

Sleep and Sleep Hygiene!

I like to play this game called nap roulette I take a nap and not set an alarm. Will it be 20 minutes or 4 hours? Nobody knows. It's risky and I like it

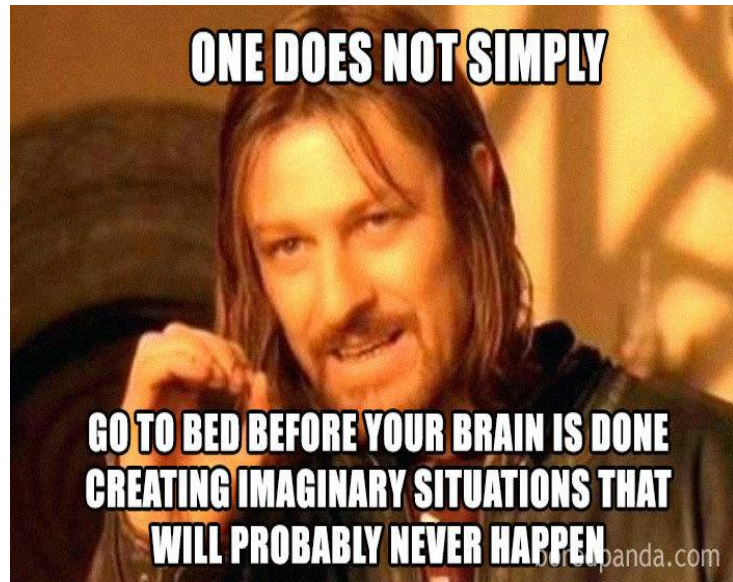


Topics Covered

- Sleep Stages
- Benefits of sleep
- Impact sleep deprivation
- Sleep Hygiene
- Final Thoughts

Wellness Wednesdays

04/01/2020



The stress of this pandemic has gotten to me. Like the meme above, I too have not been able to go to bed without creating imaginary situations that I hope will never happen. Sometimes my mind is strong enough to put these situations aside so that I can go back to counting my sheep and ease off into my dreams. Other nights aren't so easy.

Sleep is something that will always be impacted by uncertainty. Uncertainty can often wipe away the foundations of life that ground us leading to stress, anxiety, and discomfort, making it difficult to feel comfortable and relaxed enough to fall and stay asleep.

The other issue is that sleep often works in circular ways, both positive and negative. The better we sleep, the more productive we are and the better we feel, which often helps us sleep well the next night. When we don't sleep well, we're tired, unproductive, grouchy, and engage in behaviors that will likely affect our sleep further (drinking, snacking, etc). During these uncertain times it very easy to fall into the negative circular pattern of sleep, making it all the more necessary to engage in not only good health habits through exercise and nutrition, but also good sleep hygiene.

Below you will find a brief introduction to what exactly sleep is, the benefits of a quality sleep, impact of sleep deprivation, and strategies to use at home to improve your sleep performance over the next few weeks.

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Sleep Stages

- **Sleep is not as simple as falling asleep and waking up, there are different parts to it that play different roles in how we recover after a mentally and physically exhausting day!**
- **Sleep is cyclical and occurs in 4 stages**
 1. Stage 1
 2. Stage 2 (Light)
 3. Stage 3 (Deep Sleep)
 4. Stage 4 (Rapid-Eye Movement [REM])
- **Each stage builds on the other as the body and brain slowly move away from an active to resting state**
 - Heartbeat, breathing, and brain waves begin to slow
 - Body temperature begins to drop
 - Muscles relax
- **Deep sleep vs. REM sleep**
 - These stages are where the magic of sleep occur and are integral to recovery and brain functioning
 - Deep sleep can be considered a physically restorative stage
 - Muscle recovery
 - Immune system strengthens
 - Detoxification of the brain
 - REM sleep is where we typically dream and can be considered mentally restorative
 - Short-term memory consolidates to long-term
 - Emotion processing
 - Both stages are important in achieving and maintaining physical and mental wellness

Benefits of a “Good Sleep”

- **More sleep is not necessarily what our bodies and minds need, quality is.**
 - Quality refers to completing sleep cycles fully without interruption multiple times throughout the night
- **Below are some benefits of quality sleep:**
 - **Improved attention, alertness, and focus**
 - Quality sleep allows for the brain to remain attentive, alert, and focused when awake even after naps (Gillverg, Kecklund, Axelsson, & Akerstedt, 1996) (Krause et al., 2017) (Tietzel & Lack, 2001)
 - **Improved learning ability**
 - Quality sleep primes brain functioning for better retention of information in our working memory, and allows our brain to consolidate short-term memory into long term memory (Van Der Werf et al., 2009)
 - **Improved physical performance**
 - Quality sleep allows for increased time in deep sleep
 - Deep sleep provides physical recovery for the body through the creation of human growth hormone and other necessary hormones
 - The more recovered we are physically, the more we can perform at a high level (Armwald, 2018)
 - **Mood stability and increased resilience to stress**

Sleep memes for distraction:



Mom: When was the last time you've had a decent night sleep?

Me:



Me: sleeps peacefully

A random fly:



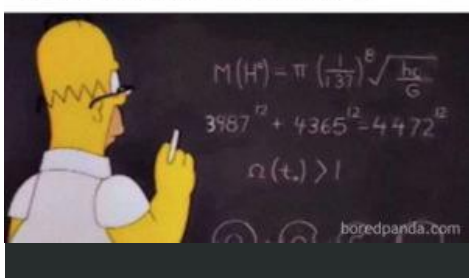
When you wake up in the middle of the night and realize you still have time to sleep



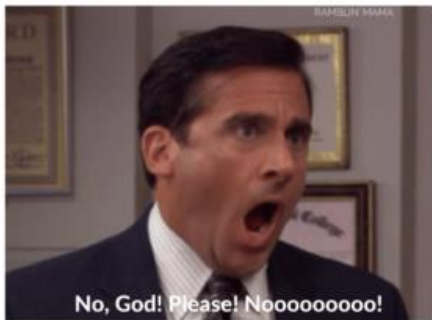
Impact of Sleep Deprivation (SD)

- **Sleep deprivation can be considered as both a lack of sleep duration and sleep quality**
- **Research has found correlations between sleep deprivation and a multitude of psychiatric disorders** (Baglioni et al., 2016):
 - Depression, Anxiety, Bipolar, ADHD, etc.
 - Sleep deprivation has been found to be both a symptom of psychiatric disorders and a risk factor for development of psychiatric disorders
- **Sleep deprivation and lack of quality can have significant consequences on our well-being. In addition to the loss of benefits listed above SD may lead to:**
 - **Reduction in whole brain connectivity and functioning** (Krause et al., 2017)
 - SD may lead to our brain not communicating well with its many different parts impacting our day to day functioning, mental health, and cognitive performance
 - **Memory deficits** (Krause et al., 2017)
 - SD prevents systems within our brain from encoding short-term memory into long term memory
 - SD also lessens our brain's ability to hold and retain information
 - **Negative Thinking and Mood Disturbances**
 - SD has been associated with increased risk of rumination (consistent negative thinking patterns) (Nota & Coles, 2015)
 - Poor sleep is also associated with mood disorders and disturbances (i.e. depression, bipolar, etc) (Verkhratsky, Nedergaard, Steardo & Li, 2019)
 - Increased irritability and stress (Dinges et al., 1997)
 - Disrupted mood states can often lead to disrupted/negative thinking patterns
 - **Increased risk of substance use** (Krause et al., 2017)
 - Self-medication often occurs to support sleep functioning. However, research has demonstrated maladaptive effects of substance use on sleep quality (van Schrojenstein, Roth, Roehrs, & Verster, 2017)
 - **Increased risk of obesity and diabetes** (Becuti and Pannain, 2011)
 - SD has been associated with significant changes in the way the body produces necessary hormones that aid in how we convert food to energy, and changes in hormones that control our hunger/appetite
 - Also, we are more likely to seek out calorically denser foods (fats and carbs) when we are sleep deprived to make up for a lack of energy
 - **Increased risk of high blood pressure and cardiovascular disease** (King et al., 2008)
 - **Suppressed immune system** (Opp et al., 2003)
 - **Significantly impaired judgement**
 - Research suggests that longer periods of sleep deprivation can have the same effect on judgment at a blood alcohol level (BAC) of .10% which is beyond the legal limit (Williamson, 2000)

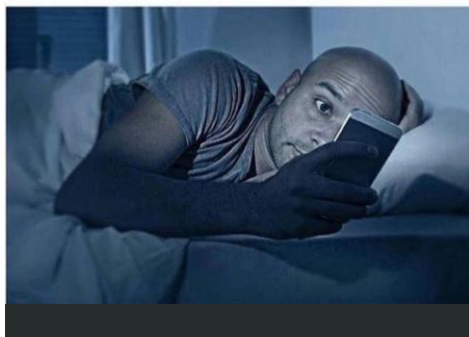
Every night I'm like "I have exactly 5 hours, 32 minutes and 53 seconds of sleep.. if I fall asleep in 2 minutes"



When you finally get your kid to sleep, then step on a loud toy on the way out



I live for the moment when my phone is fully charged, so I can unplug it and roll to the other side of my bed



When you wake up from a nap looking for food.



Sleep Hygiene

- **Sleep hygiene refers to behaviors that occur around bedtime that help improve sleep quality and duration.**
- **Maintaining good sleep hygiene allows us to reap the benefits of a good night's sleep while negating the many consequences associated with SD and poor sleep quality**

Strategies to Improve Sleep Hygiene

- **Maintaining a consistent sleep-wake cycle**
 - Going to bed and waking up at the same time each day helps keep our body's natural rhythm in check allowing ourselves to fall and stay asleep more easily
 - For example: Wake up every day at 8AM and get to bed by 10PM
- **Limit exposure to blue light**
 - This has been a recent trend of late as research has demonstrated that the light emitted by our phones, tablets, and TVs impact our ability to fall asleep and stay asleep due to increased brain activity (Shechter, Kim, St-Onge, & Westwood, 2018)
 - Try providing your eyes and your brain relief from your technology at least 30 minutes prior to bed.
 - Some people have also found success using blue light blocking glasses
- **Limit bedroom use**
 - When we rely on our bedroom and bed for more than just sleeping, the more confused our mind and body will be when trying to sleep.
- **Environment**
 - The darker the room the better; blackout curtains or an eye mask work
 - Colder temperatures are also conducive to a good night's sleep as they allow our body to cool down and enter deeper sleep stages
- **Healthy Nutrition**
 - When we consume sugars and carbs right before bed the energy those foods produce need to go somewhere and will often go towards waking up in the middle of the night
 - Be mindful of what you eat before bed and see how it impacts your sleep
- **Limit alcohol, caffeine, and nicotine consumption**
 - These substances play different roles on sleep disturbances. Stimulants are more likely to keep us awake, and depressants like alcohol may help us fall asleep but significantly impact the quality of that sleep
- **Relaxation and Mindfulness techniques**
 - Incorporating these techniques into your pre-sleep routine can be very beneficial in priming the body to enter a resting state
 - Consider incorporating a relaxing activity into your routine and observe how it impacts your sleep quality
 - We'll discuss Mindfulness next Wednesday!
- **White Noise**
 - A personal favorite of mine: white noise is often used by many due to its ability to drown out other sounds. If you're a sensitive sleeper, white noise can be very helpful in falling asleep and staying asleep
 - White noise is a sound that provides a blanket frequency that can absorb the frequencies of a lot of other sounds
 - It is often used in confidential settings (therapy, doctor's offices) for this reason

- There are many apps and machines available that produce many different sounds as the frequencies/noises can come down to personal preference
- **Trackers**
 - Using a Fitbit, smart watch, etc. we can track our heart rate and other variables pertaining to our sleep through different apps
 - Be cautious of how accurate this data is as this technology is still improving
 - However, these trackers do help bring further awareness to our sleep by highlighting variables like our resting heart rate, which help indicate how at rest we are during our sleep
 - You can use these to help track your sleep data in response to using some of the above-mentioned strategies to see how your sleep improves

Final thoughts:

If you have noticed the quality and duration of your sleep decreasing speak with your doctor to ensure no underlying health issues are contributing to it.

A lot of information has been presented here about sleep; it's important to consider that we are all different and will be impacted by our sleep in different ways. One person can function very well on only 5 hours and another will barely get by with that much. A lot of this comes down to their quality of sleep, highlighting the importance of good sleep hygiene.

Try a couple of the strategies listed above during the next few nights/weeks and see what impact they have on your sleep. Did you wake up less than normal? Were you able to fall asleep faster? Did you wake up feeling rested or sluggish? How did the rest of your day go following a high-quality sleep?

Given all the stress and uncertainty out there, a good night's sleep may be just what we need. Sleep well, everybody!

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