COOL FACTS FRIDAY #17

Dave Asprey:

Cool Fact #1

This cool fact is about how migraines change how you sleep. Migraines affect about 14% of the world population. Although, frankly, that number is probably very low because a lot of people get migraines, particularly abdominal migraines, but because they don't have specific headaches, they just feel like crap and they go on with life never being diagnosed. I would suspect that at least some of the time, the number is closer to 30% or even 40% where people have a migraine maybe once every month or two, but it's just not enough to really bother. People with chronic migraines can be debilitated.

What researchers have figured out though, is that having a migraine pretty obviously would make it harder to sleep, but no one had figured out what it did to your sleep cycle, the amount of REM or dream and deep or restorative sleep that you get. So they did a meta-analysis, which means they looked at all of, the other research to see commonalities. They looked at 32 studies. And these guys from the American Academy of Neurology pulled together data from 10000 per participants across those studies. And they found that both adults and kids with migraines get less quality sleep and particularly, less REM sleep or dream sleep. The REM stage of sleep has the most brain activity and the most vivid dreams and it's important for learning and memory function. Kids with migraines also seem to get less sleep overall, but they do fall asleep faster than kids without migraines, probably just because they're tired a lot. What this means is that if you get migraines or someone, you know, gets migraines, you might focus on things that will increase the quality of sleep overall, especially REM sleep, and see what happens.

If you go to DaveAsprey.com/sleepchallenge, I'll teach you everything I know about improving the quality of your sleep, so you get better sleep in less time. And if you have migraines, even if you get less sleep, it might as well be the best possible sleep you can get. The sleep challenge is a gift for listeners. I just want you to get a good night's sleep.

Source: https://www.sciencedaily.com/releases/2021/09/210922160654.htm

Cool Fact #2

This cool fact connects your microbiome and type two diabetes. Everybody already knows that what you eat plays a pretty important role in whether or not you're going to get type two diabetes. We also already know that the standard American diet high in seed oils and processed foods almost guarantees that you're going to get type two diabetes. Sorry food pyramid authors. You guys suck. But there are some new recent studies that show that your gut microbiome, your gut bacteria probably also play a part in that, which only makes sense because they eat what you eat and then they give you their output. Yes, your body runs on microbiome poop, pretty much. Researchers at Oregon State University identified four different types of microbes that are either worsens or improves for type two diabetes. What makes this really interesting and makes it a cool fact is that they weren't just citing dysbiosis or imbalanced gut bacteria. They were specifically identifying the strains of bacteria that either help or hurt people with diabetes.

The improver microbes enhanced mitochondrial function, you might have heard that here before, and supported the right use of fats and carbs, but the worsener microbes increased body fat and overall body mass index. So when someone tells you that obesity is not something that you can give to another person, well, you can give your gut microbiome to another person by being in the same room as them or by touching them. Therefore, obesity is probably transmissible and we need to start making

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men- Never mind. Anyway, what I was saying was that there are potential probiotic strains that you can take that treat type two diabetes. So instead of just trying to establish healthy gut bacteria, which you should do anyway, you can target therapies there. If you want to know more about gut bacteria and diabetes specifically, check out episode 767 with Dr. Colleen Cutcliffe, Ph.D., who develop targeted bacteria that regulate blood sugar. It's really cool where we're going.

Source: https://www.sciencedaily.com/releases/2021/01/210104114115.htm

Cool Fact #3

Your next cool fact is about contraception for men without injecting your balls. Up until now, the only promising concept on male contraception, aside from condoms, was injectable nanomaterials that could heat the testicles to decrease sperm counts. These injections, you wouldn't imagine this, they're actually supposed to be painful and the heat could damage your skin. Since neither of those are good, and frankly, no one's going to do them, scientists said, "Maybe there's a safer alternative?" So researchers at the American Chemicals Society worked with biodegradable nanomaterials with a thermal magnetic approach. So you don't have to inject your balls anymore. They inject the nanomaterials into mice anyway, and then they guide the nanomaterials with magnets. The nanoparticles heated the testes to a temperature of 104, which shrinks them and inhibits the formation of new sperms before they recover in 30 to 60 days later, basically a short term contraceptive solution.

Mice couldn't father any pups for seven days after treatment, but after about day 60, they were back to 12 pups per pregnant female. And what does this mean for you? Well, you could experiment with injectable nanomaterial just to see what'll happen, because hey, what could go wrong there? Or couldn't you just put your balls in water that's 104 degrees for 20 minutes in a form of birth control that's been used in ancient India for thousands of years? Sometimes we don't need a Bluetooth toaster and sometimes we don't need to inject nanomaterials to give ourselves hot balls.

Source**:** https://www.sciencedaily.com/releases/2021/07/210728105602.htm

Cool Fact #4

Your next cool fact proves that kids' video games can actually be used for good, but don't tell my kids. Anyone who spend time around kids knows that kids are working on developing skills and tools to manage complex emotions because we don't come wired to do that. We mostly come wired to punch other people and eat their food until we learn better. That's called growing up. Researchers at Boston Children's Hospital developed a video game to specifically to help kids deal with emotions like anger and stress. The video game is called, "Regulate and Gain Emotional Control," which funny enough, stands for RAGE-Control, and you monitor the kids' heart rates as they try to shoot virtual asteroids while avoiding friendly aircraft. In other words, stress from a fun activity. And the better the players are at maintaining that steady heart rate, the more points they earn.

To test how effective this was, the researchers gathered a group of kids with anger issues and only half had heart rate monitors that affected the points they earned during the game. Scientists wanted to figure out would heart rate feedback help the kids regulate emotions in daily life? What they found was absolutely. In the kids who played RAGE-Control with heart rate feedback, heart rates actually fell as they played and their parents said that the kids were better at monitoring and controlling their aggression and oppositional behavior. The researchers also said that they saw significantly reduced anger severity in children who had biofeedback. The greater the decrease in heart rate, the more the children improved their behavior. Well, what does this mean for you? It means that almost any form of biofeedback for kids improves their lives probably for their entire life.

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This research just used heart rate, which is pretty good. You've developed the ability to change the number of beats per minute, but had these researchers used the next step, something I've been a big fan of, called heart rate variability, they would've seen even better control because conscious control of anything in your body creates better biology, but conscious control of your stress response, which is a measure not of how many beats per minute your heart has, but it's a measure of the spacing between the beats.

My kids, when they were very little, learned to play something, I call the magic fairy breathing game, which is nowhere near as fun as avoiding airplanes and asteroids. But what it did do was teach them to consciously manage the stress response and it really helped them learn how to breathe and how to calm down. Kids could learn. They're wired to learn faster than you and me and it's awesome. Any opportunity you have to plug your kids into something that lets them see the wonder of their body, you'll always have kids who behave better, are happier and are better equipped for the world around them.

And by the way, it's not just kids. We use heart rate variability, the clinical grade version, at 40 years of Zen, which is my neuroscience five day intense brain upgrade program hosted in Seattle Washington. And I've been doing this since 2008 with profound changes in my ability to handle stress. There's a way that I can run six companies and write books and do the podcast and do all these fun things because I took a lot of my stress and I turned it off. You can teach your kids to do the same thing. Source**:** https://neurosciencenews.com/gaming-biofeedback-stress-19419/

Cool Fact #5

This cool fact is my favorite cool fact ever, because it means that sleeping less could mean more brain power. Why? Because anything in excess, even sleep, can be a problem. You can fall into the fasting trap or you fast too much. The keto trap, or you keto too much. The vegan trap, or you vegan, well, [inaudible 00:01:43], but certainly too much. All of these things, some might be good, doesn't mean that more is better. It's a core problem in our psychology.

Well, new study, what does it say? It supports something that I took a lot of hits for 10 years ago when I said, "Hey guys, six and a half hours of sleep per night is what the people who live the longest get. They die less than people who get eight hours, and only 1.2 million people in the study support that," and everyone yelled at you and said, "Don't you know, eight hours, blah, blah, blah." That was all wrong.

Well, this new study makes me so happy, because not getting enough sleep does contribute to cognitive decline and Alzheimer's disease. New research from Washington University School of Medicine says that just like getting too little sleep, sleeping too much is linked with cognitive decline. The researchers looked at a hundred adults in their mid-to-late 70s on average across four to five years. So this is a long period of time, but a smaller sample size. They mixed in other factors that cause cognitive decline, age, genetics, other signs of proteins called beta amyloid or tau, which are linked to dementia. What the researchers found was that if people slept less than four and a half hours or more than 6.5 hours a night, those along the sleep disruptions meant cognitive decline over time.

The study also shows that sleep quality matters, and you've heard me talk about that for a long time. It's not about the length, it's about quality. It's not about how many calories, it's about quality and, maybe about timing. This research shows that having less deep sleep, which is the restorative thing, it affects cognitive impairment, and it increases your risk of dementia.

What does that mean for you? It means that you should immediately cut your sleep to six and a half hours a night if you want to live a long time. No, it doesn't mean that. It means that it's your job to

improve your energy and your health and your sleep environment so that you only need six and a half hours of sleep a night to feel amazing when you wake up. And in case you're wondering whether I follow this advice, over the last seven years my sleep monitor shows that I've had an average of six hours and 28 minutes of sleep per night. Yeah, I'm two minutes shy, but it's close enough.

Source: https://neurosciencenews.com/sleeping-duration-cognition-19602/

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