

Cool Facts Friday #15

Dave Asprey:

Welcome to another edition of Cool Facts.

Thank you for the advice you've been sharing with me about what works for you in these shows. Just go to daveasprey.com/podcast, and you can tell me what you'd like more of. I'm having fun with Cool Facts of the day, and you guys are telling me that you like them as well.

Cool Fact No. 1:

Here's a cool fact for you. The ketogenic diet impacts brain cancer. The research I'm talking about actually says that a modified keto diet may help some people with brain cancer because researchers love to say maybe and more research is needed. But at this point, there is enough evidence to say that the ketogenic diet does impact brain cancer, but it doesn't always impact all types of brain cancer. For instance, a genetic cancer would respond differently than a metabolic cancer. And there's lots of episodes of Bulletproof Radio about that.

This new study, which is based on the American Academy of Neurology, is trialed with people who had astrocytoma, which is a type of brain cancer. And they found that since cancer cells rely on glucose to survive and grow, limiting glucose could limit cancer cell growth. The subjects in the study ate a keto diet for eight weeks including lots of fat and protein with very limited carbs. And well, do you know that they added in some intermittent fasting throughout the protocol? Who would've thought intermittent fasting was good for you, anyway? The trial results showed positive impacts on metabolism in both the brain and the body of the participants, lowering insulin and glucose levels.

What does this mean for you? Well, the researchers say this study wasn't designed to determine whether the diet could slow tumor growth or improve survival, so more research is needed. What does it actually mean for you? Well, following a diet that includes intermittent fasting and cyclical ketosis and not huge amounts of glucose, it's probably a good idea. What do you think?

Source: <https://www.sciencedaily.com/releases/2021/07/210707160516.htm>

Cool Fact No. 2:

This cool fact is about the connection between your calf muscles, your blood pressure, and your dementia risk. Surprisingly, the key to healthy blood pressure may be hiding in your calves. Your calf muscles are responsible for helping your body pump blood back up to your heart, which as you'd imagine is kind of important because if the blood isn't back up your heart, how's your heart going to recirculate it?

Clinical studies following people over many years show a connection between low blood pressure and risk for developing age-related cognitive decline. But low blood pressure, not high blood pressure? Yes. The reason for this is that if you don't have enough blood getting to the brain, your chances of Alzheimer's and other things go up dramatically, and this is something I've dealt with for a long time in my own brain. This may sound strange, but there are studies showing that stimulating your calf muscles can increase cardiac output and over several months can be key to reversing cognitive impairment.

What does that mean for you? Well, it means that if you have low diastolic blood pressure, you might actually just want to go out there and build your calves. If you ever see me in shorts, look at my

calf muscles. There's a reason that I have calves that look amazing because of my brain to work amazing. And unrelated to this cool fact, there's another set of research that says that when you have better muscles in your butt, that it increases the number of synaptic connections in the brain as well. So good calves, good ass, good brain.

Source: <https://neurosciencenews.com/calf-muscles-dementia-19069/amp/>

Cool Fact No. 3:

This cool fact is about how sunlight can turn up your romantic passion. And this is not a mouse study. It's actually a human study. It turns that more sun equals more sex. Well, at least it probably does. You have to get enough sunlight to support vitamin D production, but you've probably heard that from me and others by now. But did you hear you have to get enough sun to keep your sex life going?

Researchers at Tel Aviv University, looking at how sunlight and humans interact, found that UVB, ultraviolet B radiation, enhances romantic passion in both men and women. It turns out that ultraviolet B enhances specific hormones related to sexual desire like testosterone, and it does that by regulating parts of the endocrine system that release those sex hormones. Participants in the study were asked to stay out of the sun completely for two days and then were exposed to UVB for about 25 minutes a day for the next two days. And after the four-day trial, both men and women noticed substantial changes with higher levels of sexual passion.

What does that mean for you? Well, if you follow me on Instagram and you remember my buttole sunning post, you probably don't have to do that. What it does mean though is that following my normal advice, which is not humorous, is 20 minutes of sunlight in the morning especially, when the sun is near the horizon, in other words near dawn, without sunglasses, without contacts, that you're going to get better results from this. There's a circadian component to it, but there's also what this study showed, which is regulating your endocrine system. Some people will tell you, "Oh, it doesn't matter if you have sunglasses or whatever else on, but UVB is almost universally blocked by windows, automobile glass, contact lenses, lens implants, and other types of glasses."

So take your glasses off, get the UVB on your skin and your eyes, get a testosterone boost for men and women. And, no, it doesn't have to hit your testes, your reproductive organs, or any other areas that ought not to get sunburned.

Source: <https://neurosciencenews.com/sunlight-passion-endocrine-19192/>

Cool Fact No. 4:

Our next cool fact is about brain cells, memory, and sugar levels. When you learn something new or you draw on an old memory, ripples of electrical activity bounce back and forth in your brain. And researchers think that these sharp wave ripples accompany the neural work of transforming your short-term knowledge into long-term knowledge.

Researchers at New York University found something new and interesting happening as those ripples move through rat's brains. About 10 minutes after each ripple, blood sugars levels in their bodies dropped. Now, we already know that your brain likes to use glucose to fuel processes. We also know the brain likes to use ketones if they're available, at least neurons in the brain do, but it's normal for the brain to use sugar most of the time.

What's interesting though is that when a ripple happens, a spiking electrical activity that's moving memories from short-term to long-term storage, on a computer be moving it from RAM to your hard drive, well, there's a 10-minute lag between when the brain uses the blood sugar and when blood

sugar drops in the body. And that actually makes a lot of sense. What the researchers are hypothesizing is that those ripples evolve to help with metabolism in addition to processing memories. So, there's some undiscovered or maybe only partially discovered link between how our brains are using energy and how our body uses energy and provides energy. And there has to be a link between them because as you heard in the other cool fact, there's a link between the number of muscles in your butt and the number of synaptic connections.

So, what's going on here with resource utilization of energy in the brain? Well, I can tell you that low blood sugar equals low willpower. I can tell you that willpower is tied to mitochondrial function in studies from the research from my books. This new research is fascinating. What could you do with it right now?

What does it mean for you? Well, it means having low blood sugar is probably not good for moving memories from short-term to long-term, and I'm going to change that a little bit for you though. It's having low brain energy. So, if you are metabolically flexible the way I teach you in the Bulletproof diet, you ought to be able to use either fat or sugar for this critical process and, well, that's going to give you an unfair advantage.

Source: <https://www.sciencenews.org/article/brain-ripples-rat-memory-reduce-sugar-levels-metabolism>

Cool Fact No. 5:

How about a cool fact about time-restricted eating for women and older adults? Researchers usually do time-restricted eating studies also known as intermittent fasting, which if you haven't read my book *Fast This Way*, it is a preeminent book on how to fast, and it's amazing. Go to fastthisway.com and I will teach you how to fast over two weeks for free, fastthisway.com, do the fasting challenge 70,000 people have done it, and it totally will let you not be hungry when you fast. But most of the research that's in that book, except for the chapter on women, is done on young male mice as their subjects.

And that means what do we know about intermittent fasting for women and for older people? And I wrote all the research there is, I wrote it up in that book for you, but in this new research from the Salk Institute, researchers said, "Let's compare male and female mice using age groups equal to 20-year-old and 42-year-old humans. The good news is, they found that many of the same benefits that young male mice had hold up in female and aging mice, and using the time-restricted eating protocol produced benefits across the board, reduced fatty liver, better control of blood sugar, and protection against sepsis.

One of my favorite researchers of all time is named Satchin Panda from the Salk Institute, and I had the great honor of going to his lab and looking at mitochondrial cells in mouse retinas with him and his PhD candidates a while ago. And here's what he says about the study. He says for many time-restricted eating clinical interventions, the primary outcome is weight loss, but we found that TRE is good not only for metabolic disease, but also for increased resilience against infectious diseases and insulin resistance. And one thing they did notice though is that for male mice, the protocol enhances muscle mass and performance. Well, girl mice or women mice didn't show much benefit in that area, which is probably tied to testosterone.

What does this mean for you? Well, it means that intermittent fasting is probably good for you. And like I teach you in *Fast This Way*, you don't always have to fast the same amount, depending on who you are, depending on what kind of day you're having, depending on what kind of night you had the night before, just understand there is no right number for you every day or for anyone else every day.

But we know doing it most of the time for the right length of time is going to give you profound benefits. And this new study says, "Yes, it works for women." And there are many other studies that support that, just not as many as there are for men.

Source: <https://www.sciencedaily.com/releases/2021/08/210817111456.htm>

Cool Fact No. 6:

How about a cool fact at sperm? Believe it or not, mouse sperm is a valuable commodity for science, especially genetic science, but there's a downside as you probably have not imagined transporting mouse sperm can be a little difficult because the glass containers tend to break and packaging them to keep them protected is pretty bulky. So, researchers from the University of Yamanashi in Japan developed a new transport method. They freeze dry the sperm on plastic sheets. They didn't really think it would work at first, but they were surprised, and they say delighted, to discover that it worked when they shipped the plastic sheets, which they call the sperm book, to a facility 10 miles away.

What does it mean for you? Well, right now, probably not that much unless you're a mouse researcher, but what it means for you over the next five and 10 years is that the amount of time it takes us to learn new things about genetics and particularly reproduction is going to go down dramatically.

Anytime we make it easier to share knowledge, share information, and to cross pollinate our knowledge between different disciplines, we unlock new things that we never even thought existed in our own biology. So, now is a pivotal time because you have control of your own biology because we have more knowledge and more tools than ever before in all of human history. The only threat to this right now is whether or not you're going to be allowed to have control over your own biology. And it is critically important that you stand up and you say, "This is my body. I get to work with my doctor and I get to do what I choose to do so that I can live a long time, so I can feel really good, or so I can preserve my sperm in little plastic sheets." It's your body. And you get to choose. As long as we have that, this new research is going to help us have even more control and more fine-grained ability to make ourselves into who we want to be.

Source: <https://www.sciencedaily.com/releases/2021/08/210805115440.htm>