



Human Element Issues KISHPNI-HEI-02-2020
(Fatigue Versus Maintaining Sleep Hygiene On Board)

► **Introduction:**

Sleep is an important function to a person's physical and mental well-being and the most effective weapon against the onset of fatigue. When we sleep, our brain signals our body to release hormones and important compounds. The healthy amount of sleep for the average adult is around seven to eight hours each night. A lack of sleep causes many significant changes in the body and increases the risk for serious health concerns.

When it comes to maritime industry, **Fatigue** is seen as a significant contributory factor to many incidents and one of the major concerns for seafarers. In particular, seafarers have a demanding workload and a stressful working environment; thus, it is of outmost importance for the operators to monitor work and rest hours of the crew onboard. The hours of rest on vessels are defined as 'non-working hours'; these do not include the intermittent breaks. The regulation concerning the working and rest time periods in shipping is set by STCW 2010 and MLC 2006.

The following is an extract of **IMO Project MARTHA (concerning Fatigue):**

Fatigue's effect on Masters:

A Master's place on a ship is central to its performance, a claim which many would agree with. The project confirmed this and found a number of reasons for how a Master's role differed from that of other crew members, including that Masters:

- Have more weekly work hours
- Feel that work in port is less demanding than work at sea
- Are far more fatigued at the end of a contract
- Are slightly more overweight compared to others onboard
- Suffer from mental fatigue, compared to physical fatigue suffered by other seafarers

Fatigue's effect on performance:

The performance of seafarers onboard is paramount to a vessel's operation and efficiency. The study found that:

- During interviews, seafarers pointed out that not being relieved on time was having an effect on motivation
- 48.6% of participants felt stress was higher at the end of a voyage
- Sleepiness levels vary little during the voyage, suggesting there are opportunities for recovery while onboard

Fatigue and the cultural perspective:

The cultural differences Project MARTHA sought to examine some interesting results and a clear divide between European and Chinese seafarers were found:

- European seafarers worked fewer hours than their Chinese colleagues
- Chinese seafarers on dry bulk carriers worked an average of 15.11 hours a day compared to European seafarers who worked an average 10.23 hours a day
- There is evidence of higher levels of fatigue and stress in Chinese seafarers, rather than European seafarers

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However, there is no sleep norm for all seafarers even if they work on the same ship, as there are different duties and watches, resulting in different sleeping hour availability plan for each seafarer. Namely, MLC & STCW refer to rest hours (not sleeping hours); therefore, it is up to each seafarer on how to better exploit them. On top of that, it is the quality of your sleep that matters, not the quantity.

Important tips for good quality sleep:

So what can a seafarer do to ensure proper sleep when working at sea? To clarify, every seafarer needs to manage his/her available rest hours in such way so as to include also enough time for resting and sleeping. Of course, this is not an easy task considering that every situation is different.

For example, the 08-12/20-24 shift can be considered as a regular day, because the seafarer sleeps during night time and is on duty during daylight. However, for the 12-16/00-04 shift, the seafarer is required to sleep during daylight and be on duty during night. What is more, in the event of an emergency, or to assist other ships or persons in distress, the captain can suspend the work schedule and change all plans.

Therefore, every seafarer needs to keep in mind the following healthy habits in order to maintain a 'sleep hygiene' onboard:

1. Reduce caffeine as much as possible and avoid any kind of alcohol
2. Set a pre-watch routine: have a minimum of 15 minutes (ideally longer) period to wake up your body before starting any work.
3. Stay fit: Exercising for 30-45 minutes a day will help you sleep better and help you feel more alert when you're awake.
4. Set your cabin to sleeping mode: Reduce lighting, turn off devices and keep and clean and tidy cabin, sufficient aired.
5. Follow a specific pre-sleep routine: Give your body and mind time after watch or work to reduce stress and then go to sleep. Use a time of 30-40 minutes to listen to music or read a book prior go to sleep.
6. The sleeping period has to be set during the largest of the two rest periods (as per MLC requirements).



Did you know?

- ✓ **Quality sleep increases your ability to gain new insight into complex problems by 50%**
 - ✓ **Good sleep promotes skin health and a youthful appearance**
 - ✓ **Sleep increases testosterone levels and encourages healthy cell division**
 - ✓ **Sleep increases athletic performance**