

Sleep Patterns and Fatigue Among U.S. Navy Sailors:

Working the Night Shift During Combat Operations

Aboard the USS STENNIS During *Operation Enduring Freedom*

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Following the terrorist attacks on 9/11, the U.S. Navy deployed carrier battle groups off the coast of Afghanistan to support *Operation Enduring Freedom*, a military operation designed to destroy the terrorist training camps in that country and to rout out terrorist elements. For safety considerations at the beginning of this “War on Terror”, the majority of air missions were flown at night to avoid small arms fire. On the USS JOHN C. STENNIS, the work schedules of the entire crew were inverted from day to night to support night flight operations of her aircrew.

This study assessed the sleeping habits of US Navy personnel working on an inverted work/rest schedule, awakening at 1800 and going to bed at 1000. From 01-04 February 2002, data were collected on 28 enlisted sailors including actigraphy, reported sleep and fatigue ratings, and oral temperatures. At the time of the study, participants had been on this inverted sleep schedule for approximately 30 days. Results showed that there were substantial differences in the quality and quantity of sleep among sailors aboard the USS STENNIS. There was a significant difference between the sleep obtained by sailors who worked topside versus those working belowdecks. Individuals working topside got much less sleep on average compared to those working belowdecks. In addition, the sleep of individuals working topside was more fragmented suggesting that light exposure prior to rack time may interfere with both quantity and quality of sleep. This finding is consistent with the scientific literature on light exposure and the inhibition of the release of melatonin. Nearly half of the study participants reported that they had not adjusted to this inverted schedule. Given the enormous responsibility, fast pace, and personal costs associated with modern combat operations, strategies to manage fatigue and sleep patterns must be closely examined.