

## EDITORIAL

# How Evidence-Based Recommendations May Direct Policy Decisions Regarding Appropriate Selection and Use of Dietary Ingredients for Improving Pain

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The combat arms occupations of the United States Special Operations Command (USSOCOM) are comprised of Army Special Forces and Rangers, Navy SEALs, Air Force Special Tactics, and Marine Critical Skills Operators. These occupational specialties, collectively referred to as “Operators,” are arguably the most demanding within the Department of Defense. All Operators undergo a rigorous assessment and selection process before entering their respective training pipelines. Once accepted into training, attrition among prospective Operators is typically around 70%. The arduous training program to gain entry into special operations is only the start for most Operators. It costs at least a million dollars or more to train the typical Special Operator before he becomes fully mission capable; training may include linguistic and cultural training, combat undersea diving, freefall parachute operations, and many other ground combat training courses.

The extensive training is all designed to give Operators a competitive edge on the battlefield, where they undertake some of the nation’s most sensitive and difficult missions to accomplish. Given the relatively small number of Special Operators in the Department of Defense, Special Operators experience multiple highly stressful deployments, punctuated with intense premission training requirements. The rigors of special operations take a physical and emotional toll, and despite the many challenges, Operators continually strive to be the best at

their chosen occupations. This dedication to their teams, mission, and occupation leads many Operators to ignore injuries and emotional stressors.

The USSOCOM ethos is “demand the best.” The Operator’s intellect and high degree of intrinsic motivation lead them to educate themselves on methods to assist in their unyielding drive for perfection in all that they do. As a consequence of this mentality, many Operators experience acute and chronic musculoskeletal injuries that they ignore due to a trained ability for compartmentalization of self and a perceived lack of time to focus on treatment, recovery, and rehabilitation. When injuries do occur, treatment may not be sought for fear of letting a team member down. Consequently, many Operators suffer chronic musculoskeletal injuries, for which chronic use of Motrin, otherwise known as “ranger candy” or “vitamin M,” is the nontreatment “treatment” of choice.

To help mitigate the rigors of a special operations career, USSOCOM has implemented a program known as the Preservation of the Force and Family to enhance the quality and duration of Operators’ careers. As part of this program, USSOCOM has embedded Physical Therapists, Athletic Trainers, Strength Coaches, Sports Psychologists, and Performance Dietitians within tactical units across the command. These professionals utilize a holistic approach to standardize training, recovery, and preventative care for Operators. The routine interactions that come with being embedded in the unit create relationships, and these professionals are oftentimes trusted confidants who inform the Operator on how to reach their training goals.

The Performance Dietitians, when available, guide the Operators through evidence-based advice on nutrition and dietary supplements. Standardization is hindered by the lack of evidence-based guidelines on supplement use. Policy to recommend the use of legal dietary supplements is also limited due to the lack of evidence to support their use for particular issues. Dietary supplement products are heavily advertised as boosting performance and/or reducing pain, yet these products have little, if any, scientific evidence to support their claims. Despite this, the use of supplements is common among

special operations personnel. In fact, recent estimates show that approximately 55%–76% of Service members use dietary supplements, and the prevalence of use is higher in Operators than in other services [1].

As noted above, musculoskeletal injuries can lead to chronic musculoskeletal pain, and Operators tend to self-manage this pain in order to stay active within their teams and units. Operators typically take nonsteroidal anti-inflammatory drugs (NSAIDs). However, these medications have side effects, including the risk of kidney or liver failure (primarily with chronic use), stomach ulcers, and prolonged bleeding after injury or surgery. Other pain medications would not be advisable (e.g., opioids, membrane stabilizers) as they can affect mental clarity, are addictive, and would potentially take the Operator off the team. Thus, an alternative to NSAIDs and opioid medications, while pursuing adjuncts to traditional treatments, would benefit this community of world-class warriors. One possible solution would be natural products or dietary ingredients, such as food and/or supplements that are cheap, easy to obtain, do not pose a risk to mission-readiness or cause significant side effects.

Within this context, we present a series of articles detailing evidence-based recommendations for specific dietary ingredients that might serve as an alternative approach for mitigating chronic musculoskeletal pain. These articles, published across three issues of *Pain Medicine*, are timely and important. This work attempts to close the gap in knowledge regarding dietary ingredient efficacy and safety, and offers practical, yet evidence-based, recommendations for practice and self-care use.

As part of the USSOCOM's Preservation of the Force and Family Behavioral Health Program, state-of-the-science evidence methodologies were applied to independently evaluate the existing dietary ingredient evidence and provide clear, comprehensive, and unbiased information to Special Operations Forces personnel. A group of stakeholders and subject matter experts with expertise in human performance, nutrition, operational medicine, sports performance, behavioral health, and pain management were convened as the Holistic Evidence Review Board (HERB) to ensure this work addressed a variety of stakeholder needs for evidence-based decision-making to occur. Using a transparent expert panel process, our goal as the HERB was to develop evidence-based dietary ingredient recommendations for guiding clinical practice. An additional goal was to identify future research opportunities. Processes were set in place to manage any individual biases, understand the evidence regarding dietary ingredients, and ultimately make recommendations that might guide clinical practice and policy.

Currently the scientific evidence is not sufficiently robust to put forth definitive clinical practice guidelines, but processes could be put in place for tracking when ingredients with conditional recommendations are used

and for monitoring their impact on pain scores. The Defense Veterans Pain Rating Scale, the accepted Department of Defense tool for monitoring changes in pain [2], coupled with other metrics such as the Pain Assessment Screening Tool and Outcomes Registry (PASTOR) [3], would help build the evidence needed to drive clinical practice guidelines and eventually policy. Until that time, providers at least have the evidence needed to make informed decisions about the safe use of these dietary ingredients that can influence pain for a variety of chronic conditions.

This series of articles details the relevance of this work to USSOCOM Preservation of the Force and Family Programs and provides evidence-based recommendations as well as implications on how evidence-based information might impact policy decisions surrounding the use of dietary ingredients for improving pain and related outcomes. Specifically, this extensive dietary ingredient evidence review is divided into three articles: article 1 (Dietary Ingredients as an Alternative Approach for Mitigating Chronic Musculoskeletal Pain: Evidence-based Recommendations for Practice and Research in the Military) describes the methodologies used and resulting research recommendations and priorities, article 2 (Conditional Recommendations for Specific Dietary Ingredients as an Approach to Chronic Musculoskeletal Pain: Evidence-Based Decision Aid for Healthcare Providers, Participants and Policy Makers) describes evidence-based recommendations made for the use of specific dietary ingredients, and article 3 (Dietary Ingredients Requiring Further Research before Evidence-Based Recommendations Can be Made for their Use as an Approach to Mitigating Pain) describes the ingredients for which no evidence-based recommendations were made. This evidence evaluation process carried out enabled HERB not only to pinpoint the current gaps in the science to develop future research recommendations, but also to make evidence-based recommendations regarding the use of dietary ingredients as a practical and appropriate pain management tool for Special Operations personnel.

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