A typical day at boot camp began with reveille at 0400 hours. We tumbled out of our sacks in the chilly dark and hurried through shaves, dressing, and chow. The grueling day ended with taps at 2200. At any time between taps and reveille, however, the DI might break us out for rifle inspection, close-order drill, or for a run around the parade ground over the sand by the bay. This seemingly cruel and senseless harassment stood me in good stead later when I found that war allowed sleep to no man. – E.B. Sledge, excerpt from *With the Old Breed, at Peleliu and Okinawa*.

There are many facets of life that one contemplates before their first deployment to a combat zone, but sleep is often overlooked. Instead, thoughts turn to whether or not one will display sufficient courage and fortitude under fire while still executing the mission and supporting their comrades. Most struggle with the impending separation from spouses, children, friends, and loved ones. A few may confront crises of confidence in the adequacy of their training and technical abilities. Many simply lament the impending loss of basic daily comforts such as the ability to choose when and where one eats and uses the toilet. In sleep and the deployment cycle, no one really thinks or talks about it, that is, until they begin their deployment.

Poor sleep often starts at pre-deployment training and is perceived as a compression of time in conjunction with saying good-bye to loved ones, attempts to savor the final days and hours of liberty, and copious travel. Consequently, it is not uncommon to start a deployment in a state of sleep deprivation. Receiving, staging, onward movement, and integration (RSOI) compounds the problem with flights across multiple time zones and sleeping in transient quarters filled with hundreds of strangers arriving and departing at all hours of the day, all punctuated with fixed chow times that seem to provide the only stability in a chaotic life moment. Many service members may recall these transitions more as dream states of mixed consciousness full of emotions that evolve from the sadness of separation to the anxious anticipation of being “boots-on-ground.” The one academic model which seems to resonate with this experience is the 3P model of sleep health problems [1] which notes the role of the pre-deployment phase in predisposing one to acute sleep problems on deployment. One wonders, why is this model not more often discussed in pre-deployment briefs?

As for deployment, sleep becomes a desperately sought commodity; some would even consider it a luxury. As reviewed by Pruiksma and Peterson (this volume), an in-theater survey of Army personnel deployed to Iraq and Afghanistan indicated 32% of respondents had high or very high concerns about insufficient sleep, with a mean sleep duration of 5.6 h. This average coincides with additional data provided by 3175 Sailors deployed to Afghanistan
after 2009, of which 67% reported 6 or fewer hours of sleep per day and an average sleep time of 5.9 h [4].

Combat deployments bring exposure to ambushes by the enemy, planned assaults on enemy positions, the random barrage of “indirect” enemy rocket fire, and an omnipresent threat of improvised explosive devices, all experiences with an intuitive link to poor sleep and easily portrayed in books and film. What is less well-known and more difficult to portray to those who have never deployed are the self-inflicted wounds to sleep health. These wounds are incurred by an assortment of cuts, starting with poorly designed work schedules that have pushed service members to their functional limits, a situation often involving manning shortfalls. There is a struggle between competing interests during the precious little downtime that forces a choice between sleep and communication with family, exercise, or simply doing one’s laundry and eating. Another cut is inflicted by the design and placement of field quarters and sleeping tents next to loud generators, airfields, and a failure to separate day and night sleepers. The key point here is that kinetic “guns and bombs” combat does not explain all the sleep health problems associated with deployment. For example, Taylor and colleagues (2014) reported that either having a sleep deficit or getting less than 6 h of sleep was a better predictor of PTSD risk (univariate OR, respectively, 11.39, 12.84) than being in the highest category of self-reported combat exposure (univariate OR = 9.77) for Sailors deployed to Afghanistan. Therefore, poor sleep on deployment, whether it is linked primarily to combat or factors such as operational tempo and environment, can have serious psychological consequences that extend into post-deployment.

The “redeployment” RSOI can impart just as much circadian disruption and emotional intensity as the initial journey into theater; thus, one must face the many challenges of reintegration into society, family, jobs, and the hard, lonely internal work of psychologically integrating the deployment experience into one’s identity while suffering from months of poor sleep and an intense circadian disruption. For many, the post-deployment transition is the most difficult part of the deployment-cycle experience. One commonly perceived, yet understudied, post-deployment phenomenon that deserves attention is the use of alcohol to self-medicate insomnia stemming from months of poor sleep intensified by the circadian disruption of the flight home. The end result may be alcohol dependency that exacerbates or becomes the diathesis stressor for underlying psychopathologies. The longitudinal study of sleep and its potential pathogenic role in the transition from deployment to post-deployment will be challenging but deserve attention.

From a methodological standpoint, much of the research investigating deployments to Iraq and Afghanistan often fails to consider the diversity of missions and locales that fall under the rubric of “combat deployment.” For instance, the MHAT sample cited by Pruiksma and Peterson may have been comprised of traditional “combat” maneuver soldiers serving in isolated outposts like those in the Korengal and Kunar river valleys of Afghanistan. Meanwhile, the Navy sample [4] was constituted primarily by Sailors in support roles with much less time “outside-the-wire” and concentrated in places like Bagram Airfield in Afghanistan (even the Navy sample had stark differences between types of deployments and exposure to hostile threats). Despite these differences, both the MHAT and Navy samples reported similarly inadequate amounts of sleep. Poor deployment sleep extends from remote, rustic, temporary combat outposts to the densely packed metropolises of seemingly permanent forward operating bases (FOBs); thus no one deployment subpopulation should be ignored when studying sleep problems in deployed veterans. Likewise, there may be important differences in the etiology and sequela of sleep health problems imparted by these different deployment types.

Why is sleep disruption pervasive throughout the deployment cycle? Though combat exposure may not be universal during a combat-zone deployment, the self-inflicted environmental factors seem widespread, and here I speculate why. Sleep is a casualty of deployment logistical complexity. Many aspects of deployment that affect sleep such as flight schedules, the placement and composition of sleep quarters, work schedules, manpower, and the rotation of troops in and out of theater are so complex that their execution requires computerized, multivariate, algebraic analysis developed by teams of highly trained engineers. Another brutal reality is that the objectives of the mission take precedence over human factors such as the fatigue of the troops (aviation being one of the few exceptions). In fairness, the inability to incorporate the human limits of sleep into military operational planning is not an intentional omission on the part of military planners or leadership. Rather, it is a situation better attributed to the sheer vastness of the combat enterprise in places like Iraq and Afghanistan and the innate limitation of human cognitive capacity that, in tandem, force “human factors” such as sleep to take a back seat in the congested cognitive landscape of
planners who must sort through more salient competing logistical and operational considerations. It is therefore an essential function of experts working in and for the Department of Defense (DoD) to possess the training and background in sleep health that will enable them to (a) identify factors that contribute to poor sleep health, (b) raise the issue to the conscious awareness of task-saturated planners and leaders, and (c) work collaboratively to find solutions that are commensurate with mission execution, a model embraced by the Navy Mobile Care Team [2].

The chapters in this volume provide some of the background that will be necessary to advance the cause of sleep health in deployment. As challenging as it may be to integrate concerns about sleep health into operational military planning and logistics, I am confident that doing so will not only improve the effectiveness of the force and enhance the chance for mission success but also reduce the prevalence of long-term health problems associated with deployment-related sleep difficulties and improve the quality of life for service members, veterans, and their families. Although sleep may not be the first concern that comes to mind when preparing for deployment, it quickly becomes a topic you cannot ignore, as it is infused into every aspect of the deployment experience. Whether one is struck by the prevalence of exhausted, bloodshot eyes, mounds of energy drink cans, and short tempers on deployment or examines their stress control surveys to find that poor sleep is a more powerful predictor of PTSD than combat, the words of Marine Private Sledge’s observation from World War II continues to resonate: war allows sleep to no one.

References