FAQ - Physician Fatigue

Fatigue is a feeling of tiredness that varies in intensity and duration with symptoms that can include - sleepiness, impaired vigilance, and impaired sustained attention. Fatigued persons are often unaware of impaired behavior.

1. **What are common causes of fatigue in physician training?**
   Prolonged exertion, emotionally or physically intense exertion, complex tasks, and sleep deprivation

2. **What are signs of clinical fatigue?**
   Moodiness, irritability, impoverished speech or flat affect, impaired problem solving, sedentary nodding off, medical errors, micro-sleeps (5-10 second lapses in attention), repeatedly checking work, difficulty focusing on tasks.

3. **How does sleep help with fatigue?**
   Sleep reliably relieves fatigue. Adults need 7 - 8 hours daily. Sleep deprivation impairs cognitive performance, memory, fine motor skills and impairs the clinical performance of physicians.

4. **What are the effects of Chronic Sleep Deprivation?**
   Diminished performance especially around decision-making and health effects like obesity and cardiovascular disease. *There is no effective intervention to restore full cognitive function other than restoring lost sleep.*

5. **What are the goals of fatigue mitigation?**
   Improve alertness, ensure patient and physician safety.

6. **What works for fatigue mitigation in the moment?**
   Strategic/structured napping: 30 minutes on average seems to work. Brief periods of exercise can restore alertness during prolonged shifts. Caffeine restores alertness BUT NOT cognitive function.

7. **What is the best plan for fatigue mitigation for maximally fatigued trainees?**
   Training programs should have a plan to relieve maximally fatigued trainees of patient care duties and safely transfer that care to another physician. This plan should be known and available to all trainees. Safe transportation home and sleep facilities must be provided.

8. **How does professionalism fit in the discussion of fatigue?**
   Residents and faculty members must demonstrate an understanding of their personal role in the assurance of their fitness for work (management of their time, recognition of impairment in themselves and peers). Physicians are expected to adjust their lifestyle, so they can be physically and mentally prepared to provide excellent care for patients.

9. **What helps with fatigue mitigation and lifestyle especially during the training program?**
   Exercise (150 minutes weekly); plenty of sleep (average 7-8 hrs); napping; healthy diet.

10. **How to deal with night shift-related fatigue?**
    Avoid eating between midnight and 6 AM; avoid large meals 1-2 hours before sleep; avoid exposure to sunlight after night shifts; sleep area needs to be as dark and quiet as possible; minimize electronic distractors; room temperature needs to be cool; white noise can promote sleep; 8 hours of nightly sleep is preferred and at least 6 hours of sleep while on night float.

References

1. Howard, S. K. (2005, April). Sleep deprivation and physician performance: Why should I care? In Baylor University Medical Center Proceedings (Vol. 18, No. 2, pp. 108-112). Taylor & Francis.
    - General overview of sleep deprivation and fatigue as it relates to physicians and trainees; focusing on sleep physiology, studies on fatigue, and fatigue countermeasures.

2. Krause, A. J., Simon, E. B., Mander, B. A., Greer, S. M., Saletin, J. M., Goldstein-Piekarski, A. N., & Walker, M. P. (2017). The sleep-deprived human brain. Nature Reviews Neuroscience, 18(7), 404.
    - With a focus on neuroimaging studies, they review the consequences of sleep deprivation (SD) on attention and working memory, positive and negative emotion, and hippocampal learning. They explore how this evidence informs our mechanistic understanding of the known changes in cognition and emotion associated with SD, and the insights it provides regarding clinical conditions associated with sleep disruption.

3. Guilleminault, C., & Ramar, K. (2006). Naps and drugs to combat fatigue and sleepiness. Annals of internal medicine, 144(11), 856-857.
    - Editorial discussing studies focusing on real-life tasks, including the effects of napping and caffeine.

4. Leone, S. S., Huibers, M. J., Knottnerus, J. A., & Kant, I. J. (2007). Similarities, overlap and differences between burnout and prolonged fatigue in the working population. QJM: An international journal of medicine, 100(10), 617-627.
    - While there appear to be some relevant differences between burnout and prolonged fatigue, with respect to work and health factors, prolonged fatigue and burnout cases overlapped considerably. Burnout and prolonged fatigue can occur both separately and simultaneously. Having both conditions simultaneously seems to be associated with worse outcomes than having either alone.

5. Taylor, T. S., Watling, C. J., Teunissen, P. W., Dornan, T., & Lingard, L. (2016). Principles of fatigue in residency education: a qualitative study. CMAJ open, 4(2), E200.
    - This study elaborates our understanding of how principles of fatigue are constructed and reinforced by the training environment. Whereas fatigue is seen as a collective hazard in other industries, the data showed that, in residency training, fatigue may be seen as a personal challenge. Four predominant principles of fatigue captured how the social learning environment shaped residents' perceptions of fatigue. These included the conceptualization of fatigue as (a) inescapable and therefore accepted, (b) manageable through experience, (c) necessary for future practice and (d) surmountable when required. Consequently, fatigue-management strategies that conceptualize fatigue as an occupational threat may have a limited impact on resident behaviour and patient safety.