



## **CONTENTS**

INTRO	3
FACTS	4
SLEEP ENVIRONMENT	5
ROUTINE	7
NUTRITION	8
CHIROPRACTIC	9
THE GLYMPHATIC SYSTEM - BRAIN HEALTH, SLEEP, AND CHIROPRACTIC.	10
ABOUT <i>SHIFT CHIROPRACTIC</i> AND DR. KYLE KONAS	11
SOURCES	12



#### **INTRO**

## Laying in bed at night, staring up at the ceiling wishing you could fall asleep.

Waking up and looking at the clock only to see it's 3:00 a.m. and you shouldn't be awake yet. Tossing and turning throughout the night only to wake up as tired as you were when you went to sleep the night before. Do any of these scenarios sound familiar?

Proper amount and quality of sleep is crucial for the human brain and body, and we know how difficult life can be without it. No one deserves to go through life feeling fatigued, burnt out, and just trying to survive. Not only does this affect you on a daily basis, but also your family, friends, and co-workers that depend on you.





### **FACTS**

# Lack of sleep costs the United States over \$411 billion annually, according to a report in Fortune Magazine.

Short sleep duration is defined as less than 7 hours of sleep per 24 hour period for adults (children need 9-12 hours), and 35% of adults fall short of that mark according to the CDC.

Individuals that get insufficient sleep are at increased risk for heart disease, stroke, asthma, COPD, cancer, arthritis, depression, kidney problems, and diabetes(1).

20% of all car crash accidents and injuries are associated with sleepiness(2).

The frequency of sleep medication use is associated with an increased chance of death(2).

Those using sleeping pills have a 35% higher chance of developing cancer (3).



"20% of all car crash accidents and injuries are associated with sleepiness"

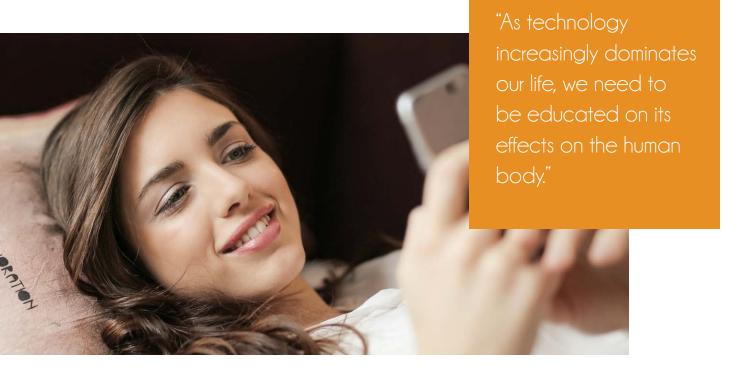


#### SLEEP ENVIRONMENT

## The environment that you surround yourself with during the night is crucial.

Sleeping in a cooler room has several potential health benefits. It can help you fall asleep faster, promotes burning of excess fat, and it helps regulate our hormone system and metabolism. It also affects the quality of REM (rapid eye movement), the stage of sleep where you dream, process learning and restore your body. Increased room temperature can cause you to spend less time in deep sleep, which can result in drowsiness during the day.

Another aspect of your sleep environment is technology. As technology increasingly dominates our life, we need to be educated on its effects on the human body. Unfortunately, 90 percent of Americans use technology during the hour





before bed(4). This is a problem because when it gets dark, your eyes relay to your brain that it is time to go to sleep. Your body then releases melatonin, a hormone that helps balance your sleep and wake cycle. The issue with technology use is that artificial lights can trick your brain into thinking it is still daytime. It is not just light in general that is the problem; blue light is shown to have the largest effect on the body. (No wonder the sky is blue!) According to a study published in Chronobiology International, the strongest wavelengths for our natural body clocks in the electromagnetic spectrum are blue.

There is limited research regarding the effects of WiFi on our health, but there is some research that may suggest that it can interfere with sleep patterns. Using WiFi compatible devices, such as tablets and phones, can cause sleep disorders and even depression and anxiety. More research is needed to determine if this is just an association with the devices themselves or the WiFi(5).

The National Sleep Foundation suggests setting a digital curfew for your family to be able to get the best rest possible. Three hours before bed would be the best case scenario. However, even 30 minutes before bed is better than nothing.



### **ROUTINE**

There are two important factors when it comes to routine and proper sleep. The first is to go to sleep and wake up at roughly the same time every day (even on weekends!). This is known as your circadian rhythm. Again, the hormone melatonin, and also cortisol play a major role in this cycle. The more in sync that it becomes, the better quality of sleep that you will experience.

Secondly, make it routine that your bed is only used for sleeping. Your brain should recognize your bed as a place for rest. As you get into bed, your body will automatically recognize that it is time to relax and recharge.

Lastly, pick a few activities that you like to routinely do before bed to get you into a restful state.

#### 5 Technology-Free Activities to do Before Bedtime:

Play a board game | Go for a walk | Read a book | Write | Meditate





### **NUTRITION**

# "The food you eat can be either the safest and most powerful form of medicine or the slowest form of poison." - Ann Wigmore

What we put into our bodies in the hours leading up to bedtime is instrumental in determining what quality of sleep we will have. Two important things to avoid are caffeine and nicotine. These are both stimulants that put your body into its 'fight or flight' mode. This can not only prevent you from falling asleep, but can lead to a reduced quality of sleep.

Avoid sugary foods within an hour or two of bed time. High sugar or carbohydrate based foods will spike your blood sugar, which inevitably leads to a blood sugar crash. This crash will occur while you are sleeping, and can disrupt your deep sleep. Examples of high sugar foods include ice cream, cookies, candy, fruits, potato chips, juice, and pasta to name a few.

Instead, try foods that are high in fat and protein for a bedtime snack. This will allow your blood sugar to remain relatively stable as you sleep and sustain you through the night. Examples of these types of foods are nuts, beef, chicken, fish, vegetables, olive oil, coconut oil, and cheese.



Examples of high sugar foods include ice cream, cookies, candy, fruits, potato chips, juice, and pasta to name a few.





#### **CHIROPRACTIC**

"One-third of people who have a chiropractic adjustment report that they experience immediate sleep improvement, and 40% of infants experience deeper slumbers after just one session with a chiropractor." (sleep.org)

Many people don't realize the importance of chiropractic care in treating sleep disorders, however, more often than not sleep issues and chronic pain are closely linked. As an upper cervical chiropractic practice, we focus on your spine, correcting any misalignments that are present and improving the spine's overall health. How does this impact your sleep? It means that the pain and tension built up in the spine can be released creating a higher degree of comfort. The more comfortable you are, the easier it is for the body to relax and fall into a healthy sleep cycle. A second more complex layer of connection between chiropractic treatments and sleep disturbances is the enhanced performance of the body's central nervous system. The nervous system is the master control panel for the body, allowing efficient function of the body. The more efficient your body functions, the less wasted energy and the easier it is for your body and mind to wind down and fall asleep. Not only can we diagnose and treat spinal problems to relieve discomfort, but as chiropractors, we can also offer suggestions on how to get better sleep. We are able to tell you which sleep position is best for you (and your spine) as well as whether a chiropractic pillow or more supportive mattress is necessary to get you back on track to a healthy sleep pattern(6).





# THE GLYMPHATIC SYSTEM BRAIN HEALTH, SLEEP, AND CHIROPRACTIC

In 2012, the Glymphatic System was discovered. This system is what cleanses the brain from all of the toxins and infiltrates that have built up throughout the day.

One of the main toxins that it removes is amyloid-beta plaque, the hallmark sign of Alzheimer's Disease. The interesting thing is that this system is only fully functional during sleep(7).

While we sleep, our brain shrinks and cerebrospinal fluid (CSF) is vigorously pumped through specialized channels in the brain. This CSF clears the toxins and infiltrates and is the primary player in the Glymphatic System. This would explain why sleep is so critical to humans. Without it, our brain sits in the toxic waste that it has created, leading to its deterioration.

What if the CSF is not moving through the brain properly? It should pump with every heartbeat, similar to blood flow. However, it is well documented that a misalignment of the top bone in the neck, known as atlas, can deform the flow of CSF into the brain(8). This is more common in individuals that have previously suffered a whiplash injury. We commonly see people suffering with depression, anxiety, light-headedness, and brain fog due to this condition.

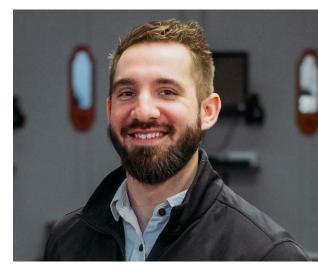
At Shift Chiropractic in Traverse City, we are able to gently and precisely correct the atlas misalignment using advanced technology and imaging. Instead of relying on sleep medications and watching your health deteriorate, contact our Traverse City chiropractic office today for a consultation.



# ABOUT SHIFT CHIROPRACTIC AND DR. KYLE KONAS

#### About Dr. Kyle Konas

Kyle's passion is to educate and support the families of Traverse City and the greater Grand Traverse area through upper cervical chiropractic care so that babies, children, and adults may live a life of greater health. Dr. Kyle has extensive training and experience in whiplash injuries, pediatrics, athletics, and overall wellness promotion. He is a member of the *International Chiropractic Pediatric Association* and is certified in the *Webster (pregnancy) Technique*. He has seen results from upper cervical care varying from infertility, multiple sclerosis, Par-



kinson's disease, fibromyalgia, chronic pain, migraines, sinusitis, arthritis, acute pain, and many more. He has also had the opportunity to watch many children benefit from chiropractic care with health issues like ADHD, colic, bed wetting, and ear infections.

#### About Shift Chiropractic

Shift Chiropractic is unlike traditional chiropractic, in that we address the master control system of the body, the nervous system. We get an exact assessment of your overall health by performing a full neurological and structural analysis, the results of which are utilized in helping you reach optimal health. We offer the most advanced and researched chiropractic corrective care through a customized health plan. Our goal is not just to provide you with short term relief but true long term correction. We at Shift Chiropractic are on a mission to help create one of the healthiest communities in the world right here in Northern Michigan.



### **SOURCES**

- 1. https://www.cdc.gov/sleep/data\_statistics.html
- 2. National Center for Biotechnology Information
- 3. British Medical Journal
- 4. Journal of Clinical Sleep MedicineVolume 09, Issue 12. The Use of Technology at Night: Impact on Sleep and Health. Michael A. Grandner, Ph.D., Rebecca A. Lang Gallagher, M.S.Ed., Nalaka S. Gooneratne, M.D., M.Sc., F.A.A.S.M.
- 5. J Clin Sleep Med. 2013 Dec 15; 9(12): 1291–1299. The Sleep and Technology Use of Americans: Findings from the National Sleep Foundation's 2011 Sleep in America Poll. Michael Gradisar, Ph.D., F.A.A.S.M.,1 Amy R. Wolfson, Ph.D.,2 Allison G. Harvey, Ph.D.,3 Lauren Hale, Ph.D.,4 Russell Rosenberg, Ph.D., F.A.A.S.M.,5,6 and Charles A. Czeisler, Ph.D., M.D.7
- 6. www.thejoint.com
- 7. Neurochem Res. 2015 Dec; 40(12): 2583–2599. The Glymphatic System A Beginner's Guide. Nadia Aalling Jessen,1 Anne Sofie Finmann Munk,1 Iben Lundgaard,1 and Maiken Nedergaard
- 8. The Craniocervical Syndrome and MRI. Smith, F.W., Dworkin, J.S. 2015.



