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Special Operations Nutrition Optimization

Special Operations Nutrition Optimization

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This webinar has been approved to offer continuing education credit. Please stay tuned for more information!

Nutrition for the Tactical Athlete

Spring & Summer 2025

- **Energy Drinks, Dietary Supplements & Operation Supplement Safety**
- **Social Drivers of Health for Tactical Athletes**
- **Special Operations Nutrition Optimization**
- **Engineering Food to Fuel Warfighter Performance**

OneOp.org/series/nutrition-for-the-tactical-athlete

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This material is based upon work supported by the National Institute of Food and Agriculture, U.S. Department of Agriculture, and the Office of Military Family Readiness Policy, U.S. Department of Defense under Award Number 2023-48770-41333.

Today's Presenter

Kelsey Bailey, MS, RD, CSSD, CSCS, IFNCP

Performance Dietitian
B. Well, LLC

Disclosures

I work with Eternal, a telehealth company for athletes.

I consult with Momentous on education development.

Learning Objectives

- Discuss proactive, active, and reactive interventions as they relate to feeding Special Operators.
- Review the impacts of environmental conditions and type of mission on an Operator's nutritional needs.
- Explain the considerations for traumatic brain injury, Operator Syndrome, and environmental exposures in Special Operations nutrition.
- Discuss the important biomarkers to track over time to promote Special Operators' long-term health.

WHERE ARE WE GOING?

.....

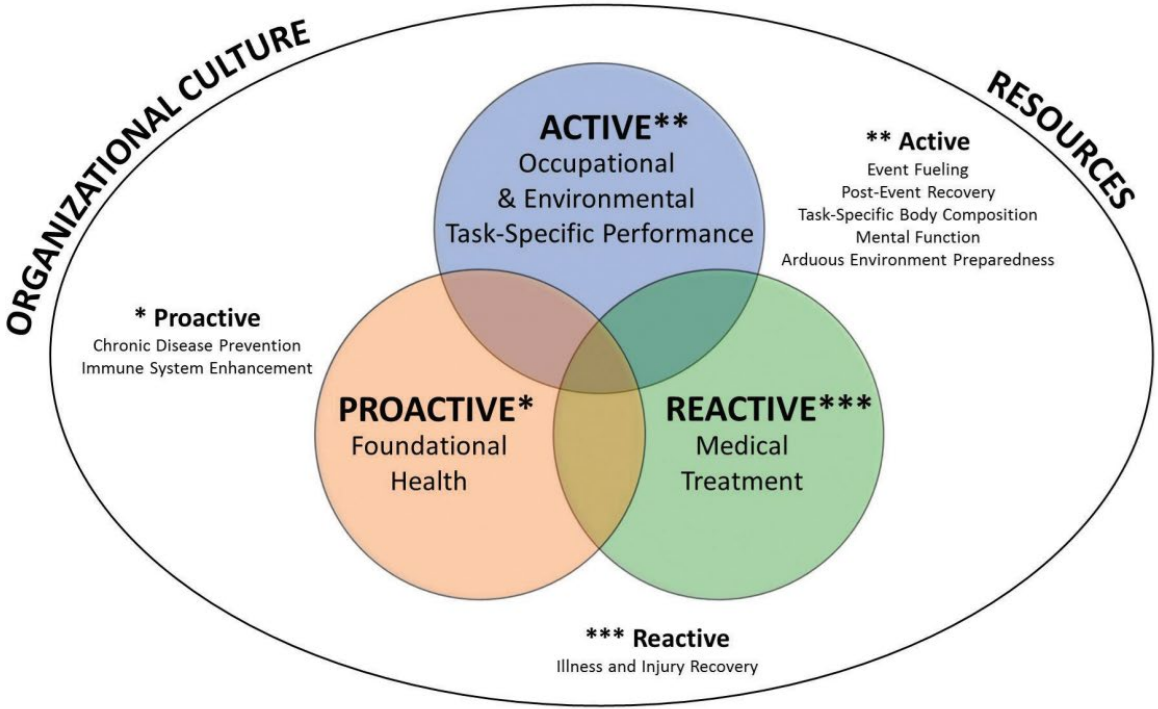
01 | Proactive, Active, and Reactive Care

02 | A Resilient Foundation

03 | Environment & Exposures

04 | What to Track

Comprehensive Performance Nutrition Program Concept



Daigle, et al., 2015

PROACTIVE

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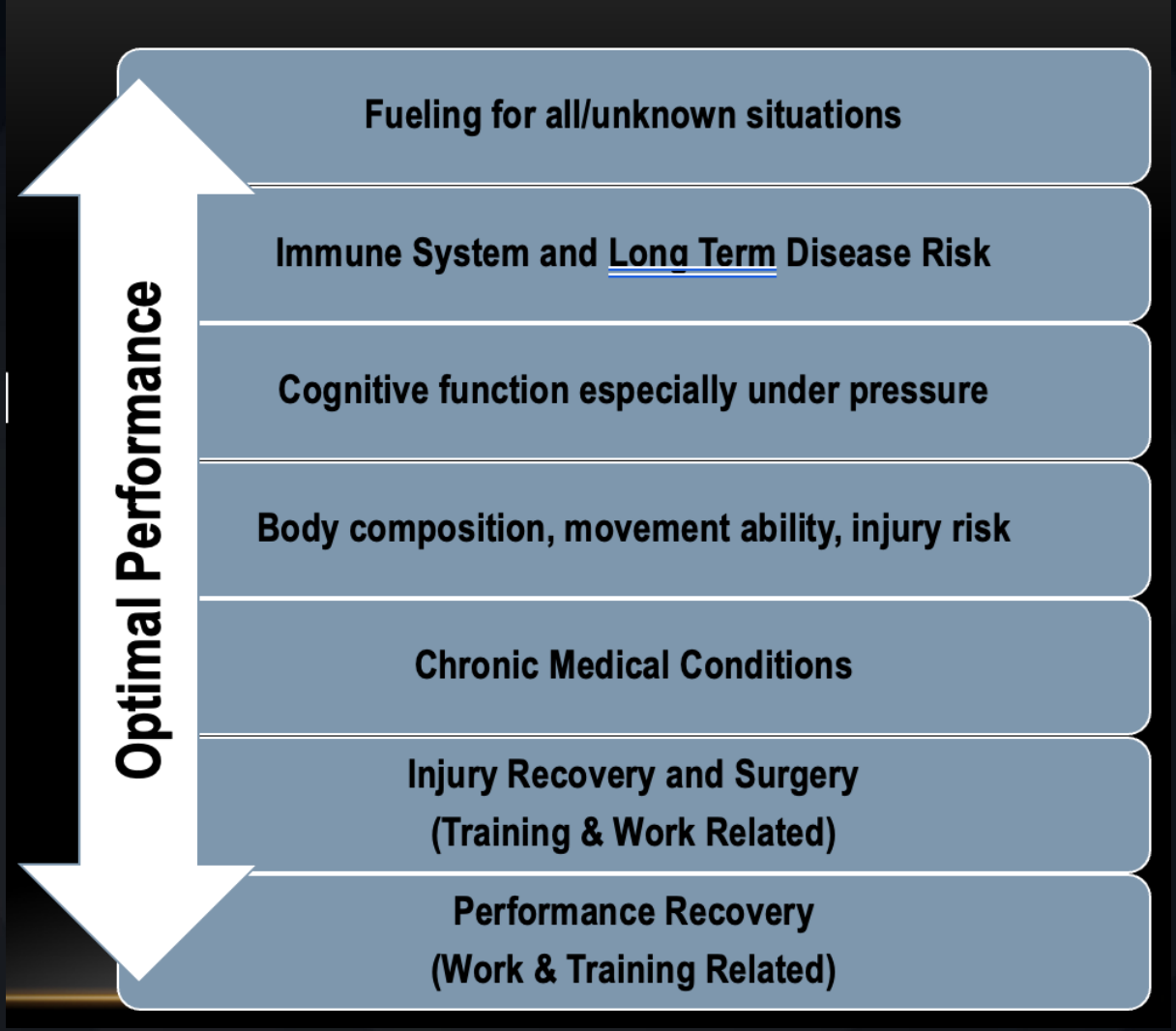
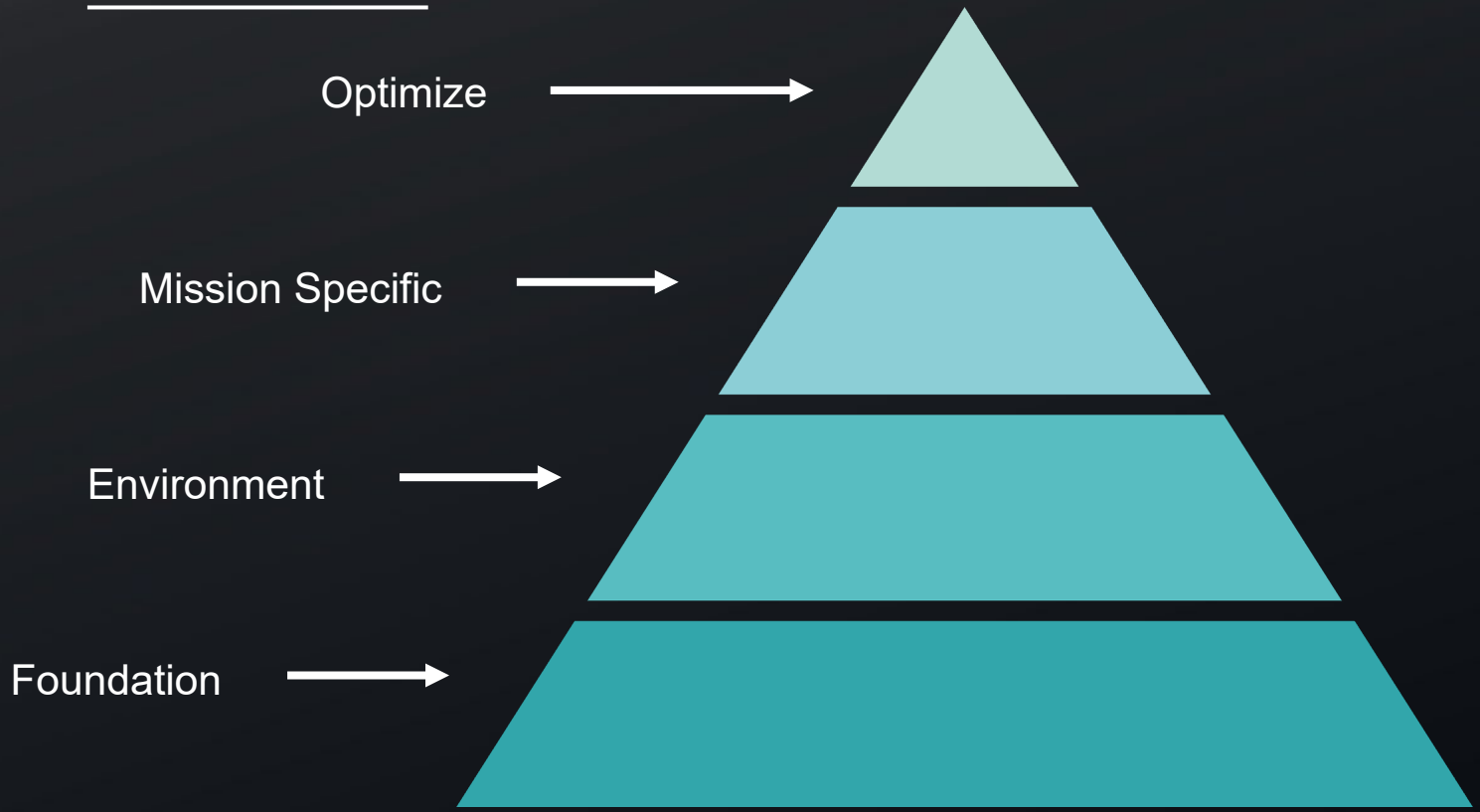

Optimal Performance
Fueling for all/unknown situations
Immune System and Long Term Disease Risk
Cognitive function especially under pressure
Body composition, movement ability, injury risk
Chronic Medical Conditions
Injury Recovery and Surgery
(Training & Work Related)
Performance Recovery
(Work & Training Related)

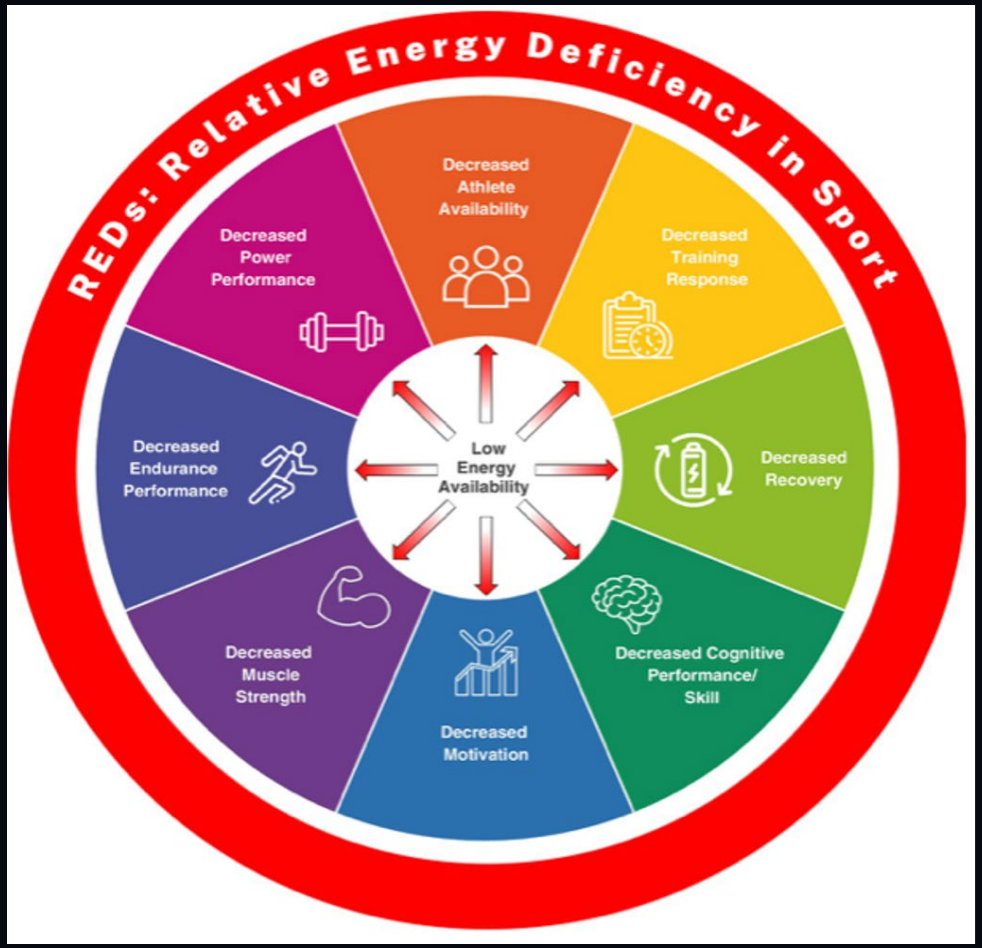
PERFORMANCE PYRAMID



FOUNDATION

You're only as strong as your foundation.

Mountjoy, et al., 2023



Mountjoy, et al., 2023

Open Access Article

Energy Deficit and Factors Associated with Energy Balance during a Combat Deployment in U.S. Army Special Operation Forces Soldiers

by Evan G. Tryon [1,*], Nicholas D. Barringer [2], Harris R. Lieberman [2] and William R. Conkright [1,3]

1 Nutrition Care Division, Madigan Army Medical Center, Joint-Base Lewis M
2 Military Nutrition Division, U.S. Army Research Institute of Environmental M
3 Office of the Surgeon, U.S. Army Special Operations Command, Fort Bragg
* Author to whom correspondence should be addressed.

Nutrients **2024**, *16*(18), 3072; **https://doi.org/10.3390/nu16183072**

Prediction equation for estimating total daily energy requirements of special operations personnel

N D Barringer [1], S M Pasiakos [1], H L McClung [2], A P Crombie [3], L M Margolis [1,4,✉]

Author information · Article notes · Copyright and License information

PMCID: PMC5885383 PMID: 29632452

The current USARIEM study began at the Combat Diver Qualification Course in Key West, Fla. Crombie said preliminary results indicate that service members at that venue needed 4,600 calories a day. Data from Fort Bliss, Texas, and Fort Bragg, N.C., will also be included in the study.

Energy expenditure and intake during Special Operations Forces field training in a jungle and glacial environment

Authors: Caleb D. Johnson, Andrew J. Simonson, Matthew E. Darnell, James P. DeLany, Meleesa F. Wohleber, and Christopher Connaboy | AUTHORS INFO & AFFILIATIONS

Publication: Applied Physiology, Nutrition, and Metabolism • 16 November 2017 • https://doi.org/10.1139/apnm-2017-0622

25 273 GET ACCESS

Tryon, et al., 2024; Barringer, et al., 2018; Johnson, et al., 2018

POWER PLATE

EAT TO FUEL YOUR PERFORMANCE

POWER UP

Increase grains & starchy vegetables to 1/2 of your plate for intense training or operations

STAND DOWN

Decrease grains & starchy vegetables to 1/4 of your plate on easy/rest days or for weight loss

FRUIT
as snack or dessert

WATER OR UNSWEETENED DRINKS
Coffee*, tea*, milk/nondairy milk, 100% juice (limit 4 oz); sports drinks as needed
watch caffeine content

EAT MINDFULLY
- Slow down
- Take smaller bites
- Chew more
- Focus on flavor

BE ACTIVE!
For optimal performance, match your portions with your activity level (this can change day to day)

Adapted from: Team USA's Athlete's Plates
For more information, visit HPRC-online.org/nutrition

USU Uniformed Services University | CHAMP Consortium for Health and Military Performance

HUMAN PERFORMANCE RESOURCES by CHAMP | HPRC-online.org

Human Performance Resources by CHAMP, 2025

FED vs

FASTED

. . . . .

Understand Need

At least 0.5oz / lb body weight, closer to 1:1 for high losses, high training volumes

Understand Losses

Assess sweat rate, aim to keep losses <2% body weight

Understand Environment

Cold, heat, humidity, altitude, gear can all impact sweat losses and fluid demand

https://www.dvidshub.net/image/7993062/macii-match

Scott, et al., 2023

What Can We Do:

Goal: Food and Nutrients and Activities of Daily Living that enhance immune and metabolic resiliency to reverse disease and optimize performance.

WHAT DO YOU RECOMMEND?

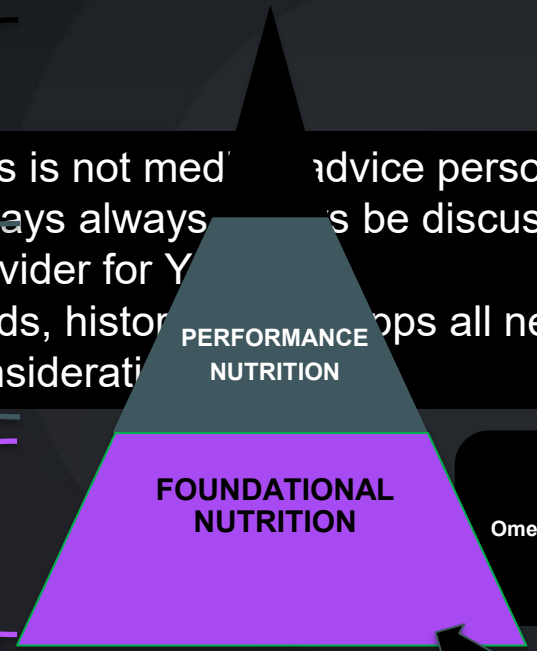
All examples are 3rd party verified

Individualized Specific Needs

Performance Supplements (Mission, training dependent)

Daily Supplemental Needs

This is not medical advice personalized for you and should always always always be discussed with dietitian +/- provider for You. Meds, history, drops all need to be taken into consideration



Daily Multivitamin (Klean or Thorne)
Vitamin D 5000IUs (Klean, Momentous or Thorne)
Omega-3s 2g/day (Nordic Naturals Ultimate Omega Sport, Klean, Momentous, or Thorne)
Probiotics* (Thorne)

START HERE

	BSCG Certified Drug Free	Informed Sport	NSF Certified Sport	USP Verified
Is the product tested for substances prohibited in sport?	Yes	Yes	Yes	No
Is the product tested for contaminants? (e.g., heavy metals, pesticides, etc.)	Manufacturers can pay extra, but not included automatically	Yes	Yes	Yes
How often or which lots of the product have been tested?	Every Lot	Every Batch	Lots Listed on NSF Website	Annually
Is there an app to help choose certified products?	No	Yes	Yes	No

Jagim, et al., 2023; Plotan, et al., 2014; Zapata-Linares, 2024; OPSS.org

AOMD
SUBJECT: Army Special Operations Forces (ARSOF) Performance-Based Menu Standards and Guidelines

menu that fuels ARSOF training and missions, optimizes physical and mental performance, prevents chronic disease, enhances the immune system, supports task-specific body composition, and provides education through environmental modeling.

b. The standards and guidelines delineated within this policy were originally developed in 2012 by the United States Special Operations Command (USSOCOM) Performance Nutrition (PN) Working Group and are in revision to accommodate changes in DoD regulations in accordance with the national nutrition guidelines. The PN Working Group, comprised of performance dietitians of Army, Navy, Air Force, and Marine SOF, will monitor implementation and provide continuing guidance for Performance-Based Menu Standards and Guidelines as required by emerging diet and nutrition science-based evidence.

c. Modified guidelines for boxed cold meals and catering guidelines are outlined in the appendices and throughout this document. These revisions and modifications are required due to the limitations of temperature control, space, and portability for boxed meals, and to provide guidelines for non-military contract food service in support of training events.

d. The goals of the ARSOF Performance-Based Menu Standards and Guidelines are to:

(1) Provide guidance to USASOC DFACs and non-traditional food service support venues on offering a varied, colorful, flavorful, and balanced nutritional fueling program for the needs of ARSOF Soldiers in training and operational missions.

(2) Reduce food costs and waste by utilizing sustainable food preparation practices, reducing pre-packaged convenience food products and replacing them with freshly prepared items or more natural alternatives, serving foods in bulk, and reducing use of individual serving products (PC).

(3) Optimize Soldier physical and cognitive performance, enhance physiological function, strengthen the immune system to prevent chronic and systemic disease, and support appropriate task-specific body composition.

(4) Provide Soldier training and education on the benefits of optimal diet and nutrition in support of performance, recovery, and longevity.

DFACs

Army Special Forces Operations (ARSOF), 2018

ACTIVE

THE FIELD

Prepared for any and all extreme conditions

EXTREME COLD
ALTITUDE

EXTREME HEAT
DESERT

WATER OPERATIONS
SUBMARINES

HUMIDITY
HEAT
JUNGLE

FUELING AND PREPARATION

Preparing for the known and unknown.

Understand Environment

Environment
Gear
Packing in

Understand Fueling and Hydration Options

MREs
Feeding in garrison and deployed dining facility (DFAC), hunting, access to fresh foods

"Food is a tactical weapon."
-Nutritional Guidance for Military Operations in Temperate and Extreme Environments
USARIEM TECHNICAL NOTE TN-01/4

U.S. Army Research Institute of Environmental Medicine (USARIEM), 1993

Failing to plan is planning to fail.

Limit Liabilities

Will items melt, freeze
Do Special Operators consume provisions?
Timing of training or mission (pre fuel, options during, estimated duration, etc.)

Support Mission Readiness

Strong foundations create the basis for success in times of unknown fueling

ENVIRONMENTAL EXPOSURES

Modern day exposures are high. They're even higher in the military.

Heavy Metal

Guns
Ammo
Smoke

Blasts

Explosives
Guns

Pollution

Burn Pits
City Pollution
Fire

Food and Water

Plastics
Contaminated Food
Contaminated Water

Geretto, et al., 2021

GUT MICROBIOME

Building Up Defenses

Food and Water

Blast Exposure

Travel

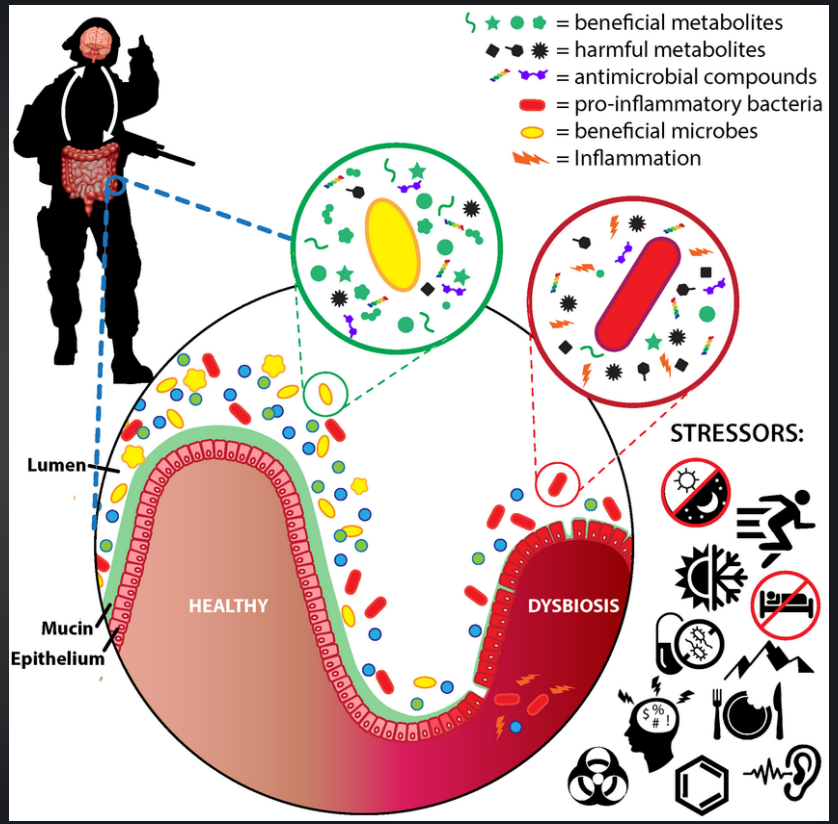
Stress

Extreme Temperatures

Sleep Deprivation

Physical Demand

Altitude



Karl, et al., 2018

REACTIVE

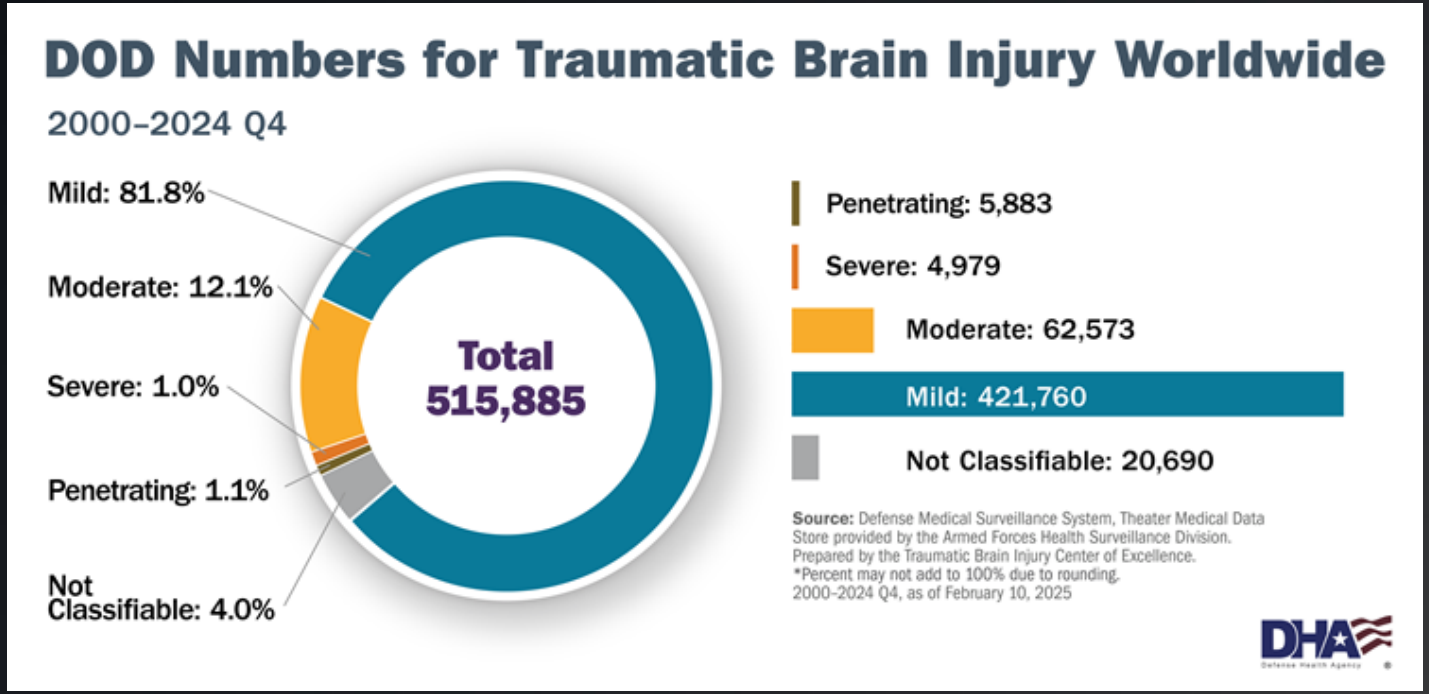
. . . . .

INJURY

Goal to return to duty as efficiently and safely as possible.

SOFT TISSUE	1	Tendon Ligament Muscle Sprain/Strain
BONE	2	Stress Fracture Break Location/Severity
NERVE	3	Impinged Limb loss
BRAIN	4	Traumatic Brain Injury Blast Exposures

TRAUMATIC BRAIN INJURY



Defense Health Agency, 2025

Nutrition

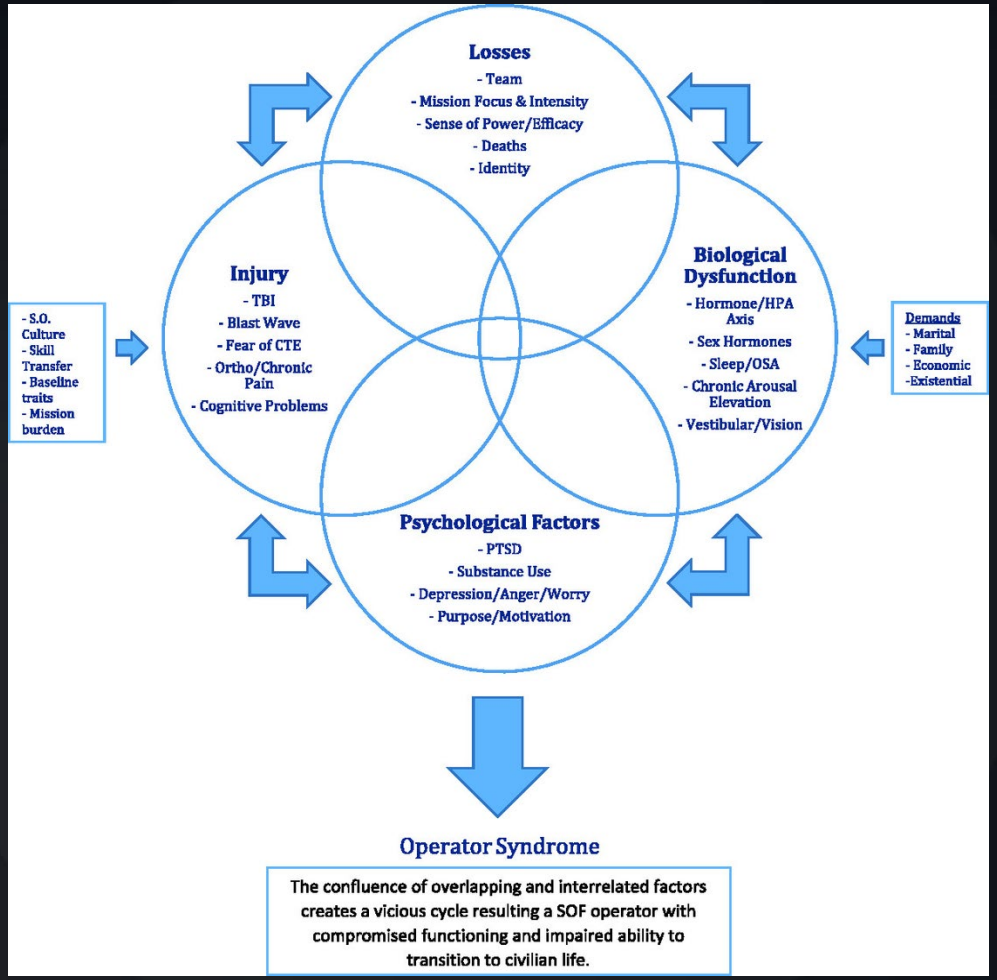
- Personal Protective Nutrition
- Anti-inflammatory Nutrition

Supplementation

- Omega-3s
- Creatine
- Vit D
- B12

Recovery Considerations

- Gut Health
- Metabolic Support
- Inflammation Management



Frueh, et al., 2020

ALLOSTATIC LOAD

Lee, et al., 2014

LABWORK

Check ‘under the hood’

CMP, CBC, Lipid Panel, Metabolic Panels, Thyroid Panels

General Health
Prophylactic Screening
Female Considerations

Performance - related labs —same as proactive + hormone panel + iron markers, muscle markers

Pre/Post Deployment
Prior to large trainings
Considerations for iron prior to altitude work

Monitoring a particular disease state or clinical condition

Cardiovascular Disease
Diabetes
Thyroid Disease
Hormone Dysregulation


Nutrition
Wheel

You’re Worth It

THANK YOU

QUESTIONS!

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Upcoming Event

Engineering Food for Warfighter Performance

July 30, 2025

In operational settings, military service members consume rations that support and sustain warfighter performance in potentially very austere environments. Rations must be shelf stable for 1.5-3 years, withstand environmental conditions, be transportable through a variety of methods, resistant to contamination and safe to consume, contain optimal nutrition, and taste good. The Combat Feeding Division, part of the Army's Combat Capabilities Development Command (DEVCOM) executes the joint Combat Feeding Research & Engineering Program to provide all services with solutions to constantly evolving field feeding challenges. This presentation will discuss current fielded operational rations as well as active areas of research & engineering to meet future challenges.

Continuing education credit will be available for this session!

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This webinar has been approved for 1.0 continuing education (CE) credits by the following organizations:

- Commission on Dietetic Registration (CDR)
- American Association of Family and Consumer Sciences (AAFCS) for CFCS and CNWE
- National Commission for Health Education Credentialing (NCHEC)
- Certificates of attendance are also available

Evaluation Link

Go to the event page for the evaluation and post-test link.

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