

# The Magic Pill

Fixing our unhealthy and counterproductive approach to sleep

by Maj Nathan A. Wood & LtCol Matthew J. Kutilek

**W**hat if we told you there was a magic pill that would make Marines happier, more productive, more alert, and less prone to error; boost their testosterone levels, improve their athletic performance, speed their recovery, and make them more injury resistant; reduce their susceptibility

*“Keep him under a strain and wear him down.”*

—Sun Tzu<sup>1</sup>

to post-traumatic stress disorder and enhance their psychological resiliency, thereby decreasing the likelihood they will become depressed or commit suicide; improve their body composition, revitalize their microbiome, fight obesity, and strengthen their immune system; and extend their lifespan?<sup>2</sup> What if we told you the pill would almost certainly increase the likelihood they will reenlist, hold a favorable view of the Service, and make a career of the Marine Corps? Believe it or not, such a thing already exists—it is called sleep.

However, the Marine Corps’ approach to sleep—its “sleep culture”—is grossly unhealthy and counterproductive, even deadly. Instead of embracing sleep, Marines are indoctrinated to scoff at it.

The Marine Corps must drastically overhaul its sleep paradigm by prioritizing and ensuring Marines get more sleep. The Marine Corps has always prided itself on its high standards. When it comes to sleep, we need a new standard of excellence: not how little one can get by with, but how much one can get.

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## Our Scornful (and Dead Wrong) Approach to Sleep

The prevailing Marine Corps attitude toward sleep is that it is an unnecessary luxury, an unwelcome physical urge that should be resisted and tamed through willpower and sheer motivation. Oftentimes Marines will hear, “Sleep is a crutch,” “I’ll sleep when I’m dead,” “Sleep is for the weak,” “If you wanted to sleep, you should’ve joined the Air Force,” or “You’re not getting paid to sleep.” This all too familiar false bravado, common across the ranks, re-

benefits of sleep—it is now an undisputed fact humans require seven to nine hours of quality sleep every night in order to function optimally. Beliefs to the contrary are not only wrong but counterproductive.

Any student of military history knows this to be true. For instance, examine Marathon, Agincourt, Waterloo, and Gettysburg; the course of each was altered by sleep or lack thereof. Indeed, it is difficult to think of a major battle in which sleep and fatigue did *not* play a decisive role. Military historian Douglas

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flects the intense social pressure within the Marine Corps to forego sleep. The logical (and dangerous) result is an institutional culture in which sleep is scorned, those who sleep are shamed, and those who (appear) to thrive without sleep are idolized. Real leaders do not need sleep, or so Marines are led to believe.<sup>3</sup>

To put it plainly, the Marine Corps is dead wrong when it comes to sleep: Marines do need it, indeed far more than they typically get. The opening sentence of this article reflects the consensus in the medical, scientific, and academic communities regarding the

Southall Freeman often wrote and spoke about the impact of sleeplessness during the Civil War. His theory of “fifth-day fatigue” still rings true:

[A]lmost without exception, if soldiers are given even five hours sleep in twenty-four, they are good for active combat until the fifth day. On the fifth day, so far as my study shows, with almost uncanny certainty they will crack.<sup>4</sup>

Or take *The Anatomy of Courage: The Classic WWI Account of the Psychological Effects of War* by Lord Moran, later to become Winston Churchill’s doctor. Published in 1945, the book is an



**Laki, Afghanistan, 25 February 2010. After 40 hours of continuous combat operations, during which they had to carry two of their fellow Marines killed in a blast eight kilometers back to this small uncovered patrol base. This platoon of Marines was physically and mentally drained—ripe conditions for the germination of PTSD. Drawing on the sleep-related insights of *The Anatomy of Courage*, the company commander, then-Captain Kutilek, decided to drastically reduce the watch and accept the increased risk of an undetected attack in order to maximize the uninterrupted sleep opportunity for his Marines. The platoon ended up sleeping for thirteen hours. While his decision likely would have been criticized by his OCS, TBS, and EWS instructors—not to mention his peers—there is little doubt Lord Moran would have approved. (Photo by author.)**

account of the psychological effects of World War I on British soldiers (today what we might think of as post-traumatic stress.) Moran wrote,

The moral fiber of the soldier, the sailor, and the airman is stretched by the same conditions—by loss of sleep and by fatigue ... An experienced station-commander knows that eight hours of sleep are worth a glut of talk ... It is part of his faith that as long as a man sleeps he will not break; so he spaces the sorties of his pilots.<sup>5</sup>

But if scientists, doctors, and historians are not enough to convince you, just ask an aviator—pilots long ago figured out the importance of sleep. Aviation regulations not only encourage sleep but mandate it. From the *Naval Air Training and Operating Procedures Standardization General Flight and Operating Instructions*, better known as the NATOPS:

[Crew rest] shall include an opportunity for eight hours of uninterrupted sleep time for every 24-hour period

[and] crew shall not be scheduled for continuous alert and/or flight duty (required awake) in excess of 18 hours.<sup>6</sup>

### Fixing A Broken Sleep Culture

Marine leaders should take the following steps in order to fix this self-inflicted problem: *Acknowledging the Marine Corps has a sleep problem and that sleep is a biological necessity rather than an*

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*annoyance that can be overcome.* It is time to do away with the false and dangerous bravado. All Marines require seven to nine hours of sleep each night—period. Those who insist otherwise should not be celebrated for their toughness; rather, they should be educated and, if necessary, marginalized. Sleeplessness should

no longer be viewed as macho but rather as foolish and dangerous. We should replace “I’ll sleep when I’m dead” with a new motto: “I’ll sleep as much as I can because other Marines depend on me to be at my best.”

*Thinking in terms of “sleep casualties.”* The Marine Corps pays an inordinate amount of attention to identifying and preventing heat casualties. Indeed, every Marine knows how to recognize and treat heat injuries. Yet, the organization does little to identify and prevent sleep casualties, which are just as real, almost certainly more prevalent, and likely more dangerous and deadly. The use of the term sleep casualty will emphasize “that sleep-related performance decline does not reflect weakness or a lack of discipline but, rather, a failure to meet a basic biological need.”<sup>7</sup>

*Conceiving the significance of sleep like nutrition, rather than exercise, and doing away with the myth that the ability to go without sleep can be improved.* Most Marines probably think of sleep like exercise: they can get better at operating without sleep by practicing doing so. But that is not how it works. Rather, sleep is far more like nutrition: no matter how hard you try, you simply cannot train your body to get better at operating on junk food. The same is with sleep. Sleep deprivation is the equivalent of subsisting on McDonald’s and should be unacceptable in a performance-driven organization like the Marine Corps.

*Mandating the collection of sleep data by unit leaders and medical staff.* There are a number of high-quality and inexpensive sleep-tracking applications and devices. Imagine a Corps in which every Marine was required to use one.<sup>8</sup> Each morning, unit commanders, their medical staff, and their force fitness instructors would receive a sleep report containing holistic sleep data for every Marine in their units. Rudimentary data analysis could reveal individual and organizational trends and flag Marines in need of medical or leadership intervention. Commanders at higher levels would receive reports on the average sleep performance of their subordinate units. The aggregated data of units across the force will enable the

Marine Corps to conduct studies on the correlation or causation relationship between sleep and the many issues that continue to plague the organization, among them vehicle accidents, suicide, domestic violence, and deployability. In combat, sleep data might help commanders anticipate the culminating points of their units.

*Setting the example through sleep transparency and accountability.* Imagine a Corps in which commanders publicly posted their own sleep data so their Marines could see they, too, were prioritizing sleep and giving themselves an adequate rest opportunity. This “sleep transparency” by senior leaders will make it easier for Marines further down the chain of command to overcome the current stigma associated with sleep. It will not only set the standard but also hold senior leaders accountable for getting adequate sleep, lest they appear hypocritical.

*Encouraging the prescription of sleep by medical staff and the issuing of “sleep opportunity orders” by commanders.* Imagine a Corps in which a unit’s doctor could write a sleep prescription for an ailing Marine. Further imagine, should the Marine fail to sleep the prescribed amount (as revealed by his sleep data), the unit commander could order the Marine to give himself an eight-hour rest opportunity in a sleep-conducive environment. Such practices will almost certainly reduce the use of so-called “sleep aids” such as Ambien and Lunesta, which do not induce natural sleep and have numerous harmful side effects.<sup>9</sup>



**Anna, Iraq, 16 September 2004.** After 24+ hours of continuous operations, including an all-night cordon and search, the 19-year-old driver of this vehicle should have been allowed—indeed, been required—to sleep. Instead, the battalion operations officer ordered him over the objection of the platoon commander to head back outside the wire in order to investigate “suspicious activity” as part of a four-vehicle patrol. Thirty minutes after departing the base, the driver fell asleep, overcorrected, and rolled the vehicle. The turret gunner’s head was nearly crushed and every occupant was injured. The outcome could have been much worse. *Marines who do not obtain sufficient sleep in combat unnecessarily endanger their own lives and those of their fellow Marines, just as surely as a sleep-deprived pilot.* (Photo by author.)

approval of a Marine’s leave, liberty, or out-of-bounds car travel on whether he had obtained sufficient sleep. A Marine who gets less than five hours of sleep the night prior has a three times greater chance of getting in a car crash; with four hours of sleep his risk is 11.5 times greater!<sup>10</sup> A Marine who has been awake for nineteen hours is as cognitively impaired as one who is legally drunk.<sup>11</sup> The Marine Corps does not

What to do? Most Marines would press on, even though doing so would be a complete waste of time. But imagine that the presenter (or any other Marine, for that matter) instead tells the emperor he has no clothes—the presenter stops the brief, points out that the leader is drowsy, and recommends either the brief be suspended for a twenty-minute sleep opportunity or it be rescheduled.<sup>12</sup> In the current sleep culture of the Marine Corps, this would be unthinkable. But were drowsiness to be destigmatized, nap breaks could become as routine as bathroom breaks.

*Changing the sleep culture of basic training, providing sleep education at every level of formal school, and adding a book on sleep to the Commandant’s Professional Reading List.* What if, instead of giving the impression they never slept, drill instructors instead modeled exemplary sleep habits to new recruits? What if student officers were taught leaders who fail to obtain sufficient sleep—or who needlessly deprive their Marines of it—are fools? What if every

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*Linking leave, liberty, and out-of-bounds car travel to sufficient sleep.* Forget the much-maligned Holiday Accident Reduction Program and tradition of cliché safety briefs—if the Marine Corps wanted to meaningfully reduce driving mishaps, it will condition the

allow inebriated Marines to drive or go on liberty, for obvious reasons. So why does it allow sleep-deprived Marines to do so?

*Destigmatizing drowsiness.* All Marines have seen it: a leader falling asleep in the middle of a meeting or brief.

level of enlisted and officer PME taught good sleep practices (“sleep hygiene”) in both the field and garrison? What if a book that addressed the science and importance of sleep was added to the Commandant’s Reading List? These measures will go a long way toward fixing our broken sleep culture.<sup>13</sup>

*Ruthlessly enforcing good sleep practices in the barracks and squad bays.* As with so many other things—exercise, academic study, nutrition—when it comes to sleep Marines will have to be taught the right way to conduct themselves. This is especially true of the “digital natives” who are now entering the Service. Consider this 2017 article on iGen, the generation born between 1995 and 2012:

Fifty-seven percent more teens were sleep deprived in 2015 than in 1991. In just the four years from 2012 to 2015, 22 percent more teens failed to get seven hours of sleep.<sup>14</sup>

The Marine Corps has never hesitated to physically train unfit Marines; it should not shrink from the challenge of improving their sleep habits.

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**... PT at 0530 is a certain recipe for chronic fatigue ...**

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*Delaying “on deck times” and restructuring the workday to accommodate different circadian rhythms.* The Marine Corps prides itself on being the youngest Service. Indeed, 66 percent of Marines are age 25 or under. Twenty-five percent are under 21.<sup>15</sup> During adolescence, humans experience a shift forward in their circadian rhythm. So when their parents are growing tired and preparing to sleep, adolescents instead find themselves at peak wakefulness. In fact,

there has been a recent push in some quarters of the country to delay the start of the school day for high schoolers for precisely this reason.<sup>16</sup> Though hard to believe, there is compelling evidence that delaying the start of the school day *has not only improved academic performance but has also saved lives through the reduction of teenage traffic deaths.*<sup>17</sup> The adolescent circadian shift has obvious implications for the Operating Forces, where the vast majority of young first-term Marines reside. For instance, PT at 0530 is a certain recipe for chronic fatigue and its attendant adverse health outcomes (not to mention unnecessary traffic fatalities). The obvious solution: delay the start of the workday.

The story is equally complicated when it comes to adult circadian rhythms.<sup>18</sup> Around 40 percent of people are hardwired to be morning types. About 30 percent are night owls. Everyone else is somewhere in between. These preferences are “strongly determined

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by genetics.”<sup>19</sup> Marine leaders should respect this individual variation and accommodate it whenever possible. One solution is to structure the typical 8-9 hour workday around the “core four,” the hours of 1000-1400. All Marines would be required to be at work during that period, and that is when all meetings and unit events would take place. But based on their circadian preferences, Marines would have the option of working either before or after the “core four.” A “core four” workday will have the added benefits of limiting time spent in meetings and encouraging efficiency.<sup>20</sup>

*Drafting and implementing “crew rest” standards for every Marine—not just aircrew.* If the Marine Corps truly believes “Marines are more important than things,” as the saying goes, then it would place equal weight on the importance of sleep for leaders of Marines as it does for the drivers of machines. Marines who do not obtain sufficient sleep in combat unnecessarily endanger the lives of their fellow Marines, just as surely as a sleep-deprived pilot unnecessarily endangers his aircraft. To have a crew rest standard for aircrew but not for everyone else is either rankly hypocritical or unforgivably ignorant. Either way, it is unfair to Marines.

*Employing sleep (and sleeplessness) deliberately during operations.* There will be times when the tempo of combat or the enemy threat prevents Marines from obtaining sufficient sleep. There will also be times when going without sleep and continuing operations will confer a relative advantage in speed over the enemy.<sup>21</sup> But the choice to forego sleep should be made deliberately, with a full accounting of its short-term benefits against its long-term costs. Acknowledging there is a trade-off—as did Mr. Freeman and Lord Moran—is a necessary first step.

### Be the Change

If you are interested in learning more about the vital importance of sleep and how it can improve your performance and that of your Marines, we recommend *Why We Sleep: Unlocking the Power of Sleep and Dreams*, by Matthew Walker, and *Sleep in the Military: Promoting Healthy Sleep Among U.S.*

*Servicemembers*, a RAND publication by Wendy M. Troxel, et al., as well as the countless free podcasts on the topic. But if you want to do something immediate to change the broken sleep culture of the Marine Corps, we recommend something far more radical than reading a book—ensuring you and your Marines get more shuteye, starting tonight.

### Notes

1. Sun Tzu, *The Art of War*, translated by Samuel B. Griffith, (New York, NY: Oxford University Press, 1971).

2. Matthew Walker, *Why We Sleep*, (New York, NY: Scribner, 2017). See also Arianna Huffington, *The Sleep Revolution*, (New York, NY: Harmony, 2017).

3. Wendy M. Troxel, et al., “Sleep in the Military: Promoting Healthy Sleep Among U.S. Servicemembers,” RAND, (Santa Monica, CA: 2015), available at <https://www.rand.org>.

4. Douglass Southall Freeman, *On Leadership*, (Shippensburg, PA: White Mane Publishing Company, 1993).

5. Lord Charles Moran, *The Anatomy of Courage: The Classic WWI Account of the Psychological Effects of War*, (New York, NY: Carroll & Graf Publishers, 2007).

6. Department of the Navy, *Commander, Naval Air Forces Manual 3710.7 (CNAF 3710.7), Naval Air Training and Operating Procedures Standardization General Flight and Operating Instructions*, (Patuxent River, MD: May 2016), available at <https://www.public.navy.mil>. Later on the same page the NATOPS states:

If continuous awake duty time exceeds 16 hours, performance efficiency begins to drop. After 18 hours, efficiency rapidly declines to 75 percent effectiveness or less. The loss of effectiveness is manifested by lapses in attention, slower reaction time, slowed information processing, decreased vigilance, and increased error frequency. Accident rates for just about every type of human activity increase after 18 hours of wakefulness, particularly during the night ‘circadian trough’ when sleep would normally occur.

7. *Sleep in the Military*.

8. Ibid.

9. *Why We Sleep*.

10. Ibid.

11. Ibid.

12. *Why We Sleep*: “Power Naps [of approximately 20 minutes] May Momentarily Increase Basic Concentration under Conditions of Sleep Deprivation, as can Caffeine up to a Certain Dose,” But “neither naps nor caffeine can salvage more complex functions of the brain[.]”

13. *Sleep in the Military*.

14. Jean M. Twenge, “Have Smartphones Destroyed a Generation?” *The Atlantic*, (Online: September 2017), available at <https://www.theatlantic.com>. See also, *Sleep in the Military*.

15. Headquarters Marine Corps, Marine and Family Programs, *The Marine Corps: Demographics Update*, (Washington, DC: June 2017), available at <http://www.usmc-mccs.org>.

16. *The Sleep Revolution*.

17. *Why We Sleep*. In one case, delaying the start of the school day by one hour contributed to an average SAT score improvement of 212 points from the previous year. In other cases, delaying the start of the school day increased class attendance, reduced behavioral and psychological problems, and decreased substance abuse. In yet another case, after delaying the start of the school day by 30 minutes, there was a 60 percent reduction in traffic accidents involving students age 16–18.

18. For more on circadian rhythm and how it is affected by natural light and diet, see Teresa Wiley, *Lights Out: Sleep, Sugar, and Survival*, (New York, NY: Simon & Schuster, 2000).

19. *Why We Sleep*.

20. Consider “Parkinson’s Law,” first proposed in 1955 by C. Northcote Parkinson in *The Economist*. His “law” holds that work will expand to fill the time available for its completion. By reducing the time available, the “core four” workday would force units to either perform work more efficiently, or—better yet—to discard unnecessary tasks and appropriately prioritize those that remain.

21. Headquarters Marine Corps, *MCDP 1, Warfighting*, (Washington, DC: 1997), available at <https://www.marines.mil>.

