

# WRIISC *Advantage*

Fall 2021

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This edition of WRIISC Advantage provides tips to promote brain, body and emotional health and well-being...tips important for all of us!

## DIRECTORS' CORNER

WRIISC remains part of VA's newly designated Health Outcomes Military Exposures (HOME) formerly Post Deployment Health Services (PDHS). The recent name change from PDHS to HOME reflects the broader role of the organization in addressing military environmental and toxic exposures whether in the deployed or the garrison (US military base) setting. Together we continue to educate Veterans and their healthcare providers about these toxic exposures and establish best clinical practices for concerned Veterans. Our research efforts continue in investigating the causes of symptoms related to toxic exposures with the long-term goal of establishing better clinical care for related health problems.

Operation Enduring Freedom (OEF) and the Global War on Terrorism (GWOT) came to an end on August 30, 2021, lasting almost 20 years. From the beginning, as Veterans started to return from these conflicts and report a variety of health concerns, the WRIISC began to include them in our clinical and research programs. With your partnership, the WRIISC has been able to contribute what we've learned to areas such as improved clinical guidelines for diagnosis and treatment of Gulf War Illness, decisions about benefits related to airborne hazards, and provider education to support care across VA. We look forward to future work towards this effort.

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## IMPORTANCE OF BRAIN-HEALTHY NUTRITION

### What You Eat Effects How You Feel

**VETERANS** seen at the WRIISC report frequently report concerns about memory, attention, and other cognitive issues after deployment. Some of the factors that influence our cognition are out of our control, like our genes or past exposures. Fortunately, there are many things we can do to improve how we think.

Scientists are learning that what a person eats directly impacts the functioning of their brain, and can influence how someone thinks, feels, and functions. A diet that contains a lot of highly processed foods, white flour, sugar, and unhealthy fats, which is typical of the Standard American Diet (SAD), releases hormones and chemicals into the body that promote inflammation in the brain (neuroinflammation). This can result in impaired brain function, worsening of mood symptoms, and over time can contribute to memory loss and even dementia. Clear links exist between the nutritional quality of foods that a person eats and their mental health.

### What you Eat can Nourish your Brain

In a 2015 paper titled "Nutritional Medicine as Mainstream in Psychiatry" published in the Lancet Psychiatry Journal, a panel of experts concluded that: Diet is as Important to Psychiatry as it is to Cardiology, Endocrinology and Gastroenterology!

#### FOOD BOOSTING NUTRIENTS

- **DHA in fish oil:** studies show that high levels of DHA decrease the risk of dementia, Alzheimer's and other degenerative brain diseases
- **Resveratrol:** slows the aging process, promotes heart health, stimulates brain function, and supports the body's immune system.
- **Turmeric:** anti-inflammatory antioxidant that supports mitochondria function, glucose metabolism, and targets inflammation
- **Probiotics:** modulate the gut-brain axis which impacts the brain and behavior, and may modulate the effects of stress, anxiety, and depression
- **Alpha-lipoic acid:** a powerful antioxidant with anti-inflammatory properties that works to protect brain and nerve tissue
- **N-acetylcysteine (NAC):** emerging as a beneficial antioxidant adjunct for treatment of neurological and mood conditions
- **Vitamin D:** supports optimal brain health including mental & psychological health

### MIND Diet Improves Brain and Heart Health

The MIND Diet combines two food plans: the Mediterranean diet, which many people are familiar with, and the DASH (Dietary Approaches to Stop Hypertension) diet that has been shown to lower the risk of heart disease and stroke. Although the MIND diet may be challenging to follow on a daily basis, research demonstrates that it improves cognitive thinking and reduces the risk of dementia. It also slows the progression of dementia in those who already have Alzheimer's disease.

#### Brain and Heart Healthy Nutrition: MIND Diet: Mediterranean-Dash Diet Intervention for Neurodegenerative Delay

**The MIND Diet:** Green leafy vegetables, other vegetables, nuts, berries, beans, whole grains, fish, poultry, olive oil and wine.

- Be careful with Wine/Alcohol!!
- Check Food Labels: Avoid gluten and casein where possible, Skip sugar and shun fructose.
- Eat organic when you can.

*MIND Diet prevents or slows brain decline. Lowers risk of Alzheimer's by 53% in those who follow it closely and 35% in those who follow more loosely.*

In a study of older adults, those who were implementing the MIND diet had a cognitive brain health score that was 7.5

years younger in age versus those who were in the lowest score range of implementing the MIND Diet. Following the MEDITERRANEAN-DASH Intervention for Neurodegenerative Delay (referred to as the MIND diet) and/or taking nutritional supplements are two things that might positively impact your nutrition and brain health relationship.

*Fruits and Vegetables Grown Decades Ago were Richer in Vitamins and Minerals than what we are Getting in our Modern-Day Food Sources*

Modern day agricultural practices have substantially decreased the nutrient content of healthy foods such as fruits and vegetables. For example, researchers from the University of Texas compared nutritional data from 1950 to 1999 for 43 different vegetables and fruits. They found "reliable declines" in the amount of protein, calcium, phosphorus, iron, riboflavin (vitamin B2) and vitamin C over the 50-year period.

Another study concluded that an individual would have to eat eight oranges to get the same amount of vitamin(s) in one orange that their grandparents ate. Since our food sources may be depleted in the levels of phytonutrients needed for optimal brain health, a person may consider adding high quality, nutritional supplements to their diet to support brain health. Protect brain health by optimizing nutrition.

### VA Adds Three Presumptive Conditions

VA presumes that certain health conditions were caused by military service and considers them eligible for disability compensation. The addition of VA's 3 new presumptive conditions linked to particulate matter exposure came about in part due to an effort led by Dr. Michael Falvo, Co-Director of the Airborne Hazards and Burn Pits Center of Excellence located at the NJ WRIISC, and his team, who made a recommendation based on expert scientific review to inform policy decisions made by the VA Secretary. Three new presumptive conditions - asthma, rhinitis, and sinusitis- were added to expand benefits to Veterans who served in:

- Afghanistan, Djibouti, Syria, and Uzbekistan during the Persian Gulf War, from September 19, 2001, to the present, or
- The Southwest Asia theater of operations August 2, 1990- present

To be eligible for benefits, a Veteran must have gotten one of these three conditions within 10 years of separation from active service. For more information on the new presumptive conditions, visit [Airborne Hazards and Burn Pit Exposures – Public Health \(va.gov\)](https://www.va.gov/airborne-hazards-and-burn-pits-center-of-excellence).



The NJ WRIISC was honored to host the VA Secretary in August 2021 to discuss future plans and priorities of the Airborne Hazards and Burn Pits Center of Excellence (AHBPCE).

# Vitamin D: All the Facts



You have likely heard more talk lately of vitamin D and its importance in overall health. Truth is, vitamin D has always had many important roles in the body.

What IS vitamin D? Vitamin D is a fat-soluble vitamin, meaning it can only be absorbed in the body with dietary fat, unlike water-soluble vitamins that are absorbed on their own, as needed. The good news is that only a small amount of dietary fat (i.e. healthy fats such as olive oil, avocado, or nuts) is required to absorb vitamin D.

Where can we get vitamin D? It occurs naturally in a variety of foods, including fatty fish and sardines, fish liver oils, cheese, egg yolks, and mushrooms, among a few others. Additionally, many foods and beverages are fortified, or have vitamin D added, and these include milk, some juices, some cereals, and a variety of other products now in stores. Interestingly, almost all dairy milk in the US is fortified with 3 micrograms (120 international units) per 8 ounces/1 cup. However, foods made from milk (such as ice cream or cheese) are usually NOT fortified. There are also numerous vitamin D supplements that come in a range of doses depending on if you need a small or large amount. Sunlight provides another form of vitamin D that the body can convert into a usable form. While Vitamin D from sunlight is a

wonderful source, it is important to be mindful of your sun exposure in terms of how strong the sun is and the time spent as it can increase the risk of skin cancer.

Why is vitamin D important? As mentioned above, vitamin D supports health in many ways. The most commonly known benefit of Vitamin D is that it helps with calcium absorption, which is important for improving bone health and strength and helps to prevent osteoporosis and osteopenia (two conditions that lead to low bone mass/density and brittle bones). Vitamin D also assists muscles and nerve functions, as well as supports the immune system. Now more than ever, strong immune health is important to fend off viruses and bacteria with which we may come in to contact. Finally, vitamin D can help reduce inflammation in the body, which can help reduce the risk of many chronic diseases that are worsened with chronic inflammation.

**INCORPORATING  
VITAMIN D INTO  
YOUR LIFE CAN  
MAKE A DIFFERENCE  
IN YOUR HEALTH.**

How much vitamin D do you need? The answer to this depends on your current blood levels. It is important to start by asking your doctor to check your vitamin D level to avoid adding a high dose supplement if your levels are already in normal range. The recommended amount you will need depends on both your current levels as well as your age as our need for vitamin D increases over age 70.

## LESS SCREEN TIME, MORE GREEN TIME!

When was the last time you unplugged and connected with the great outdoors? I mean really unplugged – turned off your devices and tuned in to the sensory experiences of being in nature? Being fully present, and savoring the sounds, smells, sights; touch of air on your skin, the sun on your face. Maybe the taste of a vegetable from a garden or your favorite cup of tea or piece of fresh fruit? While not all of us live in rural areas or have ready access to so-called green spaces, studies show that spending time in green spaces such as your backyard, a nearby park, nature preserve, etc. is a restorative practice. The practice has positive physical, mental, and emotional health benefits. Some of these benefits include improved

mental health, immune function, pain control, sleep, happiness, and well-being. Being in green spaces and nature can help reduce stress, anxiety, depression, obesity, diabetes, and blood pressure. If you live in an urban setting, apartment complex or have limited access to parks, incorporating more outside time can be beneficial to you even if it is in a small way. Try to find a time and a way to step away from the screen, and into the green. Take a few deep cleansing breaths, be in nature, and notice your experience. What did you see, hear, feel, taste, and smell? How did you feel during and after your time in nature? What did you learn?



## RESEARCH MATTERS



WRIISC research related to Veterans' health concerns.

**PUBLICATION TITLE:** "Because the country, it seems though, has turned their back on me": Experiences of institutional betrayal among Veterans living with Gulf War Illness

**QUESTION:** How is the medical care offered for Veterans living with Gulf War Illness (GWI) influenced by experiences of institutional betrayal (situation in which the institutions people depend upon for safety and well-being cause them harm)?

**FINDINGS:** Experiences of institutional betrayal both during active military service and when first seeking treatment appeared to shape perceptions of healthcare. Veterans expressed the belief that the military failed to protect them from environmental exposures. Veterans' concerns regarding subsequent quality of healthcare were intrinsically linked to a belief that, despite official documentation to the contrary, the predominant paradigm of

both the U.S. Department of Defense and the VA is that GWI does not exist. Veterans reported that providers need more training on treatment of GWI and concerns that some providers do not believe Veterans' descriptions of their illness.

**MEANING:** The study's findings suggest institutional level factors have a profound impact on perceptions of care and the patient-provider relationship. Future research and policy aimed at improving healthcare for people living with GWI should consider the concept of institutional betrayal.

**ADDITIONAL INFORMATION:** This research appears in the journal Soc Sci Med (July 2021). Contributors from NJ WRIISC: Dr. Katharine Bloeser, Dr. Kelly McCarron, Nicole Anastasides, Dr. Susan Santos, Dr. David Litke, and Dr. Lisa McAndrew

**HOW THE WRIISC USES THIS INFORMATION:** In this study, researchers took a closer look at a concern commonly expressed by Veterans to our clinicians during a WRIISC evaluation. The findings summarized above have been used to support the WRIISC's efforts to develop an educational program for VA and non-VA clinicians who provide care to Veterans on the importance of acknowledging possible institutional betrayal and importantly, ways to build institutional courage for Veterans who are seeking care.

## HIGHLIGHTING WRIISC'S COLLABORATING PARTNERS

**Partnering with individuals and teams across VA, Department of Defense (DoD) and other federal agencies, as well as universities and research foundations continues to be critical to advancement in the field of Veterans health.**

Dr. V. Sajja, an expert in the field of blast-related injury from the Center for Military Psychiatry and Neuroscience, Walter Reed Army Institute of Research, has recently begun collaborating with investigators at Baylor College of Medicine and the Airborne Hazards and Burn Pits Center of Excellence (AHBPCE) located at the NJ WRIISC.

Dr. Sajja has devoted much of his career to understanding short- and long-term health effects from a blast injury. In this current effort, he is extending his work looking at mechanisms of blast injury by including a parallel clinical arm to the study. The clinical aspects of this study are being performed at the WRIISC-AHBPCE, drawing on their expertise in cardiopulmonary assessment and evaluation. Dr. Sajja and collaborators (including the AHBPCE team) aim to

learn more about chronic long-term respiratory effects such as shortness of breath and decreased exercise tolerance, resulting from blast injury. Their recently funded three-year study is unique because it will take a closer look at chronic-respiratory effects as secondary to blast injury, a concept often overlooked in prior research.

Their research will provide insight into the clinical care for patients who suffer from pulmonary symptoms and also help in the diagnosis of these symptoms. The development of better and more effective personal protective equipment (vests) for service members to wear during duty to protect against blast exposure will be one of the goals of this project. By informing service members, Veterans, and their family members about the diagnosis of pulmonary problems resulting from blast exposure and setting new guidelines for the standard of care for these individuals, the quality of life in this population will only increase.



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**Thank you Dr. Sajja for this partnership and for your valuable work in the Veteran community.**



### DC WRIISC

#### Exercise and Chronic Multi-Symptom Illness

**EXERCISE HAS LONG** been recognized as a non-pharmacologic therapy for a wide range of diseases and conditions including chronic multi-symptom illness (CMI). The benefits of graded aerobic exercise (started slowly and increased gradually) are extensive, including but not limited to improvements in brain function, sleep, chronic pain, depression, and anxiety. Individuals with CMI could experience an increase in symptoms during the early stages of physical activity. For these individuals it may result in stopping exercise early before the many benefits of exercise appear.

Researchers at the DC WRIISC are currently working to develop a way to assess exercise readiness that would hopefully minimize any side effects of exercise including burnout and symptom flare-up. To do this, they are conducting a research study that is comparing two different exercise programs in a group of individuals with CMI and are monitoring daily responses to exercise in both groups.



The original study design required participants to come to the DC VA Medical Center (DC VAMC) to exercise. With the global pandemic, the research has now shifted to a home-based exercise intervention in which participants log their exercise sessions using remote technology. The Institutional Review Board Chair of the DC VAMC, whose role is to protect humans in research projects by performing ethical and scientific review of proposals, recently highlighted the innovative use of distance-based research opportunities developed by the DC WRIISC team in a presentation to a large community of researchers looking to learn of best practices for telehealth research.

### Veteran Education Efforts Continue - With Success

**MOVING TO** the virtual classroom increased access for Veterans living across the country to participate in Veteran education classes allowing nearly 1,300 Veterans to take our recent class called 'Gulf War Exposures and Health Concerns'. Over 3,580 Veterans registered for the course. The majority of responses from Veterans were overwhelmingly positive:

- *"Very informative!! I plan on sharing it with friends and family that have also deployed."*
- *"Excellent presentation this afternoon containing many valuable info and references."*
- *"The most informative GW presentations to date! Thanks for a GREAT presentation."*
  - *"Thank you so much. I found it very enlightening."*

Veterans DO appreciate obtaining information to assist them in understanding their health and new knowledge offers opportunity for a more informed dialogue with their providers.

### NJ WRIISC

#### Addressing Mental Health Misdiagnoses Improves Veterans' Lives

**MAKING AN ACCURATE** mental health diagnosis has important implications for Veterans' lives. Personality disorders are defined by the American Psychiatric Association as pervasive, unhealthy patterns of thinking, feeling, and behaving that begin in adolescence or early adulthood and persist over time. The VA does not provide disability benefits for personality disorders because the VA does not consider them to be caused or aggravated by military service. In addition, personality disorder diagnoses can negatively impact medical care due to providers



discounting the Veteran's description of their symptoms.

Clinical Neuropsychologists at the NJ WRIISC have seen Veterans who endured complex psychological exposures during military service (e.g., combat trauma, military sexual trauma) and then, at the same time, either during military service or within the VA, their deployment-related symptoms were misdiagnosed.

Following their WRIISC evaluation and change in diagnosis, Veterans have reported that they were finally able to access their service-connected disability benefits, which in some cases prevented homelessness and allowed for vocational rehabilitation. They received more effective mental health care and experienced decreased stigma in their medical care. NJ WRIISC neuropsychologists work to address personality disorder misdiagnoses, apologize to the Veteran, repair harm by advocating for access to appropriate services, and engage in a continuous improvement process to enhance services for the future. While the harm of years of misdiagnosis cannot be reversed, Veterans described regaining a sense of honor that felt tarnished by their prior misdiagnosis.

### CA WRIISC

#### Preventative Healthcare Spotlight

**COLON CANCER IS** the third most common cancer diagnosed in both men and women in the United States. In 2021, there have been 104K new cases- the good news is that this number is declining overall from prior years due to preventative care, screening advancements and people changing their lifestyle-related risk factors. The U.S. Preventative Services Task Force (USPSTF) recommends all adults start screening at age 45. Though, given there was an increase in incidences in people that are younger than 50, with a 2% increase from 2012-2016, the Task Force released new guidelines for screening individuals if they have certain genetic diseases.

**Overall, your lifetime risk of developing colon cancer is about 4% but your PCP can review your medical history and risk factors and decide if screening should begin.**

There are things you can do that might help lower your risk, such as changing your lifestyle-related factors. These include:

- Stop using tobacco and tobacco products- the [VA Telequit Program](#) can assist you with this.
- Watch your consumption of meat products- a diet high in red meats such as pork, beef, lamb, or liver and processed meats (like hot dogs and some luncheon meats) raises your colorectal cancer risk.
- Get your daily dose of sunshine- studies show that low vitamin D levels can be linked to cancer. (see article above for more information on vitamin D and health)
- Limit your alcohol consumption- alcohol has been linked with a higher risk of cancers of the colon and rectum.
- Maintain a healthy weight- obesity, or a body mass index (BMI) greater than 30, has been linked to the development of colon cancer.
- Increase your physical activity- ideally 150 minutes of moderate-intensity aerobic physical activity or 75 minutes of vigorous-intensity physical activity, or a combination of both types of exercise. Referrals to the [VA MOVE program](#) may be made by your doctor.

**WE HOPE THAT THESE SUGGESTIONS WILL HELP KEEP YOU ON THE PATH TO HEALTHY LIVING.**

Produced by the War Related Illness and Injury Study Center

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