

The Secret to Fitness is in the Bedroom – Sleep!

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Four Take Away Messages:

- 1) Define what healthy sleep is and how many hours are needed for optimal health and fitness.
- 2) Evaluate the risks of poor sleep and lack of sleep relating to being overweight and unhealthy eating habits.
- 3) Discover the benefits of proper sleep for improved fitness, weight loss, and sports performance.
- 4) Identify the key components of counseling clients to improve their sleep.

Introduction

Sleep has been called an athlete's steroid. The forgotten component of fitness is without a doubt sleep. When our clients get proper sleep, they are healthy and fit. When they don't get proper sleep, their health and fitness suffer. There is compelling evidence that chronic lack of sleep can alter hormones in the blood that control appetite and promote weight gain (Chamorro, et al, 2011, Chaput, et al, 2012, Knutson, 2012, Kobayashi, et al, 2012). Research indicates that poor sleep, or a lack of sleep, increases signals to the brain to eat, and decreases signals telling the brain we've eaten enough. The culprit is the hormone cortisol, which increases cravings for high fat "comfort" foods.

The Merriam-Webster dictionary defines sleep as "the natural periodic suspension of consciousness during which the powers of the body are restored." Most adults need seven to nine hours of uninterrupted sleep per night. Moreover, when athletes get proper or increased sleep, their performance can improve (Mah, et al, 2011). Most likely, this can be carried over our fitness clients. Cheri Mah, a researcher in the Stanford Sleep Disorders Clinic and Research Laboratory is quoted on the Stanford University Medical School web site, "sleep is an important factor in peak athletic performance," "athletes may be able to optimize training and competition outcomes by identifying strategies to maximize the benefits of sleep." One of the primary reasons performance, and probably fitness, can improve is because during deep sleep, our bodies release human growth hormone, which stimulates the healing and growth of muscle and bone. As such proper sleep helps athletes and fitness in two ways: 1) it boosts performance due to improved cognitive function, reaction time, and hand-eye coordination, and 2) it aids recovery from tough games and workouts.

Overview of Healthy Sleep

- 5 stages of sleep: 1) light sleep, begin to lose muscle tone, muscle twitches, loss of self awareness, 2) loss of nearly all muscle tone, a light dreamless sleep, we spend half our sleep in Stage 2, 3) beginning of deep sleep, 4) deepest kind of slow wave sleep, replenishes physical and mental energy, 5) Rapid Eye Movement (REM, because eyes dart back and forth) 25% of night, onset of dreaming, important to healthy brain functioning, provides energy to brain and body, creation of long-term memories.
- Our genes act as internal clocks and release hormones according to circadian rhythms, which are triggered by darkness and light and alternate over 24-hour periods.
- Proper sleep helps contribute to a healthy immune system.
- During stages 3 and 4 the body produces and secretes human growth hormone which helps maintain and repair muscle and cells and is key to improving fitness and sports performance.
- Most adults need 7 – 8 hours of healthy sleep each night whereas teens and school-aged children need around 9 - 11 hours.

Why Do We Sleep?

- Two primary theories of why we need sleep: 1) Restorative Theory - sleep restores what happens when we are awake, the brain integrates new information, organizes memory, and the body repairs nerve cells and tissues, and 2) Adaptive Theory - an evolutionary adaptation that kept us away from predators while we were vulnerable at night, sleep may have evolved as an adaptive and protective function, ie: we searched for food during the day and hid at night for protection.

Importance of Sleep

- When Bracko doesn't get enough sleep his face looks like an old boot, but this is just the tip of the iceberg as it relates to the other adverse effects of poor sleep.
- Poor sleep, or lack of sleep, causes impaired cognitive functions, and makes it difficult to perform the simplest of tasks and including difficulty remembering things. There is a link between sleep deprivation and many psychological disorders, including depression.
- Some of the most common symptoms of chronic poor sleep include: irritability, memory loss, high blood pressure, headaches, and muscle aches. A lack of sleep can also cause overall fatigue, and health conditions such as hypertension and diabetes.
- As this relates to our clients, it is difficult to improve fitness when experiencing the symptoms of poor sleep. How can our clients get a "bang on" work-out when they're tired, irritable, have a headache, and fatigued? As such, if we know a client is not getting enough sleep or has impaired sleep, it is diligent for us to discuss how they can improve their sleep. When this is done, the client will see remarkable results from our work-outs.
- Human growth hormone (HGH), helps build and repair muscle mass, tissue and cells. It is secreted during stages 2 and 3 of sleep. Melatonin, a hormone that is released during the onset sleep until around 2:00 – 3:00am boosts immune function and helps fight infections.

Sleep, Obesity, and Health

- We might think that people who sleep less have more time to get more exercise and reduce the risk of being overweight. The reality is that reduced sleep time has been linked to an increased risk of being overweight or obese.
- Why? Sleep deprivation decreases levels of leptin, a satiety-promoting hormone (makes us feel full or satisfied after eating), and increases levels of ghrelin, an appetite-promoting hormone.
- There is compelling evidence that chronic lack of sleep can alter hormones in the blood that control appetite and promote weight gain (Chamorro, et al, 2011). Research indicates that chronic poor sleep, or a lack of sleep, increases signals to the brain to eat, and decreases signals telling the brain we've eaten enough. The culprit is the hormone cortisol, which increases cravings for high fat "comfort" foods.

Can Sleep Improve Fitness and Sports Performance

- Mah (2008) found that when college swimmers got extra sleep (10 hours per night for six to seven weeks) they swam a 15-meter sprint 0.51 seconds faster, reacted 0.15 seconds quicker off the start blocks, improved turn time by 0.10 seconds, and increased kick strokes by 5.0 kicks.
- Mah, et al (2011) found that when college basketball players extended their sleep to a minimum of 10 hours per night their performance on the following tests improved: faster timed sprint, shooting accuracy improved, free throw percentage increasing by 9%, and 3-point field goal percentage increasing. In

addition the subjects improved their scores on Psychomotor Vigilance Task (PVT), Epworth Sleepiness Scale (ESS) and Profile of Mood States improved with increased vigor and decreased fatigue subscales.

- During deep sleep, our bodies release human growth hormone, which stimulates the healing and growth of muscle and bone. As such proper sleep helps athletes and fitness in two ways: 1) it boosts performance due to improved cognitive function, reaction time, and hand-eye coordination, and 2) it aids recovery from tough games and workouts. A sure bet for our clients wanting the added advantage from their work-outs.
- By extension, our clients will get a better work-out because good sleep helps with productivity and concentration, increased energy, and improved mood.

Tips to Help Our Clients Get Better Sleep

- Limit caffeine, especially in the afternoon and evening.
- Limit alcohol, especially excessive consumption before bed.
- Try to quit smoking or tobacco because nicotine is a stimulant.
- Don't use a computer, cell phone/hand held device 1.5 hours before bed, they stimulate the brain.
- Limit TV before bed.
- Decrease the temperature in the house or bedroom before and during sleep.
- Get lots of daylight, but avoid bright light before bedtime.
- Use the bed for sleeping and lovemaking, and perhaps reading before sleep.
- Only nap 15 to 20 minutes in the early afternoon, if necessary
- Wind down late in the day.
- Get clients to complete a Sleep Diary.
- Eat three to four hours before bed, and avoid heavy meals.
- If you don't fall asleep within 30 minutes, get out of bed and do something else until your body and mind feel tired.
- If you have trouble falling asleep, try meditation, listening to soothing music, a warm bath or other nighttime rituals that signal it's time to sleep.

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