

Cool Facts Friday #14

Dave Asprey:

Welcome to another edition of Cool Facts. I appreciate the feedback and advice you've been offering me on the daveasprey.com podcast page. I actually see what you have to write there and I'm having fun with these and I'll keep doing them as long as you like them.

Cool Fact No. 1:

CBD oil links to Alzheimer's prevention. Guys, when CBD and THC first became legally available, it was like everyone who couldn't have it in high school had to have it, and there's this huge wash of CBD, and it turns out CBD is a useful supplement for a lot of people. There's validity to it. And, there's still a lot we're learning about different forms of CBD and different brains and all, and the initial amazingness has died down a little bit. But this new study is pretty cool because after a two-week course of high dose CBD, mice showed improved function in two proteins that are important for preventing Alzheimer's. They're called IL 33 and Trem Two.

Both proteins keep phagocytosis going, which is a natural housekeeping process in your brain. And, in that process, immune cells eat beta-amyloid, and if you've read Superhuman or Head Strong, you understand that amyloid throughout the body is a bad thing, but beta-amyloid in the mind is very much a problem because it is a sign of Alzheimer's. Probably not the cause, which we used to think it was. We do know that beta-amyloid plaques are the primary markers for Alzheimer's, so controlling those two proteins can play a significant role probably in preventing the disease.

Alzheimer's patients usually have very low levels of IL 33 and Trem Two. The way we think it works is that IL 33 sounds the alarm when it senses invaders like beta-amyloid. Trem Two then activates immune cells and kicks them into gear to eliminate invaders.

So, what does this mean for you? It means you should go out and smoke a bowl. Okay, it means nothing like that. What it means is that smoking is probably not going to be good for you for Alzheimer's or anything else. And, this was about CBD, not full spectrum, including THC, although that may be beneficial or according to Doctor Daniel Amen, probably not. But CBD itself? Well, you might want to consider using that, especially if you have a high risk of Alzheimer's in your family and if it works for you.

Source: <https://www.sciencedaily.com/releases/2021/03/210309192548.htm>

Cool Fact No. 2:

This cool fact is about gray hair. The timing of this cool fact comes right after one of the most popular Bullet Proof Radio episodes about hair health has come out, which is Episode 844. Make sure you listen to that if you're interested in hair.

We already know that stress hormones can accelerate your hair graying. However, Columbia University Medical Center researchers discovered that hair graying due to stress may be reversible. In other words, just cause you got gray hair this year from having a bad relationship or a bad boss or from getting really sick or whatever else caused your stress, maybe you can chill for a while and it'll come back. They examined hair follicles and measured them against a stress diary and they found a significant correlation between increased stress levels and graying of human hair. But what's more interesting... When people eliminated a stressor, as shown in their diary, some hair follicles reverted back to their original color. Understanding the mechanisms that allow old gray hairs to return to their young pigmented state could give us a lot of clues about the malleability of human aging in general on top of how stress influences subcellular processes that we never thought about before.

What does this mean for you? Well, it means that we're pretty sure that human aging doesn't follow a linear, fixed biological process. It is mitigated and it is changed by your behavior, by your epigenetics. And, in this case, there's something you can do to halt or even temporarily reverse hair graying, and that is learning how to relax and how to lower your overall stress burden. Now, this is going to work if your hair went gray because of stress. If it went gray because of excessive hydrogen peroxide, that's going to take a different bio hack.

Source: <https://www.sciencedaily.com/releases/2021/06/210622154339.htm>

Cool Fact No. 3:

Our next cool fact is about bad breath. You know, it's embarrassing to have bad breath, but most of the time, you don't even know it, and that's because, at least until recent masking times, most people can't smell their own breath. They walk around offending people all day without really knowing that it smells like they have a vulture in their mouth. If you have really bad breath, it signals a problem with your gut bacteria because your gut bacteria are formed and shaped at the start of your gut, which is actually in your mouth. So, problems with gum disease or with just really bad breath means that there's a systemic bacterial problem.

But how would you know? Well, researchers at the American Chemical Society, of which my grandfather was a lifetime member, I might add... A small portable sensor like a breathalyzer that detects bad breath now exists. This is a thumb-sized device that quickly sniffs your bad breath to see if it has hydrogen sulfide.

What does that mean for you? It means that very soon, I'm sure your iPhone will have a bad breath detector, and it's going to be amazing. Actually, it doesn't mean very much except for the fact that we are now shrinking our sensors so that if we can pick up hydrogen sulfide in your breath, we can pick up all sorts of other stuff as well. And, we are very close to the day where we can measure all sorts of stuff that's coming out in your breath and tell you how your biology's working in ways you can barely even imagine.

And, funny enough, hydrogen sulfide, that stuff that smells like rotten eggs... When it builds up in your cells and you have too much of it, it actually has an effect like cyanide. But small amounts of it in your cells are an important signaling molecule that are probably about as important as nitric oxide. Just doesn't smell as good. And, if you don't remember nitric oxide from a previous episode, you need to get caught up. Nitric oxide's the thing that makes Viagra work.

Source: <https://www.sciencedaily.com/releases/2021/07/210721120732.htm>

Cool Fact No. 4:

Our next cool fact is about spirituality and brain circuitry, and it's kind of mind-blowing. About 80% of us consider ourselves either religious or spiritual or maybe both. But research on the neuroscience of spirituality and religion barely exists compared to all the neuroscience we have, and the studies that we have with imaging are pretty darn inconsistent, so we don't really know what's going on, until maybe now. New research at Brigham and Women's Hospital shows a connection between a specific very old circuit in your brain and your level of spiritual acceptance. That brain circuit is centered in the periaqueductal gray, or PAG, a brain stem region that controls fear conditioning, pain modulation, altruistic behaviors and unconditional love. Sounds a little bit spiritual to you?

These studies were just published in Biological Psychiatry and Michael Ferguson, Ph.D., who's the principal investigator, said some really interesting things. He says, "Our results suggest that spirituality and religiosity are rooted in fundamental neuro biological dynamics and deeply woven into our neuro

fabric." That means that it's okay and you're not abnormal if you think there might be something spiritual in the world around you. It's actually happening in your meat operating system before you can think about it because it's in a very, very old part of the brain. In fact, he says, "We were astonished to find that this brain circuit for spirituality is centered in one of the most evolutionarily preserved structures in the brain."

The way they did this was remarkable. Instead of doing things like functional MRI or what I do at 40 Years of Zen, where we're looking at the electricity coming off the brain with EEG feedback, they looked at lesion networking mapping. And, you can only do this when people are going in for brain surgery or, in this study, they used that and people from Vietnam who'd had brain injuries. And, they looked at changes in self-reported spiritual beliefs before and after brain surgery or the brain trauma. And, we just didn't have this data set before or the ability to look at it well, and they did it. And, what the lead researcher says is that there seems to be a perennial union between healing and spirituality across cultures and across civilizations. And, he's interested in the degree to which understanding brain circuits could help craft scientifically grounded, clinically translatable questions about how to use healing and spirituality together.

Why am I bringing up this question for you? Why does it matter to you? Because if you really want to heal from a physical injury that's not healing or from an emotional or psychological injury or trauma, understanding that spirituality can be and likely is a part of complete healing is a really big thing. I did not believe that when I was just a computer science guy working in Silicon Valley, and it really slows things down, and I believe it wholeheartedly in the stuff that I do here on Bullet Proof Radio and very especially in the things that I do at 40 Years of Zen, where you cannot separate deep changes in the brain from spirituality and from emotional healing and even from physical healing. You see it all the time.

Source: <https://www.sciencedaily.com/releases/2021/07/210701195245.htm>

Cool Fact No. 5:

Our next cool fact is that inflammation ages you. Actually, have you read any of my books? You ever hear me talk? Of course, inflammation ages you. But now we know more about why and how. That's because researchers at the Buck Institute for Research on Aging just created an inflammatory clock of aging they called I Age. The clock uses AI to measure your inflammatory load and determine your immunological age instead of just your chronological age. This is really exciting to me because the more work I do on aging and longevity, the more I'm convinced that immune over activation shortens human life in a very, very meaningful way. In fact, I might as well go on record here and say that my hypothesis is that about 40% of aging is caused by inappropriate immune activity, and that's a big number, and I will probably someday be able to tell you exactly where and how I arrived at that. But in the meantime, that's what I'm going with and I'm working with bio hacking on how we can take advantage of turning off inappropriate immune activity.

It's interesting, though, when we look at things like the association between cardiac health and all-cause mortality and immunological age. The Buck Institute researchers are finding, wow, that's amazing. When your immunological age is higher than it should be, your odds of dying of all causes go up. So, it's a pretty good marker of aging. When the researchers put people who are more than 100 years old to the test with I Age, they found that their immune systems were about 40 years younger than their chronological age, and one 105-year-old person from Italy had a 25-year-old immune system.

What does that mean for you? It means that taking care of your immune system and even controlling the age of your immune system may be way more important than worrying about your chronological age.

What should you do? Well, focus on keeping your immunity strong and inflammation down. That would include don't eat vegetables that increase inflammation. Don't eat industrially raised meat. That increases your inflammation. And, don't burn your veggies or your meat because that increases inflammation. And, there is probably a lot more to be done there, including some of the really advanced bio hacks that you might have read about in Superhuman where I talked about culturing my natural killer cells to reset my immune system. Yeah, there's crazy stuff you can do and it's all becoming more and more available.

But... Now, I'm going to go out on a limb here. What if there was a vaccine with full data and full trials that you could see with a complete ingredient list that you could see that actually helped you to keep your immune system at a young age? Would you think about it? I would.

Source: <https://www.sciencedaily.com/releases/2021/07/210712122159.htm>