The Wakeup Diet™ for Narcolepsy: A Chronobiological Approach *by James T. Hawes*

Nearly all my life, I've suffered with narcolepsy and cataplexy. Neurologists at two different sleep labs examined me, first in the 1970s and then in the 1990s. My doctors prescribed three different medications. None of these medications helped. Instead, they worsened my suffering and converted it to agony and despair.

This situation was a blessing in disguise. It inspired me to start applying lessons that I'd learned about coping with my disorder. For instance, in high school, I was a cross-country runner. As an athlete following the team's training schedule, I learned that strenuous, regular exercise could moderate the appetite. Regular exercise could also cause sleep and wakefulness to occur on a predictable schedule. Yet eating greasy or starchy foods by day could upset the schedule and inhibit performance.

Chronobiology is the study of biological rhythms, particularly the circadian rhythm. I use chronobiological methods to cope with my narcolepsy and cataplexy. My methods are diet and exercise: I consume only small protein meals during the day, but all food groups at night. Before eating, I exercise twice daily. I developed the program over many decades, but have followed it exclusively since 1992. ***(See: www.wakeupdiet.com)***

Zeitgebers

Typically, narcolepsy damages the hypothalamus gland in the brain. The hypothalamus is part of a circadian pacemaker. Many behaviors depend on this pacemaker. For example, hunger, thirst, body heat, the sleep-wake cycle, physical activity, *even sex drive* all depend on this system!

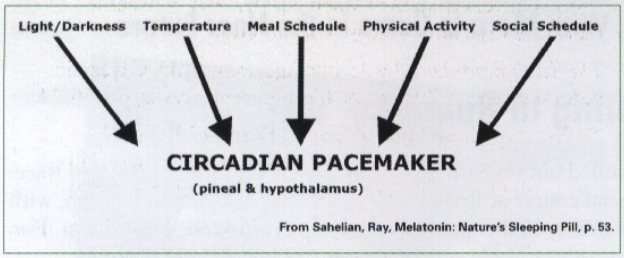


Figure 1. Inputs of the circadian pacemaker

Now let's look at the inputs of the pacemaker. Athletes know that we can program the pacemaker by altering our habits. Chronobiologist Dr. Charles Ehret notes that we can *entrain* the pacemaker by changing our meal schedule ***(Figure 1)***. In other words, we can adjust the pacemaker based on what and when we eat. The same goes for changes in light and darkness, temperature, physical activity and our social schedule. Ehret calls these cues *zeitgebers* ("time givers"). Zeitgebers fine-tune the circadian pacemaker. This idea is the basis of my Wakeup Diet™. The object is to coordinate our sleep-wake cycles with everyone else's by synchronizing our pacemakers. That is, particular, regular habits emulate what narcoleptic pacemakers can't do automatically.

A Day on the Wakeup Diet™

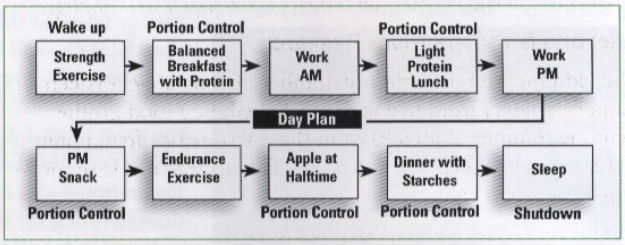
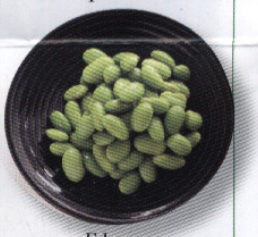


Figure 2. Sample Day Plan for Wakeup Diet™

How does the diet work? Since this diet supports circadian health, *timing* is essential. I eat, exercise, and sleep on a prescribed schedule. Breakfast includes protein plus a few carbohydrates: A tin of water-packed sardines. A *quarter cup* of bran flakes with a few raisins. Plus a banana. The usual beverage is water or *unsweetened*, plain soymilk. When I eat hot cereal, I heat only two tablespoons *(never more!)* of oatmeal or Malt-O-Meal. (Hot cereals and granola, though they include some protein, are largely "sleepy starches.") If no amount of these starches allows alertness, I switch to a carb with a lower glycemic index. For example, green beans. *(62 Natural Ways to Beat Jet Lag* provides a handy list of protein and carbohydrate foods. Also see Agatston's *South Beach Diet.)*



Edamame

Black bean burger

Greek yogurt

If I awake in the middle of the night, I eat a small, starchy pre-breakfast. Then I soon drift asleep. In the morning, I exercise. Then I eat only the breakfast protein *(sardines)*.

I exercise before breakfast and dinner. My morning workout includes sit-ups, stretches with and without a resistance band, leg lifts, reverse sit-ups and light weights, etc. On alternate days, I add pushups. Before dinner, I exercise again. Evening exercises include resistance band stretches, rowing,

continued on page 5

The Wakeup Diet™ for Narcolepsy: A Chronobiological Approach *continued from page 4*

some light weights, a long ride on a stationary bike, etc. On alternate days, I add a power walk on a treadmill. The idea is this: Morning exertion snaps me *wide awake*. Similarly, evening exercise tires me, so that I sleep better. Interested in trying the program? I suggest tailoring your routine to your life and fitness level.

For lunch, I eat a bun-less, vegan soy burger. The beverage is water. There are *no midday naps*, as they would upset circadian rhythms. At dinner, the main course can be home-cooked or a prepared dinner. (Beverage: Plain, unsweetened soymilk.) At the end of dinner, I eat a starchy snack. (*Natural* peanut butter and raisins on bread, plus a cup of *non-fat, plain* Greek yogurt.) For me, the snack provides a deep sleep *almost immediately*.

Results & Independent Research

Scheduling exercises cut my number of daily attacks (sleep and cataplexy) from five to three. Scheduling food groups cut my number of attacks from three to one or often, none. Hypnagogic effects are *way down*. The protein meals suppress appetite between meals.

I find that the program sharpens daytime alertness and offers more refreshing, better integrated nighttime sleep. An acquaintance who is on the diet reports similar results. A recent study at Duke University is consistent with my positive experience. The Duke diet is a high-protein regimen for people with narcolepsy. This diet achieved an 18-percent alertness improvement on the Epworth scale. Dr. Sidney Baker's *The Circadian Prescription* also parallels my diet. Baker's program promises better sleep, energy, and mental acuity.

The *Wired* magazine blog discusses related research on glucose and sleep: Researchers concluded that glucose might cause sleepiness by suppressing the neurotransmitter orexin. A study at La Trobe University may support the use of carbohydrates for enhanced sleep. Researchers found that non-narcoleptic people become sleepy after consuming glucose, but PWNs become *even sleepier*. Here's where narcoleptic behavior might provide an insight into new treatments for everyone.

***Note:** Each of us may react differently to major changes in diet, activity levels, and so on. Please consult with your health provider in making such changes.*

Scan for free information.

Further Reading

- **www.wakeupdiet.com**: Web home of my diet. How-to, links, FAQs.
- *Body Rhythm: The Circadian Rhythms Within You*, by Lee Weston. We can program the body by changing our habits, pp. 62, 94.
- *The Circadian Prescription*, by Sidney MacDonald Baker, M.D. Circadian aspects of medication, p. 9; circadian aspects of disease, pp. 187-188 . Baker's Circadian Diet (CD) is similar to the Wakeup Diet™. **CAUTION:** CD *isn't* for PWN. PWN should avoid Baker's "rhythmic shakes" that contain yogurt! Baker cites Charles Ehret for inventing the daytime protein, nighttime carbohydrate strategy, pp. 4-5.
- "Diet Therapy for Narcolepsy," by A.M. Husain, W.S. Yancy, Jr., S.T. Carwile, P.P. Miller, E.C. Westman, in *Neurology* 62. High-protein program, but reduces carbs, even at night. This ketogenic program also requires high fat content.
- *Melatonin: Nature's Sleeping Pill*, by Ray Sahelian, M.D. Circadian pacemaker diagram, p. 53; supports proteins by day and carbohydrates by night, pp. 64-65.
- *Overcoming Jet Lag*, by Dr. Charles F. Ehret & Lynne Waller Scanlon. What circadian pacemaker affects, p. 21; origin of therapy, p. 51; diet, pp. 59-60.
- *62 Natural Ways to Beat Jet Lag*, by Charles B. Inlander, & Cynthia H. Moran. Circadian and homeostatic clocks, p. 3; influences on resetting, p. 14; "proteins perk and carbos crash," p. 116; carb & protein foods list, pp. 147-152.
- "Sleepiness After Glucose in Narcolepsy," by D. Bruck, S. Armstrong, G. Coleman. *Journal of Sleep Research 3*. La Trobe University study: Concludes that PWN become unusually tired after glucose consumption.
- *The South Beach Diet*, by Arthur Agatston, M.D. Glycemic index concept, p. 20; low vs. high-glycemic carbs, pp. 70-74.
- "What is the Best Time of Day to Exercise? Research may help determine the best time of day for exercise," by Elizabeth Quinn. About.com (accessed October 4, 2012).
- "Why Sugar Makes Us Sleepy (And Protein Wakes Us Up)," by Jonah Lehrer. Wired Science Blogs/Frontal Cortex, Wired.com/wiredscience (accessed October 26, 2012). Sugars suppress orexin/hypocretin.
- *Narcolepsy: Pathophysiology, Diagnosis, and Treatment*, by Christian R. Baumann, Claudio L. Bassetti & Thomas E. Scammell, eds., with this article…
- "Etiology and Genetics of Human Narcolepsy," by Emmanuel Mignot. Hypothalamus damage as cause of narcolepsy, p. 13.