

Functional Medicine for a Functional Force

Part 2: Sleep well, be well

by LtCol L. Terrell "OC" Watts

If you desire to achieve your calling in life and be the best version of yourself, then proper sleep hygiene is the key to reaching your goals. In the three years since I was clinically diagnosed with early onset Parkinson's Disease while remaining on active duty, I have truly come to understand the importance of not just sleeping the cliché six to nine hours per night but more importantly how to sleep well every night for overall wellness and healing. Many people I have encountered have told me stories of how they struggle to sleep well because of post-combat-related stressors, frequent work travel, physical/mental/emotional injuries, and many other reasons. If proper sleep is the body and the brain's way to heal, recover, and prepare each of us for the great adventure of life each and every day, then we must understand what it means to sleep well and take the steps

>LtCol Watts is currently the Commanding Officer of Marine Air Control Squadron 4 in Okinawa, Japan. He is a prior enlisted Marine who has deployed to Operation IRAQI FREEDOM and Operation ENDURING FREEDOM. In the last few years, he has done extensive research on human health and wellness in addition to shadowing military and civilian medical professionals.

improvements discussed are from my personal experience of creating greater wellness while working to beat a brain disease, living overseas, traveling extensively, and continuing to perform at the high level expected of all service members in defense of the vision of the United States found in the Declaration of Independence and the Constitution of the United States.

Sleep 101 starts with understanding the cycles of sleep. Throughout the night, the body cycles through light sleep, rapid eye movement (REM) sleep, and deep sleep. The focus here is

You may have heard the best way to achieve peak performance on something like a test the next day is by getting a good night of sleep vice staying up all night cramming.¹ Even though throughout our lives we are told this, we still pull all-nighters hoping to cram massive amounts of information into our short-term memory instead of doing what the evolution of the brain was designed to do, which is dream and create long-term memories during REM sleep. The brain has neuroplasticity, which means throughout your life it will continue to develop, learn, and create new neurosynaptic connections that form memories and habits of the subconscious. All of this while also continuously creating new brain cells with the help of a protein called Brain Derived Neurotrophic Factor. Your body's Brain Derived Neurotrophic Factor production is at its best when you exercise, especially when conducting aerobic exercise. For service members to maximize the daily learning and thinking we all experience, we must cycle through REM sleep to create long-term memories. When this is done, we truly create a Joint Force of learners and critical thinkers, vice individuals who just memorize, test, forget, and move onto the next thing. The brain has the capacity to store incredible amounts of information for recall and synthesis if we unlock the

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we need to get there. Once daily recuperative sleep is achieved, everything changes for the better!

From childhood on, most people have come to understand adults should strive to get somewhere in the realm of six to nine hours of sleep each night. This article is meant to give you a better understanding of what is occurring while you sleep and the best practices for how to improve your sleep. The

going to be on the importance of REM and an in-depth discussion on the importance of deep sleep. The failure to obtain enough of each of these cycles, which so many service members fail to do well each night, can lead to the constant feeling of tiredness, bags under the eyes, brain fog, elevated stress levels, brain cell-killing plaque, and a list of additional negative effects that could go on and on.

power of REM sleep. Once consistent nightly REM sleep is achieved, dream states during REM can be purposefully used to problem solve through lucid dreaming and astral projection.² Your brain cycles through five different brain wave states called delta, theta, alpha, beta, and gamma, which I highly encourage you to read more about.³ While your brain is in a relaxed theta or alpha brain wave state in your REM cycles, your brain is completely unlocked to problem solve with all the information in your mind in a way that you may not be able to do while awake. This is the creative and innovative thinking the DOD is looking for to maintain a competitive advantage in the realm of human cognition.

Ask yourself if you have ever awakened from eight hours of sleep only to find you are still tired and feel terrible. This is likely due to not getting a proper amount of brain-cleansing deep sleep. Throughout the day, your body is hard at work removing toxins through the functions of your liver, kidneys, peeing, pooping, and sweating. During all of that time awake, your brain is hard at work, never taking a break, ensuring all the autonomic functions of your body are functioning properly for your peak performance. When bedtime comes, deep sleep is the only time your brain has to cleanse itself of toxins that have crossed the blood-brain barrier throughout the day. Deep sleep is characterized as the cycle of sleep when many functions within the body slow or stop; the body is in an almost paralyzed state, meaning you are no longer moving and your body is cycling spinal fluid through your brain to cleanse out toxins and bring the brain back to peak performance. For various reasons, many people are not getting enough deep sleep each night to properly cleanse the brain—which in the short term leads to symptoms of wakeful tiredness, irritability, brain fog, and more. Long-term chronic lack of deep sleep can lead to issues such as disease and social issues due to long-term damage and/or destruction of the cells that make up the brain. With a little focused effort on sleep hygiene, your deep sleep can be improved, and with

it, overall health and healthy longevity will improve.

If you have any number of devices such as a Garmin watch, Apple watch, Whoop, or Oura ring, you are probably already doing the number one thing you need to improve your sleep—which is to track your sleep cycles so you know what you need to improve. If you currently have a tracking device, stop right now and take a look at your average deep sleep per night. When I began actively tracking my sleep with my Apple watch in March 2021, I was getting on average anywhere between twelve minutes to a little over one hour of deep sleep per night. Those data points were in accordance with the algorithm associated with the sleep app called AutoSleep. After speaking with my Osteopathic doctor, who thoroughly explained what good sleep means and how to achieve it, my average deep sleep per night now, in accordance with the AutoSleep app, is just about 2 hours 30 minutes per night, which is exactly what she recommended.⁴ Even with Parkinson's Disease and military billets that require me to do quite a bit of international travel, I am able to sustain the proper amount of deep sleep for my body just about every day with few exceptions. On days when I do not get a proper amount of deep sleep, 100 percent of the time it is due to factors that are under my control.

By now your curiosity is likely peaked as to what the factors are and what you can do to sleep better and become the best version of yourself. Nothing here will be cosmic, but if you put the effort into making improvements—which means you may have to be willing to make changes to your current lifestyle—you can make drastic improvements to your sleep and your life. Some factors leading to poor sleep that I will touch on include family and/or job stress, alcohol, poor nutrition, saturation of the blue-light spectrum in your eyes, poor physical fitness, and a lack of a sleep routine. Each of us has different stressors in life. They may be work relationships, family relationships, fears, worries, or several other things that raise the level of cortisol stress hormones your body produces.

I have found the most beneficial way to ease the mind and activate the parasympathetic nervous system, thus bringing the body into a calm state and out of a chronic fight or flight state brought on by the sympathetic nervous system, is through daily meditation, mindfulness, and/or prayer.⁵ When you actively practice calming the mind and body through spiritual fitness, you train your body, conscious, and unconscious mind to change your state instantaneously. In doing so, you improve the functioning of your brain by moving from a short frequency beta brain state to a longer calming alpha or theta brain wave, which allows you to create new neuro pathway connections and habits that can improve sleep. In my two years since making meditation part of my daily hygiene, no different than brushing my teeth every day, I have been able to change my brain state to a longer waveform prior to sleep thus allowing me to get into a deep sleep delta brain wave almost immediately upon falling asleep. This has enabled me to cycle through my deep cycles more often throughout my total daily sleep period. This allows me to achieve an average of just about 2 hours and 30 minutes of deep sleep each night in accordance with my AutoSleep app. If you have not practiced meditation, mindfulness, or prayer before, I recommend looking into applying it to your daily life. You can do this by using products by a company called HeartMath and reading about the practice of yoga and breathing techniques that will improve your heart rate variability, along with heart and brain coherence leading to a better state of being and better sleep. From these changes of states, you will likely start to feel more optimistic about life, if you do not already, and you will find more joy and happiness in all your interactions which leads to you and others truly understanding your value and calling in life. The bonus to you is better sleep, health, and increased happiness.

Though you may believe alcohol relaxes you in preparation for sleep, alcohol actually negatively affects your sleep. Alcohol is a factor under your control. Think about those times when you drank either a couple of drinks or

stayed up all night drinking. Think about the term intoxication, meaning you are deliberately putting toxins into your body. At a minimum, the alcohol you are drinking is raising your resting heart rate with a direct correlation to reduced deep sleep. It is also depleting your body of vitamins and minerals you need to be healthy and feel well. That hangover you wake up with comes from your conscious effort to not allow your brain to get into a deep sleep cycle even if you sleep it off for eight hours. When this is done repeatedly, you can probably see where long-term health and quality of life issues may occur. I am not advocating for everyone to abstain from drinking alcohol, but I would challenge drinkers to monitor their deep sleep when drinking and when not drinking alcohol to formulate their own decision about just how important having a drink every night really is to you. For sustained optimal daily deep sleep, you may find saving alcohol for special occasions, and even then, not overdoing it is best for your current well-being, decision making, and healthy longevity. You are most ready to handle anything when you are well rested.

Eat well to sleep well. The standard American diet is not the optimal diet for sleeping well. The scope of this article is not to advocate for a one-size-fits-all diet that everyone should follow. That diet does not exist. If your desire is to sleep better, you may want to take a functional medicine or osteopathic medicine approach to your diet for overall health, wellness, and sleep. Part of the basis of this approach is treating food as medicine by eliminating foods that cause chronic inflammation and increasing foods that are nutrient-dense and foods that feed the good bacteria within your gut microbiome.⁶ Your gut microbiome is considered by many to be your second brain. The healthy and diverse symbiotic microorganisms in your gut will lead to greater holistic health. In my journey to beat Parkinson's Disease, four of the major inflammatory foods I have just about eliminated from my diet are gluten, sugar, processed foods, and vegetable oil.⁷ In part one of this article, I wrote about all the instant

positive changes that occurred in my body. A few recommended foods and beverages to add to your daily nutritional intake based on my experience are avocados, dark leafy greens, blueberries, walnuts, fermented foods, dark chocolate, turmeric, small fatty fish (salmon, sardines), eggs, broccoli, tea (green and black), and clean water. Eating nutritious foods and limiting the timeframe in which you eat during the day can help improve sleep. By providing your body the nutrients it needs, you are assisting in your cells' ability to properly reproduce, amping up your mitochondria health, and improving the energy-producing Krebs and adenosine triphosphate process of your cells with the added benefit of sleeping better. With healthy eating comes knowing when to stop eating for the day. A good rule of thumb is to attempt to have your last meal around three hours before you plan on going to sleep. The reason for this goes back to allowing your body's processes to slow or stop so your brain can enter into a deep-sleep cycle. This will not occur if your brain has to divert energy to your stomach for digestion while you sleep. That three hours gives your body time to digest your food before you fall asleep, which can help lead to getting into your deep-sleep cycle faster allowing for more brain-cleansing deep sleep.

Just as the fictional superhero Superman gets his powers from the yellow sun, our sun is your friend if you want to be at your best. Throughout the day, the sun radiates energy in the form of different spectrums of light at various intensities. Getting the morning blue light from the sun in your eyes is extremely important to set your body's circadian cycle and for the production of melatonin, which helps your body sleep. For you this may never happen because you wake up in a house, get into your car, put on your sunglasses, go to work in an office, and reverse that process to get home at the end of the day. Without the wonderful morning blue light from the sun, your body becomes confused by the constant intense blue light from computer screens and electronic devices, telling your brain and body through your eyes, that it is always

time to be awake. The lack of sunlight also inhibits the synthesis of vitamin D and the production of energy in your cells that you require to be at your best.⁸ Think of those days you spend at the beach, relaxing your mind and getting a healthy amount of sun exposure to your entire body. If you separate alcohol from these outings, you will probably realize you sleep pretty well those nights. Take time in the morning to get outside for direct sunlight in your eyes. If based on where you live or your work schedule you cannot see the morning sun, consider a light therapy lamp. In my secure office spaces without windows, I personally use small doses of full spectrum light therapy and make a habit of sitting outside when I eat lunch to get my daily healthy light exposure from the sun. To improve cellular energy levels and sleep quality, at night I use a full-body red light therapy lamp.⁹ Sleeping well requires light either naturally from the sun or augmented by specialized lamps that can potentially help with a range of things from enhancing your mood to improving your light, REM, and deep-sleep cycles. If you have to look at computer screens all day, think about turning on the night mode function or wearing blue-light-filter glasses to reduce the amount of intense blue light entering your eyes and trick your body into thinking it is always time to be awake. This is also true of television. Our modern televisions are very large and produce intense blue light. As a best practice for you and your family, turn off the television an hour or so before bed so your body and brain can wind down in preparation for restful sleep.

Every branch of the Armed Forces has a physical fitness standard and for good reason. Being physically fit and maintaining a healthy weight and movement will lead to greater sleep quality. To most people, it is probably known that aerobic and anaerobic exercise will improve cardiovascular health by increasing oxygen circulation throughout your blood, decreasing your resting heart rate, and increasing heart rate variability or your heart's ability to recover from stress. As mentioned earlier, another tremendous benefit is the production of the Brain Derived

Neurotropic Factor, which your body uses to produce new brain cells. Maybe knowing that going out for a run or jog is helping your brain health through growth, blood flow, and the potential of enhanced intelligence is just the bit of motivation you need to get moving. The human body was designed to move. If you work behind a computer, think about using a standing desk. When you finish up your work day, why not take a walk with family or friends instead of just sitting on the couch? Movement is life, and when you move during the day, you improve your sleep at night. One caution to ensure you get your best sleep is to not exercise too intensely close to bedtime. You want your resting heart rate to be as low as is healthy for your body when you lay down to bed.

For your best night's sleep every night, bring everything together with a seven-day-a-week routine. Have a consistent sleep and wake time. Allow yourself to wind down before bed. Stop looking at screens at least one hour before bed. Turn on the do not disturb sleep function on your phone, and if your job does not require middle-of-the-night sleep disrupting phone calls, put your phone into airplane mode. The fewer signals you have transmitted through your body at night (Wi-Fi, cellular, etc.) the better your sleep and health will be. Here are two examples of my routines when I am home and when I am traveling.

Home Bedtime Routine

Throughout the day, I drink at least half my body weight in ounces of water (about 80 ounces for me). Eat dinner before 6pm. About an hour before bed, I take an antioxidant supplement called Glutathione (learn what your body needs by talking to your doctor about testing you for nutritional and vitamin deficiencies you may have).¹⁰ I sit in a personal sauna for about 30 minutes. Immediately following, I take a cold shower to simulate mitochondria energy. While walking around my house, I wear red lens filter glasses to eliminate blue light from the lights throughout the house. Before I get into bed, I meditate while doing red light therapy for five to ten minutes. I keep

my room between 67–70 degrees. I wear an eye mask to block any light from entering my eyes. To provide additional improved sleep quality, I used a doctor-prescribed Frequency Specific Microcurrent protocol, designed specifically for Parkinson's Disease.¹¹ My typical outcome each night is 7.5–8 hours of total sleep with 2.5 hours of deep sleep. I track my sleep with AutoSleep (you can use whatever application you like; just ensure you understand the information it presents and record how you feel when you wake up).

Travel Bedtime Routine

When I travel for work on long international flights, I always pick an aisle seat to make getting up for the bathroom easy. Even when flying, I ensure I get a minimum of 80 ounces of water throughout the day. You should be getting up to urinate on long flights. On long international flights, every six hours I take a Glutathione supplement. For the entire flight, I wear a blue light filter lens to block the blue light from all the airplane television screens. If I am going to sleep on the flight, I wear an eye mask to block all light. I stand and read as much as possible on long flights to keep my body in motion. I never drink alcohol when flying. When I get to my hotel, I wear my red lens glasses, take my final Glutathione supplement, meditate, and head to bed with my Frequency Specific Microcurrent protocol. Even after a long day of international flying, I just about always get my required 2.5 hours of deep sleep for brain recovery, and I always feel my best for whatever event I just traveled to. By doing these things, I do not suffer from jet lag, and I typically do not have the same issues as my travel companions who tell me they wake up in the middle of the night due to being in a new time zone.

If you have signs of poor sleep including waking and not feeling rested, moving in your sleep (a spouse or roommate can let you know), not remembering that you dreamed, bags under your eyes, or brain fog, start taking steps right now to improve the quality of your sleep. Life and aging are incredible when you get to be the best version of yourself each and every day. Not only will you

love a rested version of you, but so will your family, friends, co-workers, and the world. Get the rest you need and desire every day so you remain healthy for your entire life and so you can answer whatever your calling is to make the world a better place!

Notes

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>Author's Note: This article is not sponsored by Apple, HeartMath, or Autosleep. They are just a few of the devices I choose to use for sleep wellness.

