Naval Medical Research Unit Dayton

**Mission:**
To maximize warfighter performance and survivability through premier aerospace medical 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 environmental health threats faced by our Navy and Marine Corps.

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**Investigators**
- Dr. Lynn Caldwell
- LCDR Dustin Huber, PhD

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**Fatigue Assessment and Countermeasures Laboratory**

- **Differential Effects of Modafinil**
- **Using Event-related Potentials**
- **Effects of Strategic Napping and Modafinil**
- **Research Polysomnography Lab**

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**Differential Effects of Modafinil on Performance of Fatigue-Susceptible and Fatigue-Resistant Individuals**
Comparison of fatigue-susceptible individuals to fatigue-resistant individuals to determine whether modafinil affects performance differently in these two groups. JPC-5 sponsored.

**Using Event-related Potentials to Quantify the Impact of Sustained Wakefulness and Fatigue Countermeasures on Cognitive Processing**
Examination of how auditory P300 event-related potential component peak amplitude and latency vary with human performance metrics traditionally used to assess cognitive attributes of sustained wakefulness, to include stimulus evaluation and response selection. JPC-5 sponsored.

**Effects of Strategic Napping and Modafinil**
Examination of whether combination of short naps and low doses of the anti-fatigue medication modafinil (ProvigilTM) can reduce the severity and duration of sleep inertia and improve performance during long hours of wakefulness. Collaboration with 711 HPW; JPC-5 sponsored.

**Research Polysomnography Lab (Sleep Lab)**
Two bed unit with ability to monitor brain waves & other physiologic functions of both subjects simultaneously.

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**One of the two bed units in the NAMRU-D state-of-the-science Sleep Lab.**

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**Polysomnographic recording used to assess effects of countermeasures on sleep.**