

Optimizing Warfighter
health and performance
through biomedical
research

Location

USARIEM is co-located with Soldier Systems Center in Natick, Massachusetts. Located a short distance from Boston, the institute has unique facilities and is in close proximity to many of the finest universities and medical research centers, enabling collaborative efforts.

Unique Facilities

Climatic Rooms
-10°C to 50°C

Hypobaric Chambers
9,000 meters,
-15°C to 40°C

Doriot Climatic
Chambers
-57°C to 74°C

Physiology,
Biochemistry, &
Molecular Laboratories

Water Immersion
Lab
5°C to 41°C

AAALAC Accredited
Animal Facility

Pikes Peak High Altitude Research Laboratory
14,115 feet above sea level



**Wherever Warfighters Go...
USARIEM is With Them**

Partnering Globally

USARIEM collaborates globally with academia, industry, and other federal and DOD organizations. Our partners benefit from our unique facilities and extensive experience in field and laboratory studies. Our collaborations aid our transitions of our scientific research findings to the Warfighter. USARIEM biomedical research provides validated solutions for mitigating injuries and optimizing physical and cognitive performance in austere environments.

For more information on partnering with us:
<https://usariem.health.mil/index.cfm/partnering>

For more information on how to work with us:
<https://mrdc-npi.health.mil/>

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**U.S. Army
Research Institute of
Environmental Medicine**

The U.S. Army Research Institute of Environmental Medicine

is a subordinate command of the U.S. Army Medical Research and Development Command, under the Army Futures Command. USARIEM is the Army's lead research component for transformative Warfighter initiatives focused on optimizing and enhancing Warfighter physical and cognitive performance in all environments.

For more than 60 years, we have conducted research on Warfighter health and performance using

basic science, applied laboratory, and field-based approaches. USARIEM supports Warfighter readiness, physical and cognitive performance, and lethality, establishing competitive overmatch with peer/near-peer adversaries.

The Institute is organized into three research divisions: Military Nutrition, Military Performance, and Thermal and Mountain Medicine.

Focus on Four Cross-Institute Initiatives

Arctic
Medicine

Female Warfighter
Health &
Performance

Data Science,
Artificial Intelligence
/Machine Learning

Neurocognitive
Optimization in
Austere
Environments

Military Nutrition Division

Our Military Nutrition Division conducts nutrition research that provides the biomedical science basis for developing new rations, menus, policies, and programs to enable Warfighter readiness, optimize performance, and enhance lethality. MND defines the physiological nutrition requirements of Warfighters and assesses interventions that optimize and enhance Warfighter performance.

MND focuses on:

- Performance and recovery nutrition
- Assessment of Warfighter eating behavior
- Development of next generation ration items
- Harnessing the microbiome to optimize and enhance performance
- Characterization of dietary supplement use by military personnel
- Establishing the link between nutrition, diet quality, and physiological resilience



Military Performance Division

Our Military Performance Division provides relevant, scalable, evidenced-based solutions to optimize Warfighter readiness and performance in all environments.

The MPD core research focuses on:

- Physical and cognitive/neurological performance optimization
- Musculoskeletal injury reduction,
- Biomechanics
- Strategies to facilitate rapid and effective return-to-duty following injury sustainment
- Epidemiology using the Soldier Performance and Health Readiness data repository

With this expansive multi-disciplinary expertise, the MPD is routinely involved in the development, analysis, and evaluation of Army initiatives and policies aimed at Warfighter readiness, performance optimization, and injury reduction.

Thermal and Mountain Medicine Division

Our Thermal and Mountain Medicine Division supports Warfighter health, readiness, and the military materiel development of clothing, equipment and interventions. TMMD conducts research to sustain and enhance Warfighter performance and minimize medical risks associated with military operations at environmental extremes, including hot, cold, high-terrestrial altitude, and subterranean environments.

TMMD research expertise encompasses:

- Thermoregulatory & exercise physiology
- Clothing biophysics
- Biomedical modeling
- Decision aids
- Algorithms
- Mission planning tools

