

# Surface Warfare

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DIGITAL FEATURE

## COMNAVSURFPAC SLEEP STUDY IMPROVES WARFIGHTING READINESS

*SAN DIEGO (June 07, 2021) – A Sailor enjoys some momentary relaxation in his bunk aboard the amphibious transport dock ship USS Anchorage (LPD 23).*

*Photo by Mass Communication  
Specialist 1st Class Julio Rivera*





Photo by Mass Communication Specialist  
3rd Class Isaak Martinez

# COMNAVSURFPAC SLEEP STUDY IMPROVES WARFIGHTING READINESS

Story By  
Commander, Naval Surface Force,  
U.S. Pacific Fleet Public Affairs

The CREW sleep study program utilizes wearable devices such as a ring by Ōura to monitor Sailor activity levels, their quality of sleep, and the wearer's general well-being. Some of it's pertinent features include: Heart Rate Variability (HRV), Respiratory Rate, Body Temperature, Light, Deep and REM Sleep.

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- Captain (retired) Kevin “Bud” Couch

The Surface Force is waking up to a new understanding – quality sleep at sea lends itself to good Sailor health and performance. While heavy-eyed Sailors think there is a point of pride in sleep-depriving themselves, a wake-up call is necessary. Making time for sleep is not seen as a sign of weakness and there is no perceived badge of honor for forgoing shut-eye in favor of long underway workdays. From Mediterranean sunrises to South Pacific sunsets, adventure is an everyday experience while deployed. Being a Navy Sailor allows you to see the world from a unique perspective that relatively few get to experience. But living aboard a ship comes with its own unique challenges, especially when it comes to catching some Z's. To address this, the Surface Warfare community has placed a premium on a good night's sleep by implementing watchbills and duty rotations to complement circadian rhythms or natural sleep cycles that will be tracked in real-time. Life at sea is a grind, packed daily routines and high operational tempos that often come at the sacrifice of sleep. This leads to crew fatigue, which can cause problems with health, performance, and relationships. To understand how poor sleep can affect Sailors, last year the Surface Force began asking Sailors about the factors that impact crew endurance. So far, they've received answers from about 16,000 Sailors.



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*– Hull Maintenance Technician 2nd Class Alexandra Kleist*

“Our surveys clearly show that folks are committed to getting things done over the course of the day,” said Capt. (retired) Kevin “Bud” Couch, director of operational safety at Commander, Naval Surface Force, U.S. Pacific Fleet. “From one perspective it’s the idea that ‘if there’s more to do, I’m going to do it now.’ That is part of a cultural thing.”

The “can-do” attitude of shipmates who want to push through their work without sleep can be seen as admirable in necessary circumstances but sacrificing one’s mental and physical health should not be considered the Navy standard.

“In addition to just going to work and doing things such as fixing pumps and engineering, those people also have to stand an additional watch that is related to equipment, supervision or sailing the ship safely,” said Couch. “Everybody’s got at least two things that they’re going to do each day – one sort of internal to the ship maintenance and administration. And the other one related to watch.”

In March 2021, in close partnership with the Naval Health Research Center (NHRC), the Surface Force implemented a Crew Readiness, Endurance, and Watchstanding (CREW) program to monitor key health indicators of underway Sailors. That way, shipmates will know when it’s necessary to head back to their stateroom or berthing before the ship’s readiness can be compromised.



*Photo by Mass Communication Specialist  
3rd Class Isaak Martinez*



*Photo by U.S. Navy*

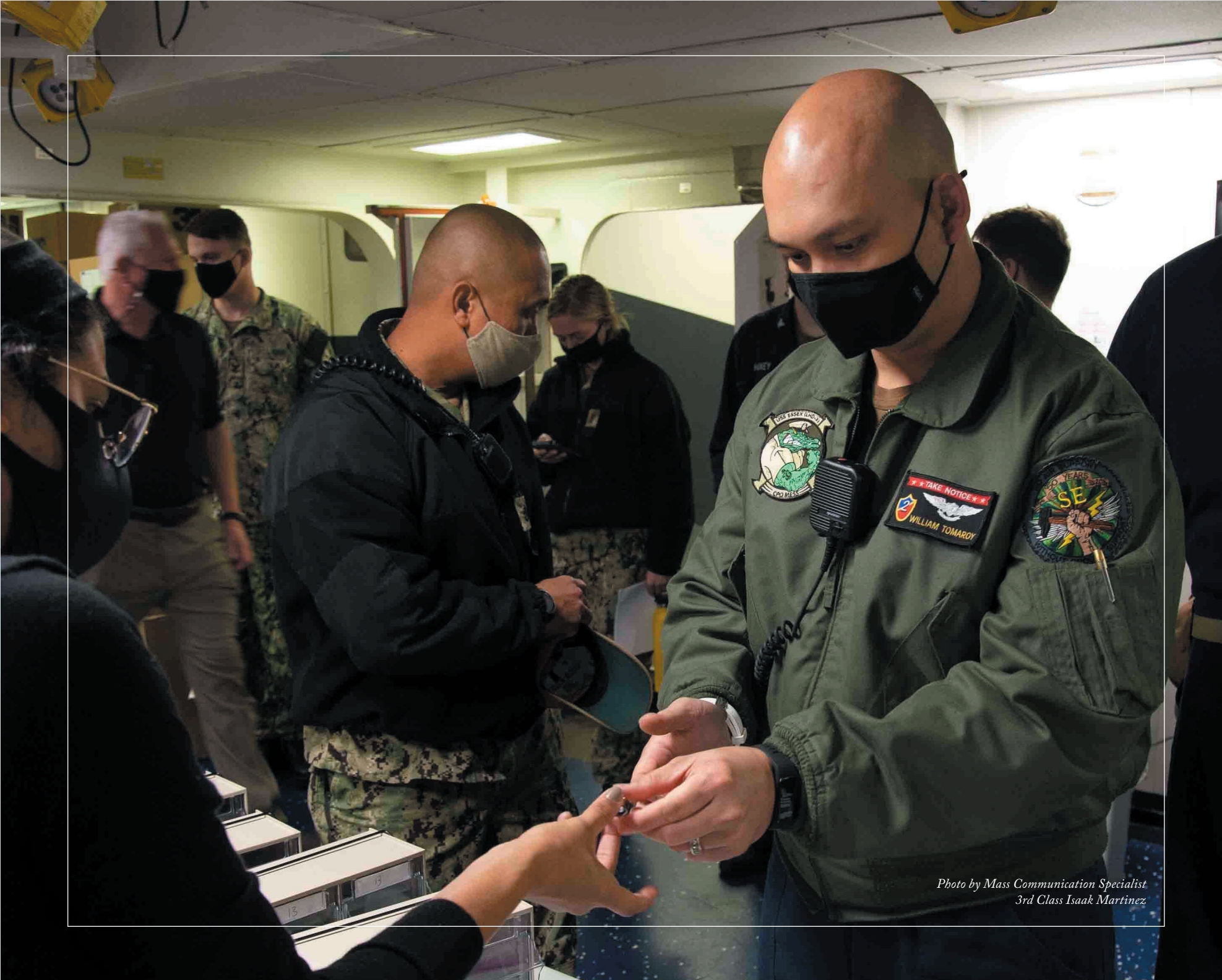


*Photo by Mass Communication Specialist  
3rd Class Mark Alvarez*



*Photo by Mass Communication Specialist  
3rd Class Isaak Martinez*





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**THE CREW PROGRAM USES DATA FROM THE WEARABLE DEVICES TO PAINT A DAILY PICTURE OF CREW READINESS BY CREATING OPERATIONAL DASHBOARDS WHERE INFORMATION, FROM INDIVIDUALS OR THE ENTIRE CREW, CAN BE VISUALIZED BY A COMMANDER.**

*- Rachel Markwald, Ph.D*

“The CREW program uses data from the wearable devices to paint a daily picture of crew readiness by creating operational dashboards where information, from individuals or the entire crew, can be visualized by a commander. These dashboards serve as a decision support tool and help identify conditions where there may be an elevated risk to crew endurance due to extensive sleep deficiency and physiological stress,” said Rachel Markwald, Ph.D., the NHRC principal investigator for the CREW program.

The data will also be fed into a new watchbill application that has the capability to analyze fatigue, providing important information to help leaders detect and proactively reduce operational fatigue risk.

The CREW team recently collected data from hundreds of Sailors aboard USS Essex (LHD 2) while underway. Those who volunteered wore a ring and bracelet for about two weeks and completed brief daily assessments. The CREW team received positive feedback from these Sailors and command leadership.

“In [the] engineering department, we work long hours on top of the watches we stand underway and operate heavy machinery,” said Hull Maintenance Technician 2nd Class Alexandra Kleist, an Essex crew member. “We are always working on big jobs to ensure the ship functions at the highest possible level. I think that if the Navy sees how much sleep we are getting and how much that can impact the ship and safety of its Sailors, hopefully they can implement changes for the future.”





Markwald says that part of the CREW program is to provide feedback to Sailors on their sleep and health data.

“Providing this feedback along with sleep health education, which takes into account their operational environment and mission, will be important to help shape a culture that values the importance of sleep and makes it a priority,” added Markwald.

The CREW team will continue to collect data this summer while underway aboard two destroyers, one guided-missile cruiser, and one littoral combat ship to ensure that data reflecting each platform’s ecosystem is captured.

Although the Navy is still in the beginning phases of executing CREW, the Surface Force is actively undertaking multiple efforts to improve crew endurance in order to have well-rested, healthy, combat-ready crews who are ready to fight our nation’s foes instead of fatigue. ⚓