

## WHAT YOU SHOULD KNOW ABOUT SLEEP

Because sleep is such an integral part of our health, I have incorporated into this article some of the most recent research findings on sleep in order to offer you the most up-to-date information on sleep.

### Reality Check on the Importance of Sleep

You can rest when you're dead.—This was written on a billboard as an advertisement for a gym some years ago. Chuckling, I thought to myself, "Quite a clever slogan for a gym." And then I felt irritated. I wanted to say, "How dare this gym encourage people, many of whom are already not sleeping nearly as much as they should be, to sacrifice even more sleep!" But it's not their fault that a billboard like this works as an advertisement. It's ours!

#### ***Reality Check #1:***

#### ***Don't Buy Into the Sleep Groupthink***

Our cultural groupthink of driving ourselves so hard that sleep takes a back seat to our goals, our obligations, our plans, our dreams, and our schedules reflects our priorities. Make sleep a priority. We all know the pressure that exists to perform and achieve, but sleep is not something we can sacrifice. In fact, sleep is one of the most precious resources we have!

#### ***Reality Check #2:***

#### ***Sleep Is One of Your Most Precious Resources***

We all know that saying, "You snooze, you lose," but this couldn't be further from the truth. More accurate is "You don't snooze, you lose." Snoozing is good for you, *really* good for you! "Laboratory rats deprived of sleep die within ten to twenty days, faster than if deprived of food. No one knows exactly why this is"(Warren, 2007, p. 60), but from this data researchers have deduced that sleep for humans is equally vital to survival.

#### ***Reality Check #3:***

#### ***Sleep Is Vital to Your Health***

Being well-rested is an integral part of maintaining good overall health. Our mental and physical health is greatly compromised when you don't get proper sleep, and that can lead to all kind of problems. Fatigue causes more moving vehicle accidents than alcohol. We are more likely to get sick when we don't get proper rest because our immune system becomes depressed. Studies show that we tend to crave more fattening foods and overeat when we are tired, which means we're eating more of the stuff we should be eating less of and not exercising (because we tend to skip exercise when we're tired). We think more clearly and can make better decisions when we are well-rested, we eat better, we exercise more, we feel better, and we are less likely to fall ill.

#### ***Reality Check #4:***

#### ***When you are sleep deprived, your mind functions as though you are drunk.***

### What Happens When We Sleep: The Five Stages of Sleep

In the 1990's sleep researchers presented a model breaking sleep down into five distinct stages. One of these stages is commonly known as REM, or Rapid Eye Movement. The other four

stages, literally referred to as Stage 1, 2, 3, and 4, comprise a second type of sleep called NREM or Non-REM. According to Sara C. Mednick, Ph.D., Harvard-trained napping expert, “an entire [sleep] cycle lasts 90 to 100 minutes, about the length of the average movie.” (pg. 33)

### ***Stage 1: Hypnagogic Stage***

The first two to five minutes of sleep are spent in Stage 1, the hypnagogic stage. This is that in-between stage in which you aren't totally asleep but you are not awake either. This is dream-like state similar in feel to REM but short-lived. Images, sensations, and body movements can occur and you have some fleeting glimmers of awareness of what you're experiencing.

### ***Stage 2: “The Stock” of Sleep Soup***

By the time you enter Stage 2, you are asleep, unconscious, and you are in Stage 2 for twenty minutes transitioning into deep sleep. According to Mednick (2006, pg. 35), “If sleep is a soup, then Stage 2 is its stock.” Over 50% of total sleep is Stage 2 (Mednick, 2006). The fact that so much of our sleep time is spent in Stage 2 indicates just how “nutritious” (Mednick, 2006, pg. 35) it is. During Stage 2, the brain powers down on those areas of the brain that no longer necessary now that you are unconscious. This frees up energy that can be used for other purposes. Two of the main functions of Stage 2 sleep are “increasing alertness” (Mednick, 2006, p. 35) and memory consolidation, particularly for the learning of motor skills, which are considered more complex than other skills. Evolutionarily speaking, Stage 2 sleep helps to prepare humans for activities that ensure survival. For children, learning such skills literally overnight has its advantages!

### ***Stages 3 & 4: Slow-Wave Sleep***

Once you enter Stage 3, noises that would have awakened you in Stage 2 now don't even faze you. Your breathing becomes shallower, and oxygen intake reduces. Stages 3 and 4 share so many similarities that they're usually lumped together and referred to as slow-wave sleep or SWS. The crucial distinction is that Stage 4 is a deeper stage of sleep in which only slow brain waves exist (Mednick, 2006).

We spend a maximum of only 30% of sleep time in SWS (Mednick, 2006), 20% less than we spend in Stage 2 sleep. SWS is crucial for human functioning, offering us rich restorative functions. For one, during SWS our stress-response system shuts down while wear and tear caused by stress is repaired (Mednick, 2006). During SWS your growth hormones power up to levels higher than where they are when you're awake. During childhood and puberty, we are literally growing overnight! During adulthood, these growth hormones continue to work “promoting bone and muscle growth and protein synthesis” (Mednick, 2006, p. 39). Researchers believe that the primary function of SWS is to allow the immune system to do vital repair work on our bodies that is not possible unless without the energy freed up by powering down various processes (Warren, 2007).

### ***Stage 5: REM or Rapid Eye Movement Sleep***

From SWS we pass through seven or eight minutes of Stage 2 sleep while transitioning into REM (Mednick, 2006). REM is the stage of sleep here. As adults, we are in REM for approximately 20% of our total sleep time per night, averaging about 1.5 hours per night (Mednick, 2006; Warren, 2007). It makes sense that we spend little time in REM relative to

other stages of sleep because REM is “not restorative” (Warren, 2007, pg 107). In fact, our brains are so active during REM that “even trained sleep researchers have a hard time distinguishing between REM sleep and waking—they look almost identical on the polysomnograph” (Warren, 2007, pg. 100).

While our minds are actively dreaming—our most vivid dreaming happens during REM—our bodies are in paralysis, though our muscles will twitch involuntarily (Mednick, 2006). Mednick surmises that the paralysis is a “built-in safeguard to prevent dreamers from actually acting upon their experiences” (Mednick, 2006, pg 41). Interestingly, REM is “our most reptilian state” (Mednick, 2006), exemplified by the shutting down of our homeostatic temperature regulation; our internal temperature changes to match external temperature; our sleep is disrupted if the ambient temperature becomes too hot or too cold.

As fetuses almost all of our sleep is REM, while as newborns we spend about half of our sleep time in REM (Warren, 2007). Researchers are not sure about the primary function of REM but many theories exist. Some common theories are that REM serves to help consolidate memory, to help process emotions, and/or to prepare the brain for waking. Another theory that combines all three of these functions is that REM’s evolutionary purpose is to consolidate the learning of survival skills into procedural memory (Warren, 2007). Researchers behind this theory explain that “dreams are like virtual-reality simulators, test-driving old fight-or-flight programs” (Warren, 2007, pg 107). And a recent paper presents sleep researcher Dr. J. Allan Hobson’s theory that in dreamland, “the brain is warming its circuits, anticipating the sights and sounds and emotions of waking” (Carey, 2009, p. 1). Hobson explains that we don’t remember most of our dreams because the content of our dreams is not the point of dreaming; the point is that our brains are actively engaged in various processes throughout the night to prepare us for waking life.

### ***Sleep Is an Integrative Function in the Body***

Sleep has been one of the most under-researched topics in psychology, but with the advance of technology, more and more researchers are giving sleep their attention and attempting to understand the nature of sleep and sleep disorders as well as the evolutionary purpose of each stage of sleep. In time we will hopefully come to an even greater understanding of these sleep topics. For now, the bottom line is that sleep serves a vital role in our everyday functioning because it influences so many different aspects of our body, especially the brain and nervous system. And because of sleep’s importance in our everyday functioning, we need to make sleep a priority in our everyday lives.

## **How Much Sleep You Actually Need**

Dr. Ying-Hui Fu, who conducted a recent study on sleep involving the analysis of the DNA of people who’d participated in prior sleep studies confirmed that **a healthy dosage of sleep per night means 8 to 8.5 hours**. Through her research Dr. Fu discovered that “fewer than 5 percent of people” (Parker-Pope, 2009, p. 2) apparently have a genetic mutation such that they can function chronically at optimal levels with less than 8 hours of sleep. Are you getting 8 to 8.5 hours of sleep per night on average? If not, you are likely compensating for the sleep deficit. If

your schedule doesn't permit an 8 to 8.5 hour sleep per night, give some thought to how you can adjust it so that you can get the amount of sleep your body really needs by taking the sleep inventory below.

## **How to Get the Sleep Your Body Actually Needs (8 to 8.5 hours/night)**

Most of us lead very busy lives and live in a fast-paced environment, but somehow when we want to make things happen for ourselves we certainly do. Getting 8 hours of sleep per night may take some finagling and may be annoying at first, but there are huge rewards, especially during the holiday season and winter months.

### ***The Rewards You Reap When You Sleep:***

***-Feeling Rested***

(Sure beats feeling tired!)

***-More Energy***

(For holiday shopping and party-going.)

***-More Motivation***

(To for activities like holiday shopping and party-going.)

***-More Likely to Exercise***

(To work off those holiday meal calories and works towards your personal fitness goals.)

***-Reduced Craving for Fattening Foods and Sweets***

(Especially helpful during the holidays!)

***-Improved Cognitive Abilities***

(Helpful for all the decision-making related to the holidays.)

***-Learning Is Easier and More Effective***

(Impress Your Supervisor and Get an Even Better Bonus this year!)

***-Improved Mood***

(Which will make your visits with family and friends over the holidays more enjoyable.)

***-Better Ability to Regulate Difficult/Intense Emotions***

(Including the ability to be calmer and more patient amidst the holiday crowds.)

***-Improved Relationships***

(Making the holidays particularly sweet.)

***-Boosted Immune System***

(So your holiday travel plans will continue as planned this flu season.)

***-Reduced Need for Caffeine***

(Save what you spend on the afternoon joe and put it towards a holiday gift for yourself!)

### ***Steps Towards Getting the Sleep You Really Need:***

- 1. Set your sights on rewards that are meaningful for you.** Pick a few from the list above or from what you know about your own functioning when you are well-rested that are personally meaningful. You have to want the rewards before you can be motivated.

2. **Identify what is preventing you from getting 8 to 8.5 hours/sleep** first by giving some thought to your lifestyle and schedule. Use the sleep inventory below as a guide.
3. **Take baby steps.** Based on what you identified in #2, gradually make the necessary adjustments in your lifestyle and schedule that will allow you a full night's sleep. Make one small adjustment at a time and then give yourself two weeks before making the next one.
4. **Seek professional help if you continue to experience sleep issues/difficulties. Here are some general guidelines: In general, seeing your general practitioner is often the best first resource for most medical issues unless you are experiencing sleep issues already diagnosed and/or better addressed by a sleep specialist, psychologist, and/or psychiatrist.** If you get 8 to 8.5 hours of sleep most nights and still feel tired or fatigued, you need a proper medical evaluation from your general practitioner. However, if your sleep issues / difficulties are related to stress, anxiety, trauma, mood disorders (like depression or bipolarity), or some other psychological disorder, see a psychologist or psychiatrist for a proper psychological evaluation. For ongoing psychotherapy, a psychologist is often the most effective option. For medication to address a psychological issue/problem/diagnosis or to evaluate if a psychiatric medication is negatively affecting your sleep, see a psychiatrist. For questions about non-psychiatric medication and how they might be affecting your sleep, contact the prescribing physician or your general practitioner. If you have already seen your GP for your sleep issues/difficulties/disorder(s) and are still suffering or want a more thorough evaluation, visit a sleep specialist MD.
5. **Nap.** Harvard-trained napping expert Sara C. Mednick, Ph.D., discovered that even a 20-minute nap can offer some of the same benefits as a whole night's sleep. If getting 8 to 8.5 hours of sleep is not realistic right now, add an afternoon nap to your schedule. It costs less than, is healthier for your nervous system than, and takes about as much time as the walking and waiting you'll do in satisfying the afternoon caffeine itch. Read Dr. Mednick's book (See Reference list below) to learn all about the benefits of napping and creating the perfect nap for yourself.

### *Sleep Inventory*

- Do you have trouble falling asleep? Do you have trouble staying asleep? What awakens you during the night?
- Are you a light sleeper or a deep sleeper? If you're a light sleeper, has that always been the case? When did that change? What have been the benefits and drawbacks of your being a deep vs. light sleeper in your life?
- Are you a lark (morning person) or an owl (late-night person)? Do you wake up ready to start your day? Or are you somewhat groggy in the morning, needing time to transition from sleep to wakefulness?
- What kind of bedtime rituals and habits do you have, and how does each affect your sleep?
- Where is your bed situated in your bedroom? What surrounds your bed? How do your bed and bedroom environment affect your ability to fall asleep and your quality of sleep?
- Do you often share a bed with a partner, child, pet, and/or anyone/anything else, and how does sharing the bed with them affect your sleep?
- What awakens you in the morning, and how does that affect the start of your day?

- Do you nap? If so, is napping a way of compensating for less than ideal sleeping? What can you do to improve the quality and/or duration of sleep? If you don't nap but think it would benefit you, what needs to change in order for you to become a napper?
- Do you drink caffeine or use other substance to stay more awake/alert? How much caffeine do you drink on average per day, and at what times of the day do you typically drink it? Do you use medication to help you sleep at night?
- Do you drink alcohol or smoke? How often, how much, and at what time of day do you typically drink? How does your drinking and/or smoking affect your sleep? Have you ever been assessed for or diagnosed with a substance use/abuse issue? How might your use of substances affect your sleep?
- Have you ever been diagnosed with a sleep disorder? Have you ever had more than the occasional nightmare? Have you ever had night terrors or sleepwalking episodes?
- Are you under stress? Are you dealing with a current stressful situation/circumstance? Is it difficult for you to relax, even when on vacation? Does your life sometimes feel like you go from one crisis to the next? Are you experiencing somatic (physiological) symptoms that do not have a clear-cut explanation and/or could be a manifestation of stress or distress?
- Are you experiencing depression or anxiety? Do you experience low mood, lack of motivation, reduced enjoyment in things that used to bring you pleasure? Do you ruminate about past painful experiences? Do you worry? Are you more irritable, agitated, fearful, worrisome, tense, and/or edgy? Is it difficult to sit still?
- Have you experienced trauma either recently or in the past that may be interfering with your sleep? Do you wake up in the middle of the night fearful, feeling threatened? What do you do when this happens? Are you easily able to soothe yourself and go back to sleep?
- Do you take medication for any issue at all? Do your sleep issues correlate with your starting to take this medication? Have you checked with the prescribing doctor on the side effects of this medication? Do you use recreational substances, and if so, how are they affecting your sleep?
- Do you snore or sleep next to someone who snores? Have you/your partner been assessed/diagnosed with sleep apnea? Have you discussed/explored the current treatment options?

## References

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