

Cool Facts Friday #7

Dave Asprey:

Here's another round of cool facts for you.

Cool Fact No. 1:

This cool fact is about how fasting changes your circadian rhythm, which can make you healthier. Your circadian rhythm is an intrinsic timekeeping clock that preserves something called homeostasis, in other words health, in your body in response to the changing environment around you. If you're resilient, then your timekeeping clock makes you more resilient. Or if your clock is broken, you're less resilient. It basically tells you when to go to bed when to eat, when to wake and so on.

It's well understood that the food you eat can influence the function of your internal clock, but until now we didn't really understand how a lack of food could influence your clock. Researchers at UC Irvine conducted a study in mice that figured out what fasting does to genes via their circadian clocks. Researchers figured out that a 24 hour fast resulted in a reprogramming of various cellular responses in the mice, which included a reduction in oxygen consumption, respiratory exchange ratio, and energy expenditure.

What does that mean for you? Well, it means that fasting the right way can be an effective strategy for positively affecting your cellular functions, particularly when we're talking about hacking your circadian rhythm and your metabolism. And of course, there's a whole chapter about how to use fasting and light together in order to really change your circadian rhythm. But the more we're learning about fasting, the more we're learning that it's integrally tied to your timing systems and when all of your timing systems fire at the same time the way they're supposed to, you're much less likely to get sick and you're going to have a much better functioning metabolism.

Source: <https://www.sciencedaily.com/releases/2019/01/190115111928.htm>

Cool Fact No. 2:

This cool fact is about how fasting may help to treat breast cancer. You might have noticed there's a lot of cool facts about fasting and that's because I just spent thousands of hours researching fasting and writing *Fast This Way* and the book is just coming out with rave reviews. So I'm going to share some of what I learned writing the book.

About 80% of all breast cancers express either estrogen or progesterone receptors and the most common therapy for those types of breast cancers is endocrine therapy, which blocks the hormones from attaching to the receptors on the cancer cells. Problem is, long-term benefits don't happen because of treatment resistance. Researchers at USC and the IFOM cancer Institute in Milan studied the effect of fasting mimicking diets on breast cancer treatment, because they wanted to figure out how they could increase the efficacy of drugs they're using to block those hormones in cancer.

And they just found that when they combine fasting mimicking diets with hormone therapy, fasting not only shrinks tumors in mice, but reverses resistant tumors. And although most of the research is only in mice, two small clinical trials produced the same results in humans. From a biochemical perspective, the fasting mimicking diet reduces blood insulin, insulin like growth factor one, or IGF one, and leptin, which in turn appears to increase the power of cancer hormone drugs and delays resistance to them. Well, what does that mean for you? The researchers say that fasting mimicking diets

could be the non-toxic wildcard for cancer treatments, and they believe that the promising results could lead to more effective cancer treatment with less harmful side effects.

What does it actually mean for you? If you are dealing with cancer, you probably ought to be fasting, intermittent fasting, or doing a fasting mimicking diet that's low in protein. Like the protein fast that I describe in my new book *Fast This Way*.

At this point, it's safe to say that fasting or intermittent fasting when you have cancer is almost certainly better than eating whatever you were going to eat and 100% certainly better than eating a high sugar, high seed oil, omega six diet. Those are just bad for you when you have cancer and fasting means you're not doing that. So fasting is always better than junk food, no matter what.

Source: <https://www.sciencedaily.com/releases/2020/07/200721132735.htm>

Cool Fact No. 3:

This cool fact is about how your body temperature controls the amount of REM sleep you get. And you guys know that I've worked for years on improving and hacking my sleep. And I finally fixed my REM sleep, which was harder to fix. New research from the University of Bern in Switzerland, shows that there are neurons in your hypothalamus that specifically increase REM sleep when the room temperature is just right. Think of it as the Goldilocks of temperature for sleep neurons. And the need to maintain a constant body temperature is your most expensive biological function. It uses the most energy. Shivering and sweating are things that consume a lot of energy in body reactions that keep your body in a specific temperature range. So if you're really cold, you'll shiver to get warm. If you're hot, you'll sweat and you'll cool off.

When you're awake or you're in non REM sleep, you have finely tuned mechanisms for controlling your body temperature, but when you drop into REM sleep, those mechanisms are no longer active and you lose the ability to self-regulate your temperature. This new research shows that mammals have evolved mechanisms to increase REM sleep when there's a predictable body temperature. And if you're too cold or too hot, you're going to get less REM sleep.

And what's that mean for you? Well, this is the first time that we figured out which part of the brain controls REM sleep as a function of room temperature. And when you can dial in your room's temperature so it's not too hot and not way too cold, and when it's consistent, then your body can relax and you can actually go into REM sleep and stay in REM sleep longer.

This research supports one of the major sleep hacks I've been talking about for a long time, which is controlling your room temperature by making it cooler so you get better sleep. Now we know what kind of sleep you get better and why.

Source: <https://www.sciencedaily.com/releases/2019/06/190619111248.htm>

Cool Fact No. 4:

This cool fact is about how psychedelic mushrooms may treat depression. A new study in the *Journal of the American Medical Association*, that's a big time journal, adds to the growing research supporting psilocybin, which is the active compound in psychedelic mushrooms as a treatment for depression. New research found that in a controlled therapeutic setting, psilocybin can swiftly and dramatically ease depression as indicated on a quantitative depression rating scale that measured participant's symptoms. And about 30 to 50% of the population doesn't get an effect from traditional antidepressant drugs, and if the drugs do work, it takes weeks of depression before they kick in. Now we've got something that comes from nature that kicks in right away. That sounds interesting.

What does that mean for you? Well, researchers and supporters hope that psilocybin combined with therapy can become the first line of defense for depression instead of just a quirky last resort when antidepressants don't work. Psilocybin is still a prohibited schedule one drug at the federal level, which is entirely unacceptable in a free world, if I could just say.

Individual States are slowly beginning to tell the federal government to go screw themselves by recognizing the therapeutic potential and they're loosening restrictions for use by licensed therapists. Newsflash, the federal government has no business telling doctors how to treat people. It's not their job. Sorry, did I get political there? Forgive me. Oregon state is the first to offer a framework for legal therapeutic use. Other States are following suit. As bio hackers, this is good news even if you're not depressed and you don't want to try psychedelic mushrooms. It's a basic human right.

Source: <https://www.sciencenews.org/article/psilocybin-treat-depression-mushrooms-psychedelic>

Cool Fact No. 5:

This cool fact is about a new hormone that can help you fight obesity. There's a bunch of hormones that we now know are associated with the way your body regulates your weight but researchers haven't yet found a magic bullet for treating obesity, and they may never because it might be more than one hormone. Research at Columbia University in New York has uncovered that a hormone called lipocalin-2 or LCN-2, which is produced by your bone cells, acts on the hypothalamus in the brain to signal satiety or fullness, and to limit the amount of food that you eat. In human trials, they found that for average weight people, there is an increase in LCN-2 after meals, but if you're fat, like I was, LCN levels go down after a meal. The researchers also found that if you did not increase LCN-2 after a meal, you had higher markers for a metabolic syndrome, including a higher BMI, higher waist circumference, higher blood sugar, and higher blood pressure.

What does that mean for you? Well, it means that once we can measure LCN-2 for you after a meal, if you're one of the people who is overweight who's LCN-2 levels drop, we'll probably be able to administer it for you. So you can actually take some LCN-2 and stop caring about food.

And until that happens, have you learned about intermittent fasting? If not, you need to read my new book, *Fast This Way*, because without LCN-2 as a potential intervention, intermittent fasting done, right lets you lose weight quickly and effectively without being hungry, without losing energy and spending less on breakfast than you already do. So intermittent fasting is what you should do now and measuring LCN-2 is what we're going to do in the future.

Source: <https://www.sciencedaily.com/releases/2020/11/201124122921.htm>