

Nutritional Strategies to Mitigate Fatigue in Clinicians

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Some of the negative effects of sleep deprivation due to shiftwork or long work hours can be mitigated by deliberate modifications in hydration and nutrition. Below are some strategies you might find helpful.

1. Hydration strategies

- a. Use your urine color as a way of gauging your hydration status (lemonade color: hydrated, apple juice color or darker: need to drink more fluids).
- b. In order to overcome dehydration without frequent restroom visits:
 - i. When possible, drink small amounts of fluids throughout the day.
 - ii. Consider fruit and vegetables as time-release fluids that support hydration status by gradually releasing water during the digestion process.
- c. Despite containing caffeine, up to 3 cups tea and coffee per day count towards daily fluid intake requirements.
- d. Aim for *at least* 6 glasses (1.5 liters) of plain water a day. To achieve this consider drinking a cup of water upon waking up, with every meal or snack, or during meetings.

2. Caffeine consumption strategies

- a. Given that caffeine can take up to 30 to 60 minutes to reach its peak alerting effects, you can drink coffee or tea right before taking a short nap (caff-nap) and benefit from the combined alerting effects of caffeine and nap and reduced grogginess after taking a nap.
- b. Coffee is a better choice, compared to tea, for tasks that involve physical activity, attention-switching and short-term alertness, whereas tea, in particular green tea, is a better choice for tasks that require concentration and sustained attention.

3. Meal timing and composition strategies

- a. When you are sleep deprived, for example on post call days, eat a protein rich meal shortly after waking to help with alertness during the day, and a carbohydrate rich meal at least 4 hours before bedtime to help with better sleep at nighttime.
- b. When possible, avoid eating within 4 hours of sleeping. If you need to eat within 4 hours of sleeping, opt for a light and easy-to-digest meal or snack.
- c. Avoid caffeinated products, chocolate, alcohol, and heavy and spicy meals 4 hours before bedtime.
- d. Adding one serving of fruit and one serving of vegetable to your existing diet can improve energy levels.
- e. Green leafy vegetables, berries, unsalted raw or dry roasted nuts and seeds contain many nutrients essential for mental health and sleep quality. Aim for at least one serving of each per day.
- f. When you are sleep deprived, eating a meal with high protein content and low carbohydrate and fat contents can reduce postprandial sleepiness.
- g. Limit foods with added sugar and saturated fat, as regular consumption of meals high in fat or sugar exacerbate fatigue levels and impair your alertness, cognitive performance and sleep quality.
- h. During night shifts:
 - i. Drink at least 500 ml of water to reduce fatigue and improve your energy levels and mood.
 - ii. Avoid eating meals during the time you are normally sleeping. For example, if you normally sleep between 10 pm and 6 am, consume two meals before 10 pm, one after waking up after your recovery sleep and one before or at the beginning of your nightshift, try to avoid eating between 10 pm and 6 am, and eat your third meal after 6 am.
 - iii. Consuming tea or coffee at the beginning of your night shifts can help with increasing your core body temperature in the middle of the night and reduce sleepiness. Avoid caffeine closer to the end of your shift as it can interfere with your recovery sleep.
 - iv. Drink warm liquids (herbal tea, soup, hot water) to increase your core body temperature when you feel sleepy.
 - v. Chew a chewing gum to improve alertness, mental focus and reduce stress.
 - vi. While it is recommended to avoid eating during night shifts, if you get hungry or light headed have a healthy snack or small meal (e.g. soup) that has 150 calories or less.

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