

## Young Physicians Section

## Killing Burnout with Exercise and Nutrition

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Young Physicians Section Board of Directors



The concept of “burnout” has recently surfaced and is starting to receive its much needed attention and concern. Burnout is described as a maladaptive response to job stressors as defined by emotional exhaustion, depersonalization, and a decreased sense of personal accomplishment.<sup>1</sup> The rate of burnout amongst emergency physicians (EPs) is incredibly high, reaching up to 75%.<sup>2</sup> Burnout is associated

with negative outcomes for EPs, including poor decision making at work, increased medical errors and negative attitudes towards patients and colleagues. Outside of the emergency department, burnout is associated with poor health and chronic illness.<sup>3</sup>

In surveying physicians, exercise is one of the key factors in building resilience, maintaining wellness, and decreasing burnout.<sup>4</sup> While it may not be the panacea for the prevention of physician burnout, exercise can serve as an avenue to obtain and maintain wellness. In addition, exercise and proper nutrition decreases the likelihood of EPs developing chronic disease such as diabetes, hypertension, and even dementia.

During clinical training, when work free time is minimal, residents often succumb to physical inactivity and poor diets. Dietary staples for the emergency resident include energy or “protein” bars, sandwiches and/or packaged foods. These foods tend to be fast, easy to prepare and satisfy (at least temporarily) hunger. However, they usually contain refined, processed carbohydrates and fats. Consumption of these refined carbohydrates leads to large fluctuations in blood sugar and eventually insulin resistance. Insulin resistance! That’s right, the very basis of diabetes and its long-term negative sequelae on health. The consumption of high sugar foods also decreases the endogenous production of growth hormone. Growth hormone serves as our fountain of youth; it promotes lean body weight, joint health, muscle mass, and the production of collagen to maintain our skin and hair. Without our supply of growth hormone, insulin resistance, obesity and its chronic health problems are accelerated.

In addition to diet/growth hormone, EPs become even more prone to insulin resistance from the high stress environment in which we work and because of shift work. Stress causes perpetually elevated levels of cortisol and a blunting of the normal diurnal cortisol curve, which in turn has been associated with insulin resistance.<sup>5</sup> Shiftwork also causes a disruption in the hypothalamic-pituitary-adrenal axis. In fact, one night of sleep deprivation can cause as much insulin resistance as six months of being on a junk food diet.<sup>6</sup> Insulin resistance, high cortisol levels combined with physical inactivity creates a pro-inflammatory milieu within our bodies. This inflammation has been attributed to obesity, diabetes, and depression. I believe that this pro-inflammatory lifestyle is leading to an increase rate of burnout in EPs.



Frequently, unhealthy habits that are developed during residency become engraved into the lives of EPs as they transition into practice. However, we are not destined to a life of stress, chronic disease and burnout. Our environment is loading the gun but we pull the trigger. We need to change our environment to work for us, not against us. How can we do this? To start, remove all the unhealthy options out of the equation by not keeping them in your house and/or your work environment. This might seem extreme but it can help kick start someone into making nutritious food selections including plenty of vegetables, lean proteins and complex carbohydrates. Healthy eating in this manner becomes the default and not the exception. In a similar light, preparing food ahead of time for the week (or for a few shifts) also helps to budget smart food options. Practical on shift habits includes scheduling hydration breaks and small breaks for nutritious snacks, which will facilitate steady blood glucose levels. By avoiding large fluctuations in blood sugar, you are lessening the likelihood of excessive “hangry” caloric intake post-shift.

Moreover, we cannot afford to not exercise. Exercise is medicine, and we need to be prescribing it to ourselves as well as our patients. We can decrease and even reverse insulin resistance with a combination of aerobic (cardiovascular) and anaerobic (strength training, high intensity intervals) exercise. We need to set realistic goals about exercise and attempt to schedule it in advance as you would schedule a meeting, or a shift. An impactful exercise program will combine the above modalities at least three to six times per week for at least 30 minutes. Ideally, exercise should be performed in a setting that is enjoyable for you as an individual so that it is maintainable. Options to choose from are vast and include group fitness classes, outdoor activities like hiking, dancing and weightlifting. Exercise and nutrition can serve to fuel your wellness tank. In this manner, your tank is full when the daily stressors we encounter try to empty it.

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Exercise is key in mitigating this insulin resistance and improving mental wellness and burnout. By using exercise as a tool to fight burnout, we can promote healthy lifestyles amongst EPs. Additionally, we as doctors have the responsibility of promoting healthy behaviors in our patients. How, though, can we preach ideologies that we don't practice and expect our patients to follow. In fact, it has been shown that sharing personal nutrition/exercise behaviors with patients improves our credibility and gives our patients more motivation. We need to empower ourselves, exercise, and eat nutritious foods. In doing so, we can prevent burnout, improve our own health, improve the health of our patients and the health of the world.

References

1. Arora, M et al. Review article: burnout in emergency medicine physicians. *Emerg Med Australas* (2013)
2. Kimo Takayasu J et al. Factors associated with burnout during emergency medicine residency. *Acad Emerg Med* (2014)
3. Shanafelt TD et al. The well-being of physicians. *Am. J. Med.* (2003)
4. Hassan TB et al. Sustainable working practices and minimizing burnout in emergency medicine. *Br J Hosp Med (Lond)* (2014)
5. Golden, S et al. Cortisol dysregulation: the bidirectional link between stress, depression, and type 2 diabetes mellitus. *Ann N Y Acad Sci* (2017)
6. Arble DM et al. Impact of sleep and circadian disruption on energy balance and diabetes: a summary of workshop discussions. *Sleep* (2015) ●

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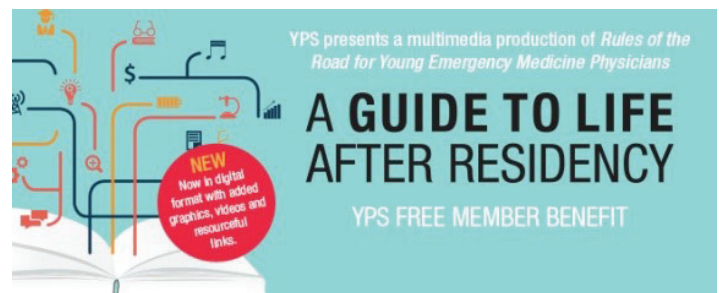
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