

The importance of nutrition in physician performance and well-being

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Conflicts of Interest

None to declare

Agenda

- Current status of physician well-being and physician nutrition
- Barriers to healthy eating by physicians in training and practice
- Recognition of the importance of proper nutrition in the wellness of physicians
- Some dietary tips to improve work performance



LIFE & CAREER

Report reveals severity of burnout by specialty

JAN 31, 2017



Troy Parks
Staff Writer
AMA Wire

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Physicians from 27 specialties graded the severity of their burnout on a scale of one to seven in a recent Medscape survey—one being that it does not interfere, and seven indicating thoughts of leaving medicine. All but one specialty selected a four or higher. The most affected specialty? Emergency medicine, with nearly 60 percent of ED physicians saying they feel burned out, up from half in 2013. How can the rising prevalence and severity of burnout be addressed? Regulatory, systemic and practice environment issues appear to be key.

Too many bureaucratic tasks, spending too many hours at work, feeling like just a

The most burned out (and happiest) doctors, according to Medscape

Dermatologists were the most likely to report being 'happy' or 'very happy' at work

11:30 AM - January 13, 2017

More than half of U.S. physicians are burned out—but certain specialties are suffering more than others, according to Medscape's 2017 Lifestyle survey.

Medscape surveyed more than 14,000 doctors from over 30 specialties, who were asked about a range of topics, including burnout and bias against patients. The survey also collected demographic data such as gender, race, and ethnicity.

The state of burnout

The survey defined burnout as having feelings of cynicism, a low sense of personal accomplishment, and a loss of enthusiasm for work.

The survey found that the overall rate of physician burnout in 2017 was 51 percent, significantly higher than 2013's rate of 40 percent. More female physicians (55 percent) than male physicians (45 percent) said they were burned out, but the survey found that burnout appears to be leveling off in both women and men. The burnout rate varied by specialty, with the highest rates of burnout reported among physicians practicing:

- Emergency medicine (59 percent);



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40% in 2013 → 51% in 2017



The state of burnout
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• Emergency medicine (59 percent);

NATIONAL POST

Suicide rates for doctors are shockingly high. The stigma of mental illness prevents them from getting help

WOUNDED HEALERS

By Sharon Kirkey





Each year, a growing number of students do not get matched, putting the hundreds of thousands of dollars that provincial governments invest in educating and training future doctors at risk



Medical school graduate Robert Chu took his own life last fall after being passed over twice for medical residency programs. (COURTESY OF THE CHU FAMILY)



IMAGES IN CLINICAL
MEDICINE
Xanthogranulomatous
Pyelonephritis



ORIGINAL ARTICLE
Quintupling Inhaled
Glucocorticoids to Prevent
Childhood Asthma
Exacerbations



IMAGE CHALLENGE
What is the diagnosis?



IMAGES IN CLINICAL
MEDICINE
Acute Angle-Closure Glaucoma

Perspective Out of the Straitjacket

Michael S. Weinstein, M.D., M.B.E.



Article Figures/Media

Metrics

SEE HIM, MAYBE NOT SO CLEARLY. HE IS IN ISOLATION, IN A STRAITJACKET. HE'S JUST been committed, given a shot of haloperidol after he resisted going to the locked ward. He kicked, screamed, yelled, threatened...and now he cries.

In the middle of elective inpatient electroconvulsive therapy for treatment-resistant depression, he had become profoundly depressed, delirious, and hopeless. He'd lost faith in treatment and in reasons to live. He withdrew to bed and would not get up or eat. He had to be committed for his own safety. Several security guards had to forcefully remove him from his bed.

He happened to be a 48-year-old surgeon who worked in an academic medical center. He had gone to medical school intending to become a family doctor like his father. He never imagined becoming a

March 1, 2018

N Engl J Med 2018; 378:793-795

DOI: 10.1056/NEJMp1715418

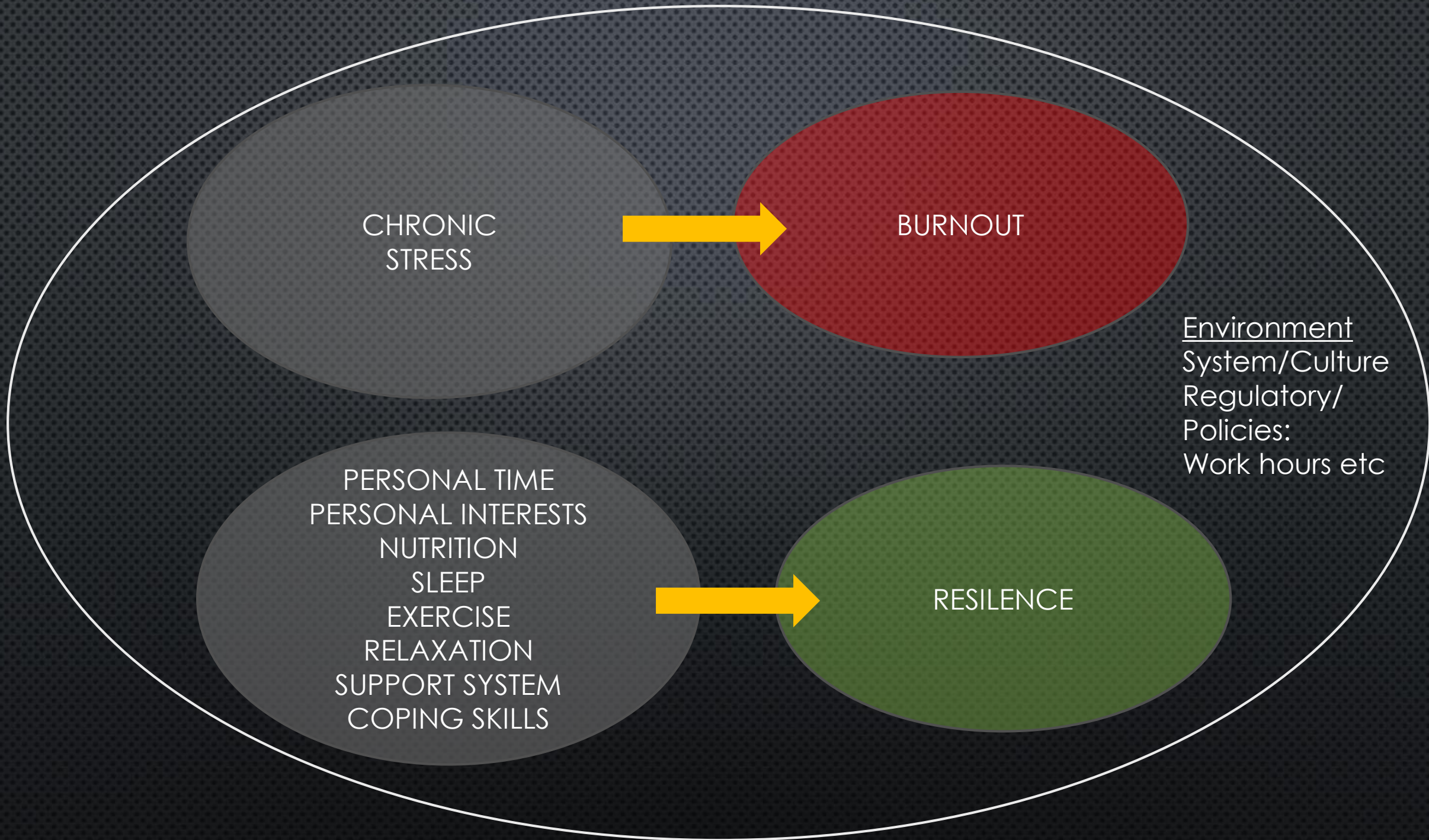
NEJM
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PHYSICIAN JOBS

MARCH 7, 2018

Internal Medicine
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Internal Medicine
Academic General Internal Medicine Albany



A novel approach to
physician wellbeing
is to address
their nutrition and hydration status

RESEARCH

Open Access

Food for thought: an exploratory study of how physicians experience poor workplace nutrition

Jane B Lemaire^{1*}, Jean E Wallace^{1,2}, Kelly Dinsmore³, Delia Roberts⁴

Abstract

Background: Nutrition is often a casualty of the busy work day for physicians. We aimed to explore physicians' views of their nutrition in the workplace including their perceptions of the impact of inadequate nutrition upon their personal wellness and their professional performance.

Methods: This is a qualitative study of a sample of 20 physicians practicing in a large urban teaching hospital. Semi-structured open ended interviews were conducted to explore physicians' views of workplace nutrition. The same physicians had agreed to participate in a related nutrition based wellness intervention study that compared nutritional intake and cognitive function during a day of usual nutrition patterns against another day with scheduled nutrition breaks. A second set of interviews was conducted after the intervention study to explore how participation in the intervention impacted these views. Detailed interview content notes were transcribed and analyzed independently with differences reconciled by discussion.

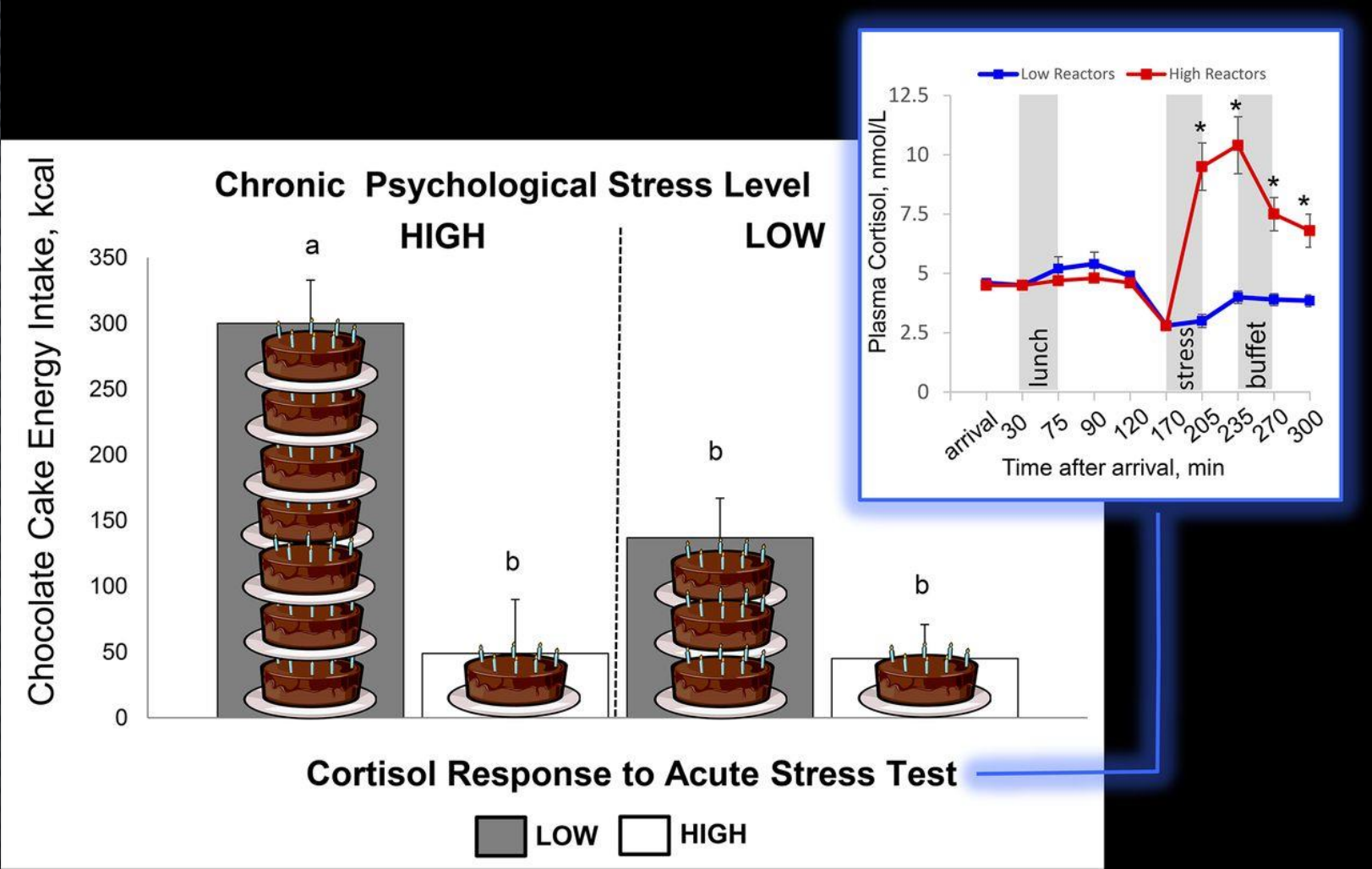
Results: At initial interview, participants reported difficulty accessing adequate nutrition at work, linking this deficit with emotional (irritable and frustrated), physical (tired and hungry), and cognitive (difficulty concentrating and poor decision making) symptoms. In addition to identifying practical barriers such as lack of time to stop and eat, inconvenient access to food and poor food choices, the physicians described how their sense of professionalism and work ethic also hinder their work nutrition practices. After participating in the intervention, most physicians reported heightened awareness of their nutrition patterns and intentions to improve their workplace nutrition.

Conclusions: Physicians report that inadequate workplace nutrition has a significant negative impact on their personal wellness and professional performance. Given this threat to health care delivery, health care organizations and the medical profession need to address both the practical and professional barriers identified.

Current Status of Physician Nutrition

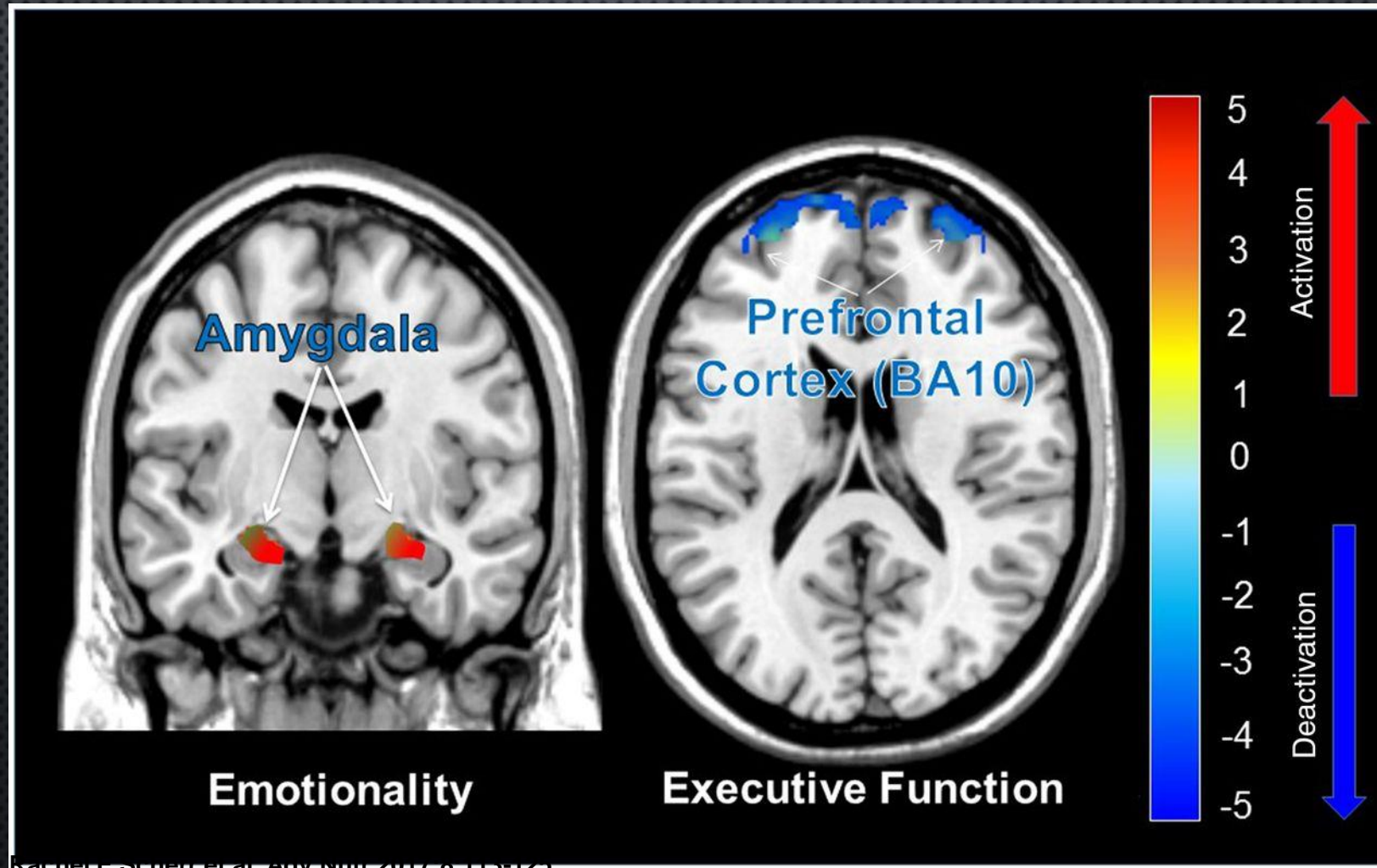
- Physicians and residents do not eat or drink adequately during working hours
- Physicians report that inadequate nutrition and hydration impacts them at work

Higher chronic stress exposure, as measured by the Wheaton Chronic Stress Questionnaire, and stress-induced cortisol hyporesponsiveness as associated with greater consumption of highly palatable food (e.g., chocolate cake) from a voluntary snack food buffet.



Rachel E Scherr et al. Adv Nutr 2017;8:113-125

In response to viewing pictures of high-calorie foods, compared with low-calorie foods and nonfood control images, women with more chronic stress and hypocortisolemia showed enhanced activation in brain regions linked to emotionality (e.g., amygdala) and deactivation in executive brain regions (e.g., Brodmann's area 10). BA10, Brodmann's area 10. Adapted from reference 28 with permission.



Kaehler, Scherl et al. Adv Nutr 2017;8:113-129

Barriers to Healthy Eating by Physicians

- Lack of nutrition breaks
- A sense of duty to put clinical work ahead of their own well-being
- Limited access to healthy food options at workplaces, food storage areas or areas to eat food





David Juurlink  @DavidJuurlink · 5h

Something is telling me not to eat the residents' popcorn.



6



5



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Review

Running on empty: a review of nutrition and physicians' well-being



Abstract

Resident and physician burnout is a complex issue. Adequate nutrition and hydration play important roles in the maintenance of health and well-being of all individuals. Given the high prevalence of burnout in physicians, we believe that in addition to issues related to heavy workload, structure and length of shifts, the current status of physicians' nutrition and hydration and their effects on their work performance and well-being should also be addressed. In this review, we summarise the current evidence on the potential effects of nutrition and hydration on physicians' occupational well-being and performance, identify gaps and discuss opportunities to address nutrition as one of the important means of improving physicians' well-being.

<http://dx.doi.org/10.1136/postgradmedj-2016-134131>

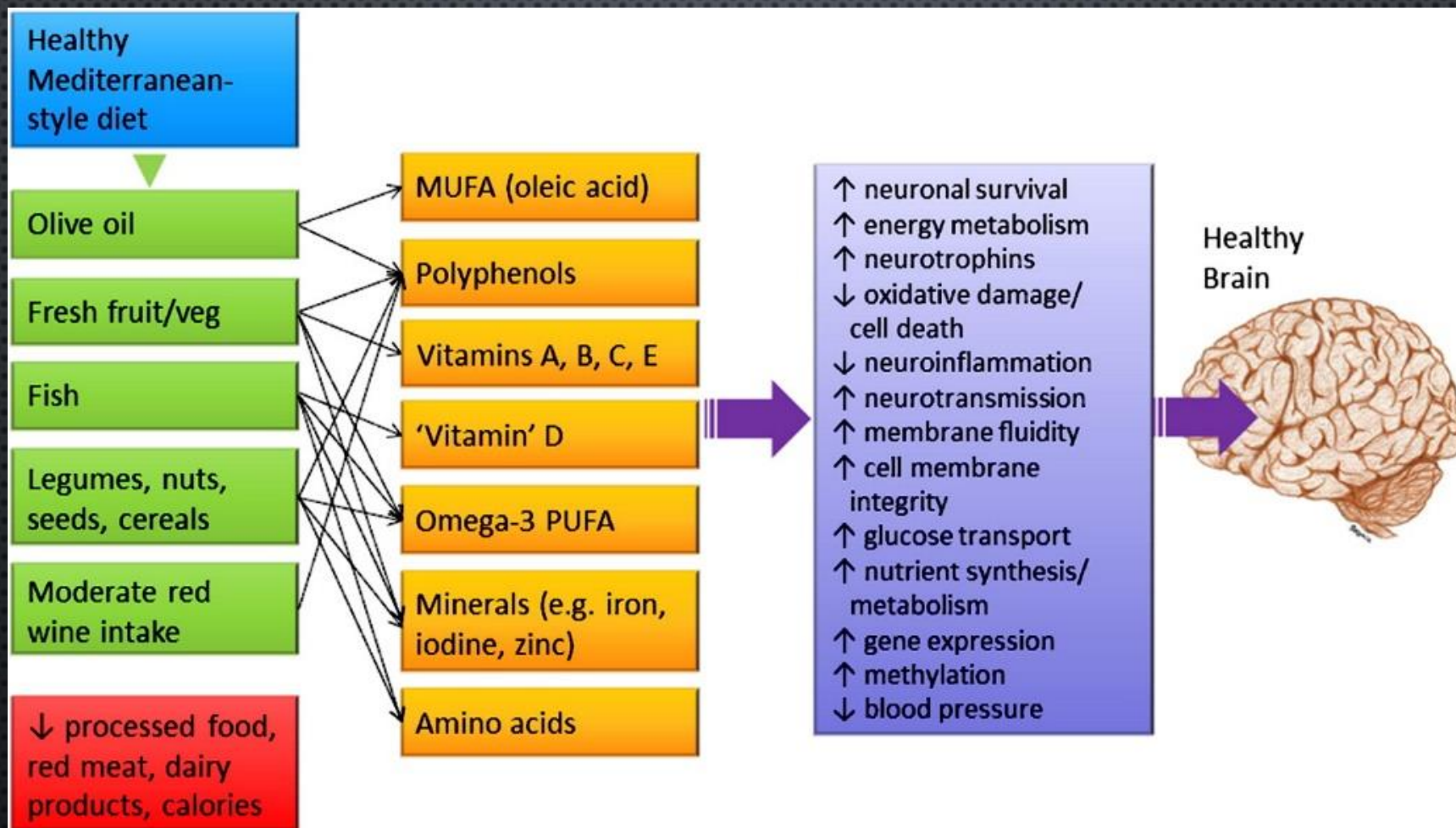
Statistics from Altmetric.com



Blogged by 1
Tweeted by 9
On 2 Facebook pages
15 readers on Mendeley

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Dietary Factors Impact Cognitive Performance & Brain Health



RESEARCH ARTICLE

Open Access

Physician nutrition and cognition during work hours: effect of a nutrition based intervention

Jane B Lemaire^{1*}, Jean E Wallace², Kelly Dinsmore³, Adriane M Lewin⁴, William A Ghali⁵, Delia Roberts⁶

Abstract

Background: Physicians are often unable to eat and drink properly during their work day. Nutrition has been linked to cognition. We aimed to examine the effect of a nutrition based intervention, that of scheduled nutrition breaks during the work day, upon physician cognition, glucose, and hypoglycemic symptoms.

Methods: A volunteer sample of twenty staff physicians from a large urban teaching hospital were recruited from the doctors' lounge. During both the baseline and the intervention day, we measured subjects' cognitive function, capillary blood glucose, "hypoglycemic" nutrition-related symptoms, fluid and nutrient intake, level of physical activity, weight, and urinary output.

Results: Cognition scores as measured by a composite score of speed and accuracy (Tput statistic) were superior on the intervention day on simple (220 vs. 209, $p = 0.01$) and complex (92 vs. 85, $p < 0.001$) reaction time tests. Group mean glucose was 0.3 mmol/L lower ($p = 0.03$) and less variable (coefficient of variation 12.2% vs. 18.0%) on the intervention day. Although not statistically significant, there was also a trend toward the reporting of fewer hypoglycemic type symptoms. There was higher nutrient intake on intervention versus baseline days as measured by mean caloric intake (1345 vs. 935 kilocalories, $p = 0.008$), and improved hydration as measured by mean change in body mass (+352 vs. -364 grams, $p < 0.001$).

Conclusions: Our study provides evidence in support of adequate workplace nutrition as a contributor to improved physician cognition, adding to the body of research suggesting that physician wellness may ultimately benefit not only the physicians themselves but also their patients and the health care systems in which they work.

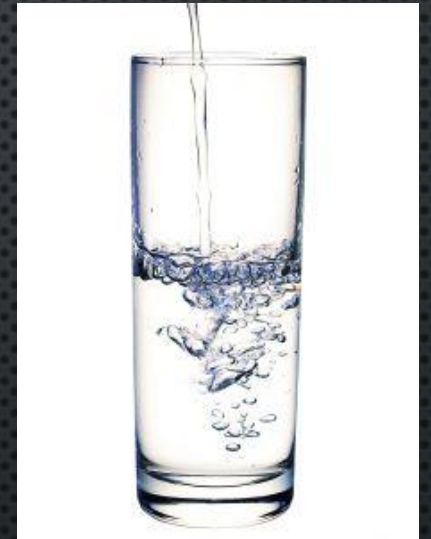
Nutrition and Short-term Cognitive Performance

- a. Hydration
- b. Meal timing
- c. Meal composition
- d. Meal size
- e. Strategic use of caffeine

Hydration

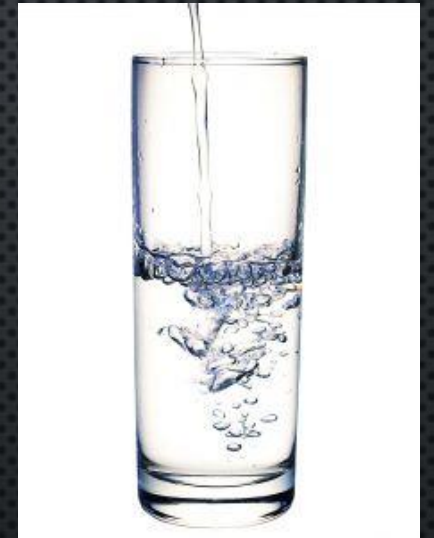
Signs of mild dehydration

- Impaired vigilance, short-term memory, concentration & decision making
- Increased perception of task difficulty
- Increased frequency of errors during a prolonged, monotonous driving task (Watson, Whale et al. 2015)
- Lowered self-reported alertness and ability to concentrate
- Sleepiness, tiredness
- Dizziness, light headedness, headache

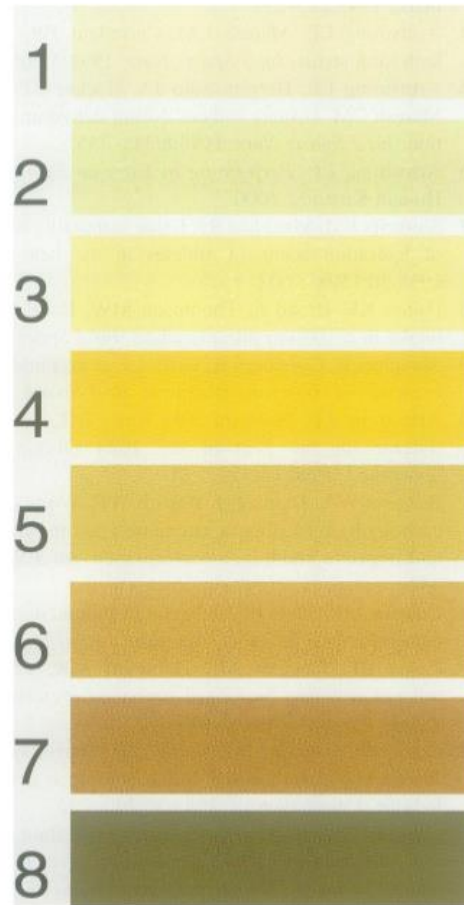


Hydration

- Among doctors and nurses dehydration was associated with small impairments in short-term functional working memory
- Drinking Recommended Daily Levels of water improves:
 - Visual and working memory
 - Executive function
 - Perceived energy levels,
 - Memory
 - Focused attention



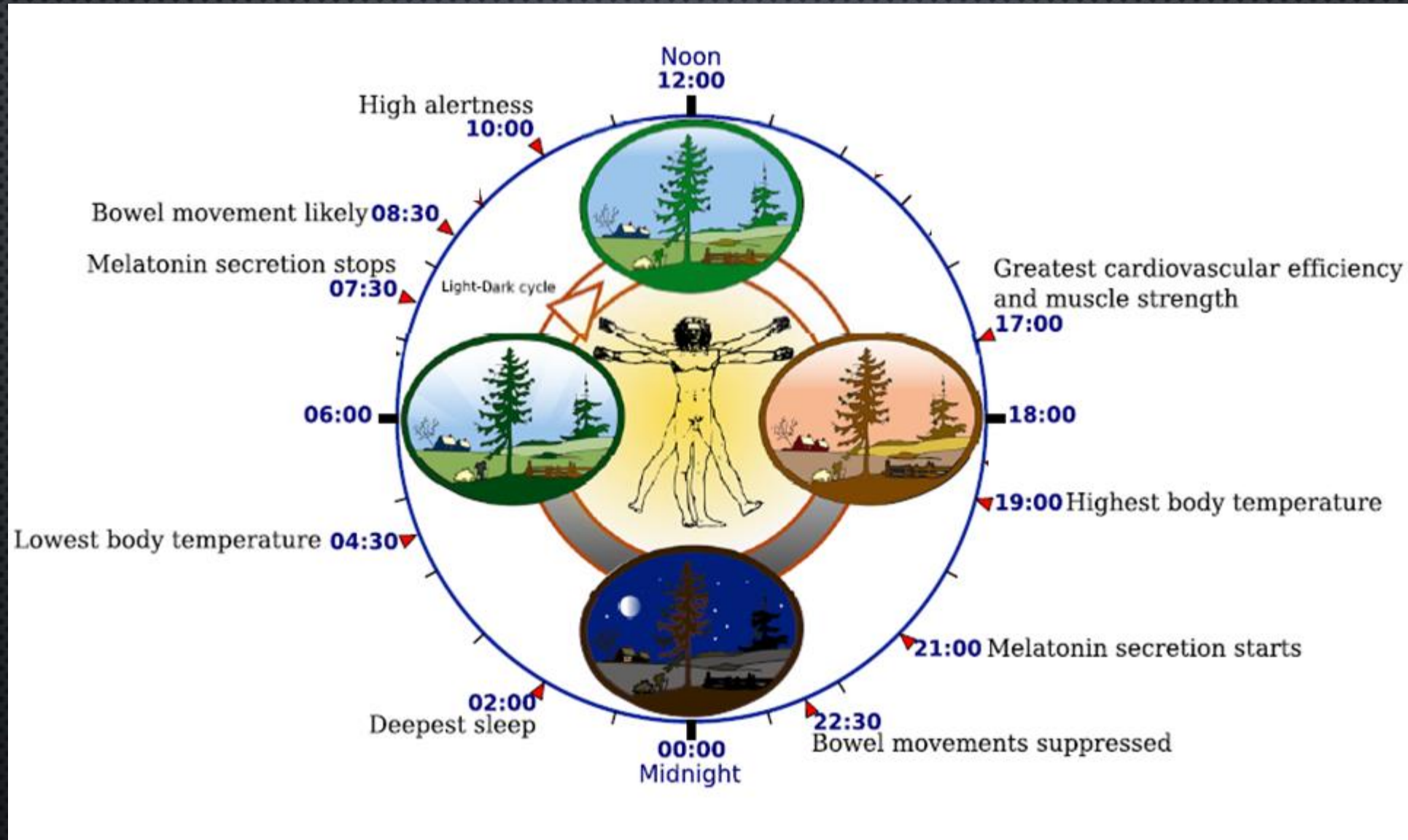
El-Sharkawy, Bragg et al. 2016; Stachenfeld, Leone et al. 2018 ; Benton, Jenkins et al. 2016



The Urine Color Chart shown here will assess your hydration status (level of dehydration) in extreme environments. To use this chart, match the color of your urine sample to a color on the chart. If the urine sample matches #1, #2, or #3 on the chart, you are well hydrated. If your urine color is #7 or darker, you are dehydrated and should consume fluids.

The scientific validation of this color chart may be found in the *International Journal of Sport Nutrition*, Volume 4, 1994, pages 265-279¹⁹⁴ and Volume 8, 1998, pages 345-355.¹⁹⁵ Adapted by permission from Larry Armstrong, 2000, *Performing In Extreme Environments*, (Champaign, IL: Human Kinetics).¹⁹⁶

National athletic trainers' association position statement: fluid replacement for athletes. J Athl Train. 2000 Apr;35(2):212-24.



Meal Timing

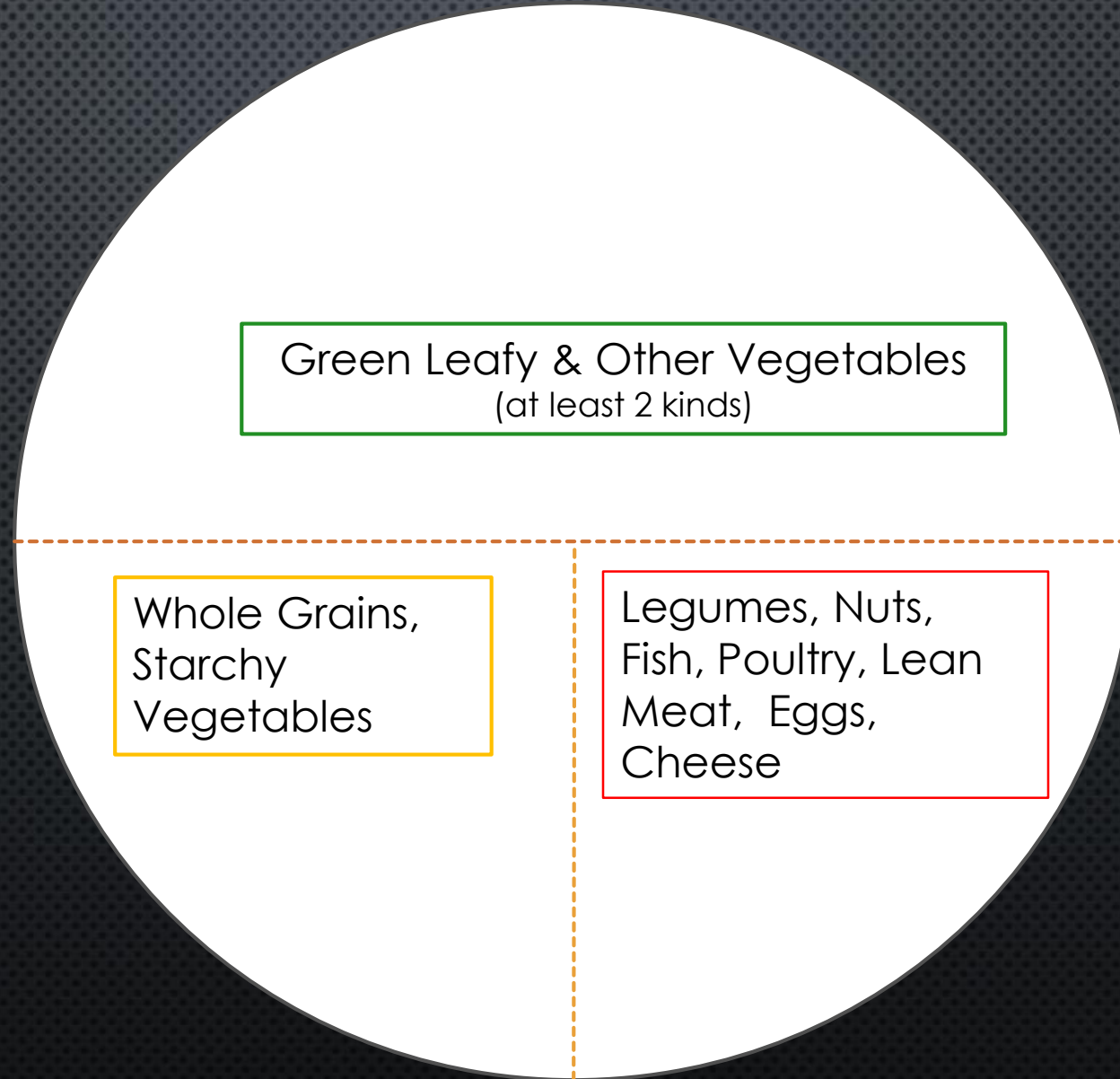
When working 2 to 6 am

- Avoid meals
- Keep hydrated
- Drink tea/coffee
- Chewing gum

When sitting & working 2 to 6 pm

- Light snacks (protein+ carbs)
- Keep hydrated
- Drink tea/coffee
- Chewing gum

Ideal Plate/Meal Composition

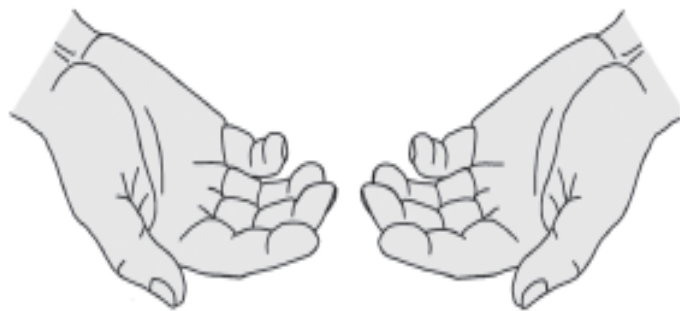


Portions Sizes



FRUITS*/GRAINS & STARCHES*:

Choose an amount the size of your fist for each of Grains and Starches, and Fruit.



VEGETABLES*:

Choose as much as you can hold in both hands.



MEAT & ALTERNATIVES*:

Choose an amount up to the size of the palm of your hand and the thickness of your little finger.



FATS*:

Limit fat to an amount the size of the tip of your thumb.

**The Canadian Diabetes Association*

Let's discuss which meal is more likely to keep you awake and alert:

- a) Grilled salmon salad: Green salad, grilled salmon, oil & vinegar dressing
- b) Lentil soup: Lentils, olive oil, lemon juice, salt, spices & herbs
- c) Chicken sandwich: Bread, grilled chicken breast, tomatoes, lettuce, avocado, mustard
- d) Hummus and baby carrots

Caffeine

- Effective dose : 40- 400 mg



- 15-30 min to enter the blood stream
- Effects peak about 75-90 min after ingestion & last about 3-6 hrs
- Optimal time
 - Before a nap (Caf-Nap)
 - Waking up before 5 am
 - After lunch

Summary

- Physician burnout is at a historical high, and physician wellness is an important topic
- Many physicians do not get adequate hydration and nutrition at work
- The main barriers are:
 - Lack of time for nutrition and hydration breaks
 - Limited access to drinking water and healthy food options
 - A medical culture that deemphasizes self-care
- Interventions at the individual, professional, and organizational levels are needed to improve physicians' nutrition

Thank you



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FIGURE 1 The Social Ecological Model provides a framework for considering what and how to evaluate the impact of a community-based nutrition intervention. Adapted from reference 1 with permission.