Master the Basics

Simple Decisions to Take Control of your Health

Anthony Guastella

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Sleep

There are two stages of sleep. We have REM sleep and non REM sleep. REM sleep is classified as dream sleep, this is also where memory processing takes place. Non REM sleep is classified as deep sleep. The first half of the night, we start out in NREM sleep, then transition over into REM sleep. The second half of the night we start in REM sleep, then transition over into NREM sleep.

Benefits of Sleep

Cardio Vascular-
Sleep is critical for heart health, many research papers have proven this. In this study: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4791534/, researchers quote "Observational and experimental data converge to indicate that inadequate sleep duration poses a substantial hazard for cardiovascular morbidity and mortality. "
This research indicates sleep deprivation with cardio vascular disease: https://pubmed.ncbi.nlm.nih.gov/28477772/, researchers quote "Insomnia is linked to poor mood, increased use of health care resources, decreased quality of life, and possibly cardiovascular risk factors and disease."
Cognitive Function-
Sleep plays a huge roll in cognitive function. This study shows how sleep depravation reduces brain plasticity: https://www.sciencedirect.com/science/article/abs/pii/S108707921730028X?via%3Dihub. In another article, reseachers quote "there is broad consensus that insufficient sleep leads to a general slowing of response speed and increased variability in performance, particularly for simple measures of alertness, attention and vigilance."
Immunity-
Sleep is critical for building our immune system. In this research article: https://www.scielo.br/j/ramb/a/3zxxdsLZyvdMYYcRqkX5f5q/?lang=en, it shows how sleep deprivation promotes more inflammatory markers of the immune system like IL6, and TNF alpha. Also our natural killer cells are diminished when were not sleeping. These cells are designed to find, and destroy pathogens. In this article: https://pubmed.ncbi.nlm.nih.gov/26417606/, it says "Sleep is considered an important modulator of the immune response. Thus, a lack of sleep can weaken immunity, increasing organism susceptibility to infection."

How to Improve Sleep Quality

It's important to note that sleep duration is important, but arguably more important is quality. Cycling in, and out of your sleep cycles efficiently, and waking up feeling refreshed. There are many strategies to improve sleep quality:

1. Early morning light exposure-

Early morning light exposure is critical for setting your circadian rhythm. This is the rhythm that decides when certain hormones get secreted throughout the day. Getting exposure to sunlight in the morning boosts serotonin, which will increase melatonin later in the evening because serotonin is a pre curser to melatonin.

2. Cold temperature-

At night, we undergo a process called thermoregulation. This process is described as a drop in core body temperature at night. Everywhere in the world, the temperature drops at night. Today with our air conditioning units, we can make the temperature whatever we want. Unfortunately, most of the time it's not good for our sleep. The ideal sleeping temperature is about 65 degrees. This is going to defer on the individual, but the data shows that we sleep better during cooler temperatures. You can probably attest to this, when you sleep hot, you don't sleep well.

3. Sleep in a dark environment

We are evolved to sleep in a dark environment, so dark that you can't see your hand in front of your face. In your room, you want to make sure that no light is getting through. Many of us have some sort of light shinning through our windows. A great remedy for this is blackout curtains. These curtains block out all of the light coming through, so you can get good quality sleep. The amount of lux in a street light is 5, compared to the lux in the stars, which is .001, and the moon, which is .3. We have always slept under the stars, and moon, but it's much different light. When you have any artificial light at night, it suppresses melatonin production. In this research: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7065627/, it shows how light at night will disrupt melatonin, particularly blue light.

4. Nutrition-

Certain nutrients like potassium, calcium, vitamin c, and magnesium have been proven to increase sleep quality. This study: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7767325/, shows how vitamin c is associated with longer sleep duration. Some great sources of vitamin c are green leafy vegetables, berries, and the highest source that we know about is camu camu berry from the amazon. Containing 40x the vitamin c of an orange. The next is calcium. A study published in European neurology suggested that disturbances in REM sleep are likely linked to a calcium deficiency. Some great sources of calcium are green leafy vegetables, sea veggies, and sardines. The next is potassium. A study

9. Gratitude

Gratitude is a practice that has an explosion in recent scientific data. In this study: https://pubmed.ncbi.nlm.nih.gov/28128978/, researchers find that subjects report increased sleep quality, and less worry before sleeping. In another study: https://pubmed.ncbi.nlm.nih.gov/30949102/, researchers quote "The gratitude intervention managed to increase positive affect, subjective happiness and life satisfaction, and reduce negative affect and depression symptoms." How do we actually do this? Simply write down three things your grateful for. They can be people, experiences throughout the day, or something in the future. Make sure you actually feel the feelings.

10. Earthing

Earthing is the practice of getting in contact with the earth. Standing barefoot in the grass, beach, or water has a Varity of health effects. In this study:https://pubmed.ncbi.nlm.nih.gov/31831261/, researchers quote "earthing (also known as grounding) refers to the discovery that bodily contact with the Earth's natural electric charge stabilizes the physiology at the deepest levels, reduces inflammation, pain, and stress, improves blood flow, energy, and sleep, and generates greater well-being." In another study: https://pubmed.ncbi.nlm.nih.gov/15650465/, researchers found a stabilization of cortisol, and normalization of the circadian rhythm. How does this actually work? In two words, free electrons. Free electrons are basically antioxidants. A free radical is an unpaired electron, and needs a free electron to be neutralized. This is why we eat antioxidants, but the antioxidants in food are not comparable to the ones in the earth. The earth is brimming with these free electrons, and is the source of the food it self.

Nutrition

Fasting-

Why would I start off the nutrition section with not taking in any nutrition? This is because fasting has some remarkable benefits. Today, many of us are over eating. I'm not just talking the amount of calories, but the amount of times we are eating throughout the day. We are not giving our digestive system any type of break. Fasting, in addition to giving your digestive system a break, can assist in a process called autophagy. Autophagy is a process that goes around and cleans up cellular debris It's a process of clearing the body of senescent cells, or cells you no longer need.

Benefits of fasting-

1. Autophagy

As I discussed, autophagy is the process of clearing up cellular debris.

2. Stabilize blood sugar

Fasting is great for stabilizing blood sugar. When no food is coming in, it's easy to stabilize blood sugar. Fasting is probably the best treatment when it comes to lowering insulin. Insulin is the hormone that drives glucose into the cells.

5. Immunity

Fasting clears out old cells, and replaces them with new ones. This keeps your immune system in top shape.

4. Weight loss

This is very beneficial for weight loss. In addition to not taking in any calories, you are training your body to burn fat for fuel, rather than sugar. When we burn fat for fuel, we can make use of the extra pounds we may have, and use them as energy. Also, when you stabilize insulin, it's easier to lose weight because insulin is our bodies major fat storing hormone.

5. Cancer

Fasting as been show to reduce tumor size in many studies. Fasting reduces the growth signal to cancer. Some of the nutrient sensors that it blocks are mTOR, and insulin. mTOR is a pathway that signals growth. Cancer cells primarily feed off os sugar. When you reduce glucose, and insulin, your chances for cancer go down.

Fasting Methods

Intermintent fasting-
This is the most popular form if fasting. It is taking a portion of your day, usually 12-16 hours of not eating. This includes sleeping. So, if your done eating at 8 pm, don't eat again until 8 am. You can start at 12, and gradually work your way up to 16. This is something you can do everyday.
Longer fasts-
You can do a longer fast as well, usually 24-72 hours. This can be done with water only, or other substances. Water alone will give you the most benefit. You can also have green juices, bone broth, an supplements on a long fast.

What Should You Avoid?

Vegetable oils-
Vegetable oils are the number one thing to be avoided. These oils consist of corn, canola, cotton seed, safflower, sunflower, and soybean. Notice how none of these are actually vegetables, that's because they're not. That term is only marketing. These oils have over a 40 step process to be made, as apposed to olive oil, where you are just crushing olives. You should avoid them because they have a extremely high amount of omega 6 fatty acids. These are an inflammatory type of polyunsaturated fatty acid. The other PUFA is omega 3 fatty acids, these are anti inflammatory. We need both of these fats, but at a ration of 1-1, to 1-4. The vegetable oils help are ratios go way out of whack; to the point where we see people have a 1-20. Another thing is that they are very heat sensitive because PUFAs are a very unstable fat. The problem is that these oils have to be extracted through very high temperature, which oxidizes the oils, and makes them rancid. So they are often rancid sitting on the shelf.
Sugar-
Sugar is the number two thing to avoid. Sugar causes a variety of issues including, weight gain, AGEs, diabetes, cholesterol issues, and bone decay. The way that sugar causes weight gain, is through a hormone called insulin. Insulin is our bodies major fat storing hormone. It's all about the hormonal impact that food has on our body. When insulin is spiked through sugar, it helps the body store fat. The way it causes diabetes is access sugar causing our insulin receptors in our body to down regulate, so we have all this sugar

Things To Possibly Avoid

Other possible things to avoid are grains, soy, and dairy. These can be beneficial at certain times, and for certain people. I'm going to go through the reasons why most people should avoid them, and reasons why some people can have them. Grains contain a lot of anti nutrients. These include lectins, tannins, phytates, phytic acid, and gluten. These essentially bind to nutrients in our body, and make them inert. Gluten is the biggest one, but this is contained in wheat, rye, and barley. Gluten activates a protein in our small intestine called zonulin, which makes our gut lining permeable, and causes leaky gut. Soy is a food that has been consumed a long time in Asian cultures, but the way they consumed it is much different. What they did is use it as a condiment, and they fermented it. Fermentation removes most of the anti nutrients in the soy, and also removes estrogenic compounds, which I will talk about. Soy, in addition to having many anti nutrients, is a powerful xenoestrogen. This means it will promote access estrogen in the body. This can cause reproductive cancers in women, and a conversion of testosterone, to estrogen in men. Dairy is the other thing you may want to avoid. Dairy we have now is not the same as it used to be. For one, babies produce an enzyme called lactase. This breaks down lactose, a protein found in milk, but in the early ages of life we stop producing this enzyme because we stop breast feeding. This is why most people are lactose intolerant. Most milk now a days is A1 protein. This is very irritating to the digestive track. The healthier version of this is A2. A2 is much easier on the digestive track. Also, if you get conventional milk, this is not coming from one cow. It is actually coming from hundreds of cows, so you have a hormonal soup. Milks is also pasteurized and homogenized. Pasteurization is heating the milk to a very high temperature, so you can kill unwanted bacteria, and preserve shelf life. The problem is that this dramatically degrades the nutrition. Homogenization is making a smooth consistency with milk. The cream usually rises to the top, but this makes it so it doesn't happen. Again , the problem is that it absolutely denatures the quality of the milk. Another thing is that these cows in a CAFO (confined animal feeding operation) are treated very poorly. they don't get to go outside, and they are stuck in a barn. They are pumped with growth hormone, so they grow faster, and are slaughtered faster. Also, they are given antibiotics to fight disease because of the conditions they're in. In fact 70% of the antibiotics that we use go to the animals. If you drink milk from a pasture raised cow, it's very unlikely to have the harmful bacteria in the first place.

How Can We Consume These Foods?

With all that being said, there are ways we can consume these foods. First, you want to make sure you are in a optimal state of health. If you have any auto immune disease, or chronic disease, it's probably a good idea to avoid these. We also want to make sure were getting organic, and non GMO. This is very important. If your in a optimal state of health, and these foods speak to you, then here's how to do it. With grains we want to soak, and sprout them. This involves soaking them in a solution of water, salt, or vinegar. It depends on the grain for how long, but there are many soaking charts. Sprouting involves a longer proves of doing this multiple times. After this, we want to dry them in a food dehydrator. This dramatically reduces the anti nutrients, and actually unlocks certain nutrients in there, so it's actually more nutritious. For soy, we want to to the same thing, but take it a step further. Fermentation is the best process to use for soy because it gets rid of most of the anti nutrients, and xeno estrogens. You then can consume it in a variety of ways like miso soup. With dairy, we want to make sure it's all pasture raised, and organic. This goes for milk, cheese, and butter. Then you can consume to raw milk, which is legal in some states. Some people are concerned with pathogens in raw milk, but this is not actually an issue if it's high quality, and comes from a good farmer.

What Is The Optimal Way To Eat?

The reality is that there is no one size fits all diet. All diets work at certain times, and for certain people. There are so many diets including paleo, keto vegan, carnivore, low FODMAP. Some diets work well for certain diseases, and some work well if you have none. We have to tailor it to us. This means our own unique lifestyle. What are some factors that apply universally to all diets for optimal health?

1. Eat real food
2. Eat organic
3. Eat locally, and seasonally
4. Eat according to genetics
5. Eat according to ancestry

What is real food? It is simply food that comes from nature. This includes vegetables, fruits, nuts, seeds, and meat. Food that has a long history with our genetics, something that our genes expect us to eat. It's not something that was synthetically made in the lab in recent times. Why organic? This is because pesticides, herbicides, fungicides have been proven to be neurogenic, or estrogenic. This means that it disrupts the nervous system, or the endocrine system. It messes with the pests reproduction via hormones. Also, these are designed to kill very small things, this includes our microbiome. We are made up of these tiny organisms, and pesticides have a profound impact on them. Why local? This is because the food that grows locally is going to be much more nutrient dense than food that has been shipped across the world because food starts to lose it's nutritional value as soon as it's picked. Seasonal foods are important because our microbiome shifts with the seasons. Not only does seasonal food tend to be more local, but our microbiome expects to have different foods throughout the seasons. To think about it, it's not really natural to be eating blueberries in the middle of winter in Michigan. Eating according to genetics and ancestry is important because we may have certain genetic risk factors, and things to optimize with our genetics. It's better for our genes to eat according to our ancestry as well because your genes are in more alignment. For example, if you have a Mexican heritage, and ther you move to the U.S, you may start eating a completely different diet. Even if you are eating health food, your body will probably do better on a healthy Mexican cuisine. This is not to say we can't enjoy foods from other cultures, it's just to be aware so we can make certain decisions. We don't necessary have to go out and get tests for these things. We can examine our own families, and test things to see what works for us.

Movement

What is the difference between exercise and movement? Movement is classified as the things you do throughout the day. This could be cooking, gardening, playing with a pet. This could also be structured movement where you are doing 30 push ups, or thirty jumping jacks every hour. Exercise is classified as a formal session that you would do in a gym. Things like weight training, HIIT training, or yoga. I am primarily going to focus on movement because it's what most people are lacking, and is most important. It is more important because research has show that if you do a formal exercise session, but are sedentary for the rest of the day, you are only about 4% more active than the sedentary population. By the end of the day, a formal exercise session should be optional because you've done so much movement throughout the day. Moving is also very important for your lymphatic system. This is your extra cellular waste management system that get's rid of toxins, and transports immune cells though out your body. You have 4x more lymph fluid than blood. Unlike blood, where you have a pump, the lymphatic system doesn't move unless you do. First I'm going to go through what to stop doing. Then I will talk about what to add in.

Sitting

Sitting is a common practice in modern culture. While it can serve as a resting position, too much has horrendous health consequences. Some of them include a sedentary lifestyle, tight hips, decreased blood flow, and more. Sitting in a slouched position especially because of the abnormal spinal curvature, shrunken chest cavity for breathing. Nerves, arteries and veins can swell, which us why you may feel pain after a long time of sitting. Being stationary for a long time will reduce blood flow, and oxygen to your brain. This will inevitably lead to decreased concentration. I found a well done study that after adjusting for confounding factors, found an increase for all cause mortality with long times spent sitting. To combat the effects of sitting, here are some tips. Focus on a straight posture, get up every hour; and do some form of movement, stretch your vision and look out a window. You also can get a standing desk. This will be a station where you stand for work instead in sitting. Keep in mind that standing alone is not the solution, but movement is. Standing alone means your still sedentary. Standing is better than sitting, but it's good to mix the two.

Positive Movement Strategies

Walking

Walking is the number one form of exercise that we are actually designed to do. It is a very restorative form of movement with many benefits. Some of them include decreased cortisol, Increased lymphatic flow, Increased blood flow, divergent thinking, and positive brain chemicals. In a study_ done to measure cortisol in walking in the forest, study participants were shown to have a significant drop in cortisol. Part of this effect is do to the forest itself. How do we actually do this? The goal is to get 10,000 steps a day minimum, more if you can. Walk outside in the sun, and fresh air for added benefit. Also, paying attention to the terrain is important too. Walking in the grass, or the forest will allow the stabilizer muscles in your feet to work. Plus, it's better on your joints than the concrete. This is also an opportunity for social time. You can bring a friend, and have a conversation. You could also listen to a podcast, or get calls done. If it's winter time, you can always walk around the house.

Hanging

Hanging is a very powerful practice that we should take on. This does a variety of things. It helps open up the shoulders and is a great stretch. It also helps you get back your over head range of motion. Hanging is also very important for grip strength, and stabilize the pelvis. This is very helpful for shoulder impingent because it helps remodel the bones, and tendons for better mobility. How do we do this. Find, or get a pull up bar and start hanging. If it's to difficult, then you can always do a partial hang, where you use something to stand on, so you don't use all your weight. Do this for as long as you can. One minute is a good target. If you can do longer, then great. Also, just like walking, pay attention to the structure your using. This means use a branch sometimes, just like you would use grass for walking. It will allow different muscles to be worked, and not everything is going to be linier in the real world. This is something you can do everyday.

Squatting

Getting into a deep resting squat is the next move. This is something that we have always done sense the beginning of time. Even when you study the hunter gathers of today, like the Hunza in Tanzania, they rest in this position. This involves squatting all the way down, so your gluts our almost touching the ground. This helps stretch the low back, and stabilize the pelvis. This is actually the optimal position for pooping as well. We have something called the puborectalis muscle. This is like a sling that keeps things from coming out. In a squatting position, this muscle is able to fully relax, allowing for a proper bowl movement. When we sit on our thrones, A.K.A, the toilet, this muscle has a kink in it, and is not fully able to relax. This results on constipation, and a overall more difficult bowl movement. Sitting this way can cause a host of other issues like hemorrhoids, colitis, and colon cancer. This happens because your not fully able to eliminate, and your still carrying things around. The solution to this using a stool of some sort to prop your feet up, and get into the proper squatting position while on the toilet. A company called squatty potty developed the perfect stool for this. It fits perfectly under the toilet, and is easy to use. It is also an economical solution.

Conclusion

Health at it's core is very simple. Most things we can do right now don't require a lot of recourses. Taking control of our health will give us the power to create the life we want. We have the tools, and know what do do already. Now it's just a matter of doing it. The powers in our hands, it's up to us.