

# Super Human: The Bulletproof Plan to Age Backward and Maybe Even Live Forever

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Part 1: Don't Die

Chapter 1: The Four Killers

## **Mitochondria and the Four Killers**

### *Diabetes*

There is new evidence that maintaining normal amounts of muscle strength as you age can help ward off this killer. In a study following five thousand people for over twenty-five years, participants were given regular strength tests. The risk of diabetes was slashed by 32 percent in those with even moderate muscle strength as opposed to those with low muscle strength. The reduced risk did not change if the participants were even stronger, so you don't have to get ripped to live longer, but you should avoid carrying excess fat.

For my knee pain, I tried the glucosamine pills from the health food store, and they brought some serious relief. I didn't know it then, but glucosamine inhibits glycolysis, your body's breakdown of glucose (sugar). As a result, your body has to get energy from fat instead of sugar, which helps prevent insulin resistance. Recent research on mice has found that glucosamine promotes mitochondrial biogenesis (the birth of new mitochondria) and mimics the effects of calorie restriction.

Glucosamine is one of those compounds.

That's right - avoiding grains and sugar helped me reduce inflammation, stabilize my blood sugar, get smarter, and change my personality for the better. Once again, everything is connected.

## **Bottom Line**

So start hacking. Do these things right now:

- If you have joint pain or blood sugar issues, consider taking glucosamine, which helps control blood sugar and extends the lifespan of mice (and probably humans).
- Consume more antioxidants to fight off free radicals. Berries, herbs, spices, coffee, tea, and dark chocolate are good sources. There are also medical spas in most cities that offer antioxidant therapy via IV. It may be worth looking into if you travel frequently or need an energy boost.
- Short periods of fasting stimulate autophagy. You'll read more about the longevity benefits of fasting and how to do it without hunger later, but it's worth starting now to benefit right away from increased autophagy.
- To help cardiovascular issues, try the Zona Plus, a digitally controlled handheld device

Chapter 2: The Seven Pillars of Aging

## **Pillar 3 - Zombie Cells**

One of the most important is to keep your cell membranes strong so the cells can function well for as long as possible. I take a supplement comprising calcium, magnesium, and potassium salts of amino ethanol phosphate (AEP) - which helps to support healthy cell membrane function.

The common diabetes drug metformin is also believed to kill senescent cells. In studies, metformin has been shown to alleviate a range of age-related disorders in animals and humans, including metabolic dysfunction, cardiovascular disease, cancer development, and cognitive dysfunction.

And besides, there are other more affordable and more accessible natural compounds for fighting zombie cells. My favorite is fisetin, a polyphenol found in seaweed and strawberries.

...a liver-supporting supplement like glutathione...

## **Pillar 4 - Cellular Straightjackets**

There are good at-home tests that can help you pinpoint which foods you are sensitive to. I recommend Viome, which you'll read more about later, and EverlyWell.

## **Pillar 6 - Junk Buildup Inside Cells**

Those who ate just one or more servings of fried food a day had an 8 percent higher risk of death from heart disease than those who did not eat fried food. One or more servings of fried chicken a day specifically was linked to a 13 percent higher risk of death from any cause and a 12 percent higher risk of heart-related death than someone who ate no fried food.

### **Pillar 7 - Telomere Shortening**

Another supplement called TA-65, the name brand of cycloastragenol, also activates telomerase. It is incredibly concentrated extract of an Ayurvedic herb called astragalus. By law, the makers of TA-65 can't call it an "anti-aging" drug because it hasn't been proved to extend life-span. But studies on this molecule show that in humans, it improves biological markers associated with health span throughout the lengthening of telomeres and rescuing of old cells. The downside here is that it is quite expensive. If you've experienced a lot of stress and/or feel that you are aging more quickly than you'd like and it's in your budget, this might be worth considering. There are generic versions available, too.

#### Chapter 3: Food is an Anti-Aging Drug

The results showed that high-performing people know that getting their food right is the number one human upgrade.

### **The Vegan Trap**

This is no small consideration. When you eat a diet high in animal protein, you can expect a 75 percent increased risk of dying from all causes over eighteen years, a 400 percent increased risk of dying of cancer, and a 500 percent increased risk of diabetes compared to someone who restricts his or her animal protein. Totally not Super Human. Another set of studies found that restricting protein can help increase maximum life-span by 20 percent, probably because less protein means less methionine.

The type of protein you eat is as important to consider as how much protein you eat. If the protein in question is charred or deep-fried, there is no good amount to eat. Same goes if it's from industrially-raised animals treated with antibiotics. But if the protein is from gently cooked grass-fed animals, wild fish, or plants (hemp is best), then there is a simple formula for the correct daily allowance: about 0.5 grams per pound of body weight for lean people; and about 0.6 grams per pound for athletes, older people (the risks associated with overconsumption of protein decrease after age sixty-five), and pregnant women.

The same thing happens when you use intermittent fasting (simply eating all of your food within a shortened period of the day, usually between six to eight hours) as a type of hormetic stress. Intermittent fasting is incredibly useful in aiding fat loss, preventing cancer, building muscle, and increasing resilience. Done correctly, it's one of the most painless high-impact ways to live longer.

### **A Big Leap of Faith**

Artificial trans fats also form when you use polyunsaturated fats for frying. Fortunately, trans fats won't likely cause problems if you use the oil for frying only once, but restaurants often use the same oil over and over all day or all week, which creates oxidized oil *and* trans fats. So put down the French fries, no matter how lean you are. Seriously - you're better off having some rum or smoking a cigar. Super Humans don't eat fried food, even if it's crispy and delicious. You know what's not delicious? Eating from a tube later because you couldn't put down the chicken wings when you were younger.

### **Pig's Ears and Energy Fats**

To live longer and heal faster, I recommend adding either C8, its weaker cousin MCT, or its even weaker cousin coconut oil to your coffee, your salad dressings, smoothies, and so on.

### **Coffee + Time = Ketones**

The problem is that most people don't fast long enough to take full advantage of this biological phenomenon. According to Satchin, there are tremendous health benefits to extending our daily (or nightly) fast. He says that when people limit their eating window to ten hours and make no other dietary changes, they see reductions in inflammation levels, triglyceride levels, and cancer risk, along with improvements in sleep within weeks. It's this because of the natural boost in ketones or because intermittent fasting boosts autophagy - or both?

#### Chapter 4: Sleep or Die

## How Lack of Sleep Will Kill You

They walked me through new research showing that eating late at night dramatically reduced the quality of the rats' sleep and that poor sleep impacted the rats' ability to control blood sugar by up to 50 percent. That's huge! In fact, it's more than what most medications can do.

In rats and humans, the pancreas is responsible for making insulin. Satchin has studied insulin-producing cells in the pancreas and found that they, too, have their own circadian rhythm. At night when melatonin, a hormone that helps regulate wake and sleep cycles, is released, insulin-producing cells shut down, too. So if you eat something sugary late at night, your body's insulin response is not as effective as usual. So that late-night piece of cake leads to a blood sugar spike and then a crash that triggers the release of adrenaline... which keeps you awake at 3 AM.

While we don't have studies proving that this transfers to humans, we know that side-sleeping humans have lower blood pressure and heart rate.

## Sleep Basics

### *REM/Slow-Wave Sleep*

It's important to spend a lot of time in slow-wave sleep because it helps the brain recover from all it learned during the day. It strengthens memory and helps with memory consolidation, when the brain turns short-term memories into long-term ones. This can help young people perform better at school and work and help old people avoid the memory loss that too often comes with age. Slow-wave sleep also reduces levels of the stress hormone cortisol and triggers the release of hormones like prolactin and growth hormone, which together support the immune system.

### *Tracking Devices*

We've all heard the "ten thousand steps per day" metric, but did you know there is no science behind this? In 1965, a Japanese company, Yamasa Tokei Keiki, created a clip-on pedometer designed to get people to walk ten thousand steps per day and simply made this number up.

- Sleep Cycle App                      *Margin note: ?*
- Oura Ring                                *Margin note: ?*

## Sleep Better, Not More

### *Directly Dial In Your Sleep State*

Fortunately, there is an easier way to increase delta waves. In a 2010 study, researchers experimented with sound and found that short auditory tones - 50 milliseconds each played at a rate that mimicked the natural changes in brain neurons during sleep - increased slow waves by nearly 50 percent during non-REM sleep. Other studies found similar results.

Fortunately, there's an app for that! It's called Sonic Sleep Coach, created by Daniel Gartenberg, PhD, who has been awarded more than \$1 million in NIH grants to study sleep. Sonic Sleep Coach uses your smartphone's microphone to sense your breathing while you sleep, which indicates when you're in deep or REM sleep. It plays specific sounds to increase REM when you're already dreaming and different sounds to increase deep sleep.

### *Reduce Blue Light*

- **Unplug or cover unnecessary electrical devices in your bedroom.** Go through your room and unplug or tape over LEDs to black out your sleep area. I carry special die-cut dots (or sometimes electrical tape) when I stay in hotels so I can tape over the omnipresent blue LEDs on televisions, air conditioners, and alarm clocks.
- **Toss out bright white LED and compact fluorescent lights.** They have up to five times more blue light than incandescent or halogen lights even though they are cheaper to operate. You'll have less eyestrain, which you read above can help with your metabolism, and you'll have less change of macular degeneration later. *Margin note: ?*

## Chapter 5: Using Light to Gain Superpowers

### **The Power of Light**

#### *Step 1: Reduce Junk Light to Live Longer*

At my house on Vancouver Island, all the exterior lights are red. My friends may tease me for giving the appearance of living in a submarine or some kind of house of ill repute, but I'm able to go outside at night without disrupting my circadian rhythm. Plus, I can see the stars. In addition to benefiting my health (and the health of my family), red outdoor lights are also healthier for the animals living near my home. Unlike white LED porch lights, my red lights don't attract bugs.

#### Part 2: Age Backward

## Chapter 6: Turn Your Brain Back On

### **Shining a Light on the Brain**

Now I understand that the infrared light from the LED restored mitochondrial function when I focused it on parts of my brain, creating more energy that I was able to use to think clearly for the first time in ages.

I attended the Near Future Summit, an event focusing on innovation that's frequented by the TED crowd in San Diego.

There is an affordable laser treatment device that can be used at home with a headset that emits near infrared light through diodes placed on the scalp inside the nostril called Vielight.

### **Feed Your Brain**

A powerful intervention is to take 400 to 1,000 mcg of chromium picolinate daily with 25 to 100 mg of vanadyl sulfate, ideally at the same time you eat carbohydrates. These minerals lower the blood sugar spike that occurs after meals, even if you have healthy blood sugar levels. In diabetic animals, vanadyl sulfate lowers blood glucose, cholesterol, and triglyceride levels. And chromium reduces glucose levels and insulin resistance to help prevent type 2 diabetes. These supplements are quite affordable, but evidence suggests taking higher doses than the government recommends.

### **Your Brain On Drugs**

#### *Coenzyme Q10 / Idebenone*

If you plan to live longer than you're supposed to, CoQ10 must be on your short list of supplements at 100 to 200 mg per day.

#### *L-Theanine*

This is an amino acid found in green tea that increases BDNF, the growth factor that makes your brain more plastic. On its own, L-theanine promotes relaxation, alertness, and arousal. L-theanine also works synergistically with caffeine, so it's pretty convenient that it's found in green tea. Together, the two increase reaction time, memory, and mental endurance. You can supplement with L-theanine or drink a cup or two of green tea per day.

## Chapter 7: Metal Bashing

### **Heavy Metal Detox Methods**

#### *Glutathione and Other Antioxidants*

##### IV of glutathione

I skip glutathione doses sometimes so my body doesn't naturally downregulate its own production. Taking it every day for long periods without a break isn't a good idea.

Another powerful antioxidant that helps chelate your heavy metals is alpha-lipoic acid (ALA). This antioxidant can cross the blood-brain barrier to protect the membranes of neurons from heavy metal damage.

It's always a good idea to supplement your detox efforts with vitamin C, the world's best-known antioxidant, since low vitamin C levels are associated with low levels of glutathione and excess oxidative stress.

#### *Activated Charcoal*

Scientists have known about the effects of activated charcoal on heart health since the 1980s. In one study, patients with high cholesterol who took activated charcoal three times a day showed a 25 percent reduction in total cholesterol and doubled their HDL/LDL cholesterol ratios. Yet almost no conventional doctors recommend activated charcoal to their heart patients.

Then I went to the bathroom and thought I was dying because the charcoal passes through your GI tract and

turns your poop black, the same color as blood in your stool. Consider yourself warned.

I prefer (and manufacture) activated charcoal made from the husks of coconuts washed with acid to dissolve any heavy metals present in the coconut husk and then ground into the finest possible particles. The finer the particle, the greater the surface area to bind toxins once ingested. One gram of activated charcoal has a surface area ranging from 950 square meters up to 2,000 square meters. In other words, fine-grade charcoal is twice as effective as normal grade. In fact, finer particles are proved to bind to the most carcinogenic substance known to man, the mold toxin aflatoxin. I take these capsules almost every day on an empty stomach as part of my overall anti-aging strategy and as a way to continuously detox from chemicals, pesticides, and some heavy metals.

If you go this route, remember to never take activated charcoal at the same time as prescription medications or some other supplements. Charcoal binds a lot of substances - even the good stuff like prescription medications, vitamins, and minerals. Wait an hour or more after taking charcoal to take other supplements or medications.

### *EDTA Chelation Therapy*

The EDTA therapy helped my blood flow better, finally bringing some color to my cheeks. Since then, I've also tried suppositories of EDTA chelation and found that they worked just as well, if not better, for continued detoxification. You may not like the idea of suppositories, but when you compare going to a doctor's office and sitting for an hour to get EDTA via IV with the fifteen seconds it takes to insert a suppository, it's pretty obvious which one requires less of an investment of time and money.

### **Bottom Line**

Regularly bind the metals you are exposed to by taking activated charcoal, 500 mg to 5 grams per day, and/or modified citrus pectin

Chapter 8: Polluting Your Body With Ozone

### **Ozone Therapies**

Today you can spend even more to go to a doctor's office and get the best systemic ozone treatment around, which is called a ten pass. For this treatment, a doctor pulls out your blood, mixes it with ozone, and puts it back into your bloodstream. Then he or she pulls out your blood again, mixes it with ozone, and puts it back in, ten times over and over.

### **Ozone, Energy, and NAD**

It's also part of the human upgrade program at Upgrade Labs in Beverly Hills

- Take supplements that will boost your NAD+ levels. I like Tru Niagen, which contains the only known FDA safety notified form of nicotinamide riboside, a precursor to NAD+.

Chapter 9: Fertility = Longevity

### **Sex, Lies, and Hormones**

For men, Wiley recommends cycling between testosterone, DHEA, and growth hormone in a natural rhythm to stay young and avoid this fate, and to start as young as twenty-nine, since your levels will drop off about ten years later. This will keep your immune system strong and your inflammation levels low, adding quality years to your life.

### **End the Stigma of Hormone Replacement Therapy**

You can order these tests online to save money, but if you need help interpreting the results or getting a prescription for hormone replacement, it's best to work with a functional medical practitioner.

### *Testosterone*

In the last few years, a lot of men and women have switched from a hormone cream to a pellet that goes under your skin. This is probably the best way to take testosterone now. The pellet is life-changing for both men and women. The regular dose for women is much lower than it is for men.

### **What's Hurting Our Hormones?**

If you're going to take D3, take vitamin K2 and vitamin A along with it.

First, we worked on improving her diet. We removed the soy milk that was acting as an estrogen mimic and the flaxseed meal that was high in inflammatory omega-6 fats, and replaced them with healthy saturated fat from egg yolks, coconut and MCT oil, and grass-fed meat.

### **Bottom Line**

- Consider taking L-tyrosine, vitamin D3, vitamin K2, vitamin A, and zinc supplements to achieve healthy hormone levels. If possible, get your vitamin D and zinc levels tested first to see if yours are low.

Part 3: Heal Like a Deity

Chapter 12: Virgin Cells and Vampire Blood

### **Cellular First Responders**

For years I had been trying to find a very experienced stem cell doctor in the United States. Finally in 2015 a friend introduced me to Dr. Harry Adelson, who was an early adopter of stem cell therapies to treat the pain that too often comes with aging.

*Margin note: okc (?)*

### **Get More Stem Cells Without Injections**

I supplement with calcium fructoborate, a form of boron that is widely available

- Turmeric supplements cause brain stem cells to grow both in live animals and in lab cultures.

### **Stay Young Downstairs With Stem Cells and Other Treatments**

Besides stem cell treatments, one of my favorite technologies is GAINSWave, a treatment using shock-wave therapy that has been proved to effectively treat ED.

Chapter 13: Don't Look Like an Alien

Avoiding Baldness, Grays, and Wrinkles

### **Build New Skin, Joints, Bones, and Gut Lining with Collagen**

Collagen supplements do a lot of other things, too. They can reduce joint pain and boost the density of your cartilage, making joints more flexible. A 2008 study found that athletes who took hydrolyzed collagen for six months saw a significant improvement in joint pain. Another study showed that men and women over fifty who took collagen for six months experience a decrease in spinal pain.

Chapter 14: Hack Your Longevity Like A Russian

### **Additional Super Human Compounds**

*Carbon 60 for a 90 Percent Longer Life*

Ian came out with Carbon60 Plus, which is designed for humans. I noticed great improvements in energy.

I continue to take the recommended dose of about 2 teaspoons of Carbon60 Plus, which at the time of this writing costs about \$25 for a six-week supply. I'll be quite happy if it provides me with even a fraction of what carbon 60 did for those rats! (Full disclosure: After interviewing Ian and extensive investigation, I became an advisor and investor in his company.)