

It's Time to Wake up to the Value of Sleep! (aka: Sleep for Optimal Performance)

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What a day! What a week! And there's no rest in sight. It's off to another city, another meeting, and another assignment without even a half-decent break. Where will it all end? Too much work and too little sleep are growing problems in lifestyles that already are a little too full. Something's got to give!

If you're like most of today's busy sales people, harried executives, or the rest of America's over-tasked work force, you have no problems believing the National Sleep Foundation's assertion that, compared to the turn of the century, we've managed to cram almost a month of additional work time and commute time into each year. Meanwhile, we've sacrificed 2 hours of sleep out of every night in order to keep up with the increased demands of work, family duties, personal obligations, and social responsibilities. On average, U.S. adults are now sleeping only 7 hours per night whereas our ancestors were sleeping closer to the 9 that are recommended by sleep specialists. These days it's no wonder we just can't seem to find the energy, concentration, and enthusiasm that are vital to a successful career. As one of the Nation's leading sleep experts, Dr. William Dement says the sleepy brain is a stupid brain, and this is bad news for a society that seems to be chronically sleep deprived. Disturbingly, it is estimated that workplace sleepiness/fatigue is costing America \$18 billion a year in lost productivity. But there may be even more of a personal cost to you.

A recent poll found that only about half of adults are satisfied with the amount of sleep they're getting, and that more than a fourth say that they are noticeably sleepy at work 2 days a week or more. In fact, 10 percent of those surveyed reported they were so sleepy on the job, they had actually fallen asleep at work! And if out rightly falling asleep weren't bad enough, even when sleepy people manage to stay awake, their substandard alertness impairs concentration, lowers productivity, degrades work quality, and generally dulls the competitive edge. And with all the things that have to be done, with fewer of us available to do them, it seems that the situation will just get worse. Is there really anything that can be done? Before answering this question, let's stop and look at how we got in this mess in the first place.

Where did all of this sleepiness come from?

If you consider our present predicament from an evolutionary standpoint, it makes intuitive sense that sleep loss and the resulting fatigue are inevitable consequences of today's 24/7, highly-mobile society. From nature's standpoint, man (and woman) simply wasn't meant to work unbelievably long hours, and we

certainly were not meant to work at night or to be constantly changing our working and sleeping schedules. On top of all of this, we definitely weren't designed for the rapid time-zone transitions that are an inescapable part of modern business. Think about it--for thousands of years, people worked during the day and slept during the night, and they did this pretty consistently 365 days a year. The caveman didn't venture too far away from home in the dark because he didn't want to increase his chances of becoming some predator's dinner, and besides, what could he do in the middle of the night anyway? It's kind of hard to hunt and fish in pitch black darkness. The farmer didn't work at night for the same reason. It's pretty hard to plow the fields and harvest the crops when it's too dark to even see the hand in front of your face. Instead, for thousands of years, humans basically stuck to moving around during the day and resting at night, and this provided a high degree of synchronization between the environment's time cues and the body's internal rhythms as well as plenty of fatigue-busting sleep. But, after all of this evolutionary time, the last hundred years have seen technological advances that have dramatically changed work hours and travel capabilities, while in the same time, basic human capacity has remained the same.

We humans had already been on this Earth for a long time--working during the day and sleeping during the night--before 1883 when the electric light bulb enabled us to see (and work) around the clock. Not only that, but before the advent of air travel, we pretty much remained in the same time zone all of our lives. If someone wanted to cross the Atlantic Ocean in the early 1900's, it took about 7-9 days on board an ocean liner, and this meant that only one time zone was being crossed every day. Since this agrees with the best rate at which we humans can shift our biological rhythms, back then we were able to get off the boat at our destination feeling pretty well adjusted. However, when modern air travel provided the capability to cross all of these same time zones in far less than a day, we began our long and unwelcome affair with jet lag. Now, instead of feeling pretty good on our first day in Paris or Rome or Munich, we've got fatigue, stomach aches, concentration and memory difficulties, and headaches to look forward to! Then, once adjustment finally occurs, it's about time to return to the U.S., and the whole process starts over again. For the business traveler, these transcontinental journeys aren't quite the joy-filled experiences that our non-traveling counterparts believe them to be, but they are often necessary nonetheless.

The bottom line is that our basic human biology is struggling to keep pace with the technological innovations that have enabled the longer work hours, the shift work, the night work, and the rapid time zone transitions that have become such critical components of today's economy. The net result has been an increase in fatigue associated with shortened/disrupted sleep as well as with something called circadian desynchronization (or disturbances to the body's internal clock).

Is it Possible to Adapt?

By now, you're probably wondering whether we can just learn to live with our new found circumstances if we try hard enough. Well, unfortunately, it turns out that we can't, at least not very well. A lot of people fool themselves into believing that if they can somehow endure these hectic schedules for a few weeks or months, they'll get used to the strain in their lives in the same way that a weight lifter becomes stronger by enduring ever-increasing amounts of muscle stress. However, learning to live with sleep deprivation just doesn't work this way. As it turns out, the weight lifter is lucky because the body has a basic capability to increase physical stamina by growing new muscle tissue and expanding the blood supply when necessary to accommodate more difficult workloads, but the busy executive is unlucky in that the body's need for sleep is biologically programmed from the time of birth, and there is no known way to affect the capacity that nature provides at the start. Learning to get by with less sleep is pretty much the same as trying to learn to survive with less food or water. You can live without proper hydration for a little while, but once the internal reserves start to run dry, weakness and illness soon follow. In the same way, food deprivation can be endured for a time, but starvation only increases the drive to eat, and if this drive is not eventually satisfied, the end result won't be pretty.

Researchers have found that people don't adapt to sleep restriction no matter how long they try. Instead, the increasingly sleepy body just slows down, and the brain starts to shed tasks, loose motivation, and try every trick in the book to make up for lost sleep. In fact, once sleep restriction reaches a certain point, the brain begins taking "micro sleeps" in an effort to keep up. These short, uncontrollable sleep bouts last anywhere from a few seconds to a few minutes, and what's really disturbing is that, like the other insidious effects of fatigue, these brief periods of unconsciousness often go unnoticed. Next time you're in a long meeting, take a look around and see how many of your coworkers are "resting their eyes" or even drifting right off to sleep for several seconds at a time. Such dozing is commonplace, and while it may not kill you in the board room, it certainly can't improve your chances of getting that next promotion or of staying on top of the job at hand. Furthermore, if your everyday sleepiness leads to a micro sleep on the way home from the office, you might lose your chance to even think about your next promotion if you end up joining the other 1,500 Americans who become involved in drowsy driving fatalities each year on the Nation's highways. It's a scary thought, but one that deserves some sobering consideration.

What is The Answer to the Sleepiness/Fatigue Problem?

Despite all of this bad news, there is hope for dealing with fatigue-related difficulties in your life. If you can commit to following just a few helpful strategies, you can improve your sleep, better adjust to new schedules, and as a result, improve your competitive edge.

Are You a Potential Fatigue Casualty?

To begin, take just a minute to reflect on whether your nightly sleep is already as good as it should be in order to keep your alertness level at its peak during the day. Being at the top of the heap means you've first got to be fully awake. Ask yourself these questions:

- Can you easily wake up in the morning without the help of an alarm clock?
- When the clock goes off, do you find yourself pressing the snooze button?
- Are there times during the day when you really want a nap?
- Do you tend to nod off in meetings, while listening to presentations, when riding as a passenger in the car, while flying in an airliner, or while watching TV?
- When you get into bed at night, do you find that you fall asleep almost instantly?
- During the week, do you long for the weekends so you can "catch up on sleep"?
- Do you tend to sleep 2 or more hours later than usual on your days off?

If you answered "yes" to at least three of these questions, the odds are that you're carrying around a significant sleep debt. This means that your sleep pressure is higher than normal because your body is sensing that its sleep reservoir is lower than it should be. As long as this imbalance exists, your brain and your body will be trying to conserve energy, and as a consequence, you can't achieve the top-notch alertness that's necessary to keep you ahead of the game. In other words, your cognitive performance is compromised which has direct impact on your job performance. Even though you probably don't believe it right now (because fatigue is clouding your judgment as well as your energy levels), you've got to get more quality sleep!

How do you know if your cognitive performance is being compromised?

Numerous studies have shown that human beings are very poor judges when it comes to estimating the quantity and quality of their sleep. There is new technology available today that can provide accurate assessment of your sleep quality and quantity of sleep without having to go spend the night at a sleep center hooked up to all sorts of equipment. Fatigue Science offers both a unobtrusive data gathering device; the SleepBand actigraph coupled with some proprietary software models developed for the Department of Defense and further validated by the Department of Transportation.

You simply wear the SleepBand for a week, 24/7, and then your sleep data is downloaded to their servers and software models for analysis. A trained analyst reviews your individual Sleep Report and the subsequent findings. The report is available to you on line and it identifies if you have a fatigue/performance problem and the extent of that problem.



The SleepBand is worn for a week to obtain sleep data.

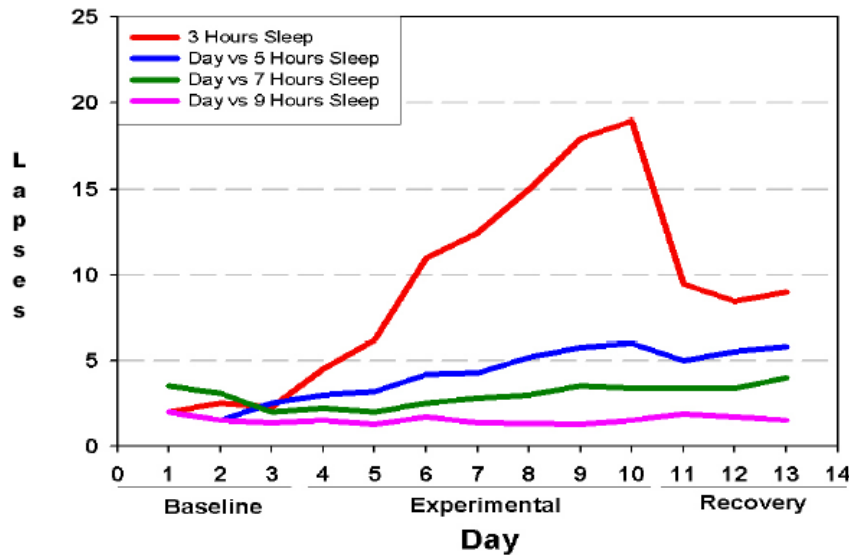
The personal Sleep and Fatigue Analysis defines the extent of any sleep quality or quantity issues.

Ok, then what can I do to perform at my peak performance levels?

If you're committed to becoming a smarter sleeper, you've first got to set aside enough time every day to adequately fill your natural sleep reservoir. Sleep experts have found that the average person needs about 7-9 hours of actual sleep every night in order to achieve optimal alertness during the day. This isn't just 7-9 hours *in bed*, it's 7-9 hours *of real sleep!* If you're not getting that amount, you can't be at your best no matter how hard you try. Take a look at the graph below, and notice how well four groups of research subjects were able to stay on top of a computerized vigilance task after sleep restriction in comparison to how well they performed during a well-rested baseline period. Once sleep is reduced, even the seven-hour group shows a gradual increase in attention lapses, and after 3 days of sleep restriction, the five-hour group and especially the three-hour group noticeably lose their ability to consistently focus on the task at hand. Also, check out the fact that even after seven straight days of sleep loss, the decrement curves don't level out for any of the groups. This is clear evidence that nobody is adapting to the sleep deprivation even after several days. Furthermore, when all the groups are later allowed to sleep nearly as long as they can stand during the recovery period, none of them actually returns to their baseline levels of performance even after three days! Altogether, this proves that even relatively small amounts of sleep restriction quickly begin to degrade mental capabilities, continue to cause problems despite an adaptation period, and then persist in impairing alertness even after plenty of recovery sleep

is allowed. Clearly, sleep deprivation is Enemy Number One for the corporate “Go-Getter”!

How Systematic Sleep Restriction Affects Mental Vigilance



To be Really Awake, You’ve Got to Get Your Sleep

We’re all so stressed out these days that it’s hard to remember back when we were able to sleep like a log. Sometimes, despite our best intentions, it’s just hard to get a good night’s sleep. Even though everyone has a natural tendency to fall asleep easily and to sleep well throughout the night, we often thwart this inborn tendency with poor sleep habits, chemical substances, or unhealthy life styles. However, the good news is that any habit that can be formed can be broken and replaced with a new and better habit as long as consistent effort is applied! Therefore, if you’re not getting optimal sleep every night, try these helpful tips starting now.

Solid Sleep Habits for Everyday Life

- Stick to a consistent bedtime and wakeup time *as much as possible* every day of the week (including weekends). This will keep your body’s clock regular.
- Use the bedroom only for sleep and sex (and when staying in a hotel, work at the desk and not in the bed). This eliminates non-sleep-related associations with the bed.
- Develop a soothing and consistent nighttime routine. Watch TV, take a walk, read for a while, take a hot bath, and then go to bed. Following this sequence every night sets up a behavior chain that prepares the body for sleep.
- Resolve daily dilemmas before going to bed. If something’s on your mind, decide a course of action, write it down or leave yourself a voice-mail message, and then forget it until tomorrow.

- Once in bed, avoid watching the clock, even if you have to put it in a drawer. Worrying about what time it is will only create sleep-robbing anxiety, and it won't add another minute to the night.
- Set aside 30 minutes a day for aerobic activity. Research has shown that aerobic exercise accelerates sleep onset and promotes deeper sleep.
- Avoid caffeinated coffee, colas, teas, or foods in the afternoon or evening. Caffeine's stimulant properties affect some people even 12 hours after consumption. And don't forget that some medications interfere with sleep.
- Avoid nicotine within an hour before bed. Nicotine is another stimulant that can delay or disrupt sleep.
- Don't consume alcohol within 4 hours of bedtime. Although alcohol can effectively promote sleep, the sleep is highly disturbed because of alcohol's effect on sleep architecture.
- Stay away from big meals late in the evening. While the food may be great at the time, subsequent discomfort from a heavy meal will have a negative effect on sleep quality.
- Lastly, if you can't fall asleep within approximately 20 minutes, get out of bed and do something relaxing for a while. Then, when you feel sleepy again, give the bedroom another try.

These are proven strategies for optimizing sleep. But remember, it took you a long time to develop the sleep habits that could be robbing you of your peak daytime performance, so it will take a while to establish new habits that will put you back on track. Like anything worth having, restful slumber is worth working for. So, give the plan at least a three week trial before you make a final decision about whether or not it's working for you.

Help for the Weary Traveler

And what if you're sleeping great at home, but it's another story out on the road? Many of us find that the constant routines and familiarity of things at home provide an environment that's less stressful and more conducive to getting the rest we need every night. But the uncertainty and novelty of out of town meetings and hotel accommodations present some real challenges to sleeping like a baby when we're away. If you sleep well at home, but not when you're staying in a hotel, try these tips:

Hotel Sleep Tips

- To begin with, don't forget about all of the basic sleep hygiene tips that were outlined earlier.
- When you think about it all hotels are really attempting to sell you a "good night's sleep". Road warriors have their personal preferences for which hotels they feel the most comfortable and relaxed in. Seek those accommodations out and many have just started to wake up to the fact that a good night's sleep is the primary way to distinguish themselves from their competitors.

- Make the hotel room less foreign and sterile by bringing along some items from home. A family picture, your own pillow, or even items like your favorite brand of coffee or tea can improve your psychological outlook on your temporary home.
- Familiarize yourself with the new surroundings upon arrival. Even minor worries can steal your sleep, so spend some time finding the on-site meeting room, planning the route to your client's office, locating the restaurant where breakfast will be served, finding the fitness center, or just getting the "lay of the land."
- Make sure your room is conducive to sleep. Pull the drapes completely closed so that unwanted and unfamiliar light doesn't seep in, make sure there are plenty of warm covers on the bed, set the thermostat to around 68 degrees, and keep the air conditioner or a room fan going all night to mask out unwanted noises (or use foam ear plugs to make everything nice and quiet). Place a towel at the base of the room door to block light and corridor noise. And a warm shower and hour or two before bedtime can help you relax.
- Minimize worries about oversleeping by requesting a wakeup call in addition to setting the alarm clock (and possibly even your wristwatch alarm). It may seem like overkill, but reduced anxiety about missing the morning meeting can help you sleep tonight.

Maybe all of these suggestions seem like "no brainers," but they can make the difference between a night of tossing and turning versus the sweet slumber that is pivotal to your success tomorrow. If you combine the solid sleep habits with the hotel sleep tips, you'll be well on your way to making sure your sleep reservoir is full of the fuel needed to make you a star the next day!

What about Jet Lag?

Well, we're almost done, but there's one more topic that deserves some attention in today's multinational economic environment, and that topic is *jet lag*. Anyone who travels more than three or four time zones away from home knows about the effects of jet lag on both nighttime sleep and daytime alertness. Even small time shifts can be a real hassle, but fatigue is particularly problematic when traveling from the U.S. to Europe. This is because the flight takes only about 8-9 hours, but the readjustment period can take 8-9 days or even longer. As we've already discussed, humans require approximately one full day to adjust to every one hour time-zone shift, and before full adaptation occurs, our bodies are stuck with having to work when they're used to being asleep and having to sleep when they're normally awake. Think about it--when you hit the sack at midnight on your first or second day in Paris, your body still thinks it's only 6:00 p.m., and thanks to your circadian rhythms, it's almost impossible to go to sleep (just try it next time you're at home). Then, when the alarm clock goes off at 7:00 a.m. Paris time, your body can't believe it's being dragged out of bed at the normal (U.S.) time of only 1:00 a.m. in the morning. No wonder those quick trips to Europe just don't have the magic that your spouse or your secretary imagines

they do! You might sleep fine on the first night simply because you had to stay awake so much longer than usual to get to your destination, but on the second day, once all of that sleep pressure is gone, insomnia is likely to rear its ugly head.

When suffering from sleep problems related to jet lag, you first have to ask yourself whether you will be in the new time zone long enough to shoot for readjustment, or whether you just need to make it through a couple of days before returning home. If you want to readjust, try the suggestions listed below:

Shifting to a New Time Zone

- Upon arrival, fight the temptation to nap by staying physically active. Relieving your sleep pressure during the daylight will only add to sleep problems at night.
- Maximize your exposure to sunlight from about 9:00 a.m. to about 3:00 or 4:00 p.m. Sunlight is the primary cue for the body's circadian rhythm, so make sure you get your bright light exposure at the right time of day.
- Quickly follow the local mealtime and activity schedules. These provide behavioral cues that can help to reset your body's rhythms.
- Ask your physician for a small prescription of either zolpidem (Ambien) or zaleplon (Sonata) to help you go to sleep at night. These medications are fast-acting and quickly metabolized so they will put you to sleep without creating a next-day hangover.
- Be sure to follow the earlier recommendations for solid sleep habits as well as the ones offered under hotel sleep tips.
- Consume more than the usual amount of caffeine after arising in the morning to artificially boost alertness, but be absolutely certain to avoid caffeine at night. Caffeine is a safe and effective stimulant when used judiciously.

If you follow these steps, you can expect to adjust to eastward travel at a rate of about 1-1.5 days for every time zone crossed. Although there is no immediate cure for jet lag, your efforts will be rewarded with a shorter period of readjustment that will minimize the gastrointestinal, sleep, and alertness disturbances that are so common to long-range travelers. By the way, if you're just going to be away from home a day or two, your best bet is to use the short-acting sleep medications at night and the caffeine during the day. There is no sense in starting down a path of shifting your internal body clock when you'll be back home before any real progress is made.

The Wrap-Up

The fatigue from inadequate sleep is one of the most dangerous adversaries of the brightest and best of America's workforce. But, armed with the facts and the technology to measure fatigue this threat to productivity, motivation, and quality of life can be tackled and eliminated just like any other challenge that comes along. Don't buy into the school of thought that says you

should be ashamed of attending to your sleep needs. Instead, do what the National Sleep Foundation recommends, and Sleep For Success!