How a Lack of Sleep Affects Your Brain — and Personality

In 1959, Peter Tripp, a popular New York DJ, pledged to stay awake for 200 hours for charity while continuing to host his radio show. Studies into sleep deprivation were rare at the time so no one knew what to expect. This made it a major event, not only for Tripp’s millions of listeners, but also for the scientific community.

The subsequent impact of the “wakeathon” on Tripp’s mind was far more dramatic than anyone had expected. The personality of a man normally described as cheerful and upbeat appeared to significantly change as time went by. By the third day he had become highly irritable, cursing and insulting even his closest friends. Towards the end of his endeavor, he began to hallucinate and exhibit paranoid behaviors. But despite the concerns of the doctors monitoring him (and with the help of the stimulants they gave him), he persisted and finally went to bed after 201 hours of continuous wake time.

Modern laboratory studies have replicated some of the behaviors seen in Tripp as a consequence of sleep loss. Sleep deprivation or prolonged restricted sleep results in increasing irritability, worsening mood, and feelings of depression, anger, and anxiety. Some argue that sleep loss leads to heightened emotional reactivity.

Much like Tripp, who lashed out at his friends at the smallest inconvenience, sleep deprived participants in one study experienced greater stress and anger than rested control participants when asked to complete a simple cognitive test.

Brain imaging methods reveal why sleep deprivation can lead to irrational emotional responses. The amygdala, an area deep in the brain, is our emotional control center. When sleep deprived participants were shown emotionally negative images, activity levels in the amygdala were as much as 60% higher than levels in those who were rested.

The researchers also looked at how different brain areas were connected in these participants. They found that sleep deprivation had disrupted the connection between the amygdala and the medial prefrontal cortex. This was a critical insight as the medial prefrontal cortex itself regulates amygdala function. Sleep deprivation appears to cause the amygdala to overreact to negative stimuli because it becomes disconnected from brain areas that normally moderate its response.

Sleeping to learn

Another area of the brain that suffers dramatically from sleep deprivation is the hippocampus. This is a region critical for the storing of new memories. When people are deprived of sleep for even one night, their ability to memorize new information drops significantly. This was shown in one study to be due to an impairment in the hippocampus caused by sleep deprivation. When memorizing a set of pictures, sleep deprived participants showed less activation in the hippocampus compared to rested participants. This deficit in the hippocampus could be caused by sleep deprivation reducing its ability to write in new information.

Alternatively, the hippocampus may need sleep to move new information to be stored in other areas of the brain. In this case, lack of sleep may cause the storage capacity of hippocampus to fill up, preventing new information from being stored.

Lessons from the wakeathon

Many people aren’t getting enough sleep as people sacrifice rest time to work, especially on devices which emit blue light. This light makes falling asleep more difficult, further eroding the quantity and quality of sleep. We need to rediscover the value of sleep and appreciate the benefits it brings to our brains. Time spent sleeping is an essential investment towards being smarter, making better decisions, and leading a happier life. So get snozzing.

Source: TheConversation
Your Diet and Kidney Disease & 7 Superfoods to Help

If you have chronic kidney disease (CKD), it’s important to watch what you eat and drink. That’s because your kidneys can’t remove waste products from your body like they should. A kidney-friendly diet can help you stay healthier longer. It’s a way of eating that helps protect your kidneys from further damage. It means limiting some foods and fluids so certain minerals don’t build up in your body. At the same time, you’ll have to make sure you get the right balance of protein, calories, vitamins, and minerals.

Most natural foods provide nutritional benefits, but some are considered superfoods. While there is no scientific definition of the term “superfood,” most consider it to be a food that has an unusually high amount of antioxidants, vitamins or other nutrients.

Here are 7 kidney-friendly superfoods that pack a nutritional punch for overall health:

1. **Apples**: Apples are a good source of pectin, a soluble fiber that can lower cholesterol and glucose levels. The peel is a significant source of antioxidants. For a tasty treat, sprinkle apples with cinnamon.

2. **Blueberries**: Blueberries are a low-calorie source of fiber and Vitamin C and may protect against cancer and heart disease and for possible brain health benefits. Eat them raw, mix them in a fruit smoothie or add them to cereal.

3. **Fish High in Omega-3 Fatty Acids**: Omega-3 fatty acids are essential nutrients our body cannot make and have many important functions in the body including controlling blood clotting and building cell membranes in the brain. Salmon is a favorite “go-to” source of omega-3 fatty acids but also consider mackerel, albacore tuna, herring and sardines.

4. **Kale**: This glorious green is packed with Vitamins A and C, calcium, and many other important minerals. Kale is also a serious source of carotenoids and flavonoids, which may translate to super eye health and anti-cancer benefits.

5. **Strawberries**: This delicious red fruit is a powerhouse of vitamins, antioxidants and fiber. Toss them in a salad or even eat them plain for a healthy treat!

6. **Spinach**: This leafy green vegetable is high in vitamins A, C, K and folate. The beta-carotene found in spinach is important for boosting your immune system health and protecting your vision. In your salad, try spinach, or make a simple side dish of steamed spinach.

7. **Sweet Potatoes**: These super spuds are packed with beta-carotene and are an excellent source of vitamins A and C. One medium (5-inch long) sweet potato contains 112 calories and nearly 4 grams of fiber, according to the USDA National Nutrient Database. You can eat them mashed or even make your own oven-baked fries.

Source: Kidney.org, WebMD

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**Healthy Cooking: Balsamic Veggie Pasta**

**Ingredients:**
- 12 oz uncooked pasta, such as penne
- 3 tbsp. olive oil, divided
- 1 red onion, thinly sliced
- 1 lb asparagus, cut into bite-sized pieces
- 1 small head of broccoli florets, cut into bite-sized pieces
- 1 red bell pepper, thinly sliced
- Salt and freshly-cracked black pepper, to taste
- 5 cloves garlic, minced
- 3-4 tbsp. balsamic vinegar
- Freshly-grated Parmesan cheese

**Directions:**
1. Cook pasta in a large stock pot of generously-saloted boiling water according to the package instructions. Then drain and set aside.
2. Meanwhile, while the pasta is cooking, heat 2 tablespoons of olive oil in a large pan over medium-high heat. Add the onion and sauté, stirring occasionally, for about 4 minutes. Add the asparagus, broccoli, and bell pepper, and season the mixture with salt and pepper. Continue sautéing for another 4-5 minutes, stirring occasionally and adding in another tablespoon of oil if needed. Stir in the garlic and continue sautéing for another 1-2 minutes until the garlic is fragrant. Remove from heat.
3. After the veggies and pasta are cooked, return the stockpot to the stove over medium-high heat. Add the remaining 1 tbsp. of oil, pasta, veggies, balsamic vinegar, and lots of black pepper, and toss to combine. Sauté for 1-2 minutes so that the pasta is very lightly toasted.
4. Remove from heat and serve with lots of fresh Parmesan.
8 Ways to Celebrate National Nutrition Month

It’s March, National Nutrition Month, when the Academy of Nutrition and Dietetics spotlights the important role of healthful eating and physical activity to control weight and prevent chronic disease. But these aren’t snap-your-fingers, easy-to-achieve goals to execute in fast-paced, convenience-driven Washington. In honor of National Nutrition Month, I exchanged e-mails with eight area registered dietitian nutritionists, asking them to divulge their secret weapons.

Make a plan
“If you fail to plan, then you plan to fail,” says Elana Natker, who works in the Washington office of FoodMinds, a nutrition communications company. Natker creates her weekly dinner menu on Sunday, inventories what’s in and out of stock and then shops. She notes, “These steps minimize my 6 o’clock scramble and the expectation of my young children that I’m a short-order cook.”

Others ditto Natker’s strategy. “Our weekly menu and coordinated shopping list are in hand on my supermarket runs. The results: We eat healthier, waste less food and time, and there’s less stress at dinner time,” says Nancy Brenowitz Katz, manager of the Healthy Schools Act Initiatives in the District and president of the Metropolitan Area Dietetic Association.

Keep healthful foods in the kitchen
High among their goals is to eat plenty of fruits and vegetables. They’ve devised strategies to make this happen.

“I toss a variety of colorful vegetables, onions, carrots, potatoes, hearty root vegetables in olive oil, herbs and spices. I roast and refrigerate them,” suggests Wendy Anderson, an in-store nutritionist for Giant Food in Severna Park. They’re handy as a full-flavor side dish, snack or meatless entrée. Thanks to advance prep, Danielle Omar, who owns Food Confidence, a nutrition counseling practice in Fairfax, makes salads in a jiffy. “I keep all my salad fixings together on a tray in the refrigerator. Out comes the tray. I prepare the salads, and then back the tray goes.”

“My must-have-on-hand vegetables are onions, avocados, jalapeños and tomatoes. I chop various combinations for quick meals like paninis, flatbread pizza or quesadillas,” adds Dana Magee, a diettian at the nutrition counseling practice Rebecca Bitzer & Associates.

Load up early, go light later
Americans tend to eat a light breakfast or skip it, grab lunch on the run and eat the bulk of our calories from dinner on through the evening. Two experts upend this pattern.

Sarah Waybright, owner of the WhyFoodWorks healthful dinner party service, front-loads her day to stabilize hunger hormones and avoid nighttime cravings. Breakfast is her largest meal. Next, she eats a mid-morning snack. “By the end of lunch, I’ve eaten three-quarters of my calories. I’m fueled while I work and don’t sleep on loads of calories at night,” she says. If your mornings are too rushed, try to fuel up at lunch. “I don’t have time for a big breakfast, so I chow down on a big, healthy lunch. This helps me shrink my dinner and limit evening snacking,” Hasemann says.

Have snacks ready
It can be hard to hunt down healthful snacks on the go. So bring your own. “I have plenty of those dollar-store quarter-cup plastic containers and pack portion-controlled snacks to go in them,” Magee says, “from nuts to trail mix, dried fruit, whole-grain crackers or a few cookies. I use these containers to pack peanut butter, hummus or salad dressing for parts of meals on the run, too.”

Katz says containers are also helpful on long trips with kids. “I prepare and pack a variety of options so I can keep offering something new.”

Satisfy, don’t deprive
When it comes to temptations, Heather Calcote, a wellness coach for Wellness Corporate Solutions and author of the blog Dietitian on the Run, practices a 90/10 approach. “Ninety percent of the time I choose healthy foods, and I leave 10 percent wiggle room for celebrations, restaurant meals and sweets.”

And Waybright allot 200 calories a day for sweet treats. “Chia pudding, mascarpone and berries or homemade hot chocolate are my have-on-hand, go-to splurges,” she says.

Earn your calories
Maintaining a healthy weight depends on burning sufficient calories, too. In addition to planning out meals and practicing portion control, these nutrition experts fit physical activity into their hectic lives in different ways, depending on the season. They walk, run, go to a gym, play team sports, use fitness apps or videos and burn calories by taking stairs and parking farther from their destinations. Celebrate National Nutrition Month this March by borrowing a few tactics from their playbooks.

Source: Hope Warshaw, The Washington Post
March is National Nutrition Month® and this year’s theme is “Go Further with Food”. Whether it’s starting the day off right with a healthy breakfast or fueling before an athletic event, the foods you choose can make a real difference. Preparing your foods to go further, by planning meals and snacks, you can also help to reduce food loss and waste. This year’s theme for National Nutrition Month® encourages us to achieve the numerous benefits healthy eating habits offer, but it also urges us to find ways to cut back on food waste. Learning how to manage food resources at home will help you “Go Further with Food”, while saving both nutrients and money.

Here are some key messages:

1. Include a variety of healthful foods from all of the food groups on a regular basis.
2. Consider the foods you have on hand before buying more at the store.
3. Buy only the amount that can be eaten or free what you have bought within a few days. Plan ways to use leftovers later in the week.
4. Be mindful of portion sizes. Eat and drink the amount that is right for you.
5. Use good food safety practices.
6. Find activities that you enjoy and be physically active most days of the week.

Source: Academy for Nutrition and Dietetics – National Nutrition Month

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