



*Sleep and Stress -
The eternal conundrum*

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The eternal conundrum - the more tired you are the less you able to cope with stress, and more stressed you become the less you able to sleep.

Whether we are aware of it or not, the uncertainty within the aviation industry since March, and before that for some of us, has had an impact on our stress levels. When our anxiety and stress levels increase, the quality of our sleep is affected.

Do you find yourself waking up frequently throughout the night, or waking up and not being able to go back to sleep, or just waking up earlier than normal? If this sounds familiar and is a new occurrence, there is a good chance the stress of these times is affecting your sleep, which in turn has an overall effect on your quality of life.

With these increased levels of stress, insomnia comes into play. The two most common triggers of chronic insomnia are psychological, being emotional concern (worry) and emotional distress (anxiety). Add the increased exposure to technology to the mix and we have the perfect storm for disrupted sleep which in turn increases the stress we experience.

One of the prevalent biological causes of psychological stress is an overactive sympathetic nervous system, which is the body's aggravated fight-or-flight mechanism. Usually a short-term response to a threat, the sympathetic nervous system activates responses such as breathing, immune function and stress chemicals to control blood pressure and heart rate. Once the threat is no longer perceived, the body calms down and returns to normal functioning.

The problem arises when this fight-or-flight response remains in the active position for the long-term. This long-term stress position can be equated to the situation many of us find ourselves in today due to job insecurity, financial issues, isolation and general uncertainty about the future.

This will affect the quality of our sleep.

The importance of sleep to assist with coping during these turbulent times cannot be overemphasized. Many aviators find themselves in a critical time where life-altering decisions have to be made, and making these while fatigued can have a severe impact on the quality of our decisions. To improve sleep, you may need to change some habits, and be open to learning this new skill. The key to this success will be practice and motivation. Changing all our bad habits about sleep will not be achieved quickly, but the first step to change is being committed to the goal. There will be some trial and error with the advice and rituals before you find the combination that works for you. Keep at it, the effort will be worth it.

To live a healthy life, there has always been a focus on nutrition and exercise, but the new kid on the block is sleep.

Some Benefits of Restful and Adequate Sleep

Improves cognition, attention, decision making, creative thinking, memory, regulating own emotions and interpreting and responding appropriately to emotions of others.

Adequate sleep decreases the likelihood of depression and anxiety.

Regulates blood pressure, heart rate, levels of cortisol and thyroid hormone, glucose levels and weight.

Toxins that build up in the brain during the day get cleared out during deep sleep.

Sleep Hygiene

- **Stick to a sleep schedule:** One of the best ways to train your body to sleep well is to go to bed and get up at more or less the same time every day, even on weekends and days off. This regular rhythm will make you feel better and will give your body something to work from. Sleeping later on weekends won't fully make up for sleep lost during the week and makes it harder to wake early on a Monday morning. Research has shown that this is the number one sleep habit to improve quality of sleep.
- **Deal with stress and anxiety:** Very often it is worries or unresolved thoughts and emotions which 'wake' us up at night. Anxiety keeps your mind busy as you imagine threatening scenarios and worry about what may happen next. You may become preoccupied with finding solutions. Your racing thoughts can rob you of sleep by keeping your cortisol levels high, making sleep harder to achieve.

- Keep a notebook next to your bed and write down the worrying thoughts which you have when you wake up. It is a way of telling your brain that it can go to sleep and that you will deal with these thoughts/worries in the morning.
- Meditation, mindfulness and relaxation can all assist in calming the mind and body down to assist with falling asleep. These are techniques that need to be practiced over time to become effective. Don't just try it once and think it doesn't work, keep at it and you will find yourself falling asleep quicker.
- **Exercise:** Exercise and sleep do complement each other. Try to exercise at least thirty minutes on most days but no later than two to three hours before bedtime.
- **Less time in bed:** If possible, use the place you sleep at only for sleep and not for work. Part of a successful therapy technique, called CBT (Cognitive Behavioural Therapy) for insomnia is sleep restriction. It could for example include avoiding taking afternoon naps and go to bed later in order to be really tired when you finally do go to bed. Instead of tossing and turning when you wake up at night and can't fall back to sleep, leave the bedroom/bed and do something relaxing and quiet until you are sleepy.
- **Caffeine and nicotine** should be used in moderation. The effects of caffeine can take up to 8 hours to wear off. Caffeine is also found in some teas, soft drinks and even chocolate. Nicotine can cause a smoker to sleep lighter than non-smokers plus smokers tend to wake up earlier due to craving for the next nicotine hit.
- **Avoid Alcoholic drinks** close to bedtime. While alcohol assists with falling asleep faster and keeping you asleep for the first half of the night, it does disrupt sleep quality the second half of the night, robbing you of REM sleep. Heavy drinking can further contribute to the impairment of breathing while asleep.
- **Bedtime routines:** If possible, establish a consistent and comforting winding down routine (e.g., reading, taking a hot shower, and then going to bed).
- **Avoid 'clockwatching':** Set your alarm clock or cellphone alarm and don't look at it again during the night. Be confident that the alarm is on, sound is turned up and the battery is sufficiently charged. Learn to trust that it will go off and wake you up. Continuously looking at the clock to see what time it is only exacerbates worry and frustration which makes it harder to fall asleep.
- **Avoid large meals and drinks** close to bedtime. The digestive system is an alerting process within the body, plus a large meal can cause indigestion. Both of these will interfere with sleep. Large liquid intake will cause frequent awakening with the need to urinate.
- **Avoid Naps** in the afternoon if you struggle to fall asleep at night.
- **Dark, Cool, Quiet and Comfortable** bedroom will facilitate good quality sleep. Keep light out of the bedroom, including technology and a TV. The cooler the better with 18 degrees the recommended temperature, as it assists with the cooling of the body temperature through the night. The body reaches its minimum temperature a few hours before we wake and continues to increase throughout the morning.
- Increase **melatonin production:** Melatonin is a hormone secreted by the pineal gland in response to darkness. Melatonin shifts the circadian cycle (sleep-wake cycle) and plays a role in the onset and

continuation of sleep. Tryptophan is a building block of serotonin and serotonin is a building block of melatonin.

- **Nutrition:** Kiwifruit, cherries (especially tart cherry juice), fatty fish, lettuce, walnuts, whole grains, milk, almonds and chamomile tea have also been shown by research studies to promote sleep.
- Maximize **sunlight** exposure during the first part of the day. Sun in the morning stimulates the production of serotonin. In turn, after 12 hours or so, this serotonin is then converted into melatonin.
- **No white or blue light:** Move your cell phone and alarm clock out of sight, no white light 30min before bed. The sleep hormone melatonin doesn't just immediately flood your system when you flip the light switch off. It takes time. So, dim the lights some time before going to bed.
- Taking a hot shower/bath before going to bed and then cooling off afterwards may mimic the circadian-related **temperature reduction** that normally occurs during sleep.
- Use a **sleep diary:** This is a good way of assessing how much sleep you are getting and allows you to identify certain aspects of your sleep hygiene and bedtime routines which may be contributing to your lack of sleep.

References:

Cullen, P., Cahill, J. & Gaynor, K. (2020). The lived experienced of a pilot. Turbulent Times.

<https://www.tcd.ie/cihs/projects/pilot-lived.php>

Dolezal, B. A., Neufeld, E. V., Boland, D. M., Martin, J. L., & Cooper, C. B. (2017). Interrelationship between Sleep and Exercise: A Systematic Review. *Advances in preventive medicine*, 2017, 1364387.

<https://doi.org/10.1155/2017/1364387>

Friedman M. (2018). Analysis, Nutrition, and Health Benefits of Tryptophan. *International journal of tryptophan research: IJTR*, 11, 1178646918802282. <https://doi.org/10.1177/1178646918802282>

Jaehne A, Loessl B, Bárkai Z, Riemann D, Hornyak M. Effects of nicotine on sleep during consumption, withdrawal and replacement therapy. *Sleep Med Rev*. 2009;13(5):363-377.

doi:10.1016/j.smr.2008.12.003

St-Onge, M. P., Mikic, A., & Pietrolungo, C. E. (2016). Effects of Diet on Sleep Quality. *Advances in nutrition (Bethesda, Md.)*, 7(5), 938–949. <https://doi.org/10.3945/an.116.012336>

Zeng, Y., Yang, J., Du, J., Pu, X., Yang, X., Yang, S., & Yang, T. (2014). Strategies of Functional Foods Promote Sleep in Human Being. *Current signal transduction therapy*, 9(3), 148–155.

<https://doi.org/10.2174/1574362410666150205165504>

Walker, M. (2018). *Why We Sleep: The new sleep science of sleep and dreams*. Penguin Random House: New York, USA.

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