



## Don't Let Fatigue Be Your Waterloo Re-Energize the Right Way with Proper Nutrition, Activity

By Nataliya Schetchikova, PhD, ACA News Associate Editor

Napoleon Bonaparte once said that courage is only the second virtue in a soldier; the most important one is endurance of fatigue. Nowadays, fighting fatigue has become equally important for a growing army of people too busy or stressed to get adequate rest. In fact, according to a 2007 survey by the National Sleep Foundation (NSF), more than half of American women report getting inadequate sleep. And when too sleepy to function, 66 percent choose to “accept it and keep going.”<sup>1</sup>

Other cultures approach the problem a little differently. Many countries actively practice siesta—a 15 to 30 minute afternoon nap. Even Winston Churchill confessed that sleeping during the day helped him cope with responsibilities during the war and advocated that “for every purpose of business or pleasure, mental or physical, we ought to break our days and our marches into two.” Several recent studies support the beneficial effect of 10- to 30-minute naps on alertness, performance and learning ability.<sup>2-4</sup>

### Caffeine Quick Fix

In the United States, however, it is caffeine—not naps—that helps 78 percent of people cope with their responsibilities.<sup>5</sup> The benefits of caffeine are real: It improves mood and cognitive performance,<sup>6-9</sup> and coffee consumption can potentially decrease insulin secretion<sup>10</sup> and liver cancer risk.<sup>11</sup> On the negative side, regularly consumed caffeine can increase anxiety,<sup>12</sup> risk of headaches<sup>13</sup> and the inflammation process.<sup>14</sup> Cola beverages, but not coffee, also have been associated with an increased risk of hypertension.<sup>15</sup>

Caffeine is considered toxic—causing arrhythmia, tachycardia, vomiting, convulsions, coma or even death—only in amounts exceeding 5g. While the risk of toxicity is rare, the pervasiveness of caffeine warrants some caution. Many soft drinks, for example, contain only between 20 mg and 40 mg of caffeine per an 8-oz can;<sup>16</sup> however, today's specialty coffees can be very potent—ranging from 58 mg to 259 mg, and even up to 564 mg, per dose.<sup>17</sup>

In addition, caffeine is often added to medications. Over-the-counter anti-fatigue supplements typically contain 100 mg to 200 mg of caffeine per tablet, and prescription medications can include 32 mg to 200 mg of caffeine.<sup>18</sup> Other medications—selective serotonin reuptake inhibitors (particularly fluvoxamine), antiarrhythmics (mexiletine), antipsychotics (clozapine), bronchodilators (furofylline and theophylline) and some others—can inhibit caffeine metabolism, causing caffeine accumulation in the body.<sup>19</sup>

### Food for Energy

Instead of using caffeine to push ourselves to perform despite fatigue, preventing energy drops is a wiser approach, health experts advise. Aside from sleep, our performance—and even our mood—depends on balanced blood sugar levels.<sup>20-22</sup> With modern diets and lifestyles, the balance is hard to come by, says Scott Bautch, DC, DABCOH, former president of ACA's Council on Occupational Health. “We are all hypoglycemic—by 10 a.m., we are out of energy, and we reach for caffeine and donuts.”

While cautioning against seeking quick blood-sugar boosts, Dr. Bautch recommends juices, such as pomegranate, instead of caffeine or sugar, for those in urgent need of re-energizing.

The key to properly preventing blood-glucose slumps, which can lead to fatigue, headaches, craving sweets, depression, irritability and a host of other symptoms, is the old-fashioned basics of proper nutrition. In one study, a breakfast rich in fiber and carbohydrates caused higher alertness, while high-fat meals led to lower alertness and higher caloric intake throughout the day.<sup>23</sup> Another study showed that protein-rich or balanced meals, which cause less variation in blood glucose levels, improved cognitive performance.<sup>24</sup>

Although carbohydrates can rapidly increase energy levels, they can produce the opposite effect—fatigue and memory decline<sup>21</sup>—in people with poor glucose tolerance. Choosing carbohydrates with a low glycemic index (GI)—fruit and vegetables (except potatoes)—as opposed to high GI foods—corn flakes, white rice and bread—has been shown to improve memory<sup>25</sup> and cognitive performance.<sup>26</sup> Serving potato products cold, or with a vinegar dressing, lowers their GI.<sup>27</sup> Eating other high-GI foods, such as white bread, with something acidic, such as pickles, can also reduce their GI.<sup>28</sup>

Inadequate glucose is not the only thing contributing to fatigue. “Fatigue can result from anemia—iron, B<sub>12</sub>, B<sub>6</sub>, or folic acid deficiency,” says Juanee Surprise, DC, DAAPM, FAAIM, former president of ACA’s Council on Nutrition, who advocates a Mediterranean-style diet, adequate supplementation and stress-relief for staying energized throughout the day. She adds that omega-3 fatty acids, leafy green vegetables, and vitamins C, E and B<sub>12</sub> have been shown to improve memory and cognitive functioning.

### **Moving the Body**

Even with adequate sleep and nutrition, our lack of motion can regularly put us to sleep. Especially tiresome are repetitious desk jobs, such as computer data entry, says Dr. Bautch. “If you are an average white-collar worker, you need some kind of motion every 15 minutes.”

To prevent mental fatigue, Dr. Bautch advocates starting the day with exercise, taking frequent 5- to 15-second micro-breaks (shoulder rolls or stretching) throughout the day, getting up and walking every two hours, and, of course, taking advantage of the lunch break to “do the opposite” of what your job entails. For people with mentally challenging occupations, Dr. Bautch suggests a walk or other physical exercise; for those doing physically taxing work, some brain-stimulating activities, like puzzles.

Imbalanced body postures, such as slouching, also require the body to consume more energy, says Scott Donkin, DC, DACBOH, an internationally known wellness expert who has practiced in Lincoln, Neb., for 20 years. In addition to recommending “energy-efficient” standing positions, with feet shoulder-width apart, and sitting straight, which helps improve circulation, he advocates frequent 60-second “Stand up, Perk up” breaks that combine relaxation, breathing and stretching. “When you stretch, you elongate and elasticize your ligaments and muscles and lubricate the joints. Your joints will glide more, which will require less consumption of energy in the muscle,” he says.

To those in urgent need of quick re-energizing, Dr. Surprise also recommends aerobic exercise instead of coffee. “It’s quick and easy—and it stimulates brain chemicals that give us a lift.”

Whether re-energizing through sleep, nutrition, exercise or—better yet—a combination of all three, it’s clear that fatigue should not be taken lightly, says Dr. Bautch. “Fatigue is connected with depression, and anti-depressants are now the fastest-growing prescribed class of medications. There is no magic around simple old things—proper exercise, sleep and diet. We can’t keep taking stimulants as a remedy for not recovering from our lifestyle,” he concludes.

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