

淺談

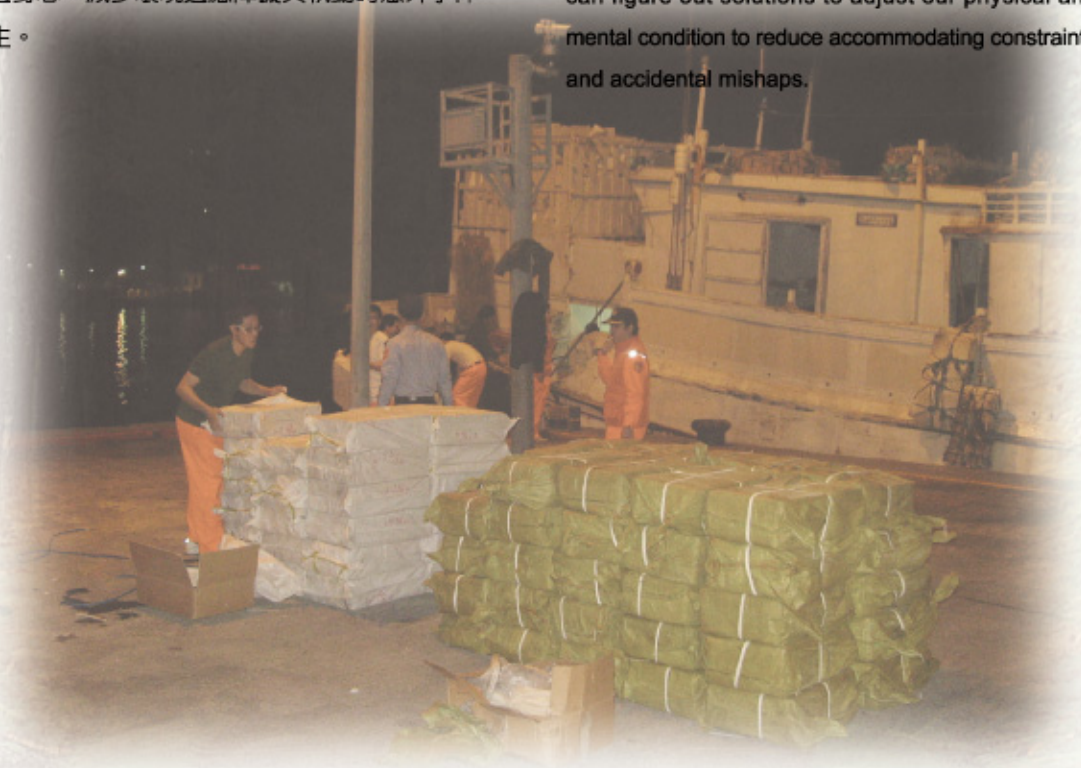
# 海巡勤務 對睡眠的影響與調適

## The influences of Coast Guard Duties on Sleep and the Adjusting Advices

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**為**了維護海上治安、協助漁民作業，海巡弟兄需要24小時不間斷地有人執行值班、安檢、巡邏等勤務，因此也就需要配合勤務而進行輪班工作。此種輪班執勤的工作型態會造成生理上的負擔，也可能造成執勤時的困難與環境適應上的障礙，因此應多瞭解生理時鐘的運作方式，以因應輪班工作產生的困擾，並利用有效方法來調適身心，減少環境適應障礙與執勤時意外事件發生。

In order to safeguard marine security and service fishermen, the Coast Guard officers take turns on duty of posting, checking, patrol for 24 hours a day without a break. The alternate shifts should result in physical burden as well as possible difficulties on duty and environmental disorientation. Hence, a further understanding of the operation of biological clock is helpful in tackling the annoyance on shifts, and then we can figure out solutions to adjust our physical and mental condition to reduce accommodating constraints and accidental mishaps.





自然界生物皆有適合其自身的活動型態：人類與大部分的鳥類皆屬於日出而作、日落而息的日行性(diurnal)動物；大部分的齧齒類(如老鼠)、鸛鴞科的鳥類(如貓頭鷹)與蛾類則屬於夜間活動、白天蟄伏的夜行性(nocturnal)動物；少數的齧齒類與草食性哺乳類動物則是屬於在清晨與黃昏大肆活動的晨昏性(crepuscular)動物。大部分生物皆會維持該種族特有且固定的活動型態以利個體生存。然而此種自然的生存方式，卻在人類文明高度發展的衝擊之下有了重大改變。在現今講究高效率、高產能與24小時服務的工商業社會，輪班工作已成為必要之務。輪班值勤經常需要在晚上維持長時間清醒並持續工作，但如此卻違反了人類日行性的活動天性，且還需要配合排班不斷地改變生活作息，在數日內其工作時段可能由白天變晚上再變成深夜。如此持續的改變將使人難以形成規律且穩定的作息模式，其生理會一直處於節律失序(circadian desynchronization)的狀態，短期會有失眠、白日睏睡、警覺性變差等情形、長期可能使得生理上如心血管、腸胃道等慢性疾病的罹患率提高。

輪班執勤最常產生的困擾就是難以入睡與白日睏睡。一般人總認為若在夜晚清醒8小時，只要在白天多睡8小時就可以彌補睡眠不足。但實

Animals have their biological rhythms: the human beings and most birds are diurnal, active at daytime and rest at nights; the gnawer (such as mouse), strigidae birds (such as owls) and moths are nocturnal, active in darkness and hibernate at daytime; while few of gnawer and herbivorous mammals act during twilight at dawn and dusk being crepuscular animals. Most creatures maintain their specific natural active patterns for survival, whereas affected by human's highly civilized community the natural active pattern has been modified. Emphasizing on efficiency, high production and 24 hours service, the society makes people be accustomed to alternate working shifts and wake at nights on duty. They are forced to violate diurnal behavior and alternate active pattern between day and night shifts constantly only in few days. The lasting interchange prevents people from forming a regular and stable behavioral pattern and leaves them in the consistent state of physiologically circadian desynchronization-it might make people be vulnerable to insomnia, daytime drowsiness in short time, weakened alert, and suffer from cardiovascular and gastrointestinal diseases in long time.

The most common annoyance caused by shift work is difficulty of falling asleep and feeling drowsy at daytime. A typical misunderstanding that sleeping for







際上要滿足睡眠需求並不是如算數般的時數加總相等即可，充分的睡眠除了要滿足一天大約八小時的睡眠量之外，順著人類日行性動物的天性，在夜晚睡覺才能夠得到最佳效果。由於內在生理時鐘與外在環境光線的影響，人們在白天會比較不容易入睡，即使入睡後其睡眠時數多半無法持續8小時之久，會呈現睡醒醒的狀態，無法熟睡且整體睡眠品質也會較差。若是在睡眠時數不足或是睡眠品質較差的情況之下，會使得人的白日睏睡度提高，如此可能會增加交通與執勤時的意外發生率，因此輪班適應與睡眠好壞是海巡弟兄需要注意的問題。

輪班執勤所造成的睡眠困擾與睏睡問題，可以下列幾個方法來加以紓解：

1. 勤務輪班的更替盡量以順時鐘的方式改變：由於人體內在約日節律(internal circadian rhythm)是略長於24小時，因此比較能夠適應一天的延長，像是將輪班由白班調成晚班，再調成大夜班，之後再調回白班，如此調動的方式是比較容易適應的。

8 more hours at day would make up another 8 hours at night is not functional; the sufficient and effective sleep requires 8 hours per day and must be done at night, as humans' diurnal biological rhythm goes. Owing to endogenous biological clock and environmental conditions, people rarely fall into sound sleep at daytime, or even they do, the sleep rarely lasts for 8 hours long. The sway between sleeping and waking worsens the general length and quality of sleep and increases daytime drowsiness and possible accidents during transportation and shift work. Therefore the adaptability of alternate shifts and sleep improvement are the essential issues for all our Coast Guard officers.

The physical sleep disorder and drowsiness caused by alternate shifts can be solved by following methods:

1. Alternate shifts in clockwise: As human's internal circadian rhythm is slightly longer than 24 hours, we are easy to be adjusted to an extended working hours. For example, human can be better accustomed to the shifts change from a dayshift to evening shift, then to night shift, and then return to day shift.
2. Limit the frequency of shifts rotation: The orientation of human biological clock takes time, or may outcome in a mass by frequent changes while the internal biological rhythm fails to synchronize. Therefore, one shift better lasts for 2 to 3 days before any change.





2.勤務班次的更替盡量不要太頻繁：人體生理時鐘的適應無法一蹴可及，太過頻繁的變動會使體內各生理節律無法同步而呈現一團混亂，每個班次最好可維持2~3天後再行更動。

3.創造合適的睡眠環境：結束夜晚勤務的弟兄，在補休時需注意睡眠環境的光線強度與音量。光線不僅會使人難以入睡，即便是入睡後，光線仍會對睡眠品質造成影響，因此睡眠環境越暗越好。必要時可使用眼罩與耳塞等用具，以確保有好的睡眠品質。

4.執行深夜勤務的工作場合，盡可能保持明亮的光線照射。光線的照射可提高人的警覺度、降低睏睡度，可使弟兄們有較好的精神來執行深夜勤務，並可減少意外事件發生。

輪班執勤已是海巡弟兄無法避免的責任，且部隊團體生活並不像一般人可自行決定環境與行程，在調適上的確比較不容易。依照上述幾個方法稍做改變，即可有效降低生理時鐘混亂所造成的困擾，並能提高睡眠品質，讓弟兄們的執勤較為安全，海巡生活更加順利。🙏

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3. Create a comfortable sleeping environment: Officers who finish night shifts are advised to pay attention to light intensity and noise volume in surrounding areas. As no matter before or after one falls asleep, light always brings impacts, the sleeping environment is better sustained as dark as possible. Hence using eyeshade and earplugs wherever necessary may guarantee sleep quality.

4. Upgrade the brightness of light in the night working environment: Light radiation keeps people in alarm and prevents them from feeling drowsy. In turn, the officers shall feel in better conditions to operate and avoid accidents.

The working community is different from the civilian life which people can independently choose their environment and behavior pattern, and working in shifts is unavoidable for Coast Guard officers. We recommend the Coast Guard officers can follow the above suggestions to effectively reduce the biological clock disorder and increase sleep quality, and they are able to conduct safer duties and enjoy happier Coast Guard life.

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