Resident physicians: Your diet can help you make it through the night

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In industries such as aviation and transportation, evidence has suggested that the timing and composition of meals can impact individual performance, particularly in overnight shift work. Those lessons, one expert believes, can be applied to medical residents working overnight shifts that can span up to 24 hours.

“Nutrition affects our cognition, particularly when we are sleep deprived,” said Maryam S. Makowski, PhD, a clinical assistant professor in Stanford University’s psychiatry and behavioral sciences department and the WellMD & WellPhD Center.

Having studied performance nutrition for resident physicians working overnight shifts for over two years—she submitted a poster presentation on the topic at the recent AMA GME Innovations Summit—Makowski offered these tips for residents wondering what to eat and when.

When to consume calories

Makowski said that you should eat a big meal (about 30% of your total caloric needs) before you begin an overnight shift. For example, if you begin at 5 p.m. during a night rotation, consume that meal at 3 p.m. and aim to have at least 50% of daily caloric needs ingested before midnight.

“You can start with having a brunch type of meal after you wake up,” Makowski said. “That should be the largest meal of the day. Then it’s best to try to eat again early in your shift.”

Learn about three things medical residents want after long shifts.

URL: https://www.ama-assn.org/residents-students/resident-student-health/resident-physicians-your-diet-can-help-you-make-it
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Don’t eat when you’d normally sleep

Though your optimal eating times can vary based on your chronotype (e.g. morning, day or night person), there’s a hard cut off as to when you should avoid eating during overnight shifts.

“A majority of the studies showed that eating between midnight and 6 a.m. can result in poor cognitive performance,” Makowski said. “For example, simulation studies show that eating a meal after midnight during nightshifts result in more errors and sleepiness”.

“Though we don’t want to eat, we do want to keep hydrated. That’s really important both for mood, cognition, and feeling energized,” Makowski said.

Residents need to pay extra attention to their hydration status, she added, and said “residents should take advantage of every single chance they get to take frequent sips of water, coffee, regular or herbal teas.” The goal is to have a urine color that is like lemonade not apple juice or darker.

How carbs affect performance

Carbohydrates are important for learning and memory, so the idea that eliminating them from a diet will improve performance is unlikely to be true. “The quality of the carbohydrates matter though” Makowski said. And, in a hectic environment, Makowski has found that “residents basically live off junk food.” “If you are going to have carbohydrates, try to avoid things like donuts, pastries and have more whole grain, whole fruit type of snacks,” she added.

When it comes to protein, it’s possible that a meal that has a higher ratio of protein to carbohydrates could reduce sleepiness during overnight shifts.

Discover what to tell your patients about ketogenic diets.

Protected eating time

Residents are busy. Sometimes too busy to eat a meal, let alone a healthy one.

“One thing we saw is that even when we gave people food, they didn’t have time to eat it,” Makowski said. “They were being constantly interrupted. Sometimes, depending on specialty, it could take until 1 a.m. for them to have time to eat.”
“There is a need for some structural support for residents. They need access to healthy meals and breaks to actually eat them.”