NAVY MEDICINE

WORLD-CLASS CARE...ANYTIME, ANYWHERE

NAVAL MEDICAL RESEARCH UNIT DAYTON

The Naval Medical Research Unit Dayton (NAMRU-D) is a major DoD medical research laboratory and subordinate command to Naval Medical Research Center (NMRC). NAMRU-D conducts aerospace medical and environmental health effects research to enhance warfighter health, safety, performance, and readiness. The research conducted at NAMRU-D addresses identified Fleet needs, and results in products and solutions ranging from basic knowledge, to fielded technologies.

MISSION

To maximize warfighter performance and survivability through premiere aeromedical and environmental health effects research by delivering solutions to the Field, the Fleet and for the Future.

VISION

By working with military, government, academic and industry partners, we will develop innovative solutions for the aeromedical and toxicology threats faced by our Navy and Marine Corps.

LEADERSHIP

CAPT Rees L. Lee
Commanding Officer

CDR William R. Howard
Executive Officer

SCIENCES

Aeromedical Research Directorate
- Acceleration & Sensory Science Department
- Biomedical Sciences Department
- Engineering & Technical Services Department

Environmental Health Effects Research Directorate
- Inhalation Toxicology Department
- Environmental Toxicology Department

Join the Conversation: @navalmedicalresearchunitdayton

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Examples of Prior Research

Aeromedical Research Directorate

Hypoxia Laboratory

(A) Development, test, and evaluation of in-flight physiologic sensors for detection and mitigation of hypoxia and other physiologic events in flight, and (B) Effects of hypoxia on pilot performance, including post-event recovery.

Fatigue Laboratory

Fatigue countermeasures research on (A) Individual differences in response to Modafinil and (B) evoked potential latency responses to sleep loss.

Motion Sickness Laboratory

Projects include (A) Pharmacokinetic & Efficacy Profile of Low-Dose Intranasal Scopolamine (B) Effects of Active Behavior vs. Passive Kinesis on Motion Sickness (C) Evaluating Simulator Sickness in Mixed Reality Environments

UAS Personnel Selection

Developing and validating selection tests for unmanned aircraft systems (UAS) pilots.

Spatial Disorientation

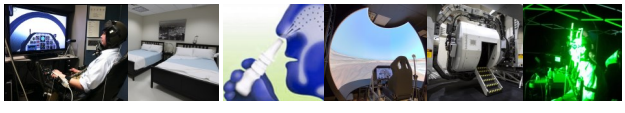
Produce and test pilot spatial disorientation training and is transitioning products to the Fleet for operational use.

Disorientation Research Device (DRD): The Kraken

DRD is capable of realistic simulation of aviation or other dynamic environments with man-in-the-loops control, manual control or programmable device motion. Simultaneous motion in six degrees of freedom.

Vision Sciences Laboratory

Projects include (A) Validation of Computer-Based Color Vision Tests for Naval Aviation (B) Laser Veiling Glare and Laser Eye Protection (C) Impact of Low-level Neurotoxin Exposure on Aircrew Performance



Environmental Health Effects Research Directorate

Particulate Matter Program

(A) Desert Sand (PM2.5) & Burn Pit Emissions (B) Nanomaterials (C) Fire Extinguishing Powders

Aerosol Inhalation and Pharmacokinetic (PBPK) Modeling

(A) Polyalphaolefin [PAO] Fluid (B) PBPK Model Development of NTO and DNAN

Advanced Applications Using Inhalation

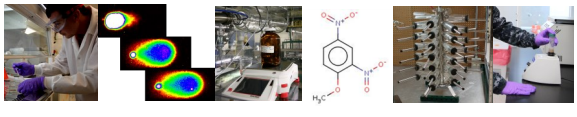
(A) Toxic Load Modeling (B) Inhalation at Altitude

In Vitro Toxicology Program

Assessments of (A) Genotoxicity; ames, comet, micronudeus assays (B) Assessment of cytotoxicity with various relevant animal and human cell lines (C) Mechanism of action determinations (D) Unique exposures for cell lines and tissue models

Submariner Health Program

(A) Health Effects of Submarine Atmospheres (B) Reproductive and Developmental Health

Recent Risk and Safety Evaluations

(A) Assessing the Cancer and Non-Cancer Risk for RDX (B) Developing Safe Exposure Limits for Pressurized Recue Models