁷
- Yoga can reduce perceived stress and back pain.⁸⁸
- Yoga can improve religious and spiritual well-being—a part of CSF2—in the areas of connectedness, hope, and a sense of meaning.⁸⁹
- Yoga can reduce anxiety.⁹⁰
- Overall, practitioners report feeling better about their weight, energy level, and overall health.⁹¹

Some highlights for the military include:

- Yoga has shown promise in sleep deprived military populations.⁹²

82. Sat Bir S. Khalsa, "Yoga and Yoga Therapy: The Science and Research Evidence," (PowerPoint slides, Honesdale, PA, Yoga International, 26 June 2017). Slides provided by Dr. Khalsa to author.

83. Manoj K. Bhasin et al., "Relaxation Response Induces Temporal Transcriptome Changes in Energy Metabolism, Insulin Secretion, and Inflammatory Pathways," *Plus One* 8, no. 5 (May 2013).

84. C. C. Streeter et al., "Yoga, Thalamic GABA, Mood, and Anxiety," *Journal of Alternative and Complementary Medicine* 16 (2010), 114–52.

85. C. Villemure et al., "Insular Cortex Mediates Increased Pain Tolerance in Yoga Practitioners," *Cerebral Cortex* 24 (2013), 2732–40.

86. A. B. Newbert et al., "Cerebral Blood Flow Differences between Long-Term Meditators and NonMeditators," *Conscious Cognition* 19 (2010), 899–905.

87. Manoj Sharma, "Yoga as an Alternative and Complementary Approach for Stress Management: A Systematic Review," *Journal of Evidence-Based Complementary and Alternative Medicine* 19, no. 1 (2014), 59–76.

88. N. Hartfiel et al., "Yoga for Reducing Perceived Stress and Back Pain at Work," *Occupational Medicine* 62 (2012), 606–612. Yoga has also been seen as being efficacious for veterans suffering from low back pain, in a randomized control trial. See: Erik J. Groessel et al., "Yoga for Military Veterans with Chronic Low Back Pain: A Randomized Clinical Trial," *American Journal of Preventative Medicine* 53, no. 5 (November 2017), 599–608, <https://www.ncbi.nlm.nih.gov/pubmed/28735778>.

89. L. Gaiswinkler, and H. F. Unterrainer, "The Relationship between Yoga Involvement, Mindfulness, and Psychological Well-Being," *Complementary Therapies in Medicine* 26 (2016), 123–7.

90. M. K. Khalsa et al., "Yoga-Enhanced Cognitive Behavioural Therapy (Y-CBYT) for Anxiety Management: A Pilot Study," *Clinical Psychology and Psychotherapy* 22 (2015), 364–71.

91. S. Khalsa, "Yoga and Yoga Therapy," 63.

92. Carolyn Stoller et al., "Effects of Sensory-Enhanced Yoga on Symptoms of Combat Stress in Deployed Military Personnel," *The American Journal of Occupational Therapy* (January 2012), <https://ajot.aota.org/article.aspx?articleid=1851541>.

- Yoga can prove useful in certain terrains in the land domain. A study with the Indian Army found that yoga was particularly useful at high altitudes; in fact, the Indian Army has an ongoing research program looking at the benefits of yoga.⁹³
- Areas for further research are the effects of yoga on heart rate variability.⁹⁴

Trauma-Sensitive Approaches

Khalsa synthesized the literature on how trauma-sensitive approaches—breathing, iRest Yoga Nidra, and Yoga—help patients with PTSD:⁹⁵

- Based on improvements in the Clinician Administered PTSD Scale (CAPS), veterans with PTSD may benefit with yogic breathing.⁹⁶
- iRest Yoga Nidra for those suffering from PTSD showed a reduction in rage, anxiety, and emotional reactivity, as well as increased relaxation, peace, and self-awareness.⁹⁷
- Yoga has improved coping skills for children affected by war in Sri Lanka, Kosovo, and Lebanon.⁹⁸
- In combination with other treatments, yoga is an intervention for managing anxiety and depression associated with trauma.⁹⁹

The VA has found that:¹⁰⁰

1. Mindfulness meditation has been useful in treating PTSD;

93. “Areas of Work,” Ministry of Defense, Government of India, accessed 13 April 2018, <https://www.drdo.gov.in/drdo/labs1/DIPAS/English/indexnew.jsp?pg=areaofwork.jsp>; and research on high altitude was documented in: G. Himashree, L. Mohan, and Y Singh, “Yoga Practice Improves Physiological and Biochemical Status at High Altitudes: A Prospective Case-control Study,” *Alternative Therapy Medicine* 22, no. 5 (September 2016): 53–59, [https://www.ncbi.nlm.nih.gov/pubmed/?term=yoga+\(military+OR+veteran\)+himashree](https://www.ncbi.nlm.nih.gov/pubmed/?term=yoga+(military+OR+veteran)+himashree).

94. Paul Posadzki et al., “Yoga for Heart Rate Variability: A Systematic Review and Meta-analysis of Randomized Clinical Trials,” *Applied Psychophysiology and Biofeedback* 40, no. 3 (10 June 2015).

95. Sat Bir S. Khalsa, “Yoga for Traumatic Stress: Scientific Rationale and Research Evidence,” (PowerPoint slides, Yoga International, 26 June 2017).

96. Janis J. Carter et al., “Multi-Component Yoga Breath Program for Vietnam Veteran Post-traumatic Stress Disorder: Randomized Controlled Trial,” *Journal of Traumatic Stress Disorders and Treatment* 2 (2013), <https://espace.library.uq.edu.au/view/UQ:326051>.

97. L. Stankovic, “Transforming Trauma: A Qualitative Feasibility Study of Integrative Restoration (iRest) Yoga Nidra on Combat-Related Post-Traumatic Stress Disorder,” *International Journal of Yoga Therapy* 21 (2011).

98. Shirley Telles, Nilkamal Singh, and Acharya Balkrishna, “Managing Mental Health Disorders Resulting from Trauma through Yoga: A Review,” *Depression Research and Management*, 13 March 2012, <https://www.hindawi.com/journals/drt/2012/401513/>.

99. R.J. Macy et al., “Yoga for Trauma and Related Mental Health Problems: A Meta-Review with Clinical and Service Recommendations,” *Trauma, Violence, Abuse*, 9 December 2015, <https://www.ncbi.nlm.nih.gov/pubmed/26656487>.

100. Office of Research and Development, “Complementary and Integrative Health,” *U.S. Department of Veterans Affairs*, accessed 10 March 2018, <https://www.research.va.gov/topics/cih.cfm>.

2. Meditation using a mantra—words that protect the mind—have been effective in treating depression, anxiety, and somatization;
3. Trauma-sensitive yoga has helped treat PTSD, depression, and chronic pain.

VA-supported research underway is testing whether a specific breathing meditation technique, Sudarshan Kriya Yoga, is effective in treating PTSD.¹⁰¹

In addition, yoga has specifically supported the care of veterans with PTSD, as Khalsa noted, in his review of the literature:

- Yoga can support quality of sleep.¹⁰²
- Yoga can reduce PTSD symptoms.¹⁰³

iRest Yoga Nidra

- iRest Yoga Nidra is particularly helpful for Service members and their families as it complements existing therapeutic modalities, creates focus on the present, and leaves the practitioner with a feeling of success.¹⁰⁴
- iRest Yoga Nidra practitioners report improved depression, anxiety, stress, PTSD, chronic and acute pain, and insomnia.¹⁰⁵
- Through the practice, practitioners report complete or some improvement with headaches, musculoskeletal pain, back pain, digestive difficulties, and a range of mental health symptoms.¹⁰⁶

Additional research is available on the iRest Yoga Nidra research website.¹⁰⁷

101. War Related Illness and Injury Study Center, “Study: Breathing Meditation for Posttraumatic Stress Disorder,” *U.S. Department of Veterans Affairs*, accessed 10 March 2018, <https://www.warrelatedillness.va.gov/ptsd/>; Emma M Seppälä et al., “Breathing-Based Meditation Decreases Posttraumatic Stress Disorder Symptoms in U.S. Military Veterans: A Randomized Controlled Longitudinal Study,” *Journal of Traumatic Stress* 27, no. 4 (2014): 397–405, <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4309518/>.

102. J.K. Staples, M. F. Hamilton, and M. Uddo, “A Yoga Program for the Symptoms of Post-Traumatic Stress Disorder in Veterans,” *Military Medicine* 178 (2013), 854–60, <https://www.ncbi.nlm.nih.gov/pubmed/23929045>.

103. J.M. Johnston et al., “Yoga for Military Service Personnel with PTSD: A Single Arm Study,” *Psychological Trauma: Theory, Research, Practice, and Policy*, 2015, accessed 10 March 2018, <https://www.ncbi.nlm.nih.gov/pubmed/26010108>.

104. Monique Moore et al., *Mind-Body Skills for Regulating the Autonomic Nervous System* (Arlington, VA: Defense Centers of Excellence for Psychological Health and Traumatic Brain Injury, June 2011, Version 2), 28, accessed 11 March 2018, <http://traumaprevention.com/wpcontent/uploads/2015/06/DCoE.2011.pdf>.

105. Richard C. Miller, *The iRest Program for Healing PTSD*, 19; Thomas Harttung Nassif, *Examining the Effects of Mindfulness Meditation for Chronic Pain Management in Combat Veterans with Traumatic Pain Injury* (Washington D.C.: American University, 2013), ii.

106. Amanda Hull et al., “Acupuncture and Meditation for Military Veterans: First Steps of Quality Management and Future Program Development,” *Global Advances in Health and Medicine* 3, no. 4 (2014), 27–31.

107. Integrative Restoration Institute, “iRest Yoga Nidra Research, Programs, and Papers,” <https://www.irest.us/research> (accessed 11 March 2018).

Meditation, Mindfulness, and Breathing

Meditation is more important than ever in an increasingly unstable world for civilians and Service members, as well as their families. Service members may come back from combat, only to face more stressors. The threat of violence in an overly connected age necessitates the need for simplicity, focus, and concentration.

Marines who went through MMFT training prior to deployment showed improved ability to manage stress as measured by their heart rate and breathing rate.¹⁰⁸

In writing about Stanley's research, Brian Mockenhaupt noted "Soldiers who are calm and focused in chaotic moments are less likely to fire out of fear or frustration—an advantage that's particularly important in counterinsurgencies ... killing civilians can erode support among the very people whose cooperation is most needed."¹⁰⁹

- Stanley and Jha note that MMFT builds resiliency and ensures "faster recovery from cognitive degradation and psychological injury."¹¹⁰
- Mindfulness increases well-being, reduces emotional reactivity, and can improve behavioral regulation.¹¹¹
- Transcendental Meditation, mindfulness, and progressive muscle relaxation improved soldier resilience.¹¹²
- Overall, the research in meditation is ongoing, though it can support both personal and spiritual development.¹¹³
- In addition, regarding breathing, the pranayama practice of alternate nostril breathing, regulation of breath through the left and right nostril, can reduce blood pressure.¹¹⁴

108. Douglas C. Johnson et al., "Modifying Resilience Mechanisms in At-Risk Individuals: A Controlled Study of Mindfulness Training in Marines Preparing for Deployment," *American Journal of Psychiatry* 171, no. 8 (2014), 844–853, accessed 10 March 2018, <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4458258/>.

109. Brian Mockenhaupt, "A State of Military Mind," *Pacific Standard*, 8 June 2012 <https://psmag.com/social-justice/a-state-military-mind-42839>.

110. Elizabeth A. Stanley and Amishi P. Jha, "Mind Fitness: Improving Operational Effectiveness and Building Warrior Resilience," *Joint Force Quarterly* 55 (2009), 150.

111. Shian-Ling Keng, Moria J. Smoski, and Clive J. Robins, "Effects of Mindfulness on Psychological Health: A Review of Empirical Studies," *Clinical Psychology Review*, (August 2011), <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3679190/>.

112. Colonel Brian Rees, "Overview of Outcome Data of Potential Meditation Training for Soldier Resilience" *Military Medicine* 176, no. 11 (2011): 1232, accessed 10 March 2018, <https://www.ncbi.nlm.nih.gov/pubmed/22165650>.

113. Peter Sedlmeier et al., "The Psychological Effects of Meditation: A Meta-Analysis," *Psychological Bulletin* 138, no. 6 (2012), 1163.

114. Jeniffer Z. Brandani et al., "The Hypotensive Effect of Yoga's Breathing Exercises: A Systematic Review," *Complementary Therapies in Clinical Practice*, 2017.

To summarize, tools of yoga have a multitude of benefits for overall resilience from fitness to mental health to physical health, in line with CSF2.¹¹⁵

Timeless Leadership Tools and the Nature of War

War's enduring nature is imbued with death and injury, physical hardship, disability, and psychological stress. As such, leaders should seek out and employ tools that help mitigate negative effects and boost protective factors, such as concentration, attention, quality of life, improved memory, and problem solving skills. Classical military texts support the argument that these tools are useful and time-tested rather than a passing fad. The practice of yoga, systematic relaxation, and meditation are classically supported when we examine theoretical literature about the nature of war and its relationship to soldier wellness and leadership. Carl Von Clausewitz described the essence of military genius as presence of mind, strength of mind, and character, as being critical in this regard.¹¹⁶ A goal of yoga practice is the development of a clear, calm, tranquil mind.¹¹⁷ Clausewitz

The practice of yoga, systematic relaxation, and meditation are classically supported when we examine theoretical literature about the nature of war and its relationship to soldier wellness and leadership.

notes that a strong character is “one that will not be unbalanced by the most powerful emotions.”¹¹⁸ Yoga offers a way to observe emotions or thoughts without getting involved.¹¹⁹ In fact, pranayama is a key tool in regulating emotions.¹²⁰ Many observers have recognized a spark of leadership. For example, Clausewitz defines *coup d’oeil*, or “glimmerings of the inner light which leads to truth,” combined with determination “courage to follow this faint light wherever it may lead.”¹²¹ These two concepts are known as military genius, a foundation for military virtue. In a similar related vein, a commentary on *Yoga Sutra* (2:52)

states “the practice of pranayama destroys the veil that hides our intrinsic luminosity.”¹²² Clausewitz states that stamina is one of the military virtues of the army.¹²³ In the yoga tradition, *sthira* is stability or steadiness, at the level of the body, as well as the mind, when not affected by fear or

115. For a useful summary of the benefits, see Timothy McCall, *Yoga as Medicine: The Yogic Prescription for Health and Healing* (New York, NY: Bantam Dell, 2007), 26–47 and 518–525.

116. Carl Von Clausewitz, *On War*, trans. Michael Howard and Peter Paret, eds. (Princeton: Princeton University Press, 1989): 102–106.

117. Pandit Rajmani Tigunait, “Breathing for a Clear, Calm, and Tranquil Mind,” *Yoga International*, accessed 10 March 2018, <https://yogainternational.com/article/view/breathing-for-a-clear-calm-andtranquil-mind>.

118. Von Clausewitz, *On War*, 106.

119. Swami Jnaneshvara Bharati, “Witnessing Your Thoughts in Yoga Practice,” accessed 10 March 2018, <http://swamij.com/witnessing.htm>.

120. Rolf Sovik, “How to Use Your Breath as an Emotion Barometer,” *Yoga International*, accessed 10 March 2018, <https://yogainternational.com/article/view/how-to-use-your-breath-as-an-emotion-barometer>.

121. Von Clausewitz, *On War*, 102.

122. Pandit Rajmani Tigunait, *The Practice of the Yoga Sutra: Sadhana Pada* (Honesdale, PA: Himalayan Institute Press, 2017), 259.

123. Von Clausewitz, *On War*, 188.

a sympathetic nervous system response.¹²⁴ And according to Clausewitz, when a general treats his subordinates with “benevolence, justice, righteousness ... the army will be united in mind.”¹²⁵ The parallel yogic concept is *sangha* (community), which is supported by *citta prasadanam*—a peaceful condition of mind and cultivation of these attributes.¹²⁶

Sun Tzu’s lessons on leadership to know oneself (3.31-33) are key for a general.¹²⁷ Through yoga, one can better understand themselves to be able to know how to address a situation. In fact, a wise general, according to Sun Tzu, is able to change their approach based on the circumstances (1.7).¹²⁸ In fact, former U.S. Army War College Commandant Major General (Retired) Robert H. Scales noted that an understanding of the human element is critical; improved psychological and physiological conditioning is one of the nine factors he identifies for defeating the adversary.¹²⁹ Managing an adversary or a difficult circumstance requires presence of mind and clarity of one’s objectives. The yoga tradition similarly emphasizes that the key to living in the world successfully is knowing oneself and being able to recognize a situation. Compassion for peers or subordinates start with a full understanding and compassion for oneself, within the context of the operating environment.

Arjuna, the primary character in the *Bhagavad Gita*, a treatise on the hesitation of a soldier about to engage in battle, wrestles with performing his *dharma*. As Arjuna wrestles with the difficult decision of whether to wage war against his family, not unlike the quandary that faced Union and Confederate troops in Gettysburg seeing members of their family on the other side, Arjuna comes to understand that performing his duty, his *raison d’être* (reason for being), is service to his fellow soldiers. More specifically, he comes to understand, through a dialogue with his teacher Krishna, that to perform effectively as a soldier he must engage in the practice of yoga. In this context, the term yoga comes from the Sanskrit term, *yug*, which means to unite. To fulfill his *dharma*, he needs to recognize his strengths and weaknesses. Arjuna’s search is no different than the goals of spiritual fitness module of CSF2, “search for truth, self-knowledge, right action, and purpose in life.”¹³⁰ The tool that Arjuna learned would help him integrate the unwanted or disparate parts of himself to align with his *dharma* was meditation. While meditation is the pinnacle of yoga, the most effective practice combines *asana*, *pranayama*, and relaxation sequentially, with varying intensity, frequency, and duration, based on a Service member’s own sense of self, to achieve more efficacious results (readiness and resilience) from meditation.

124. Tigunait, *The Practice of the Yoga Sutra*, 228–229.

125. Von Clausewitz, *On War*, 64–65.

126. Tigunait, *The Secret of the Yoga Sutra*, 161–169.

127. Sun Tzu, *The Art of War*, trans. Samuel Griffith (New York: Oxford University Press, 1963), 84.

128. Tzu, *The Art of War*, 65.

129. Major General (Retired) Robert H. Scales, “Clausewitz and World War IV,” *Armed Forces Journal*, 1 July 2006, <http://armedforcesjournal.com/clausewitz-and-world-war-iv/>.

130. Martin E. P. Seligman, *Flourish: A Visionary New Understanding of Happiness and Well-Being* (New York: Atria, March 2013), 150.

Similar to Clausewitz' virtues of "bravery, obedience, order, rule, method,"¹³¹ is Kautilya's guidance for a Prince, King, and Ministers including "self-control, which is the basis for knowledge and discipline. It is acquired by giving up lust, anger, greed, conceit, arrogance, and foolhardiness."¹³² These classical theory of war texts, *in toto*, provide guidance for self-regulation, self-control, and discipline for achieving the greater good and goal of the unit. The leadership principles laid out in these texts remind a Service member of the importance of being ready and resilient in the face of combat. In fact, these classical texts, particularly Kautilya's *Arthashastra*, underscore that the rationale for these tools is not antithetical to the warrior spirit and ethos, in fact, they are central to them. Stanley writes:

A true warrior must be able to still her body and mind to call forth strength; exhibit endurance during harsh environmental conditions; have awareness of herself, others and the wider environment so she can make discerning choices; access compassion for herself, her compatriots, her adversary and the locals where she is deployed; and show self-control during provocation so that she doesn't overreact. And yet, if the moment demands, she must also have the capacity to kill, cleanly, without hesitation and without remorse.¹³³

In fact, every warrior culture has rituals to prepare for battle and deal with its aftermath. As such, these concepts to create endurance are global, and simultaneously relevant to the modern military. Meditation, as referenced in the Gita and the tea ceremony of the Samurai, are relevant cultural reminders of what has not changed in the nature of war: the need for resilient warriors.¹³⁴

The *Yoga Sutra's* references on *satya*, truth (2.36), *saucha*, purity of body and mind (2.40-41), and *virya*, courage (2.43) are not far from present day values in the U.S. military. The average 18-year-old American private who has just enlisted and has been introduced to the Army values may wonder how to actualize his duty, have self-respect, and demonstrate personal courage.¹³⁵ These classical texts on the theory of war, strategy, and leadership provide inspiration and guidance for the warrior spirit, and the yogic texts provide practical tools on how to be ready and resilient, in line with these values. What has changed for the recently enlisted private is the character of war, most pronounced with technology in 21st century warfare. On a practical level, instead of giving up his or her attachment to a smartphone or tablet, the private can use an app to meditate, practice breathing, or take a yoga class.

131. Von Clausewitz, *On War*, 187.

132. Kautilya, *The Arthashastra*, trans. L.N. Rangarajan (New Delhi: Penguin Books, 1992), 121; Anger is referenced in 2:34 of the *Yoga Sutra*. See also Georg Feuerstein, "Emotions and the Yoga Sutra," *Yoga International*, accessed 25 March 2018, <https://yogainternational.com/article/view/emotions-and-the-yogasutra>.

133. Elizabeth Stanley, "Cultivating the Mind of a Warrior," *Inquiring Mind*, Spring 2014, accessed 10 March 2018, <http://www.inquiringmind.com/Articles/CultivatingMindOfWarrior.html>.

134. The Japanese Samurai, "Samurai Tea Ceremony," accessed 10 March 2018, <https://sites.google.com/site/projectsamurai1010/tea-ceremony>.

135. U.S. Army, "The Army Values," accessed 10 March 2018, <https://www.army.mil/values/>.

Technology and the Character of War

Yoga is beneficial because the mind needs rest in an increasingly multi-domain and technologically saturated life and battlefield. Stanley notes that a

technocentric culture has an underlying assumption that we can create, with more information or more precise technologies, a sense of certainty, control, and efficiency. When we have become so enamored with this approach and begin to buy into this illusion that we have certainty and control, life inevitably intercedes, and something happens that's a shock. The resilient approach acknowledges we're never going to be in complete control or have complete certainty, but we can build capacities that are adaptive for anything that happens.¹³⁶

While technology has changed the character of war, the tools and techniques at the individual level for managing soldier readiness and resilience, as understood by Kautilya—dharma and yoga—are enduring, largely unchanged, and necessary. These tools allow Service members to be more ready for battle, resilient, adaptable, with improved quality of life and well-being. The modern military will be better postured to handle the changing character of war as more senior leaders embrace mindfulness.

The modern military will be better postured to handle the changing character of war as more senior leaders embrace mindfulness.

Specifically, these classical tools of yoga and meditation improve the mind—the very part that is under assault in a technologically rife changed character of war—as referenced by Stanley.

Evaluation of Arguments: For and Against the Yogic Toolbox

Implementing a unit-wide program involving yoga, systematic relaxation, and meditation or breathing exercises may seem impossible or undesirable to some commanders. Three main questions frame the considerations for evaluating these arguments.

- Who teaches? Is personal commitment from teachers, from a grass roots approach, combined with support from visionary senior leaders needed?
- Who is prioritized to receive the training? Do elite units such as Special Operations Forces (SOF) get prioritized over recently enlisted or commissioned Service members?
- Is the best yoga program administered ad hoc or force-wide? Should yoga be required, like PT, or should it be a resource tool, like the chaplain's services?

These considerations are part of five common arguments regarding implementing such a program: lack of time, increased cost, having unwilling participants, concern about yoga's "Eastern"

136. Ian Philbrick, "Mind Fitness in the Military: Five Minutes with Elizabeth Stanley," *Georgetown Journal of International Affairs* (11 June 2014), <https://www.georgetownjournalofinternationalaffairs.org/onlineedition/mind-fitness-in-the-military-five-minutes-with-elizabeth-stanley>.

origins, and structure. Each of these arguments can be easily refuted, and the potential benefits of implementing such programs are far greater than the associated cost and risk.

Time

Lieutenant Colonel (Retired) Benefsheh (Benef) Verell, a board member of Warriors at Ease, has proposed a way to implement mindfulness training in the Army.¹³⁷ This plan addresses the first concern that there is not enough time and that staff are already burnt out by poorly-designed and delivered training. Verell recommends MMFT become part of pre-deployment and post-deployment training and include yoga, meditation, and iRest as part of daily PT.

The second concern heard from colleagues at the U.S. Army War College is that poorly-designed and delivered training routinely takes them away from their “real job” and, more specifically, does not meet the needs of their unit or their own individual needs. They characterize presentations as “death by PowerPoint” or “firehose.” The author concurs and has observed slides with more than five words per bullet, more than five bullets per slide, and very complex diagrams. Presenters say, “I will let you read the [dense] slide” and do not actually pause and give time for the audience to read and absorb. The author has observed that dense presentations do not achieve the intended learning outcomes. Colleagues have further said that training, whether it is about diversity, sexual harassment and assault, or resilience is “one size fits all,” which they resent, as it is mandatory. There is concern that even resilience training, for example, does not provide much, if any, actual skill building.

There are two ways to address concerns on resilience training and how to train effectively. First, as suggested by an Army colleague, every Service member at some point in their career could participate in the two-week resilience course delivered through CSF2. This course provides state-of-the-art training of methodologies and content. Second, Master Resiliency Training (MRT) trainers who teach at the unit level should commit to teaching a certain set of hours prior to earning their additional skill identifier for course completion. They should hone their skills in delivery and reaching their audience.

The first way forward on the issue of time is recognizing how to manage and learn from a resource-constrained environment. The competitive dynamic between quality and quantity impacts the time available to develop personnel for managing stress, a necessary investment in readiness. The accidents involving the USS *Fitzgerald* and *John S. McCain* reveal the cost of not investing in circadian-based rhythms, sleep hygiene, and balance.¹³⁸ It is critical to pay attention to how yoga and meditation may be adapted to different domains and Services, without regard to the person’s rank or physical duty station, as well as which practices are most helpful, as in the case of sleep deprivation. Yoga Nidra is particularly helpful for insomnia. Machinist’s Mate First Class Preston Tharp said, “Regular yoga helped me to become more introspective, and through that, I was able to become a

137. Benefsheh Verell, “Mindfulness Training—A Plan for the Army,” accessed 10 March 2018, <https://medium.com/@benefshehverell/mindfulness-training-a-plan-for-the-army-32872b71db66>.

138. Geoff Ziezulewicz, “No Rest for the Weary: Lack of Sleep Threatens Safety and Readiness,” *Navy Times*, 19 September 2017, <https://www.navytimes.com/news/your-navy/2017/09/19/no-rest-for-theweary-lack-of-sleep-threatens-safety-and-readiness/>.

calmer, more positive person.”¹³⁹ Reduced anger, improved ability to relax, and greater efficiency at work can help any Service member.

A second way forward addresses how a senior leader can wisely invest their time. The best thing a senior leader can do is to invest time in their subordinates. During World War II, American psychiatrists Abram Kardiner and John Spiegel observed that not only would men not get used to combat, but also what was the “strongest protection ... was the degree of relatedness between the soldier, his immediate fighting unit, and their leader.”¹⁴⁰ With a motivated and willing unit, a leader who invests in their Service members with genuine interest in resilience and readiness has an opportunity to create meaningful training and wellness opportunities.

Can a senior leader draw on the yogic toolbox? Yes. For example, each time a Service member stands at attention, he is doing a variation of the pose *tadasana*, or mountain pose. In that moment a soldier can become aware of the four corners of the feet, lift up through the sternum, relax the shoulders, and feel like their head is gently lifting as if being pulled by a string from the ceiling. They can next pay attention to their breath. As such, focused on body and breath, they are ready to receive and accomplish the tasks for the day from a more relaxed and resilient state, connecting the mind and body through breath. This quick scan of the body, paying attention to any tension in the body, and relaxing through the breath requires just 15 seconds for a skilled practitioner. Lieutenant Colonel Kerry Story of the U.S. Army Medical Command led a successful yoga program in collaboration with Tony Garcia, the program manager of the CSF2 program in Europe.¹⁴¹ Story identifies four potential opportunities for integrating body awareness training into other events. These could include: (1) at a safety briefing, (2) when closing out a formation before a long weekend, (3) before the start of a meeting (command and staff as well as commander briefs), (4) during introductions, ice breakers, and transitions in existing training. As the lead of a joint planning exercise for a course on Theatre Strategy and Campaigning, the author conducted a short body awareness and breathing exercise followed by individual and team goal setting. When asked, all seven participants appreciated the meditation and visualization and felt more relaxed, focused, and ready to start the joint planning exercise because of it.

A third way forward is that the investment of time outweighs long-term health care costs that could otherwise be avoided, as found in one study among the civilian population. James Stahl wrote on the subject: “[It] has minimal risk, minimal cost and yields substantial benefits for patients with a wide variety of illnesses.”¹⁴² Schoomaker, a senior instructor at the Uniformed Service University and the former Army Surgeon General, endorses these CAM options, including yoga to manage chronic

139. Warriors at Ease, “Preston Tharp, a True Warrior at Ease,” accessed 10 March 2018, <http://warriorsatease.org/a-warrior-at-ease/preston-tharp-a-true-warrior-at-ease/>.

140. Herman, *Trauma and Recovery*, 25.

141. Email to author from Lieutenant Colonel Kerry Story on 21 March 2018.

142. James E. Stahl et al., “Relaxation Response and Resiliency Training and Its Effect on Healthcare Resource Utilization,” *PLoS ONE* 10, no. 10 (13 October 2015), 12, <http://journals.plos.org/plosone/article/file?id=10.1371/journal.pone.0140212&type=printable>.

pain and reduce dependence on opioids.¹⁴³ That could address part of the concern identified by Senator McCain. As Carnes said, “Soldiers are hungry for real healing—more than pills or a quick fix.”¹⁴⁴ In addition, from another study, “To reverse antipsychotic medication-associated weight gain, we have identified yoga as an acceptable form of exercise as well as a plausible adjunctive therapy for the treatment of mental illness, particularly in the reduction of anxiety and depressive symptoms.”¹⁴⁵

A fourth way forward is to get creative and find time, particularly at larger headquarters and garrison units. At such locations, Verell recommends monthly sessions. For the Guard and Reservists, she recommends including yoga, relaxation, and meditation during their training, “As part of PT, maintenance, and weapons qualification—same as the active duty line units.”

Cost

The first cost involves hiring teachers—a cost that could be mitigated in the short-term by drawing on the talents and skills of current instructors in the force. Using those instructors, however, creates an additional cost in manpower when they are taken away from their duty position to instruct. Willingness and confidence of the leader to support an individual who is trained to teach to a military population is required. A commander in the 25th Infantry Division supported permissive temporary duty for the unit behavioral officer to complete yoga certification. “Low-cost, high impact programs (like yoga) only need leadership that believes in them,” said Lieutenant Colonel Jason Davis.¹⁴⁶ Captain Courtney Fox said the alternative was to “burn leave the whole time.” Now being certified, Captain Fox says she will likely start a yoga program when she next has a permanent change of station.¹⁴⁷ Another benefit of drawing on the existing talent pool to teach is the decrease in PTSD symptomology when a peer, who also has had combat experience, leads a class.¹⁴⁸

A second way forward is to support those interested in learning to teach; these costs are also manageable.¹⁴⁹ There is value added considering \$50 billion is spent on the Military Health

143. Sarah Marshall, “Military Researchers Collaborate with University on Opioid Crisis,” 25 August 2017, U.S. Department of Defense, <https://www.defense.gov/News/Article/Article/1289925/military-researcherscollaborate-with-university-on-opioid-crisis/>.

144. Robin Carnes, “Acceptance Speech at Smithsonian Sackler Gallery,” 17 October 2013, *Warriors at Ease*, video, <http://warriorsatease.org/news-press/robin-carnes-honoree-at-smithsonian-gala-on-oct-17-2013/>. Acceptance speech was at the showing of *Yoga: The Art of Transformation*.

145. Patricia Cabral, Hilary B. Meyer, and Donna Ames, “Effectiveness of Yoga Therapy as a Complementary Treatment for Major Psychiatric Disorders: A Meta-Analysis,” *The Primary Care Companion to CNS Disorders* 13, No. 4 (2011): <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3219516/>.

146. Lieutenant Colonel Jason Davis, text message to author, 11 March 2018.

147. Captain Courtney C. Fox, e-mail message to author, 6 March 2018.

148. Robin E. Cushing et al., “Military-Tailored Yoga for Veterans with Post-Traumatic Stress Disorder,” *Military Medicine* (5 February 2018): <https://academic.oup.com/milmed/advancearticle/doi/10.1093/milmed/usx071/4838967?guestAccessKey=3d2d42ed-74a0-4590-99a7-282cfbc23cc3>.

149. Benef Verell, interview by author, Carlisle Barracks, 4 March 2018.

System.¹⁵⁰ For the active duty Army—483,000-strong—two teachers per brigade could be trained at a minimum 200-hour level in yoga and meditation teacher training. Considering 4,500 soldiers comprise a brigade combat team that would mean training 200 soldiers in yoga and meditation. Rough estimates for training 200 teachers in a modestly resourced, bare bones 200-hour residential program would cost \$5,000 plus \$1,000 for additional military-focused, trauma-sensitive, evidenced-based training by Warriors at Ease. The total, for one Service branch, for example, would cost the Army \$1,200,000.¹⁵¹

A second cost-related concern, given the nature of permanent change of station of soldiers in the Army, movement of units, and the challenge for the Army’s Human Resources Command in backfilling empty specialized skills that are not a primary function of the army, is that contracting would be necessary. As such, a short-term solution is that a contract could address the qualifications needed for hiring instructors and include a train-the-trainer component, such that over time, more soldiers would be able to teach others.

A third cost-related concern is ineffective training. Despite best intentions, the quality of trainers for MRT varies. Trainers default to “death by PowerPoint” made more cumbersome because it is over 14 modules. Of greater concern, no practical, ongoing skill-based training, as offered in a yoga, systematic relaxation, or meditation class, exists. A way forward is to focus on the spirit and intent of MRT as originally designed and as described earlier in the time section.

To sum up, breathing, reaching down and releasing the back, or listening to one of the existing downloads from the Services is a manageable cost to a unit considering these downloads are already available, and taking just a few seconds is an investment in readiness. That simple, individual choice to relax for ten seconds requires self-awareness, discipline, and self-regulation. Instead of a cost, that is an awareness of the importance of resilience for readiness. From a cost-savings perspective, these qualities are important markers in psychological health.¹⁵²

Participation

The third argument regards participation. On individual resistance, the question surrounds to what extent an individual is ready to learn and then implement systematically, what they learned. First, some argue that male Service members may not be inclined or willing to voluntarily participate in yoga, systematic relaxation, or meditation, especially if they are only familiar with these tools from media representations of yoga which tend to focus on women. This argument is not unlike the concerns of civilian men in civilian yoga studios. Verell notes what male soldiers have seen about yoga comes from pictures of advanced asana, as seen in magazines or on TV. She notes,

150. Congressional Budget Office, *Approaches to Changing Military Health Care* (Washington, D.C.: Congressional Budget Office, October 2017), 1, <https://www.cbo.gov/system/files/115th-congress-20172018/reports/53137-approaches-tochangingmilitaryhealthcare.pdf>.

151. Verell, interview.

152. Tim Gard et al., “Potential Self-Regulatory Mechanisms of Yoga for Psychological Health,” *Frontiers in Human Neuroscience*, 30 September 2014, <https://www.frontiersin.org/articles/10.3389/fnhum.2014.00770/full>.

“the media glamour of yoga is what they see and assume it’s not for them because they are not flexible.”¹⁵³ The statistics of women outnumbering men in the yoga studio would likely balance out in a military environment—one known for its emphasis on diversity and equality. In fact, it may be a moot point as inclusion and promotion of women in the Services is an ongoing challenge.¹⁵⁴ The reason for that disparity is that it remains a largely gendered space.¹⁵⁵ However, resilience, readiness, and the effects of trauma cross gender lines. In fact, male Service members have benefitted from these tools. Gender disparity is manageable. Story found in the yoga classes she taught, she had close to a 50/50 split between men and women.¹⁵⁶

A way forward for addressing male participation is to amplify testimonials from male senior leaders. Lieutenant Colonel (Retired) James Alden, who served in SOF, said:

My meditation and yoga practice became more and more critical to my combat effectiveness with every deployment. While not commonly referred to as ‘combat skills,’ [it] forced me to understand how my environment impacted me. Meditation helps me connect with my emotional self and my environment. Yoga helps me to connect with my physical self, my body and my breath. It reminded me that I was called to be a Warrior



Soldiers from the 25th Infantry Division at Schofield Barracks in Hawaii benefit from Warriors at Ease programs on the installation. Warriors at Ease teachers provide yoga for individual units as well as support special events for posttraumatic stress disorder awareness, suicide prevention, sexual assault prevention and response, and resiliency. PHOTO BY ROBERT STURMAN, [HTTPS://ROBERTSTURMANSTUDIO.COM](https://robertsturmanstudio.com), APRIL 2017/ USED WITH PERMISSION

153. The related question regarding participation of men is whether yoga is perceived as feminine, based on what men see in the media i.e., images of women in yoga poses. Men may fear not being able to “perform” and see results as effectively as other men who have studied dance or gymnastics. The root of the fear, from a feminist school of thought may be—and the author acknowledges the provocative nature of this statement—that participation in such activity may leave some men feeling less masculine or heterosexual-identified. This concern, however, is unique to the modern American context, which, at last count was an almost \$17 billion industry, with a demographic breakdown of 72 percent women and 28 percent men according to Alice G. Walton, “How Yoga is Spreading in the U.S.,” *Forbes*, 15 March 2016, <https://www.forbes.com/sites/alicegwalton/2016/03/15/how-yoga-is-spreading-in-the-u-s/#27de4d83449f>. The concern of women dominating yoga is a modern one, particularly in the United States. Historically men have dominated the yoga tradition. Gender aside, men and women alike may simply be afraid of trying something new and may benefit from one on one instruction to learn, and progressively see benefits in individual readiness.

154. Michael Hosie and Kaytlynn Griswold, “The Meritocracy Myth, Challenges to Army Officer Diversity,” 28 July 2017, U.S. Army War College, <https://warroom.armywarcollege.edu/articles/meritocracy-mythchallenges-army-officer-corps-diversity/>.

155. Jacqueline E. Whitt, “Sex, Gender, and the Transformation of the Military’s Cultural Conversation,” 8 June 2017, U.S. Army War College, <https://warroom.armywarcollege.edu/articles/transforming-themilitarys-cultural-conversations/>.

156. Lieutenant Colonel Kerry Story, email message to author, 22 February 2018.

and my responsibility as a Warrior was to aggressively protect and defend; and then, bring back the lessons of war to my community.¹⁵⁷

His testimonial underscores the importance of yoga, systematic relaxation, and meditation at the individual level.

The second concern regarding participation is, as Major Brian T. Gregg of the Senior Leader Sustainment Program at the Dunham U.S. Army Health at Carlisle Barracks points out, individuals are more interested in training if it is tied to performance. Major General Walter Piatt, commander of the 10th Mountain Division at Fort Drum, said that just as soldiers see benefits from physical fitness, they would “go after [these tools] with a hunger ... when they see results they make time for it [as] they see the benefits.”¹⁵⁸ General Piatt said once soldiers see results from mindfulness and meditation, they will want to see it included in basic training. A good yoga, systematic relaxation, and meditation program targeted to the audience will see the expected benefits.

General Piatt said once soldiers see results from mindfulness and meditation, they will want to see it included in basic training.

Third, because participation is based on the individual and their own sense of self, fitness, and wellness, it may be difficult to imagine a program that meets the needs of all Service members, civilian employees, and dependents. At the same time, research suggests that these individual benefits will aggregate, and that the benefit of such programs may also accrue to units. A case in point comes from a study led by Jha and Stanley who offered mindfulness meditation training as part of the toolbox for preventing and managing PTSD. Marine reservists in Iraq, who went through this training, reported less stress and anxiety, and improved memory.¹⁵⁹ The results were reconfirmed in a follow-up study with Marines at Camp Pendleton. Individual readiness and resilience is related to unit readiness and resilience. The readiness of the force would be improved if these tools were used during pre-deployment and deployment, to reduce overall disease burden and increase readiness of the force.

Eastern Traditions

The fourth argument raised is that yoga is either part of Hinduism or part of a foreign set of Eastern traditions and philosophies. Yoga is part of a set of seven Indian philosophies including Buddhism, Nyaya, Vaisheshika, Sankhya, Yoga, Mimamsa, and Vedanta.¹⁶⁰ Most Hindus do not practice yoga,

157. James “Jamie” Alden, “Embrace the Self, Not the Suck,” 21 November 2017, <https://www.linkedin.com/pulse/embrace-self-suck-james-jamie-alden>.

158. Dan Harris, “10% Happier Podcast with Dr. Amishi Jha & Maj Gen Walter Piatt,” 6 July 2016, YouTube, video, <https://www.youtube.com/watch?v=JF09RhhVEME&t=20s>.

159. David Kohn, “Mindfulness and Meditation Training Could Ease PTSD Symptoms of PTSD, Researchers Say,” *Washington Post*, 18 February 2013, https://www.washingtonpost.com/national/health-science/mindfulness-and-meditation-training-couldease-ptsd-symptoms-researchers-say/2013/02/16/a296a52a-4ad2-11e2-b709667035ff9029_story.html?utm_term=.c079b8e01847. The full pilot study in Iraq is available: AP Jha et al., “Examining the Protective Effects of Mindfulness Training on Working Memory Capacity and Affective Experience,” *Emotion* 10 (February 2010): 54–64, <https://www.ncbi.nlm.nih.gov/pubmed/20141302>.

160. Pandit Rajmani Tigunait, *Seven Systems of Indian Philosophy* (Honesdale, PA: Himalayan Institute Press, 1983).

as described in this paper.¹⁶¹ At its core, yoga is about stilling the mind. The four volumes of the *Yoga Sutra*, as well as the *Hatha Yoga Pradipika* simply expound on this notion that the use of physical poses, with breath, allows a practitioner to better still their mind. Yoga simply allows a practitioner to see themselves as part of something bigger—humanity, the planet, and the universe—as some may define spirituality, which is not necessarily religion.

Additionally, most of the world’s religious traditions also have meditative or contemplative practices—Christian contemplative tradition made famous by the Jesuits and Quakers, mysticism from the Kabbalah, Vipassana in the Buddhist tradition, and Sufism in Islam. The tools in this paper, particularly meditation, are common to all faith-based traditions. It is sufficient to say that a secular practice of breath-focused stretches (yoga), systematic relaxation, and breath-focused meditation strengthens and complements any faith tradition rather than takes away from it. Meditation is part of a holistic package for strengthening resilience and optimizing force readiness.¹⁶² In fact, from a spiritual perspective, the tools of yoga are already integrated in the CSF2 program.¹⁶³

Additionally, while yoga has been practiced for thousands of years, it already entered American consciousness in four distinct phases, usually connected with specific teachers. These were (1) Swami Vivekananda during the 19th century, (2) Paramahansa Yogananda in the early 20th century, (3) Swami Rama and BKS Iyengar in the early 1960s, and (4) a plethora of teachers in the past 30 to 40 years including Pandit Rajmani Tigunait and Rod Stryker in the 2000s. Yoga became more visible in the 2000s to the joint force through the iRest Yoga Nidra protocol. Service members, largely male, participated in this healing modality, as seen in powerful vignettes in the short film, *A Soldier’s Story*, and feature length film *Escape Fire*.¹⁶⁴

Structure

The fifth argument is about structure. The key question is whether leaders are ready to take on the organizational challenge of incorporating these cost-efficient tools across the joint force. In fact, the four-star general officer referenced earlier expressed concern that despite research done by both the Army and the Marines, mindfulness work is scattered and not yet been scaled-up even to reach the size of the Marine Corps. One way to ensure institutionalization takes root is for senior leaders to share success stories of when mindfulness training has worked. Messaging and leadership support make a difference. Major General Walter Piatt recalls a split second decision made by a soldier trained in mindfulness where the decision not to shoot resulted in the cooperation of Afghan village elders and did more for mission accomplishment than any act of force the soldier had applied

161. Linda Johnsen, “India’s Matrix of Tolerance,” *Yoga International*, accessed 10 March 2018, <https://yogainternational.com/article/view/indias-matrix-of-tolerance>. For further details, see Swami Jnaneshvara Bharati, “Yoga and the Words “Hindu” and “Hinduism,” accessed 10 March 2018, <http://www.swamij.com/hindu-word.htm>.

162. David Hufford, Matthew J. Fritts, and Jeffrey E. Rhodes, “Spiritual Fitness,” *Military Medicine* 175 (2010), 83.

163. Kenneth J. Pargament and Patrick J. Sweeney “Building Spiritual Fitness in the Army,” *American Psychologist* (January 2011), 63.

164. Warriors at Ease, “A Soldier’s Story,” Warriors at Ease, video, accessed 11 March 2018, https://www.youtube.com/watch?v=TMD_N_Yi0uw.

earlier.¹⁶⁵ Mindfulness training can support time-sensitive decision-making when an individual is preparing to make a kinetic decision. Amplifying that story and repeating it across the joint force is critical.

Another way to tackle the issue of structure, short of having a formal unit managing an initiative, is to develop creative approaches such as a train-the-trainer program. Story launched a train-the-trainer program for noncommissioned officers, officers, and civilians. Through the program, students learned basic yoga poses, how to adapt yoga for the military context, meditation, trauma-sensitive yoga, and iRest Yoga Nidra. She created an incentive structure in which soldiers earned promotion points and their participation was recorded in their official personnel file. For sustainability, she required each student teach eight volunteer hours at their unit level within six months of completing their training. Her approach is one way to institutionalize these techniques. She notes “having been involved with this [program] over the past two years, and seeing the results, we have so many opportunities to perhaps change the outcomes of how Soldiers deal with stress/trauma, etc. as they face these challenges instead of working to fix the damage after it’s occurred (as we have and currently do in our Veteran population).”

Through her program’s survey instrument, Story found that 80 percent of her students improved their stress level, overall perspective on life, and became more mindful about self-care. Over 70 percent began to use breathing to reduce stress and anxiety while over 70 percent noted some, much, or major differences in themselves as an Army leader. Over 60 percent improved their quality of sleep, and over 50 percent improved the amount of time they slept and were more deliberate in the choice of food they ate. Almost 50 percent improved their relationships with their significant other, family members, and were able to sleep more effectively.¹⁶⁶



(Far left) Commander Hillary Darby, a Warriors at Ease teacher and Naval aviator currently serving as the Sexual Assault Prevention and Response Officer in Pearl Harbor, Hawaii. (Second from left) Lieutenant Colonel James Alden. (Third from left) Staff Sergeant Eddie Lopez, U.S. Air Force. (Fourth from left) Machinist’s Mate First Class Preston Tharp, U.S. Navy. All four of these warrior yogis helped expand Warriors at Ease programs in the military and veteran communities of Oahu, Hawaii. PHOTO BY ROBERT STURMAN, [HTTPS://ROBERTSTURMANSTUDIO.COM](https://robertsturmanstudio.com), APRIL 2017/ USED WITH PERMISSION

165. Harris, “10% Happier Podcast.”

166. Lieutenant Colonel Kerryn Story, “Complementary and Alternative Medicine (CAM) in the Military: An Innovative Approach,” briefing slide #11 “Outcomes,” provided to author 22 February 2018.

Recommendations for Organizational Cultural Change

Stephen J. Gerras, Leonard Wong, and Charles D. Allen summarize Edgar Schein's *Corporate Cultural Survival Guide* and suggest that embedding and reinforcing mechanisms are ways to change an organization.¹⁶⁷ Six embedding mechanisms and six reinforcing mechanisms provide an outline, organizationally, for how yoga, systematic relaxation, and meditation may be scaled-up across the joint force.¹⁶⁸

Embedding Mechanisms

The first of the six embedding mechanisms is “what leaders pay attention to, measure, and control on a regular basis.” Leaders across the force and at all levels (noncommissioned officers, general officers, field grade officers, and company-grade officers) should send the message, speaking from personal experience, conviction, and evidence—like the four-star general officer referenced earlier—about the need for a protocol of yoga, systematic relaxation, breathing, and meditation. When a commanding officer or others in their chain of command practice yoga, systematic relaxation, or meditation it sends a message about cohesion and working as a team.¹⁶⁹

The second mechanism addresses how leaders react to critical incidents and organizational crises. In response to a critical event, a chaplain or another leader could reinforce nondenominational, secular, yogic tools and invite the audience to simply pay attention to their body and breath. Participants could take a moment to recognize those they have lost, or focus on their own wellness by concentrating on the mind-body connection, through the breath, without any religious connotation. Third, is how leaders allocate resources. As demonstrated in the cost section, it is possible to build on existing yoga programs taught at military installations. Fourth, is the leader's use of deliberate role-modeling, teaching, and coaching. When voices at all levels—from the four-star general officer referenced earlier to Captain Inle to a SOF soldier like Alden—are heard and emulated, subordinates will be inspired and will want to emulate them—for the unit's and their own readiness. As observed by academics and Service members, when commanding officers participate side-by-side with soldiers, sailors, airmen, and marines, they send a strong message that leadership believes in these tools. Service members appreciate general officers or others in the chain of command joining them in class.

Fifth, is how leaders allocate rewards and status. If a teacher is successful and a yoga student has shared a testimonial on improved resilience, that vignette could become part of an officer evaluation report and promotion package. Story recommends (1) ensuring yoga and meditation activities are coded as short courses when meeting the requirement of 40 hours so Service members could earn promotion points for completion, and (2) ensuring that such participation is included in officer evaluation reports and record briefs; both changes will provide incentives to Service members to

167. Edgar H. Schein, *Organizational Culture and Leadership*, 3rd ed. (San Francisco: Jossey-Bass, 2004), 182.

168. Stephen J. Gerras, Leonard Wong, and Charles D. Allen, *Organizational Culture: Applying a Hybrid Model to the U.S. Army* (Carlisle Barracks: U.S. Army War College, November 2008), 17–21.

169. Hurst, “Yoga Therapy,” 6.

participate. Sixth, is “how leaders recruit, select, promote, and attrit personnel.”¹⁷⁰ Recruitment, retention, and attrition must embody the values the Services espouse. A former Marine stated, “The vulnerable parts that the Marine Corps did its best to squeeze out of me were the parts I least wanted to explore—the parts that were preventing me from healing.”¹⁷¹ A well-designed program needs to take into account those that may feel forced to leave. General George W. Casey, Jr. noted, a good CSF2 program is tailored to the needs of an individual.¹⁷²

Secondary or Reinforcing Mechanisms

Gerras, Wong, and Allen also summarize six secondary or reinforcing mechanisms. The first is organizational design and structure. Service members report feeling better when other students in a yoga class include general officers and others in their chain of command.¹⁷³ Second, is organizational systems and procedures. The CSF2 program is housed in Army operational and leadership (vs. medical leadership) in an effort to be understood as a training program.¹⁷⁴ That sends a message that de-stigmatizes resilience tools. Following PT, based on time, the opportunity, the venue, size of unit and interest of the leader or of a participant, an ad-hoc or purposeful few minutes could support best practices from sports physiology recovery after exercise. Alternatively, a senior leader may, at the start of the meeting—based on the body language of the participants in the meeting, context, and topic at hand—take 30 seconds at the start of the meeting to allow participants to become aware of their body and just breathe.

Third, regarding the design of physical space, facades, and buildings, new construction may consider the best of architectural design that inspires, fosters unit cohesion, and reflects the principles of resilience. A mentality of “embrace the suck” and “get over it” may reinforce the belief that the worse the working conditions are—the more Spartan, the more isolated, the more uncomfortable—the better. The alternative perspective for new construction is that sunlight, nature, access to windows—whether drawn from Chinese Feng Shui, Vedic Vastu, or green principles of recycled material such as Leadership in Energy and Environmental Design certification standards—reinforce values in an organization that is committed to accessibility, universal design, positivity, and passion. Weather, location, and security permitting, in older spaces or in the field, Service members may practice yoga and meditation outdoors or in indoor spaces that are inspiring, reinforce values, and are conducive to unit cohesion and improved morale.

Fourth, on the use of formal statements of organizational philosophy, creeds, and charters, while existing policy frameworks already speak to CSF2 and resilience, senior leaders need to repeat

170. Gerras et al., *Organizational Culture*, 19.

171. Anu Bhagwati, “Yoga and PTSD: One Vet’s Story,” *Huffington Post*, 6 December 2017, https://www.huffingtonpost.com/anu-bhagwati/how-yoga-helps-veterans_b_948666.html.

172. George W. Casey, Jr., “Comprehensive Soldier Fitness: A Vision for Psychological Resilience in the U.S. Army,” *American Psychologist* (January 2011), 1.

173. Hurst, “Yoga Therapy.”

174. Casey, Jr., “Comprehensive Soldier Fitness,” 2.

those principles more regularly.¹⁷⁵ Amplifying these messages of resilience, health, wellness, and readiness necessitate simultaneous amplification from the Morale, Family, and Welfare, Installation Commands, U.S. Army Training and Doctrine Command, and CSF2 Fitness leadership.¹⁷⁶ Engaging other key stakeholders such as the Chaplain Corps and U.S. Army Medical Command (MEDCOM) is also critical to ensure that the spiritual and medical components are all tied together.

Fifth and sixth, rites and rituals of the organization along with stories about important events and people, present an opportunity to emulate the second embedding mechanism. In particular, a senior leader and chaplain may encourage out-of-the-box thinking for creating an event that is fully inclusive and welcoming for those who are atheist, agnostic, spiritual, or do not identify with a religion, including those who do not identify with one of the Abrahamic faiths. For example, leaders should ask Service members to take a moment of gratitude during a moment of silence. They may ask that one listen to their body, quiet their breath, and take a moment of gratitude. That may cue those in attendance of the importance of these yogic tools of resilience. In such an opportunity, no Service member should feel compelled to bow their head or utter the word amen—or feel any one particular religion is compromising their deeply held beliefs. They simply connect with their own breath, body, and mind for readiness, resilience, to bolster their own understanding of spirituality, as part of CSF2.

These embedding and reinforcing mechanisms come to life when an institution, a military base, or VA hospital take simple steps. These include: (1) endorsing a teacher, (2) Service members practice beside their commanding officer or others in their chain of command, and (3) communicate and coordinate with a host of stakeholders. Those who are already engaged and interested in supporting these tools include Morale, Family, and Welfare—which already offers yoga and mindfulness training—and Walter Reed and other military commands that make downloads available for those not able to participate in person.

Principles for Implementation

Changing the Army or the joint force, through these embedding and reinforcing mechanisms does not require intense time and resources of the joint requirements process, particularly on the light touch approaches. It simply requires the willingness to change at the individual level, understanding the environment, concerns of stakeholders taking a calculated, informed risk for scaling-up these tools to larger units. Robert F. Kennedy in 1996 said, “Each time a man stands up for an ideal, or acts to improve the lot of others, or strikes out against injustice, he sends forth a tiny ripple of hope, and crossing each other from a million different centers of energy and daring those ripples build a

175. An article that frames the science, along with the policy framework is Osman, Allen, Martin Paczynski, and Amishi P. Jha. “Affective Expectations Influence Neural Responses to Stressful Images in Soldiers,” *Military Psychology* 29, no. 1 (2017), 41.

176. Stewart J. Lawrence, “Om in the Army: The U.S. Military Gets Yoga,” *The Guardian*, 31 August 2011, <https://www.theguardian.com/commentisfree/cifamerica/2011/aug/31/yoga-army-us-military>.

current which can sweep down the mightiest walls of oppression and resistance.”¹⁷⁷ Creating change at the grand level is quite inspirational; a simple act is possible.

Organizational and cultural change requires senior leaders in the Army and elsewhere in the joint force to take some risk, and start down a path of embedding and reinforcing mechanisms. When senior leader peers are also willing to embrace embedding and reinforcing mechanisms, true, sustainable change can occur. From a bottom up perspective, it means a Service member or family member, who may be a yoga or meditation teacher, takes initiative at the level of the individual to teach at military installations. From a leadership perspective, encouragement and support for that individual teacher is critical. Leadership is a two-way process, a conversation among all levels of the enterprise for a better-trained force, for Service members and family alike.



Lieutenant Colonel James Alden, a retired Army special forces officer, practices yoga and meditation. He supports the establishment of wellness programs for Service members and their families and was previously assigned to 3rd Special Forces Group (Airborne), 1st Special Forces Group (Airborne), and the Special Operations Command Pacific. Colonel Alden (Ret.) currently serves of the advisory board of Warriors at Ease. PHOTO BY ROBERT STURMAN, [HTTPS://ROBERTSTURMANSTUDIO.COM](https://robertsturmanstudio.com), APRIL 2017/ USED WITH PERMISSION

As such, the DOD—and commanders, who are in charge of the climate, morale, readiness, resiliency, and training of their units—need not fear any of the five arguments outlined i.e., yoga takes up time, is costly, is for women, is religious (or owned by one particular religion), or cannot fit within the existing structure. In fact, they should embrace these modalities as additional, valuable tools to improve both individual and unit performance, readiness, and resilience.

Recommendations for implementing these themes in the joint force include:

Short-Term Approaches

- Institutionalizing mindfulness tools require Service chiefs, general officers, field grade officers, and noncommissioned officer leadership to amplify the track record of success of these tools. The Chairman of the Joint Chiefs of Staff Joseph E. Dunford, Jr. reinforced the importance of mindfulness in the 2017 defense budget request and he should reiterate it under this current administration widely across the enterprise and encourage Service chiefs to do the same.¹⁷⁸

177. Robert F. Kennedy, “Day of Affirmation Address,” public speech, University of Capetown, Capetown, South Africa, 6 June 1996, <https://www.jfklibrary.org/Research/Research-Aids/Ready-Reference/RFKSpeeches/Day-of-Affirmation-Address-as-delivered.aspx>. Document located in the John F. Kennedy Presidential Library and Museum.

178. Chairman, Joint Chiefs of Staff General Joseph F. Dunford, Jr., “FY 2017 Defense Budget Request,” 25 February 2016, *CSPAN*, video, <https://www.c-span.org/video/?c4582402/mindfulness>. Note: The clip, title, and description were not created by C-SPAN—user created clip (Mindfulness).

- Senior leaders need to amplify the existence of existing yoga, systematic relaxation, and breathing programs taught by Service members, family members, and civilians at installations. Social media offers the opportunity for any risk-averse leadership to float these ideas—encouraging their troops to participate in a yoga training activity for increased readiness and resilience. Following their lead, general officers and field grade officers must re-emphasize and amplify these principles of the utility of yoga and meditation for wellness and encourage company-grade officers to do the same.
- Improve lines of coordination and communication of these programs that exist in the joint force. Ongoing support from key stakeholders—Morale, Family, and Welfare, installation commands, MEDCOM, Chaplain Corps, Comprehensive Soldier and Family Fitness—as well as all involved in resilience—will support leadership.¹⁷⁹
- Senior leaders must participate in these programs, alongside their peers, subordinates, and superiors to foster unit cohesion and morale.
- Take simple steps like piloting a few minutes of breathing, stretching, or silence in any existing training or at the start of a meeting.
- Create an exhaustive inventory of the evidence base. The author has just scratched the surface and referenced just a few of the many evidence-based research pieces, journal articles, vignettes, and testimonials available from journals like *Military Medicine*, a source regularly publishing new articles on yoga or meditation.
- Cite the efficacy of these tools regularly and relate it to the audience. Brigade Psychologist Captain Courtney Fox notes that she will explain the benefits of yoga through the lens of sports physiology. “When I explain to Soldiers that a lot of the skills in yoga are the same skills that professional athletes pay thousands for people seem to be more receptive to it.”¹⁸⁰

Mid-Term Approaches

- Now is an opportune time for all Services to iterate the Chairman of the Joint Chiefs of Staff’s view on the importance of these tools and express interest to stakeholders on the need for updating their fitness and resilience guidance.
- In 2013, then Secretary of the Army John M. McHugh and Chief of Staff Raymond T. Odierno signaled their intent to update the Comprehensive Soldier and Family Fitness regulation.¹⁸¹ The CSF2 Guidance, 350-53, issued in 2014 did not explicitly mention these yogic tools.¹⁸² Any updated guidance should include yoga, breathing, systematic relaxation, and meditation.

179. Stephen V. Bowles, “Military Organizations and Programs Contributing to Resilience Building,” *Military Medicine* 175, no. 6 (2010), 382.

180. Captain Courtney C. Fox, email message to author, 12 February 2018.

181. Raymond T. Odierno and John M. McHugh, *Comprehensive Soldier and Family Fitness Directive* (Washington, D.C.: Secretary of the Army, 25 March 2013): https://www.army.mil/e2/rv5_downloads/features/readyandresilient/ArmyDirective-CSF2.pdf.

182. Both recommendations are from Lieutenant Colonel Kerryn Story.

- Update the Physical Readiness Training (PRT) doctrine (FM 7-22) to include evidence-based yoga, relaxation, and meditation as authorized training modalities that support injury prevention, rehabilitation, and health promotion.
- Draft detailed guidelines drawing on the existing literature mind-body programs in military health care settings for designing effective yoga, systematic relaxation, and meditation programs.¹⁸³
- Include yoga, systematic relaxation, and meditation as part of pre-deployment training. Include iRest Yoga Nidra and essentials of sleep hygiene so Service members have tools to be able to sleep when deployed.¹⁸⁴
- Include these tools in Professional Military Education at the Senior Service Colleges.¹⁸⁵
- Observe existing yoga and meditation programs such as “Inspiring Resilient Warriors” at U.S. Military Academy West Point and “Modern Warriorship” at Virginia Military Institute, with an eye on recruiting the next generation of mindful officers.¹⁸⁶
- Tailor programs to the audience, including recognizing the unique needs of survivors of sexual assault.¹⁸⁷

183. Katherine Smith et al., “Guidelines for Creating, Implementing, and Evaluating Mind-Body Programs in a Military Health Care Setting,” *Explore* 12, no. 1 (January–February 2016).

184. Recommendation is from Robin Carnes.

185. Should this paper be of interest to the Senior Service College community, one way to continue the conversation might be a convening day-long symposium—a mix of classroom, seminar style learning, plenary lecture, and actual practice of yoga, systematic relaxation, and meditation. Based on this research, the learning component could include an introduction by Lieutenant General (Retired) Eric Schoomaker, the former 42nd U.S. Army Surgeon General and Commanding General of the U.S. Army Medical Command to set the stage on leadership. Dr. Sat Bir Singh Khalsa of Harvard Medical School could give the keynote speech on the state of art on yoga research, followed by iRest Yoga Nidra founder Dr. Richard Miller and Dr. Amishi Jha of the University of Miami on meditation. These four could be followed by a panel on implementation including Robin Carnes, who spearheaded the iRest Yoga Nidra at Walter Reed and Lieutenant Colonel Story, profiled in this paper. The practicum segment would complement the theory drawing on powerful instructors who embody and live these teachings such as Rod Stryker and Robin Carnes. Select articles cited could be provided to students as required, focused, or suggested reading. Key discussants to stimulate conversation could include Dr. Elizabeth Stanley of Georgetown University, Warriors at Ease board members Benef Verell and Renee Warren, and Service members and veterans who have been touched by yoga’s benefits for themselves or their families. As such, this review could be “brought to life” at the U.S. Army War College for all Senior Service college students in a day-long symposium with Bliss Hall lecture, practice, and dialogue in seminar. Such an approach would provide a practical way of implementing key lessons learned in the U.S. Army War College Master of Strategic Studies core curriculum, in strategic leadership (self-awareness, leading organizational change and vision, organizational culture and leadership, command climate, and team building). Students could understand the science, see how these tools impact them on a visceral level, and discuss how to embed and reinforce these tools across the joint force.

186. Elizabeth Harrington, “VMI Now Offers Mindfulness Courses for ‘Modern Warriorship,’” *The Washington Free Beacon*, 17 March 2017, <http://freebeacon.com/culture/vmi-now-offers-mindfulnesscourses-modern-warriorship/>; Cadet John St. Pierre, “Yoga Promotes Self-Awareness, Resiliency” *U.S. Military Academy West Point*, accessed 11 March 2018, <https://www.usma.edu/news/SitePages/Resiliency%20through%20yoga.aspx>.

187. A. Suris et al., “Sexual Assault in Women Veterans: An Examination of PTSD Risk, Health Care Utilization, and Cost of Care,” *Psychosomatic Medicine* 66, no. 5 (September–October 2004), 749-56. <https://www.ncbi.nlm.nih.gov/pubmed/?term=borman+ptsd> (accessed 11 March 2018).

Long-Term

- Create an inventory of existing yoga, trauma-sensitive yoga, systematic relaxation, iRest Yoga Nidra, meditation and breathing programs, and research on those programs, whether at military installations or through the VA.
- Resource existing yoga, systematic relaxation, iRest Yoga Nidra, breathing and meditation programs that are evidence-based, military-focused, and trauma-sensitive.
- Review the Global Assessment Tool to more effectively incorporate the positive benefits from yoga, systematic relaxation, and meditation programs.
- Coordinate with the VA to fund new research addressing concerns identified in meta-analyses that found methodological weaknesses in yoga, systematic relaxation, and meditation research by using a variety of research techniques, including qualitative, and questionnaires suited to the population.¹⁸⁸
- Convene expert group in partnership with the VA, researchers, and nongovernmental organizations to identify illustrative biological markers for measuring resilience, as a psychological profile to determine advanced capability in a Service member. Illustrative markers include breath rate, heart rate recovery, and heart rate variability.¹⁸⁹

Conclusion

There is a need for yoga, systematic relaxation, and meditation not only in the joint force and in veteran populations, but as part of coherent, comprehensive national security framework.¹⁹⁰ Not only do government officials need these services, stakeholders working beside the U.S. government

188. For an example of a questionnaire designed for the yoga community, see C. L. Park et al., “Essential Properties of Yoga Questionnaire (EPYQ): Psychometric Properties,” *International Journal of Yoga Therapy* 27, no. 1 (2 March 2018), <https://www.ncbi.nlm.nih.gov/pubmed/29498893>.

189. Based on a conversation with Major Brian T. Gregg on 28 August 2017, heart rate recovery measures the ability of the body to bounce back from stress and heart rate variability is a measure of the ability to respond to stress. Practical measures include nutrition, sleep, and regular exercise, to improve this state of calm and ability to be vigilant and ready. A readily implementable tool is normalizing breathing, equalizing inhalation and exhalations. One pattern is inhaling for six counts and exhaling for six counts, up to 5 rounds in one minute, totaling five minutes, or 25 total rounds. The Senior Leader Sustainment Program at Carlisle Barracks Biofeedback program recommends a five-minute breathing practice daily; it is one way that a civilian or Service member can practically embody (and set the foundation, at the level of the body, breath, and mind) for cultivating the qualities that Clausewitz identifies necessary for a strategic leader.

190. Members of Congress are also engaged in these modalities. “Congressmen Tim Ryan and Tony Cardenas (D-California) formed ‘The Quiet Caucus,’ offering a weekly group meditation for interested members of Congress. A separate weekly meeting is held for congressional staffers.” Warriors at Ease, “Mindful Meditation on the Hill,” accessed 11 March 2018, <http://warriorsatease.org/news-press/mindfulmeditation-on-the-hill/>.

on the frontlines, whether in human rights or humanitarian assistance, need them also.¹⁹¹ “The greatest threat to national security today is the unconscious belief in our culture that humanity is our weakness rather than our strength,” according to Stanley. “That belief drives our resource allocation priorities rather than training in core capacities and trusting individuals.”¹⁹²

Senior leaders across the joint force indicate a willingness to change the culture around mindfulness like the four-star general officer referenced earlier. Leaders simply need to hear other leaders who believe in mindfulness training, like General Piatt, who said that the most powerful weapon is the soldier’s mind itself. Once fellow commanders, like Piatt, see how these tools impact their own life, and can share stories of a unit’s improved readiness and resilience, the joint force will adapt these cost conscious measures to create a more ready, resilient force capable of identifying and defeating the adversary, working with our partners, and protecting America’s vital interests at home and abroad. It is time to set aside resources for yoga, systematic relaxation, and meditation programs. The state of our Service members’ minds for building joint force readiness is at stake.

191. The need for yoga, systematic relaxation, and meditation exists globally. For example, Frida the Young Feminist Fund, “Tracing a Young Feminist Activist’s Self-Care Journey,” 29 August 2017, <https://youngfeministfund.org/2017/08/tracing-young-feminist-activist-selfcare-journey/> is working with front line human rights defenders Armenia. The need is particularly great for those at the very margins of society; 74.3 percent of intersex groups and 76.5 percent of trans activists reported needing resources to manage trauma and burnout, American Jewish World Service, Astraea Lesbian Foundation for Justice and Global Action for Trans*Equality, *The State of Intersex Organizing: Understanding the Need and Priorities of a Growing but Under-Resourced Movement* (NY: American Jewish World Service, Astraea Lesbian Foundation for Justice and Global Action for Trans*Equality, 2017), Executive Summary, accessed 17 April 2018, <https://transactivists.org/wp-content/uploads/2017/10/Intersex-Exec-SummENGLISH-For-the-Web.pdf>. In addition, the Alliance for Peacebuilding’s “Rewiring the Brain for Peace: Bridging Neuroscience, Spirituality, and Peacebuilding,” accessed 17 April 2018, <http://app.mappr.io/play/RewiringTheBrain>, is inventorying the literature in this field. Finally, the issue of readiness and resilience affects other organizations and stakeholders beyond the DOD, in the realm of national security. See Lee R. Briggs et al., *Assessment Report: Stress and Resilience Issues Affecting USAID Personnel in High Operational Stress Environments* (Washington D.C.: U.S. Agency for International Development, September 2015), http://pdf.usaid.gov/pdf_docs/PA00KXHF.pdf.

192. The Center for Security Studies at Georgetown University—Security Studies Podcast: Episode 5—Elizabeth Stanley on Mindfulness-based Mind Fitness Training, April 2017, audio, <https://soundcloud.com/security-studies-podcast/e5-elizabeth-stanley>.



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