SNOOZE, YOU WIN
By Christopher Ketcham
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http://www.mensjournal.com/healthFitness/0601/napping_power.html

According to new studies, nothing tunes up mind and body like a good nap. But there's an art to catching the right kind of z's.
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When billionaire adventurer Steve Fossett broke the record for around-the-world solo jet flight last March, he slept just 60 minutes in 67 hours of flight time -- 60 minutes broken into two- and three-minute naps. "I slept when I needed it and awoke refreshed," he says. Fossett, who holds world records in ballooning, sailing, and flying, adds that none of his feats could have been done without these micro-variety "power naps."

So what makes a power nap effective? Think of it as an investment with the greatest return in the least amount of time, a kind of super-efficient sleep that fits nicely in a high-pressure schedule: say, between business meetings or in the minutes before a game.

Napping in general benefits heart functioning, hormonal maintenance, and cell repair, says Dr. Sara Mednick, a scientist at the Salk Institute for Biological Studies who is at the forefront of napping research. A power nap, says Mednick, simply maximizes these benefits by getting the sleeper into and out of rejuvenative sleep as fast as possible. No surprise that Lance Armstrong's coach, Chris Carmichael, says that "naps were critical in his overall training plan." In Manhattan, napping has become a lucrative business: MetroNaps in the Empire State Building provides darkened cot-like redoubts that attract Broadway actors between shows as well as investment bankers who otherwise would fall asleep at their desks. And in Iraq, U.S. Marine commanders have mandated a power nap before patrols.

Here's how the power nap works: Sleep comes in five stages that recur cyclically throughout a typical night, and a power nap seeks to include just the first two of them. The initial stage features the sinking into sleep as electrical brain activity, eye and jaw-muscle movement, and respiration slow. The second is a light but restful sleep in which the body gets ready -- lowering temperature, relaxing muscles further -- for the entry into the deep and dreamless "slow-wave sleep," or SWS, that occurs in stages three and four. Stage five, of course, is REM, when the eyes twitch and dreaming becomes intense.

The five stages repeat every 90 to 120 minutes. Stage one can last up to 10 minutes, stage two until the 20th minute. Extenuating circumstances, like manning the controls of a jet, aside, experts believe that the optimal power nap should roughly coincide with the first 20 minutes in order to give you full access to stage two's restorative benefits. In addition to generally improving alertness and stamina, stage two is marked by a certain electrical signals in the nervous system that seem to solidify the connection between neurons involved in muscle memory. "It's like a welding machine," says Mednick. "When you wake up, your neurons perform the same function as before, but now faster and with more accuracy," making the 20-minute nap indispensible to the hard-working athlete looking to straighten out his putter or baseline shot.

Mednick's most recent research also shows that power naps can lift productivity and mood, lower stress, and improve memory and learning. In fact, Mednick has found through MRIs of nappers that brain activity stays high throughout the day with a nap; without one, it declines as the day wears on. Tell that to the boss next time he finds you passed out at your desk.

There is, however, a pitfall in all this sleeping around. You have to carefully time the duration of your nap in order to avoid waking in slow-wave sleep. This can produce what's known as sleep inertia. That's when the limbs feel like concrete, the eyes can't focus, the speech is slurred, the mind is sluggish. Sleep inertia can ruin your day. You must keep the nap to 20 minutes or slightly less, and if you need the extra sleep, wait until the 50-minute mark. This will safely keep you on the power side of your nap.

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GETTING THE PERFECT NAP

Everyone, no matter how high-strung, has the capacity to nap. But the conditions need to be right. Dr. Sara Mednick, who will publish a book on napping in the spring (tentatively titled Take Back the Nap!, Workman Publishing) has some helpful hints:

1. The first consideration is psychological: Recognize that you're not being lazy; napping will make you more productive and more alert after you wake up.

2. Try to nap in the morning or just after lunch; human circadian rhythms make late afternoons a more likely time to fall into deep (slow-wave) sleep, which will leave you groggy.

3. Avoid consuming large quantities of caffeine as well as foods that are heavy in fat and sugar, which meddle with a person's ability to fall asleep.

4. Instead, in the hour or two before your nap time, eat foods high in calcium and protein, which promote sleep.

5. Find a clean, quiet place where passersby and phones won't disturb you.

6. Try to darken your nap zone, or wear an eyeshade. Darkness stimulates melatonin, the sleep-inducing hormone.

7. Remember that body temperature drops when you fall asleep. Raise the room temperature or use a blanket.

8. Once you are relaxed and in position to fall asleep, set your alarm for the desired duration (see below).

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HOW LONG IS A GOOD NAP?

THE NANO-NAP: 10 to 20 seconds. Sleep studies haven't yet concluded whether there are benefits to these brief intervals, like when you nod off on someone's shoulder on the train.

THE MICRO-NAP: two to five minutes. Shown to be surprisingly effective at shedding sleepiness.

THE MINI-NAP: five to 20 minutes. Increases alertness, stamina, motor learning, and motor performance.

THE ORIGINAL POWER NAP: 20 minutes. Includes the benefits of the micro and the mini, but additionally improves muscle memory and clears the brain of useless built-up information, which helps with long-term memory (remembering facts, events, and names).

THE LAZY MAN'S NAP: 50 to 90 minutes. Includes slow-wave plus REM sleep; good for improving perceptual processing; also when the system is flooded with human growth hormone, great for repairing bones and muscles.

AFTERNOON NAPS MAY BOOST HEART HEALTH
By Roxanne Khamsi
New Scientist
February 12, 2007

http://www.newscientist.com/article/dn11160-afternoon-naps-may-boost-heart-health.html

The next health trend might come out of nursery school instead of the gym: A study of nearly 24,000 people found that those who regularly took midday naps were nearly 40% less likely to die from heart disease than non-nappers.

Researchers suggest that siestas might protect the heart by lowering levels of stress hormones.

Dimitrios Trichopoulos at Harvard School of Public Health in Boston, Massachusetts, US, and colleagues recruited about 24,000 volunteers between the ages of 20 and 86, in Greece, who had no history of heart disease, stroke or cancer. The researchers collected information about the participants' napping habits and followed them for six years, on average.

After controlling for risk factors such as diet and physical activity, Trichopoulos's team found that people who took at least three naps per week lasting 30 minutes or longer had a 37% reduced risk of death from heart disease than their non-napping counterparts.

Stress hormones

Those subjects who occasionally took short naps lasting less than half an hour had a 12% lower risk than people who never napped.

"If the finding holds true, that's an amazing discovery," comments Rajiv Dhand, a researcher at the University of Missouri-Columbia in Missouri, US, who was not involved in the study. The results suggest that taking naps might be just as important to protecting the heart as other measures, he says, including eating right and taking cholesterol-lowering drugs.

The apparent protective effect of these siestas was more pronounced among working individuals than retirees. The researchers suggest that the naps might boost heart health by keeping levels of stress hormone in check.

They add that this potential stress-busting effect might be most pronounced in people burdened by heavy workloads. Previous studies have linked high levels of stress hormones to increased inflammation in the body and damaged blood vessels.

Earlier work has also indicated that taking naps can improve learning and productivity (see "Snooze your way to high test scores" <http://www.newscientist.com/article/dn10138.html > and "Power naps boost work performance" <http://www.newscientist.com/article/dn2328.html>).

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