

BIOHACKERS

ISSUE 18

MAGAZINE

BIOHACKING WITH QUANTUM ENERGY

EXCLUSIVE INTERVIEW

PHILIPP VON HOLTZENDORFF -FEHLING

FOUNDER, CEO OF **LEELA
QUANTUM TECH**, A COMPANY
COMBINING SCIENCE AND
QUANTUM ENERGY-BASED
HEALING TO MAKE SIMPLE
BIOHACKING PRODUCTS
FOR ALL

QUANTUM BASED ENERGY:
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Also In Our NOVEMBER Edition:

-Homeomorphism the First Language of Neural Reality Pt.2

- How to Upgrade Your Brain with Purposeful Movement

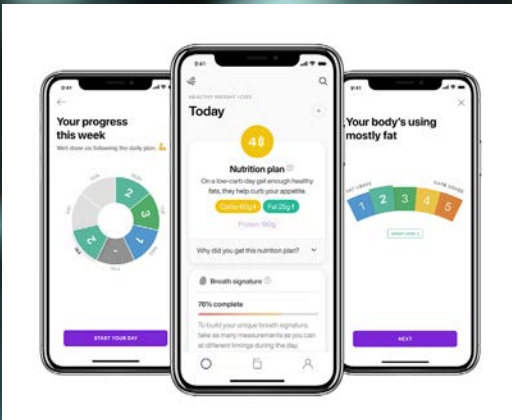
- What is NAD+ and how to boost it?

- AND MUCH MORE!

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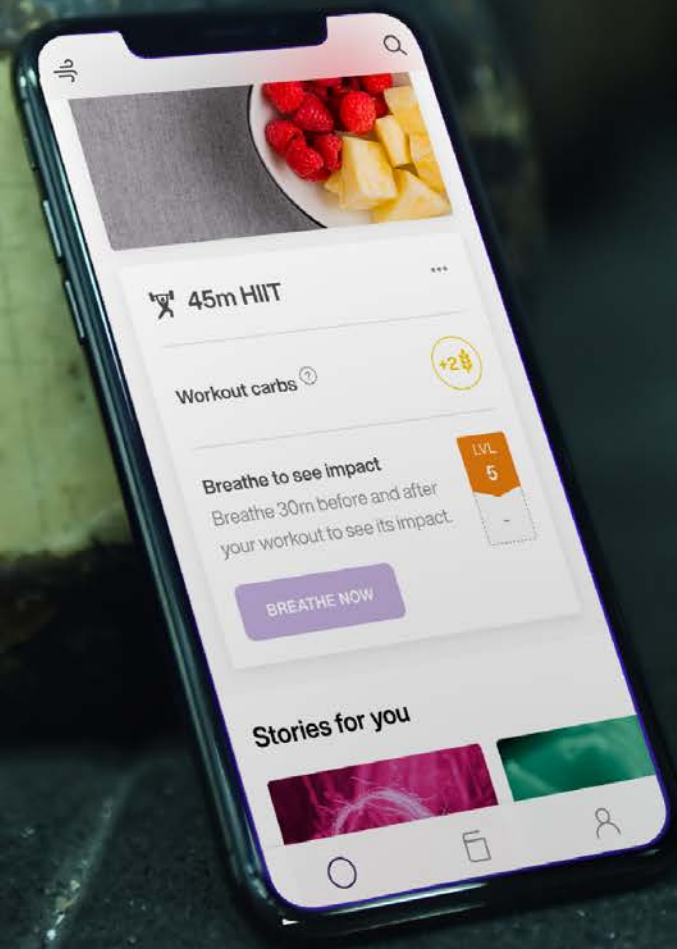
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November 2022



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MESSAGES FROM OUR BIOHACKING TEAM

A LETTER FROM THE EDITOR

Have you ever played a game of Tug-O-War where you completely outmatched the other team, or your side just couldn't measure up to the other's strength? It's happened to almost all of us and continues to happen in many areas of our life. We pull too hard on the rope trying to do it all and end up pulling our friends and family into the mud. On the other hand, we try as hard as we can to tug the rope towards us but end up getting dragged into the mud by those with more strength and experience. In this analogy, Time represents the rope, and as much as we try to pull the rope towards us, there is always another force at the end of it, pulling our time away, so to speak. In many cases, this is a good balance. We would be narcissists and egotistical if we increased our strength and skills only to allow for complete and total focus on ourselves. In the same way, what benefit would we be provided to the forces that pull at our time if we didn't at least make concentrated efforts to improve ourselves so that we can be more effective and efficient people, thus allocating our time better?

There is a balance and harmony to all things in life and Biohacking is no different. In addition to balancing the opposite sides of Self-help and Public Service, we must also balance the major themes that Biohacking contains, namely the Fundamental side and the Technological side. Each of course have their importance and its easy to get lost in the

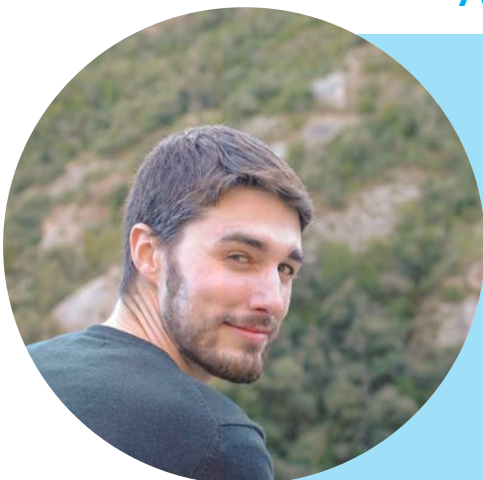
fury of one side over the other, but I think we can all agree that each side needs the tugging force of the other to help them each get stronger in their own respects. Technology is growing faster than we could have ever dreamed of and it really is quite amazing how impactful this has been to the world of biohacking and even health in general.

Having said that, it is imperative that we don't lose sight of what makes us healthy humans at our very core, and all of the foundational practices and habits that helped us grow and prosper for all these past generations. Without keeping our foundations close, we can easily become victims to the ever-changing tides of the 'latest and greatest technological trends' without any foundational basis to make rational judgments about the worthiness of it all. As Biohackers, let us continue to be reminded of our roots while also exploring and experimenting with our branching extensions offered to us by technology.

"The whole structure of science gradually grows, but only as it is built upon a firm foundation of past research."

- Owen Chamberlain

About Dallas McClain



Born in the USA, Dallas is a passionate reader of theological and personal development books. He holds a bachelor's degree in Biological Sciences. Teaching English abroad, Dallas has been immersed in various cultures and backgrounds while making friends all over the world. He is a Catholic Christian and enjoys time outdoors while being a tennis enthusiast. He is the Co-founder and Editor of Biohackers Update Magazine. He is currently living in Orlando, Florida with his wife & children, where he enjoys writing, sports, and nature hikes in his free time.

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A MESSAGE FROM COO JEAN FALLACARA

As scientists, one of the most important missions we have, here at Biohackers Magazine, is communicating what we have figured out unbiasedly to our readers.

Explaining science to non-specialists is not an easy task. Understanding holistic approaches from the scientific perspective is not an easy task either.

Personally, I see too many concepts described with formulas & equations and even with the complexity of our languages, we are still not able to cut it up for understanding completely.

Given that longevity, health and life improvement are becoming THE universal pursuit, where VC and Investments are flooding, as an impartial magazine, we must keep in mind that instances abound where the failures of past intellectuals and spiritual healers have guided the discoverers of the present. More importantly, our roles are making you informed of what will not work and what will, and I think that even discovering what will not work is more important as discovering what will.

"I've not failed. I've just found 10000 ways that won't work." ~ Thomas A. Edison

You can be sure that while we keep exploring and writing this beautiful history of Biohacking, trying our best to be educative, it will remain

imperative for us to keep in mind that it should not be done at the cost of any sales pitches or marketing plans.

The slow process of constructing a better You/Us come from information, knowledge, and Science, and to make you think about the contents we publish, hopefully allowing you to capture your knowledge horizons.

In conclusion: We are working to highlight all the possible paths for further exploration without having you to do the full read of the map over and over again. Thus, sparing you the 10000 ways that wont work.

On the neuroscience perspective, we strive to create a bridge between your first brain and your second brain, to help you to benefit more from the time and effort you put into the reading of our magazine.

Thanks for being a Reader!



About Jean Fallacara



Born in France, Jean is an athlete, entrepreneur, scientist, public speaker and an Art collector. He is the founder and CEO of Cyborggainz, the Managing Director at inTEST Corporation and the COO of Biohackers Update Magazine. He is also the author of "Neuroscience Calisthenics: Hijack your Body Clock." Jean holds a bachelor's degree in biochemistry, a master's degree in immunology and genetics, and an engineering degree in biotechnology. He has also studied neurosciences and brain functionalities, and law and finances. He is currently living in between Boston and Montreal after his biotech company was acquired by inTEST Corp (NYSE:INTT) in October 2021.

Website: jeanfallacara.com / Website: cyborggainz.com

ARJUN'S STATEMENT

ध्यायतो विषयान्मुंसः सङ्गस्तेषूपजायते।
सङ्गात्संजायते कामः कामात्क्रोधोऽभिजायते ॥
~Bhagwat Gita

The verse was written somewhere between 1st and 2nd century. The translation of this verse explains the cause of mental health problems in the current world. It explains how we lose control and why we get agitated about things that don't even matter.

You are free to find a translation online, my interpretation is this: when we dwell on thoughts about something or someone and spend time thinking, we tend to develop attachments.

Attachments give rise to desire, which is the root cause of many, many negative emotions.

Attachment and desire are good in some cases such as keeping us tethered to this reality and desire can be a great motivation in life. In the form of thoughts, it can be dangerous. Thoughts have a habit of dwelling in the mind and swirling around. Thoughts without actions can be poison, causing much more complex mental health issues.

It is the way our modern society has been set up where we have a lot of time to think, most jobs require us to think, and we are trained to think. So, what happens when you are not at

your job? Your brain is not a machine that can be turned off, it will keep working whether you want it to or not.

We need thoughts to leave our minds, we want them to manifest into actions or words. Some ways that can happen are when we move our bodies, when we talk to people or when we write them down.

Once you bring your thoughts to life, you will realize how stupid or meaningless it was to worry about them.



About Arjun Chauhan



Born in India, Arjun is the master of all trades, the Chief Marketing Officer of Biohackers Update Magazine and a soccer enthusiast. He holds a bachelor's in commerce and a Master's in Business administration, specializing in marketing and human resources. He has 6 years of experience in Content Marketing and is always looking forward to gaining more from life. With a passion towards nature, he is currently in the Foothills of Himalayas, in the northern part of India.

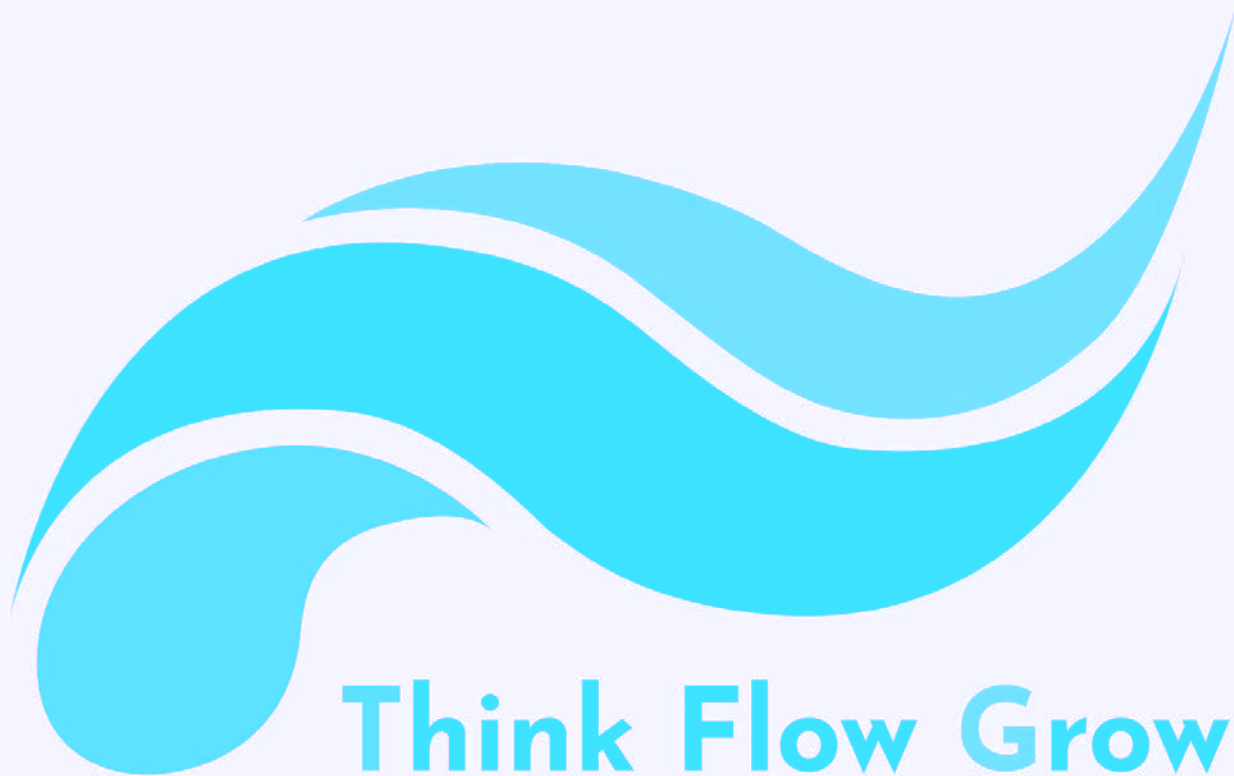
— OUTER —

“We are all connected; To each other, biologically. To the earth, chemically. To the rest of the universe atomically.”

— Neil DeGrasse Tyson

HOW TO UPGRADE YOUR BRAIN WITH PURPOSEFUL MOVEMENT





Think Flow Grow

Imagine if you could use a pill to optimize your brain, reduce physical and emotional stress, stimulate your lymphatic system, optimize your intestines, circulatory system, organs, hormones, muscles, fascia, joints and ligaments? You'd take it, right?

Intelligent movement can do all of that. We don't need complicated or new exercises to do this, we just need to remember our nature. All of the above systems unfold during your neuromotor development. This is nature's perfect training program, which you can use again now. The pill will cost you three to fifteen minutes a day.

As biohackers, we are fascinated by efficiency. I am convinced that with intelligent selection of movement, or rather adherence to natural movement principles, we can accomplish a lot with by doing relatively little. In this sense my ideas here are not a further-education in bio-hacking but a re-education in bio-harmonizing.

I'm Tim Böttner. I'm a sports scientist, engineer, and have taken dozens of national and international education and training courses in exercise, neurology, energy medicine, nutrition, and therapy. On my Holistic Health and Fitness Podcast, "Think Flow Grow Cast", I have deep and meaningful discussions with luminaries from all aspects of health and life. And I am driven by essence. The deeper I delve into topics, the clearer very simple principles become. With that in mind, in this article I will introduce you to a movement routine that takes complex science and turns it into simple movements. You can find a demonstration video at the link at the end of the article.

What does movement have to do with brain health and productivity?

Your brain develops along neuromotor development in the first few years of life. Your brain is made for controlling move-

ment. Movement shapes your brain. Without movement, you won't have an optimal brain. This is very simple.

What does movement have to do with the effect of supplements?

You can take a lot of nutrients for your brain health to optimize your cognitive performance, but your brain blood flow is crucial. Your brain blood flow is naturally stimulated by movement. Spinal length (we call that decompression) coupled with stability allows flow to and from the brain. A "tense" and immobile neck stops the flow. You can also achieve Decompression, by the way, through deep diaphragmatic breathing, which helps your brain pump glymphatic fluid. You can improve your brain blood flow with nutrients and nootropics, but you can't use them to offset lifestyle factors that impede brain blood flow. The synergy of nutrients and exercise is magic!

My paradigm here is to remind our body what it was created for on a daily base, so that it maintains all functions optimally. Your body is always efficient and logical. What you don't use, you lose.

What's the problem?

The basic movement programs that underlie physical performance are developed in infancy and toddlerhood. In our motor development, we pass through milestones to be able to run, sprint, jump and throw efficiently. This development naturally makes us perfect movers.

After learning basic movement programs in infancy and toddlerhood, modern life usually intervenes: Due to lack and monotony of movement, frequent sitting and injuries, we no longer move the way nature created us. Following the motto "use it or lose it", we lose our natural ability to move.

You've heard the saying, "Sitting is the new smoking." Sitting is not bad per se but sitting for too long is "not moving" and that is bad. What happens when you sit? When sitting, your hands can do things without your feet experiencing consequences. Communication falls silent and there is stagnation and tension. From what exactly? - Of force flow, blood flow, lymph flow, but I think also emotion. Your brain becomes depleted of sensory input from your body, which leads to separation. In my world, separation means disease. Health means wholeness. In motion, all of your body's systems are constantly communicating with each other. When you lift an object, you grasp it with your hand and continue a flow of force and energy down to your foot. Your foot talks to your hand. Information flows. This is health.

Then when you sit around working on your smartphone or com-



puter, your eyes stare in a single direction at a single distance. The eyes think to themselves, Okay, I'm saving energy by limiting my function. Your body is logical and efficient. It breaks down what it doesn't need.

What can be the solution?

To some extent, though, we can reprogram our movement programs by going through motor development again. In effect,

our brains are being rewired. We start at the root, so that symptoms such as pain or inefficient movements when walking or sprinting often become automatically unnecessary.

The movements are very easy to learn and perform without requiring a deep understanding of neurology and anatomy. Although the approach stands up to scientific scrutiny, the instructions are so simple that literally



any child can understand them. Too much detailed knowledge can actually prevent you from progressing. The movements feel good immediately or after a short period of time, which provides positive body feedback, brings joy and subsequently motivates regular performance.

Here we'll go over the important milestones you can incorporate into a simple movement routine.

Step 1: Three-Dimensional Diaphragmatic Breathing **How to do it**

Lie on your back and brace your legs. Place your hands on your belly so that your fingertips touch. Breathe through your nose and keep your mouth closed. The tongue lies loosely on the palate behind the incisors. Find this position by swallowing once. Breathe deeply into your belly so that your fingers lift and spread with the inhalation. Your flanks push the heels of your hands outward. Your lower back spreads out toward the floor. Imagine your torso expanding horizontally

like a balloon with the inhale and contracting to your spine with the exhale. Lengthen the exhalation in proportion to the inhalation so that you inhale for about three seconds and exhale for six seconds. Repeat for 10 to 20 breaths. Bonus points if you put on a smile. The smile can be internal or external and relaxes your nervous system.

What is learned?

You're activating your parasympathetic nervous system. This reduces your overall muscle tone so that subsequent movements can be performed more efficiently. Also, your

brain waves slow down. Learning is enhanced in this state, so new movement patterns can be learned more quickly.

From a biomechanical perspective, three-dimensional breathing activates your diaphragm, as well as your deep core muscles and pelvic floor. The auxiliary breathing muscles, such as the sternocleidomastoid, scaleni and pectoralis major and minor, on the other hand, remain relaxed. This is important and valuable because these muscles are often overactive.

For all subsequent milestones in your movement routine, maintain this breathing and





smiling. It's all about integration with the ultimate goal being that you unconsciously carry the good breathing and inner smile throughout the day.

Step 2: Looking and nodding

How do you do it

Lie on your stomach and support yourself on your forearms. Gently push yourself off the floor and gently pull your elbows toward your hips so that your neck becomes long. Then look up at the ceiling and, following the gaze, move your head upward with the inhalation: The gaze leads the movement. Then look down and let your head follow, exhaling. "Nod" in rhythm with your breath for 10 to 20 breaths. Be sure to continue breathing

through your nose into your belly.

You can do the head movements in all kinds of positions. For example, lying on your back, sitting on your heels, or standing on four feet. Or simply while waiting at the airport. But start in as "safe" a position as possible, where you have plenty of contact with the floor. Ground contact reduces the activity of stabilizing muscles for postural control. Compensations are reduced and can be seen, felt, and eliminated more quickly because of the reduced complexity.

What is learned?

Looking and nodding controls your head, stabilizes your cervical spine and activates your eyes. Your eyes are incredibly important. In an essence, your eyes are there to "scan the room for a tiger." If you can't see the

whole room, your primitive nervous system will constantly sense danger because it can't prove otherwise. This leads to a constantly high stress level and all the known consequences. Seeing also involves your cervical spine, because it turns your head. Children learn to control their head horizontally and so can you. By the way, a baby's head weighs about one-third of the entire body. Trust me: a stable cervical spine is absolutely essential for pretty much everything. From thyroid function to workout strength.

When you "look and nod," you're also activating your vestibular system. Balance is also systemically significant. If your system is "afraid of falling," it will be in a state of stress the entire time. You don't want that. Balance problems and declining vision are indicators of aging. With this simple movement, you'll preserve those functions.

Step 3: Rolling

How do you do this?

Simply put, roll around on the floor. Get dirty. More orderly: Lie flat on your back and stretch your arms above your head to the floor. Your lower body remains motionless. As you roll to the left, lift your head and look to the left while reaching with your right arm as far to the left as you can. Your gaze and head guide the movement and you continue to breathe through your nose. Feel the twist of the thoracic spine and be careful not to push off the floor with your feet. Allow the entire spine to rotate until you are lying on your stomach.

Then roll from your belly to your back by looking over your shoulder and reaching with your arm in the direction you want to roll. The goal is to have smooth movements without "jerking".



For lower body rolls, lie on your back and keep your upper body motionless. To roll to the right, reach your left foot as far to the right as possible. The twist is initiated through the pelvis and continues segmentally through the lumbar and thoracic spine. To roll from the abdomen to the back, reach to the left with the right foot accordingly. Perform three to five repetitions for each version, at least until the movement is fluid, three-dimensional breathing is integrated, and compensation patterns are reduced.

Why should you do this?

For one thing, you're integrating your head control and eye movement into something bigger. So, at some point you will be unconsciously competent to use your head again in a manner appropriate to our species, even "just living".

Your body gets a lot of sensory input from large-scale ground contact. This means that your brain gets information about how your limbs are doing. We talk about interoception and proprioception. Your body maps are being updated, so to speak.

Also, when you move, the midline of your body is crossed with your extremities. This networks both hemispheres of your brain

and gives you a brain update.

You'll find that rolling feels incredibly good. A good feeling is positive body feedback, which often means that something is good. Of course, this is not always true, but you may learn to trust your body again.

There are many other variations of rolling that can be used specifically. The important thing, in my opinion, is to incorporate some form of rolling into every mobility routine.

Step 4: Rocking

How to do it

Get into a quadrupedal stand with your hands under your shoulders. Imagine you're look-

ing over a wall or out the window. Sit with your buttocks back toward your heels, trying to keep your back long and the natural S-shape of your spine. Push your hands slightly forward and pull yourself back with your hips. Then extend your hips and pull yourself forward with your hands. Inhale with the hip extension and exhale with the flexion. Halfway through the repetitions, you can switch from the foot down to the toes up. Perform 20 to 40 repetitions.

Why should you do this?

Rocking is like a horizontal squat. You are integrating three-dimensional breathing and head control. As you rock forward, you go into shoulder and hip extension so that the upper body pull pattern and lower body push pattern are activated. Three-dimensional breathing and following trunk control will connect your shoulder girdle to your hips. Rocking backward activates the upper body push pattern and the hip pull pattern as the shoulders and hips flex.

Okay, that sounds technical. I like to just say that your shoulders are working and talking rhythmically with your hips again. You notice your shoulders and hips moving in a common rhythm that connects your body.

The cue "imagine looking out



the window or over a wall" leads to optimal head control and natural activation of the shoulder girdle, specifically the serratus anterior, without having to think about specific muscle recruitment.

Step 5: Crawl

How to do it

In quadruped stance, breathe through your nose into your belly and look slightly forward. Your spine is long. Raise your knees a few inches off the floor so that your pelvis stays below your shoulder girdle. Then step forward with your left hand and right foot. Following the contralateral pattern, you then move forward with the right hand and left foot. Try not to allow "plopping" movements and "moments of falling". Think of a cat instead of a robot. Take as large steps as you can in a controlled manner.

Why should you do this?

When you crawl, you activate your "X", which is your left hip talking to your right shoulder. You activate your diagonals, which are essential for movements like running, sprinting and throwing. The spine is naturally twisted, mobilized and stabilized.

Be sure to breathe evenly through your nose and look forward. Imagine looking over a wall and keeping your buttocks below your shoulder girdle. The gaze ensures the erect position of the spine and activation of the shoulders. Flowing breathing represents a relaxed nervous system and optimal conditions for movement learning. I call these three criteria "termination criteria". Once these are no longer met, choose to regress the crawl or take a break.

Putting it all together

The entire routine takes about five to ten minutes. You can spend one minute per station or a fixed number of repetitions. Your brain likes it when things are varied. I perform some form of this routine daily; in the morning to prepare for the day, before a workout, as a break between work, or in the evening to release tension. In doing so, I continually vary the versions and positions of breathing, head movements, rolling, skirting, and crawling as I begin to get "bored." Think of the five elements as building blocks that can be filled with different elements.

If you understand these principles, you can also just throw them into your day. Even if you're just waiting somewhere.

Don't be fooled by the simplicity of the movements: Nature is simple and perfect in equal measure. Commit to following through with some form of routine for a month and report back to me what happens. I'm excited!



About Tim Böttner



Tim Böttner aka 'Think Flow Grow' is a sports scientist, mechanical engineer and one of the leading experts on holistic health and fitness in the German-speaking world. In his podcast, the 'Think Flow Grow Cast', he leads deep and meaningful discussions and monologues about all aspects of health and the good life. Tim presents complex topics clearly and understandably and translates them into actionable insights in coaching sessions, online courses, videos, podcasts and articles. He combines modern science, alternative traditions and nature to paint a holistic picture of health, fitness and longevity. Tim loves boundary-pushing experiences, cold weather, heavy weights, and the tension between nature and technology. Tim is excited to connect with you.


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APPLE CIDER VINEGAR

ONE OF THE WORLDS MOST COVETED
HEALTH STAPLES & THE DNA OF
CAROLINE'S DRINKS



Are you older or younger
than you should be?



Apple Cider Vinegar (ACV), one of the world's most coveted health staples. The DNA of CAROLINES Drinks. The founder Caroline successfully self-treated gut issues and hypoglycemia by drinking ACV. She created a sugar free delicious ACV soda pop so other people could enjoy ACV and its benefits. Made with no sugar, organic ACV with the live mother and come in popping flavours like Yuzu Cola and Apple Blackcurrant.

So what's the deal with ACV?

ACV has been around for centuries and is known for many powerful benefits that span beyond gut health such as helping increase ketone production, lowering blood sugar, regulating hormones like cholesterol and testosterone, helping out white blood cells and so much more. ACV contains acetic acid, all the science on ACV is actually based on acetic acid.

ACV has a plethora of benefits; boosting digestion, improve bloating, regulating appetite and sugar cravings, increasing the assimilation of vitamins and mineral and even as a skin and hair toner!

ACV boasts benefits that go far beyond gut health and skin care. Here are some of those other powerful benefits:

METABOLIC HEALTH - Metabolic health simply narrowed down is having a healthy metabolism where the body can digest and absorb nutrients from food without having big spikes in insulin, inflammation, blood fat and blood sugar. Regular occurrences of these spikes over a long period of time though can contribute to having a detrimental effect on your metabolic health. Insulin Resistance, type 2 diabetes, high body fat, heart disease, the list goes on, are caused from being metabolically unhealthy. ACV has been shown to help these spikes through regulating blood sugar, hormones such as cholesterol, increasing the sensitivity of insulin, helping reverse Insulin Resistance and so much more.

AMPK pathway activation - ACV activates AMPK. You probably heard of it if you're wanting to maximise deeper fat burning. It's a powerful enzyme activated from fasting (including when you first wake up in the morning) and from caloric restriction. This state triggers autophagy (the destruction of damaged cells in the body) and promotes the production of Brain Derived Neurotrophic Factor (BDNF). BDNF protects, repairs and grows new brain cells



and improves learning, memory and mood. AMPK is also known to improve healthspan and reduce the risk for metabolic health conditions such as Type 2 diabetes and high blood pressure, certain cancers and may even help prevent and control autoimmune disease. Furthermore, AMPK also helps preserve bone and cartilage structure. That's a whole bunch of powerful stuff right there thanks to AMPK.

MAY HELP WITH STRESS - by nourishing the Gut-Brain Axis. ACV activates an enzyme called pepsin, and when pepsin breaks down food, it creates short chain fatty acids, particularly butyrate acid. This is the fuel for the cells in the gut and creates a strong environment for the immune's response to lifestyle factors such as stress, lack of sleep, travelling and fighting off illness and disease. Nourish the gut brain axis, increase your resilience to stress.

WHITE BLOOD CELLS & PHAGOCYTOSIS - This is how ACV helps when you have a cold/flu or infection. Acetic acid has the ability to target and engulf bacteria, pathogens and viruses. This is done through a process called phagocytosis, which is also how ACV helps control sugar cravings caused by Candida (an overgrowth of fungus). Alongside fighting pathogens, ACV has been shown it may help stimulate the production of white blood cells.

And for those who want to further understand how ACV helps with GUT HEALTH & DIGESTION

1. ACV activates digestive enzymes in the stomach, the pancreas and the liver which are responsible for breaking down fats, proteins and carbohydrates. Our stomach acid naturally declines as we age so adding a bit of acid with our meals helps with the whole digestion process to nutrient and vitamin assimilation. Lower acid means less digestion efficiency resulting in bloating and digestive issues. ACV also helps increase the absorption of minerals and vitamins.

2. As mentioned above, stomach acid also wards off pathogens, helping prevent conditions such as leaky gut and SIBO. Undigested food from low stomach acid ends up over fermenting causing microbes to grow out of control and in the wrong places. ACV delivers the necessary acid

to both break down our food and kill bad gut microbes and bacteria to prevent these conditions. Prevention is as important as the treatment here!

So there you have it. If you are already incorporating ACV into your diet you now have a deeper understanding on how the powerful stuff works. And if you're not, it's time to get on the ACV train. Based in LA? You can find CAROLINES delicious soda pop flavoured ACV sparkling drinks from [Erewhon](#). CAROLINES are bottled in pristine Tasmania using Tasmanian water.

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About Caroline Chang



Caroline's health journey started in her teens.

Gut issues, chronic fatigue, candida and regular bouts of anxiety led Caroline to doing the work on healing herself inside and out. It was after doing a hardcore 14 days fast and only experiencing short term relief, Caroline decided to simplify by drinking apple cider vinegar (ACV) daily diluted in water.

After a 2 weeks, Caroline experienced a big shift on how her mind and body worked. Her digestion improved dramatically, her energy levels were consistent, her bouts of anxiety were on the decline and the chronic sugar addiction had gone away.

This gave Caroline purpose and empowered her to create an ACV soda from her home kitchen to share with the world. Hailing from Melbourne, Australia and fast forward a year later, CAROLINES Drinks are now available in LA at Erewhon Market.

CAROLINES Drinks contain No Sugar, are supercharged in fruity tangy flavours, contain the live Mother culture from prebiotic rich ACV and are loaded with 600M live probiotics.

She wishes to help empower others to take ownership of their health and to do the work so they can set the foundation to make the most of life because "Life Takes Guts, so make it good".

*IGs: [@carolinesdrinks](#) & [@changchilla](#)
Website: www.carolinesdrinks.com.au*



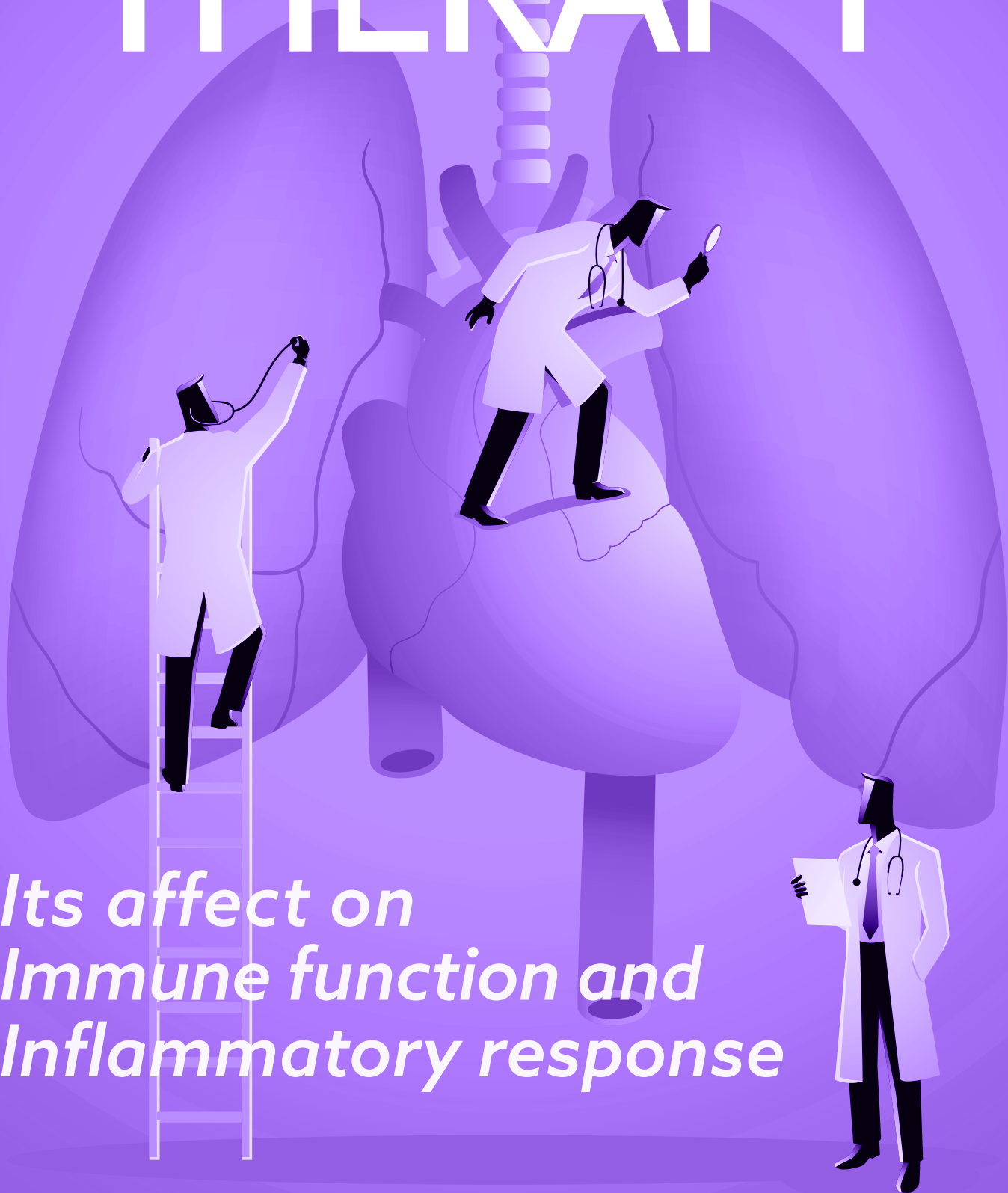
***“One who looks around
him is intelligent, one
who looks within him is
wise.”***

— Matshona Dhliwayo

INNER

OZONE THERAPY

*Its affect on
Immune function and
Inflammatory response*



Ozone therapy may sound like an alternative treatment with a lot of woo behind it, but in fact it's been around for longer than most modern medications. During WWI, ozone therapy was used to treat combat wounds. As antibiotics became mainstream in the 1940s, ozone therapy faded into the background. More recently, biohackers like us have been re-discovering its power, so it's making a comeback as one of the most powerful biohacks around.

As a ubiquitous, non-patentable, and unstable molecule, ozone never attracts a lot of biotech investors or research interest from pharmaceutical companies. As a result, many types of ozone treatments still lack substantial clinical evidence. Also, nobody has invested in large-scale clinical trials or applied for FDA approval for ozone therapy, so it's not FDA-approved for any disease.

In the case of ozone therapy, lack of proof is far from proof against. For well over 100 years, ozone therapy has prevailed. It treats a lot but cures none. It's also got something for everyone, whether you're struggling with mysterious impossible health issues or looking to achieve superhuman health, longevity, or performance.

I started my journey into biohacking as I witnessed my brother going through glioblastoma, an aggressive brain cancer. After 7 open brain surgeries, they had run out of options. The doctors at John Hopkins said that he had a couple years to live. That was when we started on experimental treatments and dove into all the alternative options, including ozone. He passed away at the age of 42, many years after his first diagnosis, beating the survival odds of many others with the same cancer type.



Back then, ozone therapy equipment was so expensive and clunky that it was out of reach for home users. However, having witnessed the power of ozone therapy, I worked with engineers to invent more affordable and simpler to use ozone therapy devices. I've since been given the title "ozonator" and the go-to resource for practitioners and biohackers.

What is ozone therapy?

The air you breathe contains about 20% oxygen gas (O₂),

which consists of two oxygen atoms. O₂ is the most stable form of the gas. Ozone gas (O₃), on the other hand, has three oxygen atoms that form either when oxygen gas is exposed to electricity or UV radiation. It's responsible for the smell of rain.

Ozone gas is a highly oxidizing gas as it's quite unstable and ready to have one of the oxygen atoms fall away. This makes this gas quite reactive, so it can deactivate or kill pathogens on con-

tact. For this reason, high concentrations of ozone is used for all kinds of sterilization, such as for medical devices, pools, and aquariums.

Ozone therapy is different from sterilization ozone, though. Rather, you'd be exposing your body to lower doses of ozone gas to trigger various hormesis responses, in other words, a small dose of stress that reactivates various healing processes in your body. It tends to have a rebalancing effect towards health and homeostasis, often busting through impossible healing barriers that nothing else could. This is why I say, "It treats a lot but cures none." Responses to ozone therapy can vary from person to person, depending on their current health status and dosages.

How does ozone therapy deliver its health benefits?

Researchers have identified numerous ways that ozone therapy works to improve your health, although this is still an area of active research. For example, ozone therapy creates some oxidative species and oxidized lipids either in your blood or in the exposed tissues. These substances then activate Nrf2, your main transcription factor that turns on cellular antioxidant enzymes. It also turns on heat-shock proteins, providing many similar anti-aging benefits as heat exposure and exercise (1). These cellular changes, including in the brain and endocrine glands, explain why it's common to feel a sense of wellbeing and euphoria after systemic ozone therapy sessions (2).

Ozone therapy also supports healthy immune function and a balanced inflammatory response. It seems to strengthen the natural immune response against infections when it's needed. For

example, it can improve recovery from infections in combination with antimicrobial treatments. At the same time, it counteracts excessive inflammation and oxidative stress, especially if it's age-related.

Aside from jumpstarting the antioxidant and healing pathways in the body, ozone therapy also activates tissue remodeling. It supports wound healing and tissue regeneration, possibly through nitric oxide regulation and collagen synthesis. This makes it a

powerful supportive tool for anti-aging, exercise recovery, and injury recovery (3).

Last but not least, ozone therapy seems to boost blood circulation and overall tissue oxygenation. At the same time, it speeds up mitochondrial energy production. All the mitochondrial and oxygenation benefits of ozone therapy, combined with activated Nrf2 and blood flow, makes it a very powerful biohack for anti-aging and cognitive function.



"I think you should learn about ozone. It's dirt cheap, it's highly effective, it works across restoring things as well as enhancing things"

~Dave Asprey, Father of Bio-hacking

Overall, ozone therapy has something for everyone, whether you're working on tough health issues, or optimize your biology for longevity and performance.

What are different ways to benefit from ozone therapy?

Ozone therapies can be divided broadly into two categories: systemic (whole body) and local. Blood ozone therapy, rectal insufflation, and ear insufflation deliver systemic benefits. Whereas, mouth, hand, or vagina treatments would be local.

Systemic treatments are generally best for performance-enhancing applications and systemic issues such as autoimmunity, gut issues, mold toxicity, and Lyme disease. The systemic benefits of ozone may also boost wound healing and immune function. Whereas, local treatments may be more targeted to local infections, wounds, ulcers, cavities, or oral infections.

1. Rectal insufflation

I believe rectal insufflation is the most beneficial route for ozone therapy. Rectal insufflation delivers ozone gas into the colon. People find that it helps with energy, stamina, immune function, and more.

With rectal ozone insufflation, you deliver ozone through the rectum with a thin catheter. The gas only needs to be held for 10 - 30 seconds. The ozone gas then reacts with your gut wall, generating ozonides and byproducts that can be absorbed into the bloodstream and deliver benefits

throughout your body.

A phase 2 clinical trial enrolled 40 immunocompromised patients (IgA deficiency). The experimental group received 2 months of rectal insufflation (5 days/week, 4 weeks per month) with a 3-month break between each month. The comparison group received leukocyte transfer factor treatment. One month after the study, 70% of the ozone patients had improved antibodies and antioxidant markers, which did not occur in the comparison group. 85% of the ozone treatment group had complete therapeutic response, compared to 45% in the control group (4).

Because you expose your gut lining to ozone during rectal insufflation, it may be especially beneficial for gut issues. A rat study demonstrated that rectal insufflation improved the turnover and growth of the gut lining cells (5). A clinical study found that ozone rectal insufflation given 3 times a week improved symptoms related to gut dysbiosis (6).

The systemic benefits and gut health improvement of rectal insufflation ozone may explain why it's the route of choice for [Dr. Joseph Mercola](#).

2. Ear insufflation



Ear insufflation exposes the brain, ears, nose, and throat to ozone. To perform ear insufflation, you'll use a device similar to a stethoscope to feed the ozone in through the ears.

It may help jumpstart immune responses in these areas and support recovery from infections in your ear, nose, throat, or head area. It can also support brain health and may help jumpstart brain mitochondria and blood flow, which can boost cognitive function. Some people find that it helps with mood and mental health, or even jaw issues.

Studies show that ear insufflation may help with ear conditions such as tinnitus, ear injuries from loud noises, and many more.

3. Blood ozone treatment, IV ozone therapy, or autohemotherapy (O3-AHT)

Blood ozone treatment involves removing some of your blood, and then mixing it with ozone before putting it back into your body. During the mixing, the ozone can destroy some pathogens in the blood, but the main benefits come from the small amounts of oxidative species produced in your blood. The downside of this type of ozone treatment is that you'll need medical supervision for each treatment, so you'll need to visit a clinic. This means blood ozone treatment can be hard to keep up with in order to reap the benefits on a regular basis. Also, it can be quite costly.

4. Ozone sauna

An ozone sauna primarily exposes your skin to ozone along with steam and heat. Some people swear by it, but there is currently not a lot of evidence behind ozone saunas.

5. Local ozone treatments

Local ozone treatments include



limb bagging, ozone cupping, and vaginal and bladder insufflation. These treatments expose ozone to a specific area without delivering benefits to the whole body. Typically, these are used to treat infections or jumpstart chronic wound, injury, or ulcer healing.

Some ozone therapy clinics also treat joint issues by injecting small amounts of ozone gas into the joints, or use ozone in combination with other therapies. Intra-articular (into joint) injections seem to improve joint discomfort and overall quality of life for people with joint issues. Some studies have also found that rectal ozone insufflation produced benefits for joint health (7).

6. Ozonated water and oils

If you have a home ozone treatment system, you can infuse water or olive oil with the ozone. People find that drinking the water can help with gut issues and deliver some systemic benefits. Whereas, washing, gargling, or bathing with it can help with wounds, infections, or promote tissue healing.

When ozone gas is bubbled through olive oil, it can create ozonides and other intermediates that can be safely inhaled. Some people also apply it to the skin for skin conditions.

What to expect with ozone

therapy

Since ozone therapy is a hormesis, it works as a small stressor that kicks healing processes into gear in your body. This means the effects can be different for everyone.

Many of my clients report feeling energized and that their brain fog has lifted. Some also find major reliefs in physical discomfort and joint stiffness. On the other hand, many people experience an initial healing crisis. They feel worse or more tired after their first few sessions, before they start feeling better after 3 - 4 sessions.

Because ozone stimulates collagen and elastin synthesis, along with boosting cellular energy production, many people find that their skin conditions and aged appearance improve. Tendons, ligaments, and cartilages, which typically heal very slowly due to low blood flow, also tend to respond well to ozone therapy.

If your goals are to maximize athletic performance, ozone therapy maximizes tissue oxygenation and mitochondrial function. As a result, it boosts your capacity for exertion, reduces fatigue, and improves recovery and overall training responses. Ozone therapy is also powerful for relieving pain and accelerating the injury healing processes, especially when combined with other modalities. There has even been a question on whether ozone therapy should be considered doping! Dr. David Minkoff observed a 15% boost in athletic performance with consistent ozone therapy use. Also, professional athletes like Cristiano Ronaldo, Ion Cutelaba, and Adrian Peterson have ozone therapy in their injury recovery and performance-enhancement toolboxes.

"I finished a good 40 minutes quicker than my other IronMan



competitions and things just felt a ton better."

~Dr. Troy Davis, performance doctor and athlete.

What to watch out for with ozone therapy

Because the ozone gas and ozonides can kill pathogens, these dead pathogens can release toxins that cause die-off or Herxheimer reactions. Symptoms can range from fatigue to skin breakouts and gut issues, which tend to be mild and last only a few days to a week. The best way to prevent this is to start ozone therapy at a very low dose and gradually step up. This means it's very important to know the ozone dose you're putting into your body. Also, some practitioners may recommend binders and other ways

to support your body to safely move these toxins out.

Ozone therapy is considered safer than aspirin, with less than 6 in 100,000 odds of adverse effects (8). These adverse effects also tend to be mild when you take the right precautions. First, never ever inhale ozone into your lungs. The lungs are the one organ in the body that doesn't possess the antioxidant capacity to handle ozone. So, ozone inhalation can injure the lungs. Many people wear gas masks when they handle ozones to prevent this.

Second, always use medical-grade ozone generators. There are a lot of cheaper ozone generators for non-human uses such as to purify water, aquarium, and pools, etc. They produce ozone

from air, which contains ~20% oxygen, not a pure oxygen tank. These generators don't need to produce pure ozone gas because they are not meant to be put into the human body.

Also, their parts may not withstand the corrosive effect of ozone gas. Therefore, if you use a non-medical ozone generator, you will get a lot of unsafe contaminants and unpredictable dosages.

How to enjoy ozone therapy benefits from home

One of the keys to maximizing benefits from ozone therapy is consistency. Some protocols need almost daily treatments in the beginning. The past (ongoing) pandemic has shut down many clinics and spas, at least when it started. Many of them still request that patrons don't visit them if they may be sick. However, when you're recovering at home, you want to have access to ozone to support your immune system.

These reasons are why I'm an advocate of owning an ozone therapy system at home, and have dedicated my life to making that possible. I recommend downloading [DrsOzone's Definitive Guide to Ozone Therapy Biohacking at Home](https://ask.drsozone.com/optin-496915181626285819511) today, which will get you all the details you need to get started.

Get your copy of the definitive guide to ozone therapy here: <https://ask.drsozone.com/optin-496915181626285819511>

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About Micah Lowe



Micah's brother developed a rare brain cancer which led his family to search into alternatives, after conventional methods had nothing left to offer.

He then helped his dad develop equipment for Ultraviolet Blood Irradiation, for infections and chronic disease. The business took off with recognition from Harvard Medical by Michael Hamblin.

A few years later, Micah dropped out of nursing school and quit work on the ambulance. In 2014, He started to develop equipment for ozone therapy because there was a need for a less expensive, stable unit that people could use at home. Ozone therapy had a synergistic effect to UBI, so it was a good fit for him because I understood it well.

Now Micah owns Simply O3, an ozone equipment company and works to educate and get the word out on ozone. His mission in life is to reduce suffering in the world.

IG: [micahforhealth](#)



HOMEOMORPHISM IN THE FIRST LANGUAGE OF NEURAL REALITY

- PART 2

Neural Reality - Definition:

While Actual Reality has long been discussed and debated, contemporary culture and its advancing science has now introduced us to Virtual Reality (VR), Augmented Reality (AR), Synchronized Reality (SR) and Expanded Reality (XR) via fascinating new technologies. Within this promising domain, there also exists a Neural Reality (NR). Perhaps playfully, Neural Reality could be considered as "Virtual Reality Turned Inside Out".

Neural Reality is the interface between primal unconscious activities and common cognition with the senses. It is the realm of experience that, by metaphor, is

the zone that unites the surface of the ocean and the deep dark hidden waters. It is the "bridge".

Neural Reality is both old and new. Old in that, as the physiological and existential basis of The First Language, it has been appreciated in a wide variety of traditional and spiritual practices since mankind's earliest days. New in that, with ingeniously crafted new technologies and new findings in neuroscience, it is an element of today's most advanced explorations and applications in wellness and consciousness.

First Language Light & Sound - Examples of Traditional Homeomorphism:

In anthropological research, there is a significant school of

thought that considers much of paleolithic and megalithic cave art as potent examples of homeomorphic First Language expression. (5) The prevailing theory expects that early humans experienced internal visual geometric patterns as a result of numerous overlapping sources of stimulation including long periods of darkness, hallucinatory plant ingestion, extreme fatigue and illnesses among others. In a more formal expression, there are striking examples in the Hindu Tantric tradition. The audio forms of "mantra" and the visual forms of "yantra" are excellent examples of homeomorphism refined over centuries of empirical spiritual science.



Classic "seed syllable" mantras to be chanted in order to evoke particular states of consciousness.



Classic yantras to be gazed upon in order to evoke particular states of consciousness.

First Language Light & Sound - First Modern Scientific Steps in Homeomorphism:

Setting aside now the bountiful range of examples of First Language Light & Sound homeomorphic expressions in traditional spiritual and cultural practices, we shall focus here on a limited

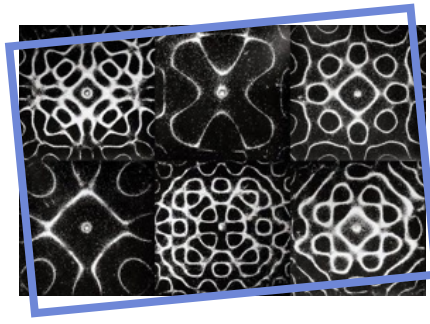
sketch of early scientific explorations into Neural Reality Light & Sound.

Recall that the homeomorphic principle is based on the appreciation that all of Nature shares a common basis of physical laws and behaviors that are the guiding factors in the formation of First Language signaling.

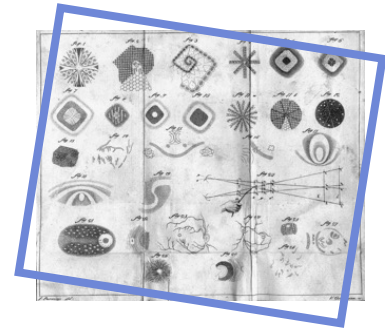
As a point of reference, we can mark the modern era as beginning with Purkinje with Light and Chladni for Sound. In 1819, Jan Purkinje described swirling geometric visual patterns stimulated by diffuse flickering light. (3) Chladni's best-known achievement was inventing a technique to show the various

modes of vibration on a rigid surface. When resonating, a plate or membrane is divided into regions that vibrate in opposite directions, bounded by lines where no vibration occurs (nodal lines). The experiments were first published in 1787 in his book Discoveries in the Theory of Sound. (4)

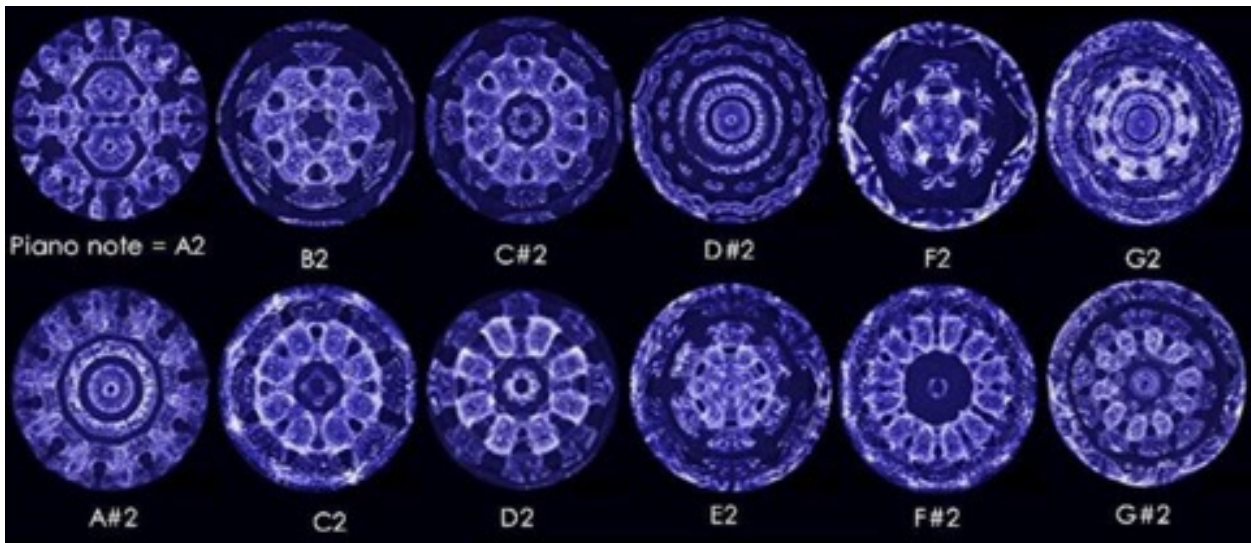
Although from dramatically different experiments, both Purkinje and Chladni were successful in exhibiting First Language



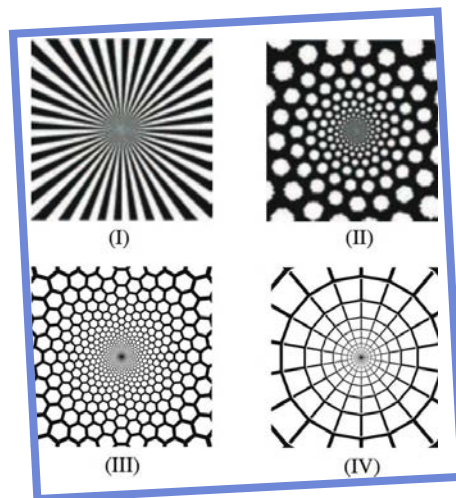
Chladni Sound patterns created by vibrating a flat metal plate with sand using a violin bow to express different frequency notes.



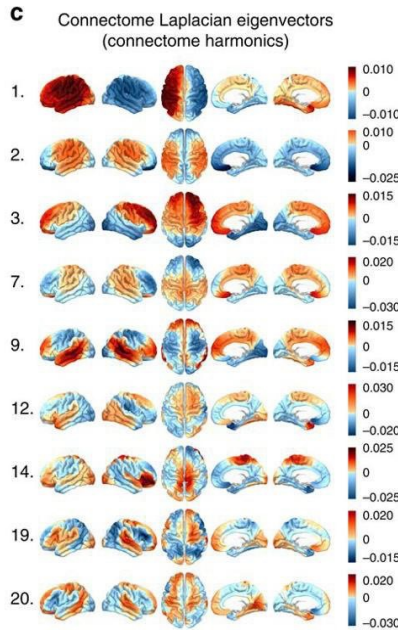
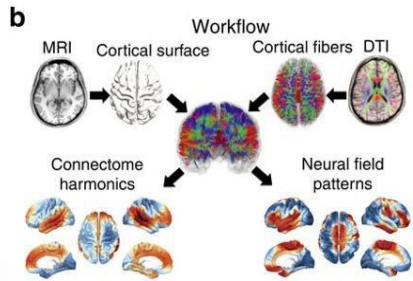
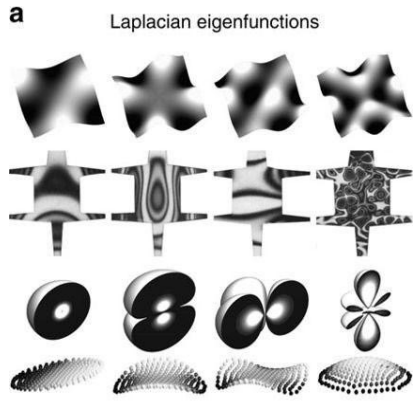
Purkinje Light patterns (original subjective recreations) created by diffuse flickering light of different rates/frequencies before the eyes.



Cymatics, (from Greek: κύμα, meaning "wave"), is a subset of modal vibrational phenomena. The term was coined by Hans Jenny (1904-1972), a Swiss follower of the philosophical school known as anthroposophy. In Cymatics, various sound notes or tones are applied to a flat plate covered with a fine powdery substance. It was discovered that each specific note produces a highly defined and repeatable "yantra" or mandala-like pattern (as seen above in the image).

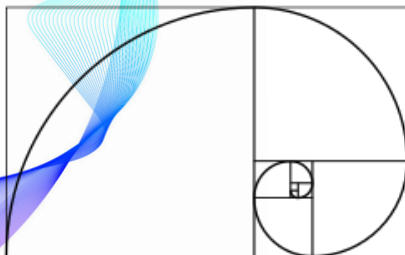


Heinrich Klüver at the University of Chicago in the 1930's, discovered and classified four categories of visual geometric patterns which have become known as Klüver's Form Constants. He used a combination of electrical stimulation and ingestion of the psychedelic mescaline.



When applying the calculations found in Laplacian eigenfunctions to the original pattern characteristics of the Chladni processes, surprisingly, one discovers that with a varied form template such as the four-legged torso of a mammalian animal, the original patterns are transformed (homeomorphism) into the characteristic pelt patterns of known animal species.

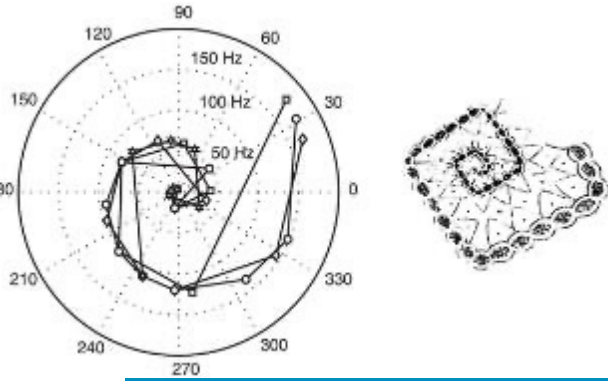
Furthermore, when applying the same calculations to the curved convex shape of the human brain cortex, the original patterns are now transformed into the neurologically identified Harmonic Connectomes of the Resting State Networks of our human brain. (12)



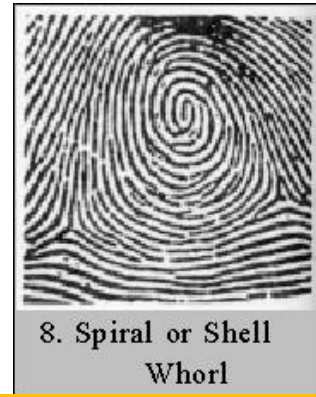
The Golden Mean or Golden Ratio as a mathematical expression.



Nautilus Sea Shell



Right) Purkinje optical image
 (Left) Mathematical graphing
 of phosphene expression
 dependent on specific frequencies
 and phases of flickering light
 stimulation

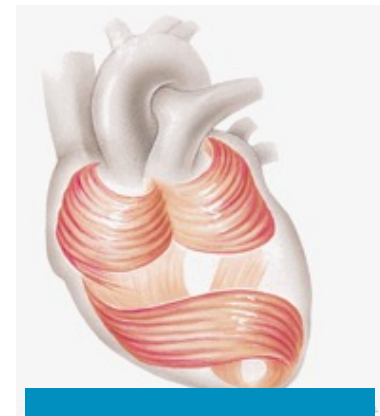


8. Spiral or Shell
 Whorl

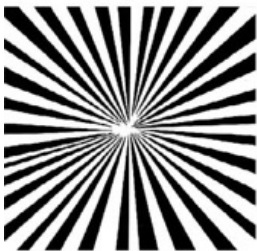
Spiral pattern
 of typical human
 fingerprint pattern



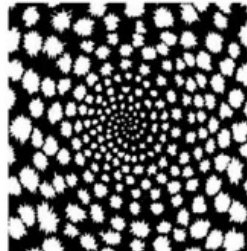
Spiral pattern of
 aloe vera plant



Spiral pattern of
 heart muscle



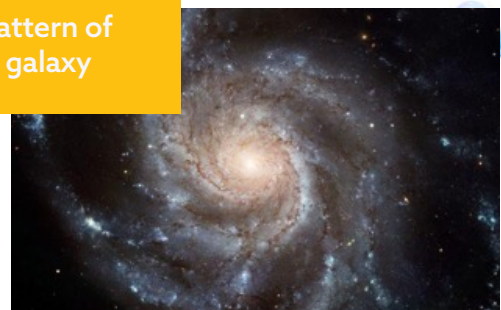
(I)



(II)

(Right) Spiral pattern
 of optical hallucination
 evoked by mescaline and
 electrical stimulation -
 one of four Kluver

Spiral pattern of
 cosmic galaxy

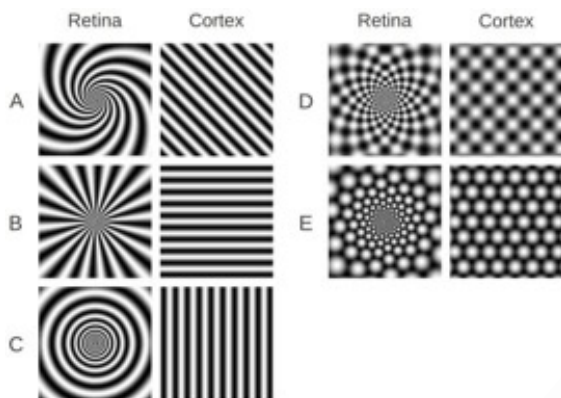


Computational & Mathematical Pattern Generation:

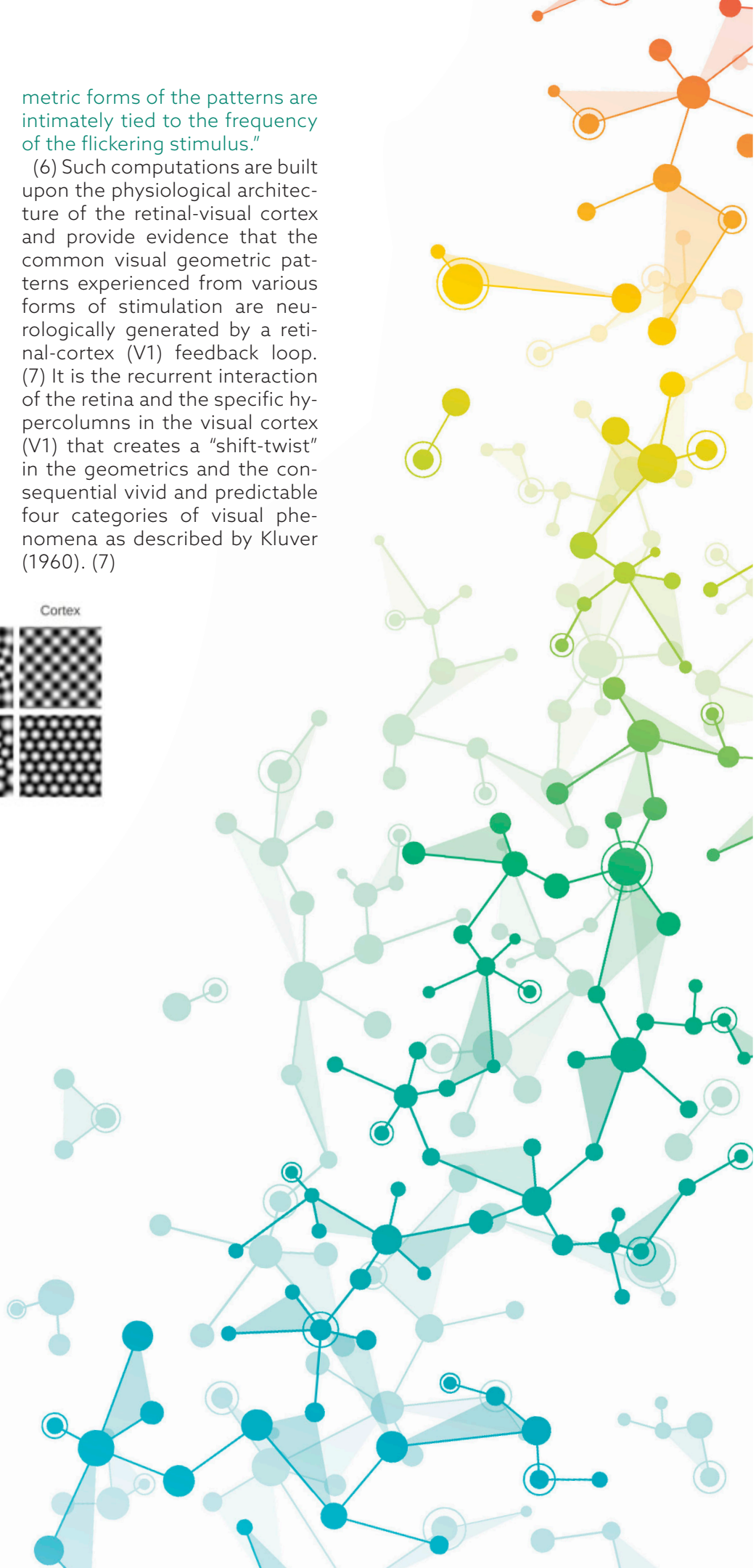
"When the human visual system is subjected to diffuse flickering light in the range of 5-25 Hz, many subjects report beautiful swirling colorful geometric patterns. In the years since Jan Purkinje first described them, there have been many qualitative and quantitative analyses of the conditions in which they occur. Here, we use a simple excitatory-inhibitory neural network to explain the dynamics of these fascinating patterns. We employ a combination of computational and mathematical methods to show why these patterns arise. We demonstrate that the geo-

metric forms of the patterns are intimately tied to the frequency of the flickering stimulus."

(6) Such computations are built upon the physiological architecture of the retinal-visual cortex and provide evidence that the common visual geometric patterns experienced from various forms of stimulation are neurologically generated by a retinal-cortex (V1) feedback loop. (7) It is the recurrent interaction of the retina and the specific hypercolumns in the visual cortex (V1) that creates a "shift-twist" in the geometrics and the consequential vivid and predictable four categories of visual phenomena as described by Kluver (1960). (7)

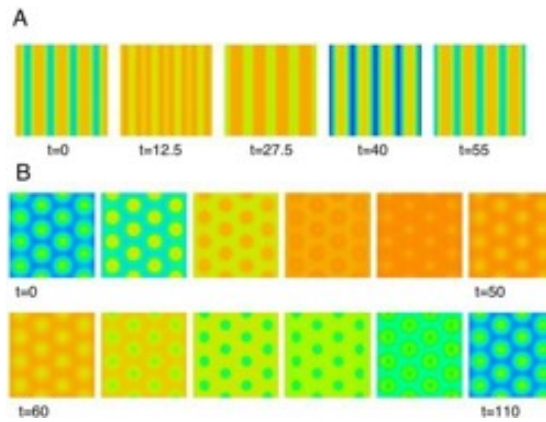


The phosphenes reported by subjects vary tremendously, but among them are the commonly seen so-called form constants (Klüver, 1960), which are simple regular geometric patterns. These include spirals, targets, light rays, honeycombs, and checkerboards. The images above are mathematically derived patterns and illustrate idealized versions of many of the reported patterns during flicker stimulation. Figures B, C are very typical and are the phosphenes reported when the visual system was stimulated at 15 Hz as well as over a range of frequencies between 15 and 20 Hz. Spirals (A) and honeycombs



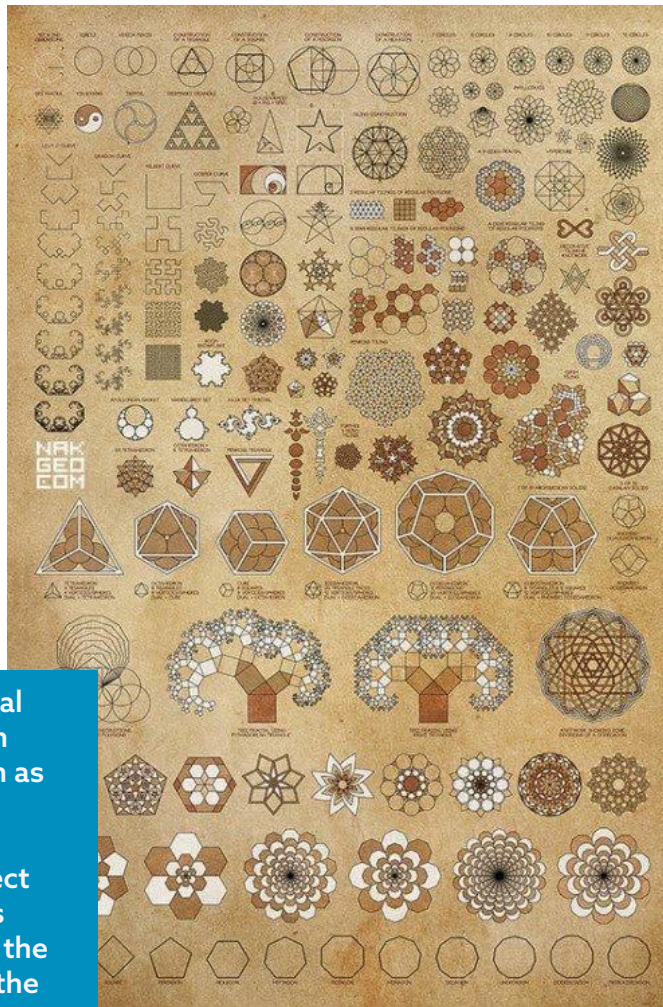
(possibly figure 1E) were also reported in this frequency range. "Rectangles" (possibly interpreted as the checkerboard pattern, (D) were reported to occur at lower frequencies (around 10 Hz). (6)

Time frames for different frequencies of stimulus.
 (A) high frequency stimulation (18.2 Hz); (B) low frequency (9.1 Hz) stimulation. Note that in (A) after one temporal cycle of 55 msec, the pattern is shifted by one half of a spatial cycle. (6)



Geometric visual hallucinations are seen in many situations, for example: after being exposed to flickering lights (Purkinje, 1918; Helmholtz, 1925; Smythies, 1960), after the administration of certain anaesthetics (Winters, 1975), on waking up or falling asleep (Dybowski, 1939), following deep binocular pressure on one's eyeballs (Tyler, 1978), and shortly after the ingesting of drugs such as LSD and Marijuana (Oster, 1970; Siegel, 1977). Patterns that may be hallucinatory are found preserved in petroglyphs (Patterson, 1992) and in cave paintings (Clottes & Lewis-Williams, 1998).

Bi-Directional First Lan-



Examples of First Language visual patterns and constructs found in various systems collectively known as Sacred Geometry. Following the principle of Homeomorphism, one would expect to find evidence of such patterns throughout Nature including within the intrinsic, archaic First Language of the human Central Nervous System.

guage Communication:

It has been established that certain frequencies of stimulation to the brain will reliably produce certain categories of subjective First Language geometric patterns and colors (see above).

Considering the principle of Homeomorphism and the dissolving of strict "inside/outside" boundaries, it should not be surprising that the flow of information is not restricted to one-way messages. In fact, there is clear evidence that the flow of information is such messaging is, in fact, "bi-directional". (8)

What this means, in simple terms, is that if a stimulus of 12 Hz (for example) acts to produce a subjective set of certain color and geometric pattern combined with a predictable conscious state then, by perceiving the same color and geometric pattern, in a bi-directional feedback loop, will create the same 12 Hz signal in the brain with the same associated conscious state.

This is the principle of "bi-directional" information processing found in Homeomorphic First Language dynamics.

The Brain as a Prediction Device:

It has been a longstanding mystery in neuroscience as to how the brain can process so many streams of simultaneous of data and come up with a unified time-sensitive perception. The key to this extraordinary feat may well be the brain's ability to "jump to conclusions". Put differently, our brain is an efficient "prediction machine". (9)

Our brain seeks out signal in the noise and pattern in the apparent randomness. With ongoing exposure comes increased learning. And this learning allows for (more or less) accurate predictions. For example, if I were to speak out

"1, 2, 4...1, 2, 4...1, 2, 4" repeatedly and then speak "1, 2..."; you would immediately think "4" as a reasonable prediction of what will come next.

So, with First Language and Homeomorphism in mind, consider that there are basically two sources of information that will supply the "prediction machine" with patterns allowing some reasonable degree of correct forecasting. One source is the ever-increasing collection of experiences in day to day life. The other is, in fact, the innate storehouse of First Language Light and Sound homeomorphic information. This "instinct" or "intuition" allows for uncanny "precog" insights and understandings that may seem to come "out of nowhere" and defy your personal library of collected experiences. In here, we may find credible access into what Jung called "the Collective Unconscious".

Perception, Interoception and First Language:

Perception is the process of interpreting external stimulation via the five special senses of sight, hearing, touch, taste and smell. Interoception is the process of interpreting internal somatic sensations that originate within the organism. (10) The First Language experiences in Neural Reality are interoceptive messages that have the capacity of being interpreted as being the qualia of perception. In a way, the First Language dynamics turn perception "inside out".

Beauty & Homeomorphic First Language:

Lastly, persons experiencing First Language colors and geometric patterns from any number of stimulation sources invariably describe them as beautiful and other-worldly. The colors and patterns seem saturated with indescribable attractive qualities.





It is possible that the mysterious aesthetics of the First Language Neural Reality experience may be a factor of the “universal Homeomorphic” characteristics that are innate to the information and a natural reflection of their core conscious values. (11)

Summary:

Homeomorphism, as postulated by William James over 100 years ago, recognizes that all life forms evolving on Planet Earth were shaped by the very same influences and consequently share the imprints and dynamics of these influences in common. To serve all organisms regardless of the degree of complexity, these formative influences must exist and function at the most basic, primitive levels. Furthermore, as organisms evolve into increasing degrees of complexity, these primitive formative influences are retained and integrated into the higher influences as foundational dynamics.

As integral factors in self-organization, these primitive formative influences develop into adaptive feedback communication systems with a bi-directional capacity of information sharing and reinforcement. The consequence of this development is the emergence of a First Language at a level of Neural Reality. In the human being, there exists an intrinsic or innate archaic “language” incorporated into the Central Nervous System (CNS – Cranial Brain and Spinal Cord).

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About Garnet Dupuis

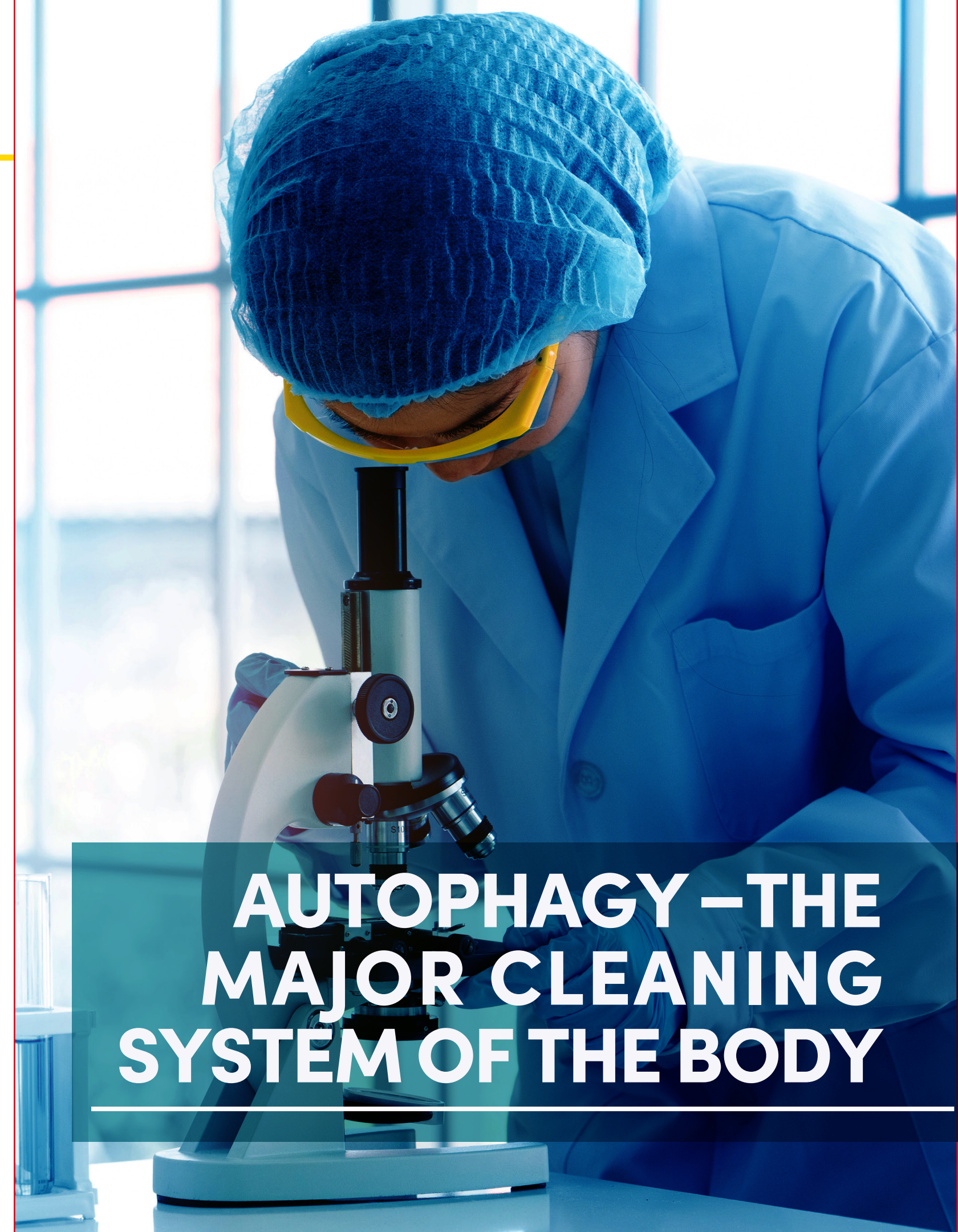


Garnet was born and raised in Canada and is a naturalized USA citizen. He is an Integrative Health and Wellness expert, teacher & inventor with specialties in inter-disciplinary methodologies. With a wide experience in advanced technologies, Garnet has taught neuromodulation applications in major USA universities, professional sports teams, the Marine Corp and Naval Hospitals and lectured in European and Asian countries.

Garnet has a broad education including college, university and graduate trainings in Classical and Clinical Homeopathy, Oriental Medicine, Massage Therapy/Bodywork, Hydrotherapy, Remedial Exercise, Biofeedback, Psychology and English Literature.

Garnet is co-founder of Lucid Studios/neuroVIZR, Thailand. He currently resides in the tropical mountain rainforest in Northern Thailand. He is a life-long meditator and practitioner of Tibetan Dzogchen. Garnet is active in wild animal rescue and conservation and has built, manages and funds a sanctuary for SE Asian apes.

Website: <https://neurovizr.com/>

A scientist wearing a blue lab coat and a blue hairnet is looking through a microscope in a laboratory setting. The scene is brightly lit, likely from a window in the background. The scientist is focused on the microscope, which is positioned on a table. The overall color palette is dominated by blues and whites, with a yellow safety guard visible on the scientist's face.

**AUTOPHAGY – THE
MAJOR CLEANING
SYSTEM OF THE BODY**

**This article was originally published on the [Biohacker Center website](#) and we were given permission to re-publish it here.*

Cellular self-eating modulates immunity and the elimination of pathogens via autophagy. The body recognizes damaged cells and recycles them. Autophagy gets triggered in response to stress like infections, starvation, high exertion or certain compounds such as various phytochemicals. You can promote autophagy with positive stressors such as intermittent fasting, caloric restriction, regular sauna, exercise and cold exposure.

Introduction

When there is no food available, a cell is forced to break down parts of its reserves to stay alive until the circumstances change. This natural biological process is called autophagy. Even on a day-to-day basis, autophagy is activated between meals to maintain metabolic functions and to supply amino acids and energy via catabolism. Autophagy (autophagocytosis) is a carefully regulated mechanism of “self-eating” that cells perform to destroy viral particles (virophagy) and to degrade some of their components including proteins, organelles and foreign particles (xenophagy). Autophagy is essential for life because it cleans the cells from unnecessary and dysfunctional components and recycles them for further use in the body.

Autophagy encompasses three main types: microautophagy, chaperone-mediated autophagy (CMA) and macroautophagy. All of these are important and they work in cooperation inside the cells. Autophagy as a process is very strictly regulated and the whole machinery consists of at least 30 different genes.

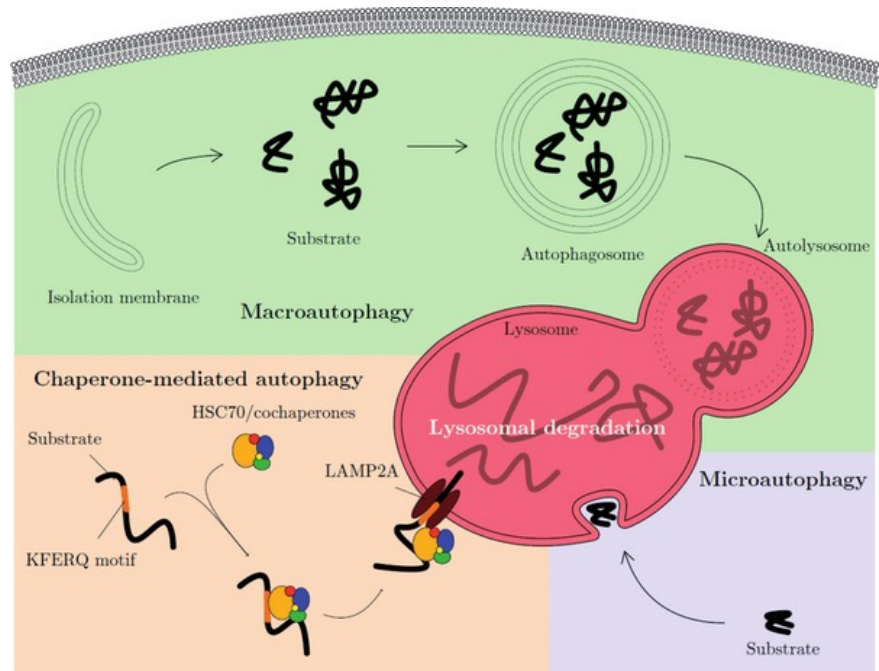


Image: Schematic model of the three main types of autophagy.

Source: Ntsapi, C. & Du Toit, A. & Loos, B. (2019). [Dietary impact on neuronal autophagy control and brain health](#). In: Bosch-Bouju, C. & Layé, S. & Pallet, V. (2019). [Feed Your Mind - How Does Nutrition Modulate Brain Function throughout Life?](#) IntechOpen.

Autophagy is crucial also for brain plasticity and neuroprotection. Pathways between neurons and glial cells are thought to regulate autophagy in the brain. Different pathways shuttle cellular garbage from neurons to glial cells to maintain homeostasis in the brain. In practice, this means that the brain thrives with adequate autophagy processes throughout life.

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the brain. In practice, this means that the brain thrives with adequate autophagy processes throughout life.

The central nervous system (CNS; including the brain) accommodates a diverse myeloid immune cell compartment that maintains its homeostasis. Autophagy and autophagy proteins play fundamental roles in myeloid cell-related immune functions. Activating autophagy constantly can also improve and even reverse age-related decline in cognitive functions such as memory loss.

The autophagy machinery supports primarily three aspects of myeloid cell immunobiology, thereby affecting the main components of the CNS immune system. These are clearance of pathogens in a cell-intrinsic manner, regulating proinflammatory cytokine production, and antigen processing for adaptive immune system stimulation. Myeloid cells include granulocytes and monocytes.

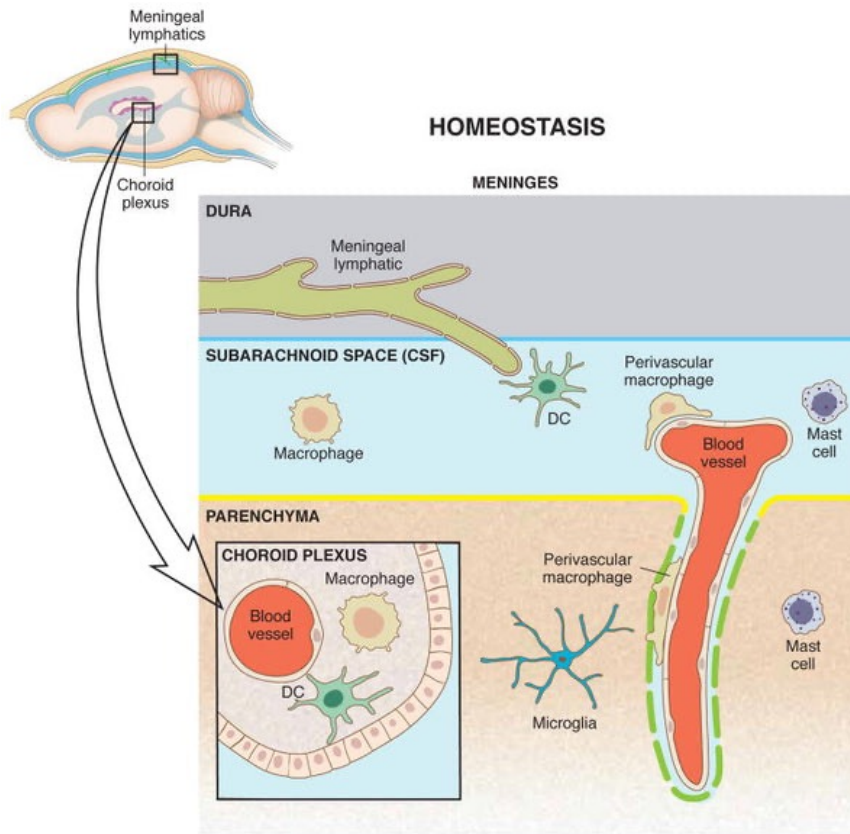


Image: Myeloid cells in the central nervous system.

Source: Herz, J. & Filiano, A. & Smith, A. & Yogev, N. & Kipnis, J. (2017). Myeloid cells in the central nervous system. *Immunity* 46 (6): 943-956.

Health benefits of balanced autophagy are for example:

- May protect from obesity and diabetes
 - Autophagy may be involved in the browning of white adipose tissue and affect the metabolic balance of lipids
 - Autophagy helps also prevent NAFLD (non-alcoholic fatty liver disease)
- Better cardiovascular function and protection from cardiovascular diseases
 - Impaired autophagy can increase arterial aging
- Protection from oxidative stress and inflammation
 - Autophagy tempers inflammation by eliminating active inflammasomes

4 POTENTIAL HEALTH BENEFITS OF AUTOPHAGY

May slow down the aging process

May control inflammation

May help fight infection and support immunity

May protect against neurodegenerative disease

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- Elevated liver protection from various liver conditions and diseases

- Improved function of the immune system

- Innate immune receptors and lymphocytes (T and B) are modulated by autophagy, which represents innate and adaptive immune responses

- Better gastrointestinal function, overall gut health and disease prevention

- Autophagy is likely to play a key role in the process of gastrointestinal homeostasis, serving to remove bacteria that make it into tissues and degrade any non-self immunostimulatory molecules to maintain intestinal tolerance.

- Slows down aging and neurodegeneration and may prevent from neurodegenerative diseases

- May prevent from certain types of cancers – however, tumor cell-intrinsic effects of autophagy can be both tumor suppressive and tumor promotional

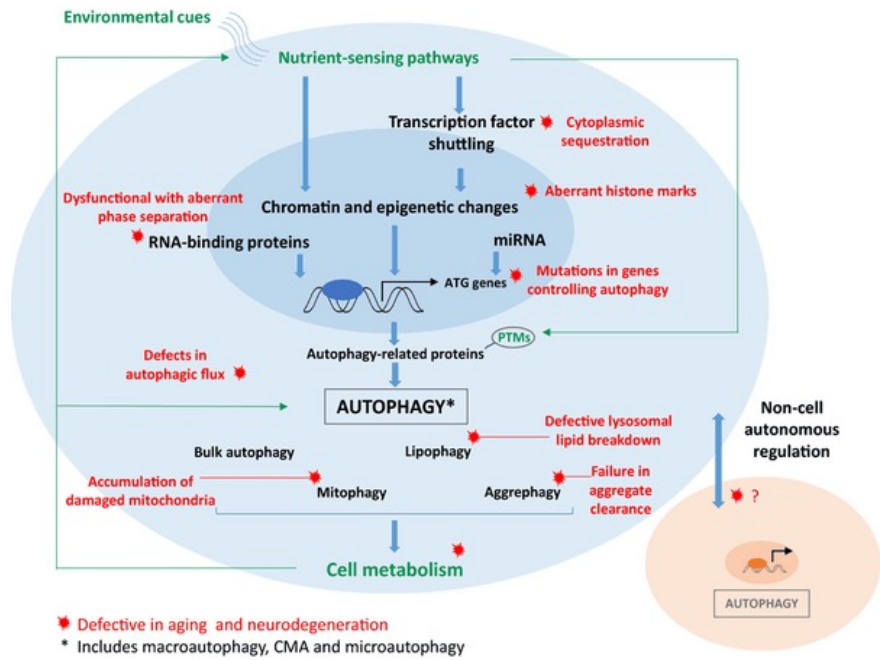


Image: Interplay between autophagy, metabolism and aging.

Source: Wong, S. & Kumar, A. & Mills, J. & Lapierre, L. (2020). Autophagy in aging and longevity. *Human Genetics* 139 (3): 277-290.

FOODS THAT PROMOTE AUTOPHAGY



Nutritional factors supporting autophagy

- **Sulforaphane** in cruciferous vegetables and broccoli sprouts, in particular.

- Induces autophagy through ERK activation in neurons (independent of Nrf2 activity)

- Also inhibits blue light-induced inflammation and apoptosis by upregulating the SIRT1/PGC-1α/Nrf2 pathway (see earlier) and autophagy in retinal pigment epithelial cells – this means that via retinal autophagy, sulforaphane protects the eyes

- **Curcumin** induces and modulates autophagy and is hence neuroprotective

- It may protect cells against oxidative stress induced damage by inhibiting apoptosis and inducing autophagy via the Akt/mTOR pathway.

- **Coffee** (both normal and de-

caffeinated) induces autophagy most likely because of its high polyphenol count

- o Caffeine in coffee also increases autophagy

- **Green tea** and its main polyphenol epigallocatechin-3-gallate (EGCG) stimulates autophagy in the liver and in the brain

- **Ginger** and one of its bioactive compounds, 6-shogaol, induces autophagy by inhibiting the AKT/mTOR pathway

- **Polyphenols** regulate and induce autophagy and remove aberrant protein aggregates (an important factor in treating neurodegeneration).

- o Polyphenols are found in dark and colorful vegetables, berries, dark leafy greens, coffee and green tea (see before).

- o Polyphenols play an important role in the modulation of autophagy-induced death of cancer cells.

- **Resveratrol** is a naturally occurring antioxidant found in dark grapes, berries, cherries, and red wine.

- o Multiple studies show that it induces autophagy by directly inhibiting mTOR (and that's why it is not recommended to take after exercise).

- o The induction of autophagy in the brain by resveratrol can prevent neurodegenerative diseases.

- o Resveratrol targets multiple inflammatory components and exerts immune-regulatory effects on immune cells.

- **Extra virgin olive oil (EVOO)** contains oleuropein and oleocanthal, polyphenols that trigger autophagy and inhibit mTOR signaling

- **Medicinal mushrooms** like Reishi and Chaga induce autophagy and can fight cancer

- o Chaga mushroom extract induced autophagy by activating AMPK and inhibiting the mTOR signaling pathway in breast cancer cells

- o Triterpenes from *Ganoderma Lucidum* induce autophagy in colon cancer through the inhibition

of p38 mitogen-activated kinase (p38 MAPK)

- o *Ganoderma lucidum* extract (GLE) ameliorates parkinsonism pathology via regulating mitochondrial function, autophagy, and apoptosis.

- **Long-chain omega-3 fatty acids (PUFA)** found in salmon, sardines, cod, herring, mackerel and algae induce autophagy.

- o Long-chain omega-3 supplementation attenuates traumatic brain injury-induced neuronal apoptosis by inducing the autophagy pathway via SIRT1

- o Long-chain omega-3 fatty acids exert protective effects on hepatocytes against lipotoxicity through induction of autophagy

- o Omega-3 fats from fish have been shown to protect the retina by inducing autophagy

- **Spermidine** increases autophagy in the brain and can protect from neurodegeneration

- o Spermidine-rich food items comprise unprocessed plant-derived foods including the durian fruit, shiitake mushroom, fresh green pepper, wheat germ, amaranth grain, cauliflower and broccoli and also products resulting from fermentation processes that involve polyamine-generating bacteria and fungi, e.g. soybean products such as natto and many types of mature cheese

- o Based on studies done on flies, spermidine ameliorates memory during aging via autophagy

- o Spermidine's potency has been recently quantified to be equivalent to that of rapamycin (the golden standard on autophagy)

- o The optimal concentration of spermidine in humans to maintain optimal autophagy levels for healthy aging still needs further investigation.



About Olli Sovijärvi, M.D.



Dr Olli Sovijärvi is one of the pioneers of holistic medicine in Finland. At the beginning of his career Dr Sovijärvi worked as a medical duty officer at the Finnish Red Cross Blood Service. In 2006 he graduated from the University of Helsinki with a Licentiate degree in Medicine and became self-employed in 2008. In 2010–2011 Dr Sovijärvi completed an Integral Theory degree at the John F. Kennedy University, focusing on psychology and philosophy.

His numerous media appearances, social media articles and Finland's first health podcast have expanded the general public's awareness of what health care can be. Dr Sovijärvi has also acted as consultant to various companies and service providers operating in the fields of wellness and health technology.

At present, Sovijärvi focuses primarily on the production of scientific content for preventive health care and wellbeing.

He also runs training sessions and presentations on the topics of biohacking, performance optimization, nutritional issues and maintaining the intestinal balance. In his free time he enjoys athletics, playing with his child, music and good humor.

An abstract digital graphic featuring a central bright point of light that radiates outwards in a fan-like pattern. The radiating lines are composed of numerous thin, overlapping lines in shades of blue, purple, and magenta. The overall effect is reminiscent of a starburst or a digital signal emanating from a central source. The background is dark, making the vibrant colors stand out.

CORE

The turning point in the process of growing up is when you discover the core of strength within you that survives all hurt.
- Max Lerner



PHILIPP VON HOLTZENDORFF- FEHLING

EXCLUSIVE INTERVIEW

**FOUNDER, CEO OF LEELA QUANTUM
TECH, A COMPANY COMBINING
SCIENCE AND QUANTUM ENERGY-
BASED HEALING TO MAKE SIMPLE
BIOHACKING PRODUCTS FOR ALL**



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Philipp Samor von Holtzendorff-Fehling is a coach, conscious entrepreneur, and energy healer. In parallel to a successful international business career he constantly worked through blockages and barriers that prevented him to truly connect with his true self. With that he started to also see energy fields and developed his unique skills as a healer, and he went through two decades of training in shamanic and other energy healing

practices. During his business career he worked as an executive for several well known companies, including T-Mobile International and T-Mobile US where he served as Vice President. He's the founder & CEO of Leela Quantum Tech and Quantum Upgrade.

First of all, what is Leela Quantum Tech? The second question is, why did you start this company?

Leela Quantum Tech is a company that has invented a proprietary technology that can concentrate pure quantum energy in a fashion not seen before. You can replace quantum energy also with consciousness, even though that goes a little bit far for some people. But in essence, that's really what it is; a very high consciousness field. But for now, we'll stick with quantum energy because that's what we usually use, and we make multiple products and also specific frequencies that we provide. Certainly we also provide the technology itself. How did I get to that? So it was really my own healing journey and a journey of helping to heal my wife from chronic Lyme disease.

For me, I realized I had cut myself off from my emotions and really my inner voice, if you will. I was operating just on a rational level, very brain-focused. I started to read a little bit about yoga, meditation, and I actually started to do yoga and meditation and just read some interesting books. I realized that a world started to open up that I had not tapped into before, that is way bigger than anything I've imagined before. I got more curious along the way and I did some shamanic workshops, participated in a past life regression work training, and really got trained with different and indifferent healing modalities. So that was all in parallel to my corporate career.



I'd met my wife in 2005 and she was born with the ability to see aura and energy fields. She never lost this conscious connection to herself. That pulled at me even further. When she got diagnosed with chronic Lyme disease, she had already had it for five years. So everyone said that she couldn't treat it. That was kind of like my trigger to really dig hard. I found my passion through that, which was really, biohacking in a way, honestly, because that's really what it was. I was trying to find the next best thing. By the way, my wife is completely healed. There's nothing left. No more symptoms. Throughout that journey, I met some absolutely amazing healers because I didn't want to learn from any healer around the corner, that had maybe done some reiki (no offense to any Reiki practitioners, but that's the lowest level on the energy healing scale.

It's great, but I wanted to get to the top and find out who the best healers were. What can they do? How do they do it? I wanted to learn from them. After meeting some of them, at some point we decided that there's a possibility of combining healing techniques where people can help other people with products and provide certain energy fields and even frequencies. So we call that quantum frequency medicine. That's when we went in and started to develop. We had seen some other companies that had worked a little bit with quantum energy, but they didn't do a good job at all actually in providing a highly concentrated quantum energy field.

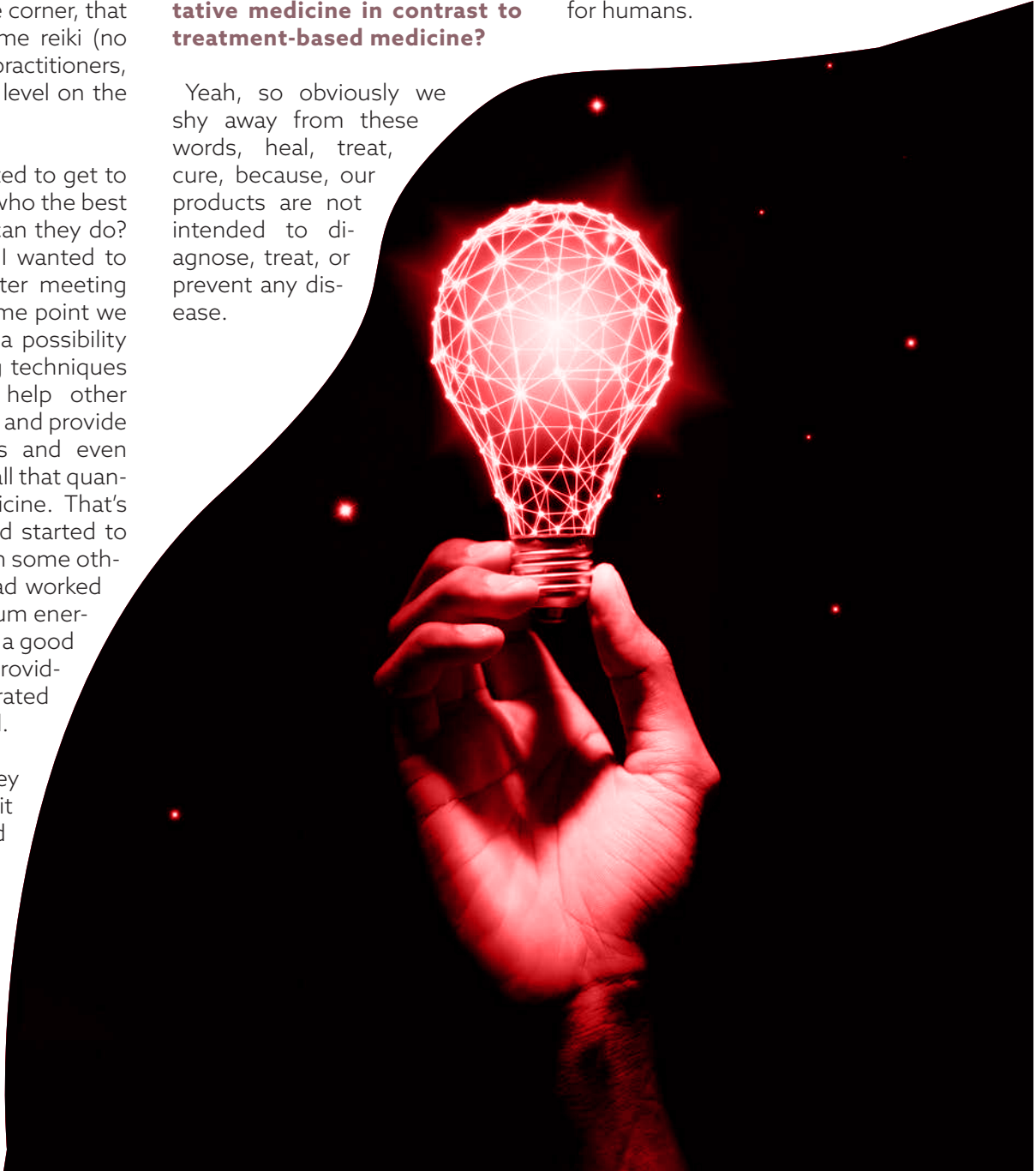
What they did is they had a tiny little bit quantum energy and then they combined it with electric brute force, or magnetic brute force, both of

which is not really pure quantum energy at all. It actually has some detrimental effects to the human body. It has some positive effect, but at the same time it has negative effects. So there's no point actually in doing that. We wanted to do a really good job. That's pretty much what we've done. We can certainly go into how we can prove what I'm claiming here is actually true.

You focused a lot on what brought you here was your desire to heal, you and your wife, and help other people through healing with your company and your product. Does Leela Quantum Tech also take that same approach with preventative medicine in contrast to treatment-based medicine?

Yeah, so obviously we shy away from these words, heal, treat, cure, because, our products are not intended to diagnose, treat, or prevent any disease.

But at the same time, yes, people use the products, for just their regular wellness and health, to get better, to feel better, to maintain a healthy status quo, and to even take it to the next level. Then obviously, yes, there are lots of people that have issues and then they use our technology with great success. However, we don't promote it as such, and we don't ever talk about a specific disease or health condition. We look at it more broadly, frankly, because the whole system actually gets optimized by using the technology, and that's really what happens with it. That's what a lot of people use it for. But you know, frankly, you can use it for your pets, for your plants as well. So it's not just for humans.





I must say one thing. So we've witnessed specifically over the last two years the amount of people, the percentage of those that open up to the statement that there's energy behind matter, and that we also have to look at that aspect and not just the material, the physical. Dave Asprey just recently posted somewhere about how it's so important to look at the right supplements, to do things like ice baths and whatever you can do for your physical body, but that none of that is actually complete if you ignore your spirit and your . That actually plays a really big role.

That's, that's where our technology comes in because it works on the subatomic level. We are energy and frequency. That's what we are. We find ourselves here now in this physical reality, but still, the energy is always behind it, and the energy's always first. There's never matter first, ever. Since we are able to positively influence the energetics on the subatomic level, it then also

ripples through into the physical. That's why you have some amazing results like that. The blood suddenly optimizes significantly within just 10 minutes, the heart rate variability improves, and on and on and on. We can get into that more, of course, but it starts with the energetics. You don't get any disease if you don't have a resonance in your energetic field for that.

That's a hard concept for people to understand. So if you can balance out and optimize your energetic field, your consciousness field, then you are going to be also physically more in balance, and it actually can be measured. So what I'm telling you here sounds woo woo, but all of this can actually be measured. There have been multiple studies from various institutes and doctors' offices across three different continents now. So that's the fascinating part. It appears out there, but only because it is cutting-edge stuff.

There's actually, an Alfred C. Clark, who had written in his

book in 1962. "Any sufficiently advanced technology is indistinguishable from magic." I find that a pretty good quote, frankly. That's how it is. Just think of the first mobile phone, the first smartphone. Think of when the internet came out. It didn't have all the applications at first, so a lot of people didn't understand it for several years. So it's just when something is really cutting-edge and you've never heard of it, then it's new, it's odd, but hey, you know get into it more and learn more, be curious, and then you'll understand it.

So going into how this helps people and how we're seeing these effects of changes in their frequencies and balance, what is the way that the power is transferring from your products or even from the healers to the person that is seeing these positive effects of balance? What is the power source, so to speak?

Yeah, for the pure quantum energy for our block technology, it's really the blocks themselves because they are charged in a specific way. They contain a highly concentrated, multidimensional quantum energy space. It's not plugged in because it's non-electric, but think of it like you have a device and then you plug it in. It's just the analogy; we charge the plates and then you assemble it and then it works. It's just different because it's not electric. The original source of that is the natural the quantum energy, frankly. So we're not talking about anything artificial. It actually could not be any more natural. It's the most natural and fundamental energy that we're talking about.

It's the energy that we have in all of our cells. It's just that we're not pulling it from the cells. We're basically pulling it from the ether. Now that's probably putting some people off because the ether has been removed from the scientific mainstream concept, but unfortunately when that started to happen, science or mainstream science started to go downhill, from many people's perspectives, and I think it has moved away further from the truth. But whether you call it ether or something else, that's where we're originally pulling it from and we're able to concentrate it. Now, the healers really come in with specific frequencies, and that's a little bit different because on one hand we have this quantum technology, the block technology that provides this pure natural quantum energy field, but the frequency is sort of neutral.

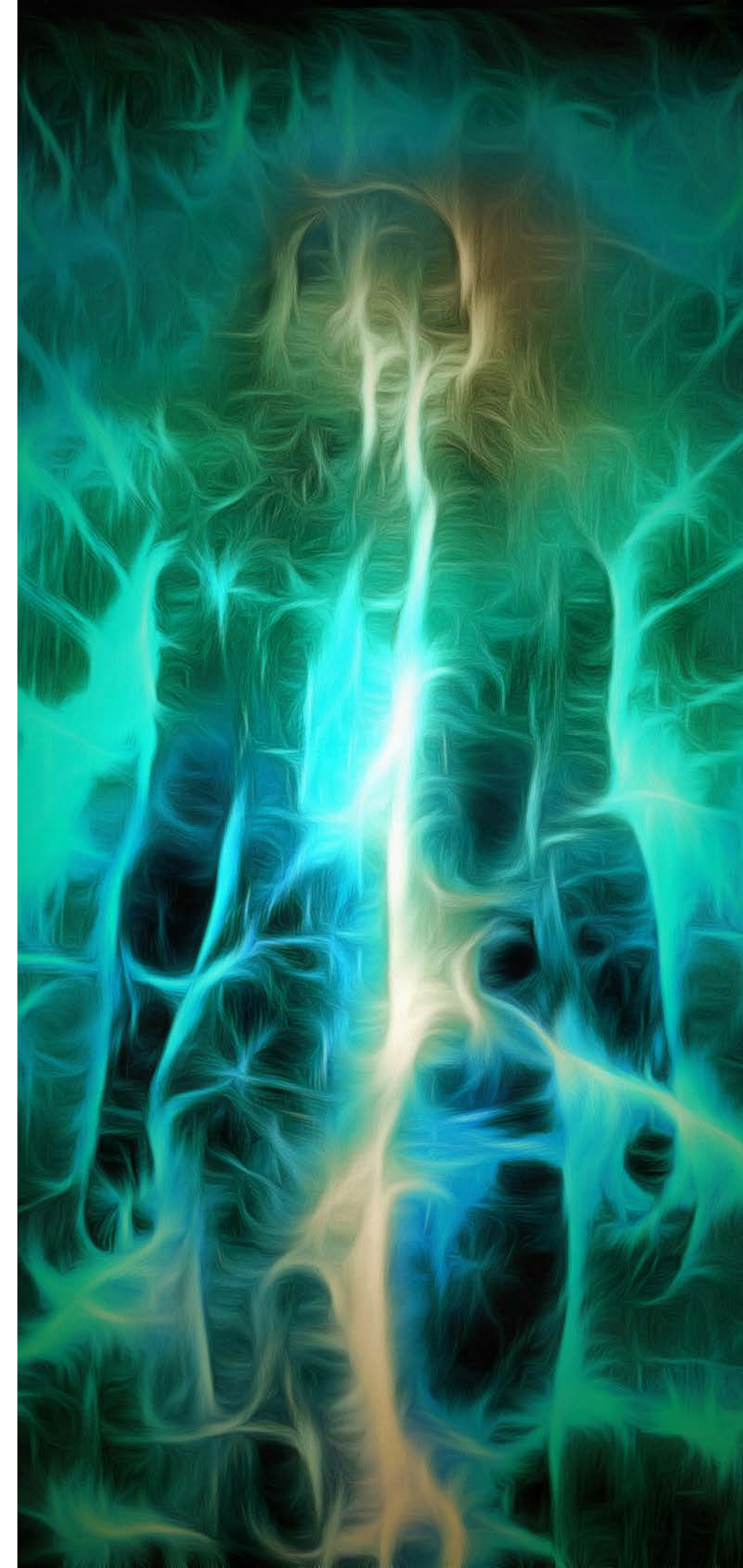
So there's no specific frequency added to it, but we develop specific frequencies for various use cases. I like to give the example of the inner peace card. It's a frequency card that if you hold it emits a frequency that we



call the inner peace frequency, which activates your inner peace within you. It's this aspect of absolute balance and connection with yourself, the feeling of being content and calm and in balance. That's how we describe or define the inner peace. So it does help people that are in a state of fear or anxiety, stress, panic attacks, etc. What happens if you're in this state of fear, or stress, your energetic system starts to cramp.

You can often physically see that people can even feel that, but then they don't know how to counter that because they're shutting off. The card helps with these impulses to counter that and find that space again that you can then expand from. And then suddenly things relax and you can invite in the math knowledge knew but couldn't access before because of the stress for this test. Now because you're relaxing again, you're inviting it back in. That's pretty much how it works. These frequencies we developed together with the healers, but we also work with molecular frequencies. So literally those would be frequencies from specific supplements like our heal frequency, that is actually a combination of some of the frequencies that come from our healers as well as the most important frequencies of minerals and vitamins and organic plant extracts for the human body.

Because those frequencies, we can also embed into basically any object with our technology. Then if you wear that, you have that information available. Frequency is pretty much information; you can, exchange these terms, pretty much all the time. So, what happens if you take a vitamin C pill, for example, it's a physical substance, but what ends up in the core of the cell is not, a physical part. It's actually the informa-



tion of the vitamin C, that is what ends up in the core of the cell. You can bypass that on a frequency level by not using a physical substance, but by providing the exact frequency on a frequency level. That's as simple as it can be. It's absolutely possible. I would say we're not quite there yet to completely move to that.

We have about 5 to 10% of the people that can do that we know of. They can completely leave out supplements and they still maintain optimal vitamin and mineral levels, which is quite fantastic. The vast majority of those still takes physical supplements but by using also these frequencies, they can actually use less supplements. Then when they take them, they're actually more effective because what happens is that the cells can leverage the physical substance much more than without having the frequency actually available. So it's as if the bio availability increases.

How do we measure these frequencies in order to inject them using your quantum energy tech products? How do you measure and identify those frequencies to a point where you can charge something, some type of element, some type of product, and then embed that or transfer that to the person?

Yeah. So, a regular person cannot do that, and there's no scientific tool yet that can actually measure it. We probably will be there in 10 years or so where you can start measuring these things, but right now people can test it, and then you can see the physical results. So that's very easy to prove because you can literally do multiple tests. For example, if you take an infinity block, there's no physical instrument yet that we know of at least that can measure

the concentration of the quantum energy field inside the infinity block and compare it, for example, against the concentration of the quantum block.

The quantum block has way less quantum energy concentration than the infinity block. It's about six and a half times more what the infinity block has. However, there's no physical instrument that can test that. However, now, when the Emoto Institute does testing with water, for example, you can see that the infinity block works way quicker in structuring the water than the quantum block. By the way, with the quantum block, they tested within three minutes, and it, structured and optimized water better than any other device they've ever

tested or method. The Emoto Institute in Japan is now exclusively importing Leela Quantum products to Japan and making it available to the Japanese population, which they have never done in their several decade long history. That speaks more than just a test because they see what these products do.

So, so you can test these results, right? You can put your hands in there, and later you can actually see the impact on your blood. You can even see that in real time because there's a method called dark field microscopy or lifeblood analysis, where you can see your blood cells in real time and you can introduce things like wifi or 5G routers and things like that. And then you can see what

happens to your blood. It's actually scary what happens, because there's significant blood clotting happening; there's paralyzing of white blood cells and all of these things. You can see all of that easily. Then once you introduce the infinity block that you cannot measure with a physical instrument, then you suddenly see how the blood changes rapidly and significantly in a way that's almost unbelievable.

It happens each and every time in 100% of the cases. There have been so far five different randomized single blind and double blind studies in regards to the blocks and their effect on the blood. In 100% of the cases there were significant positive changes across the board, across everything that

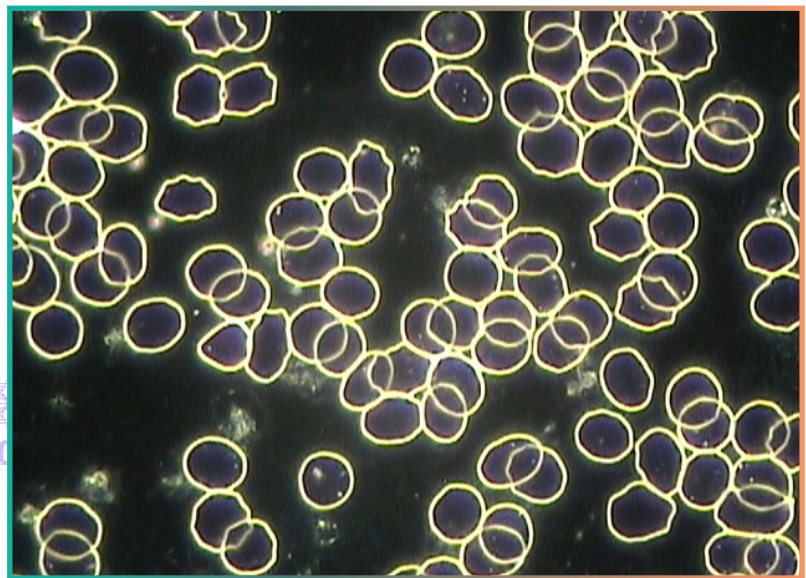
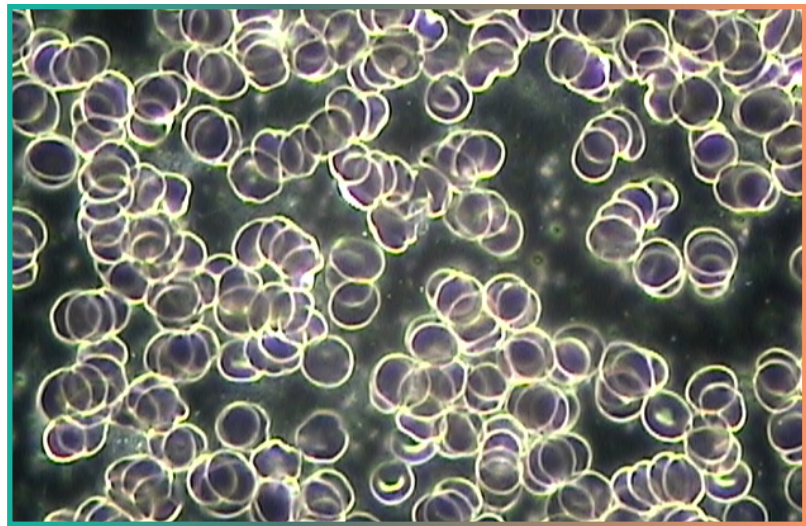
LIFE BLOOD ANALYSIS

These photos are taken from a test subject and are representative of the incredible blood improvements seen in minutes in all of the placebo-controlled double-blind and single-blond study.

Right: Before (Baseline) Without Wifi

Bottom Left: With Exposure to Wifi

Bottom Right: Wifi Still on but with Leela Quantum Block



you can see in the blood, whether white blood cells, red blood cells, stage one & stage two of blood clotting was reversed, white blood cell activity & motility increased. Now in the latest studies, they even found that the parasitic load was significantly decreased and even cholesterol levels. So this is quite fundamental and quite amazing.

Right. So going back to that, um, if someone is using this for their body to optimize their health and they're using the quantum blocks or the Infinity blocks that you guys make, I guess my question is how do you know what frequency to charge the cube to without referencing a measurement of what the optimal frequency is for a certain case?

Yeah, so we don't charge the quantum blocks or infinity blocks with any specific frequencies. There's just pure natural quantum energy in them. The frequencies come in with various versions of our products, like the heal capsule or the frequency cards. Again, that is beyond a normal person's capability. I must add though, that everyone has this ability to learn that, but that it takes significant training and experience. If you want to be a Wimbledon champion in tennis, you have to train for a very long time and very hard in order to achieve that. We're working with Wimbledon champions here in the energetics world.

I understand. Okay. When you were talking about how the water is optimized by these quantum blocks I think what is it about the water that becomes optimized? Is it the charge? Is it an ion change or does the hydrogen, become more like protium or do you have any specifics there when you mentioned the optimization of water?

Yeah, that's a good question. I should probably learn more about that myself. I have someone like Ian Mitchell with me right now who could get way more into the scientific details of that. I can just tell you that it gets structured, optimized. You have life water then and you have water that can be absolutely optimally leveraged by the cells and can actually be used. So it definitely is way more hydrating because a lot of the water that we drink is actually sort of like dead water or it's water that



we can't really absorb. So that all changes and for people that may be familiar with Emoto Institute and their work, they've shown that from the control water that had just one beautiful crystal in there, the quantum block was able to change that to five beautiful crystals in only three minutes.

Speaking about the water structuring, there's another method, called Mass Spectrometry or something like that. I'm also not too familiar with this method, but it's a very common method

used in chemistry. Ian Mitchell teaches that at a university and he has a big lab. So he found out that you can also show literally each time that the curve is different when you charge a physical substance with one of the blocks. Then you would think that you have exactly the same substance afterwards, but no, the molecular structure actually changes and they can measure that. There's a lot of stuff, and there's a lot of stuff coming where you can measure the effects.

So given the benefits and detriments of some EMF, wifi, 5G, etc., can we live with both progressive technology and also with quantum energy? Or does one have to trump the other?

Well, we can definitely live with the electromagnetic fields. Obviously it's something unnatural. It's something that is human created and has come with a lot of issues and problems. You can just look at overall graphs of autoimmune diseases and things like that. It started with wifi and cell phones and all of that. You can see how that just goes through the roof and you can go on and on and on. There's a lot of detrimental effects on the physical body, but not only on the physical but on the energetics as well. Frankly it not only impacts us humans, but also pets, animals, and plants as well.

So from that sole standpoint, it's really not a good thing. But obviously, because I had worked for T-Mobile, I know that side of the house very well, and I certainly know it as a consumer as well. Can you imagine if we shut down all the wifi and all the EMF and all put away our cell phones now, and then we go back to the time how it was like a hundred years ago when weren't using that technology? No, it's not



practical. It just wouldn't happen. I don't see it as a possibility to be honest. What I see as a possibility is that we invent something in the future that is actually positive and has the same benefits. I don't want to go too far here because there's some things that we know that we haven't shared yet, but there's a place for our technology to actually play a role in that to reduce or completely eliminate harmful radiation.

So, if we can have benefits from using all the internet, phones, etc., then when we can have a technology that neutralizes its harmful effects, then where's the problem, right? Then you have the benefits with no downside and that's what we think is. Its the way to go. I'm glad that technologies like ours can actually help with that because it is a factor. It is important. EMF shouldn't be ignored. It's hard to find anything on Google about that. But, that

doesn't mean that there's not significant evidence in regards to that. I've seen it firsthand. I know quite a lot about this topic.

Are there powers at hand that necessarily don't want any bad information about EMF or wifi to get out and is that something that you are seeing the effects when you're trying to spread your company and your message around?

Yeah. It is obvious. We can just literally just state the obvious and no one needs to get into conspiracy theories or something like that. It's just a fact that certain interest groups are out there and that's just the way it is. And we don't have to be too frustrated about it, as long as we acknowledge it and are aware of it. Then we can take our own action, I think that's the healthy way to deal with that. If we're just frustrated about something and talk

bad about it and don't do anything, that's really not helpful. But yeah, certainly there are big industries behind it and the cell phone industry is huge.

It's absolutely massive. Actually the whole telecom industry is bigger than the pharma industry, and those are both very big industries and they have their interests and they also provide positive things, right? There are certain things, certain pain medications that in some cases come in handy. So it's not always bad. It's the same with the telecom industry and if we can just try to make the best of both worlds together and be aware of it, I think then we're at a good place.

So it appears that we're still in the very early stages of this technology, and you mentioned a little earlier some futuristic things that you're trying to bring out to the fore-



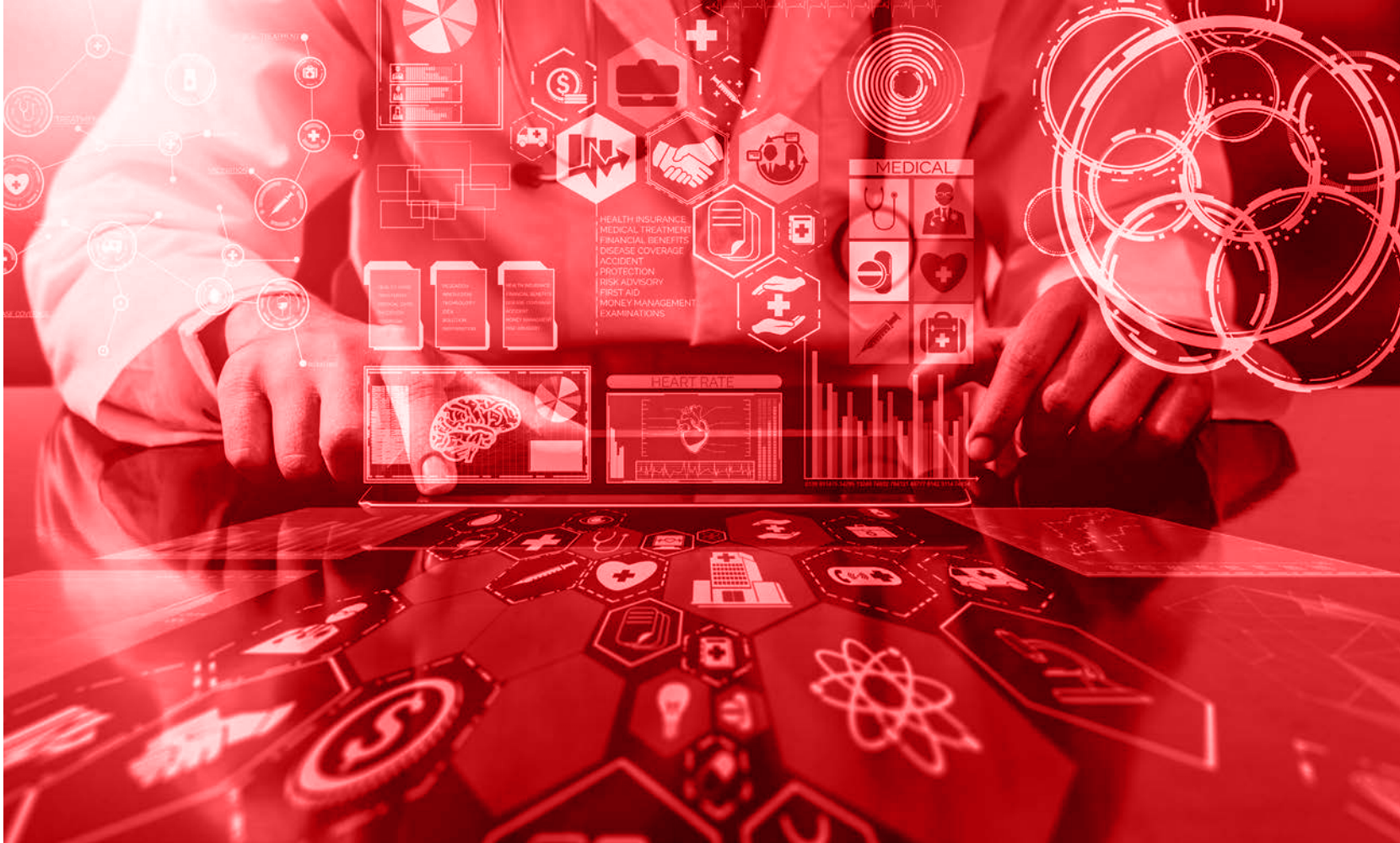


front as well. Where do you see your company going in the next few years? And is your goal to have every common, everyday household harboring a quantum block or an infinity block? What about hospitals or and the rest of society in relation to your products and your brand?

So for us the sale of the product is secondary. We don't have such goals that it should be in this many households or in all of our households. That's a secondary thing for us. The mission is that we want to help the people, the pets and the plants to advance, to be healthier and to be in a better state. For me personally, regarding the consciousness aspect is also a big deal. If more people could raise their consciousness, that's really the way out of a lot of the mess that humanity is in and has been in because in the end it's ultimately all about consciousness levels.

People may have heard about the book, 'Power Versus Force' by Dr. David Hawkins. He was a genius. He wrote the book maybe 20 years ago. It's also available as an audio, by the way. So he set this scale of consciousness levels and defined them on a scale from zero to 1000. In the very low levels you have things like greed and guilt and anger and all these things. Then at the 500 level, there's unconditional love and then it goes higher. You can calibrate our product on the Hawkins scale. So people can actually test that and see where our products calibrate. We've actually found a way to provide specific levels on the Hawkins' scale.

There's no other product line on earth anywhere publicly available that ranks so high on the Hawkins' scale like our products. They have an impact because



you can increase your consciousness level with the products in a faster and easier manner besides all the physical. That's all amazing. I love that, but helping with the overall consciousness is just a great thing. The vast majority of the people today are probably still very physically oriented. But we believe in the narrative that there's nothing like energy. Now people waking up suddenly to the fact that there is an inner voice that actually telling them that all they are is energy. Then suddenly this world opens up for them.

It's big, it's massive and it's absolutely wonderful. If that happens with people, that makes my day. If we can help with that as well as the physical aspects to help improve people's lives, that's what we're here for. That's why we're doing it. Then if it's necessary that further blocks are needed to neutralize EMF further and help

wake more people up, then that's a great thing. That's what we're trying to do.

Well said. I am really enthusiastic about the Hawkin's scale. I've known about it and heard about it as well. I think it's mentioned in the book, 'Bridging Science and Spirit', that talks about physicist William Tiller's Regenerative Medicine and Information Medicine. Its a brilliant book. They compare a lot of the visionaries and all types of people, to see how they rank on the scale of consciousness. It's really quite fascinating. But there's really such an amazing new consciousness emerging where people are focusing more on this science and this spirit, while not opposing each other, but working together. I like talking with people such as yourself that mention this hierarchal way of going about

producing and treating medicine and focusing on that spirit and having that trickle down effect.

Thank you. I appreciate that. I appreciate frankly everyone, out there that is a scientist and has this open mind and does what scientists are actually here for; to observe, to discover, and then to see why that is, to find out more. If there's something new that we can't explain, let's go dig in. Let's find out more about it. We have many scientists that actually are a part of our telegram community that has over 5,000 active members. They're all discovering, they're all testing, they're all sharing and they're all curious. There are people like Ian Mitchell, of course, that are even way deeper in this topic. But then you find there's one line of scientists that are like completely mainstream and completely just within their



five senses, and they live in a box. They literally live and think in a box, and nothing outside of that box is what they even look at, right?

It's just a little bit sad to see, but it is what it is, and we don't need to literally engage with these types of scientists. We also don't have to convince anyone, frankly. I mean, I don't even make an effort to convince anybody because I think I cannot even convince anyone. People cannot be convinced of anything - they need to find out for themselves, right? They need to experience and see for themselves, and we can provide information and we can provide access to other people that can talk about it.

Yeah. Experience is the best way to get to that increased level of understanding of something that is unknown. Philip, can you share some last words to introduce any certain areas where people can follow you or where they can they get involved, and see your main product line as well as your mission and everything goes along with Leela, Quantum Tech?

Yeah. Thank you so much for having me on. If you want to look at our website, leelaq.com and there's this telegram group that I mentioned if you're interested in this topic and hearing from other people, then you can join. It's a private group, but we'll make the link available to you. Then there's always the question, 'Okay, so what's a good product to start out with in terms of the Leela Quantum Tech products?' The blocks are not cheap. They're very cheap for what they do, if you think about it. But it's a price tag. So to start, I would recommend the heal capsule.

That's the way to get started really and to start feeling this ener-

gy and to see what it can do for you. That's quite affordable. We even have a four pack that's a family pack for \$295 that you can get on the website. In this telegram group you can also find me there. So you could even click on my icon and message me personally if you're interested, but please don't just message me because I get so many messages. I used to answer within two days and now it's up to like five to 10 days, but I always answer.

I also want to mention a couple of months ago, we launched the Quantum Upgrade that is based on our technology that we further advanced and enhanced. It is working purely off quantum entanglement. It's quantum upgrade.io. Even though that may blow your mind how this can work, you can actually sign up for a seven day free trial. That's a great way of finding out more about the energy that you can expect with the products and the service, because it's not just the products, it's the services as well.

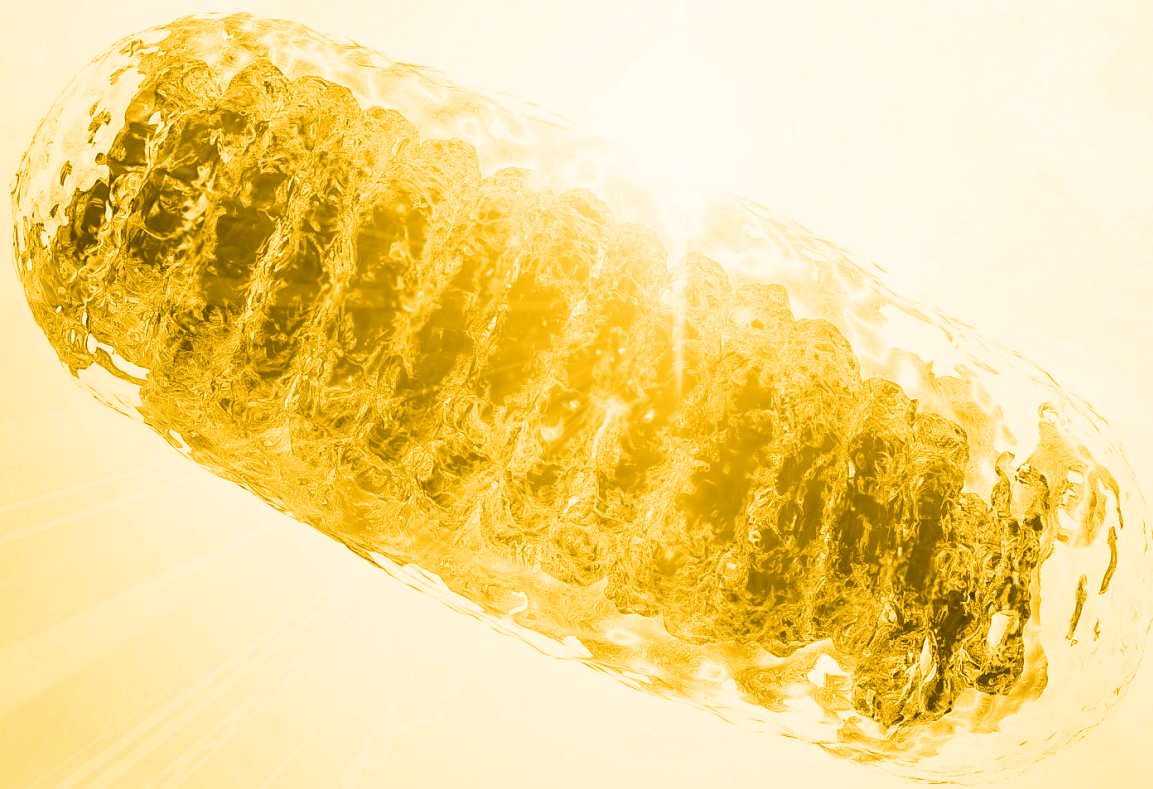


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WHAT IS NAD + AND HOW TO BOOST IT?



*This article was originally published on the [Biohacker Center website](#) and we were given permission to re-publish it here.

This is an excerpt of the forth-coming massive sequel to Biohacker's Handbook -> the Resilient Being Book. [You can pre-order the book now and get a handful of benefits with it as well!](#)

Nicotinamide adenine dinucleotide (NAD⁺/NADH)

NAD was first discovered during yeast fermentation. Since its discovery, it has been found that NAD (nicotinamide adenine dinucleotide) is a major cofactor that partakes in virtually all cellular reactions. These include DNA repair, immune system function, ATP production and circadian clock function. NAD⁺ promotes energy production and enables cells to work properly. *Dysregulation of the NAD⁺ levels has been associated with metabolic diseases and aging-related diseases, including neurodegeneration, defective immune responses, and cancer.*

NAD has two forms - NAD⁺ and NADH, which both command electron transfer reactions:

- NAD⁺ is an oxidizing agent that picks up electrons from other molecules and thus becomes reduced
- NADH is a reducing agent that forms from reduced NAD⁺ and is then used to donate electrons to other molecules, thus becoming NAD⁺ again
- Electrons of NADH can store energy which gets converted into ATP in the mitochondria during a process called oxidative phosphorylation in the mitochondria (see [Biohacker's Handbook's Exercise chapter](#) for more information)

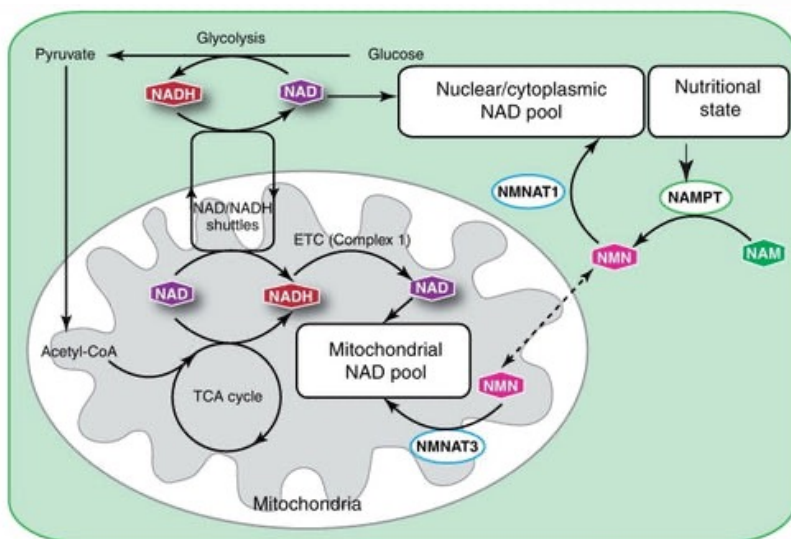


Image: Maintenance of the mitochondrial NAD pool.

Source: Stein, L. & Imai, S. (2012). *The dynamic regulation of NAD metabolism in mitochondria. Trends in Endocrinology and Metabolism* 23 (9): 420-428.

Introduction to NAD+

Ideally, NAD⁺ is in a homeostatic status of biosynthesis, consumption, recycling and degradation at both cellular and systemic levels. Human cells can synthesize NAD⁺ de novo from tryptophan by the kynurenine pathway or from nicotinic acid (NA) by the Preiss-Handler pathway. However, most NAD⁺ is recycled from nicotinamide (NAM), NA, nicotinamide riboside (NR) and nicotinamide mononucleotide (NMN) in the salvage pathway to maintain the cellular NAD⁺ levels. NAD⁺ can be reduced into NADH in various metabolic processes, including glycolysis, fatty acid oxidation and the Krebs cycle.

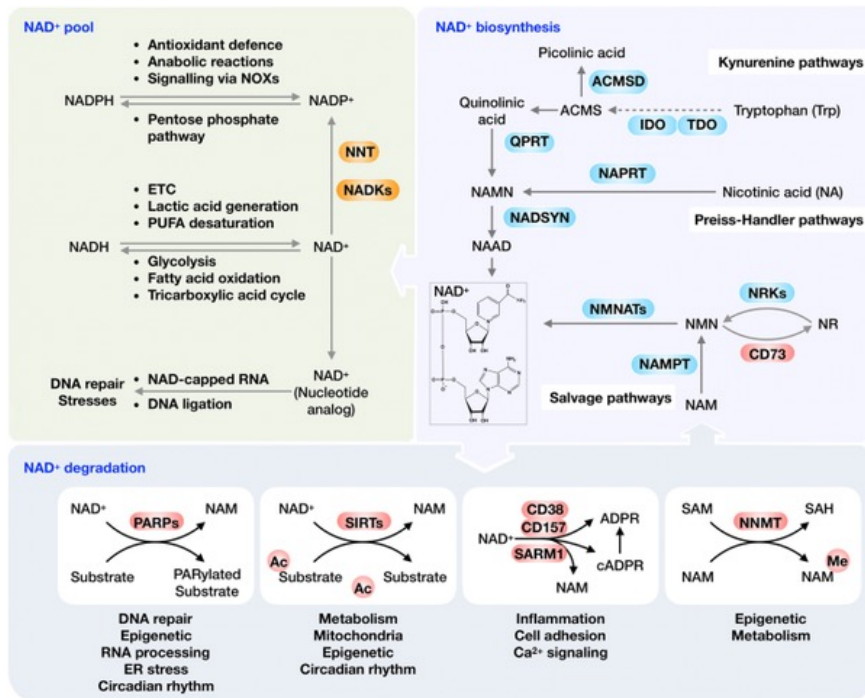


Image: Overview of the NAD⁺ metabolism and its physiological function.

Source: Xie, N. et al. (2020). *NAD⁺ metabolism: pathophysiologic mechanisms and therapeutic potential*. *Signal Transduction and Targeted Therapy* 5 (1): 1–37.

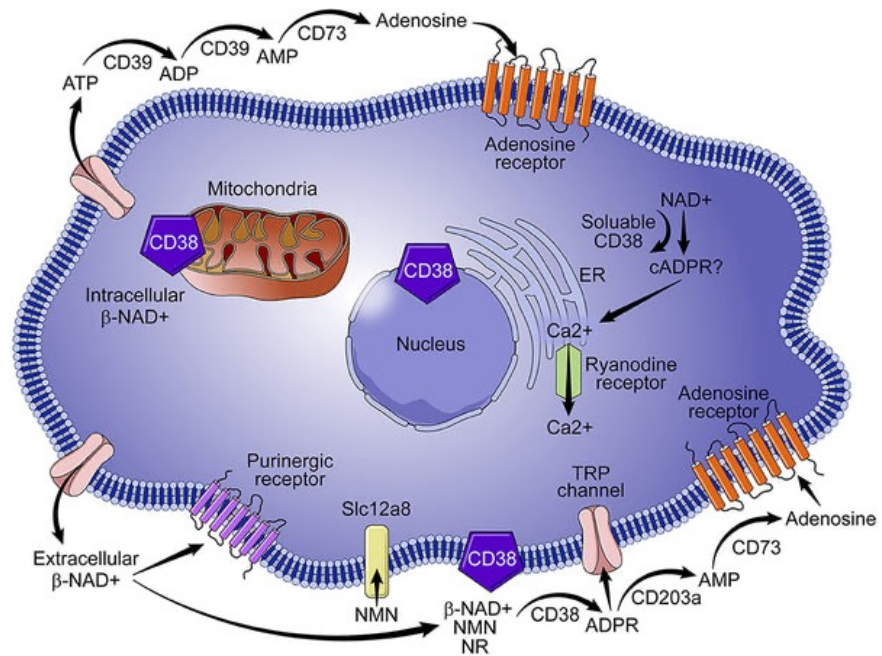
As a co-substrate important to various fundamental macromolecules, NAD⁺ can be cleaved by NAD⁺-consuming enzymes. These include PARPs, sirtuins, CD38 and SARM1 to generate NAM and ADP-ribose (see image). Under normal homeostatic conditions, CD38 is expressed at low levels, whereas rising expression of CD38 with aging plays a vital role in age-associated NAD⁺ reduction. This notion is confirmed by the observation that PARP1 and CD38 inhibition effectively increases total NAD⁺ availability, leading to SIRT1 activation.

A decrease in NAD⁺ levels, based on recent science, is associated with aging. It is common that NAD⁺ levels drop to less than half after the age of 60 compared to levels in your twenties. The big question is why NAD⁺ levels decline in the first place. There have been a couple of theories on this one, but the latest and most supported theory is that NAD⁺ levels decline with age because it is being destroyed by the overactivity of a NAD⁺-consuming enzyme CD38. Low NAD⁺ status is also known to inhibit the body's immune system and natural defense mechanisms.

CD38, also known as cyclic ADP ribose hydrolase is a glycoprotein found on the surface of many immune cells (white cells in particular) including B lymphocytes, natural killer cells, CD4⁺ and CD8. Usually, more inflammation results in higher CD38 expression, which then depletes NAD⁺. Therefore, controlling low-grade inflammation and inflammation in general, is the best way to minimize NAD⁺ loss due to aging.

Image: Role of CD38 in NAD⁺ metabolism.

Source: Hogan, K. & Chini, C. & Chini, E. (2019). The multi-faceted ecto-enzyme CD38: roles in immunomodulation, cancer, aging, and metabolic diseases. *Frontiers in Immunology* 10: 1187.



NAD⁺ alleviates oxidative damage caused by viral and bacterial infections

Viral infections and infections in general, cause oxidative stress in host cells (e.g. human cells). Hence, oxidative stress is considered a pathogenic factor in viral infections. The increased cellular reactive oxygen species by viral infection causes for example DNA damage, gene mutation, cell death, viral DNA integration and tumorigenesis. To repair the oxidative stress-induced DNA damage, a large amount of NAD⁺ is needed and consumed by elevated PARPs in response to virus infection.

Sirtuins are another class of NAD⁺ consuming enzymes, which have broad-range antiviral properties on diverse viruses (including HIV-1, HCMB, H1N1 and HCV). CD38 is the third NAD⁺ consuming enzyme that is over-expressed in response to multiple viral infections. CD38 deficiency

results in an increased predisposition to several pathogens.

Bacterial infections also induce rapid production of intracellular reactive oxygen species (ROS) either by NADPH oxidases (NOXs) or mitochondria that are essential for macrophages to clear out bacteria. NAD⁺/NADH exerts the bactericidal activity by promoting the ROS generation, the pro-inflammatory response and the anti-infection autophagy. This beneficial and natural metabolic process needs well-functioning

NAD⁺ metabolism and optimal levels of NAD⁺ to function properly. Elimination of the ROS results in defective bactericidal (bacteria-killing) activity, allowing bacteria to survive and repeatedly colonize various tissue sites.

This is the reason why using too many antioxidants all the time is not beneficial for the immune system. The key here for optimal homeostasis is to have a balance between oxidative stress and antioxidant capacity.

Emerging evidence supports

the hypothesis that the CD38 and products controlled by the CD38/NAD⁺ axis may play significant roles in the pathogenesis of SARS-CoV-2 infection. Over expression of CD38 in COVID-19 causes cell death mainly by depletion of NAD⁺. Oral administration of NAD⁺ precursors (NR, NAM, and NMN) seems to be the most effective approach to replenishing NAD⁺ levels (see later). Of these NAD⁺ precursors, NR (supplemented 1 gram per day) has anti-inflammatory effects in different disease conditions. Current scientific evidence seems to confirm that key events of the biosynthesis and consumption of NAD⁺ play significant roles in the antiviral immune response. Increasing NAD⁺ levels by modulating the biosynthetic pathways or by reducing NAD⁺ consumption may help control the hyperimmune response to SARS-CoV-2 infection.

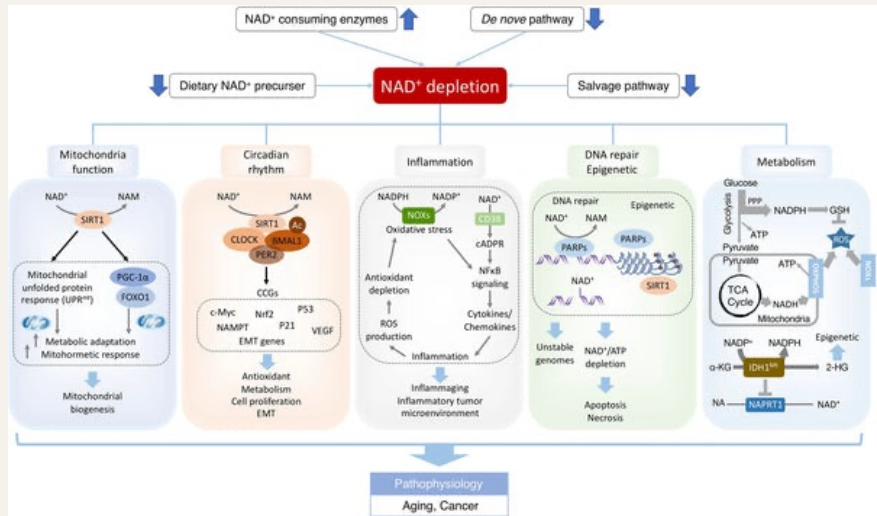


Image: NAD⁺ deficits in aging-associated dysfunction and cancer.

Source: Xie, N. et al. (2020). NAD⁺ metabolism: pathophysiologic mechanisms and therapeutic potential. *Signal Transduction and Targeted Therapy* 5 (1): 1-37.

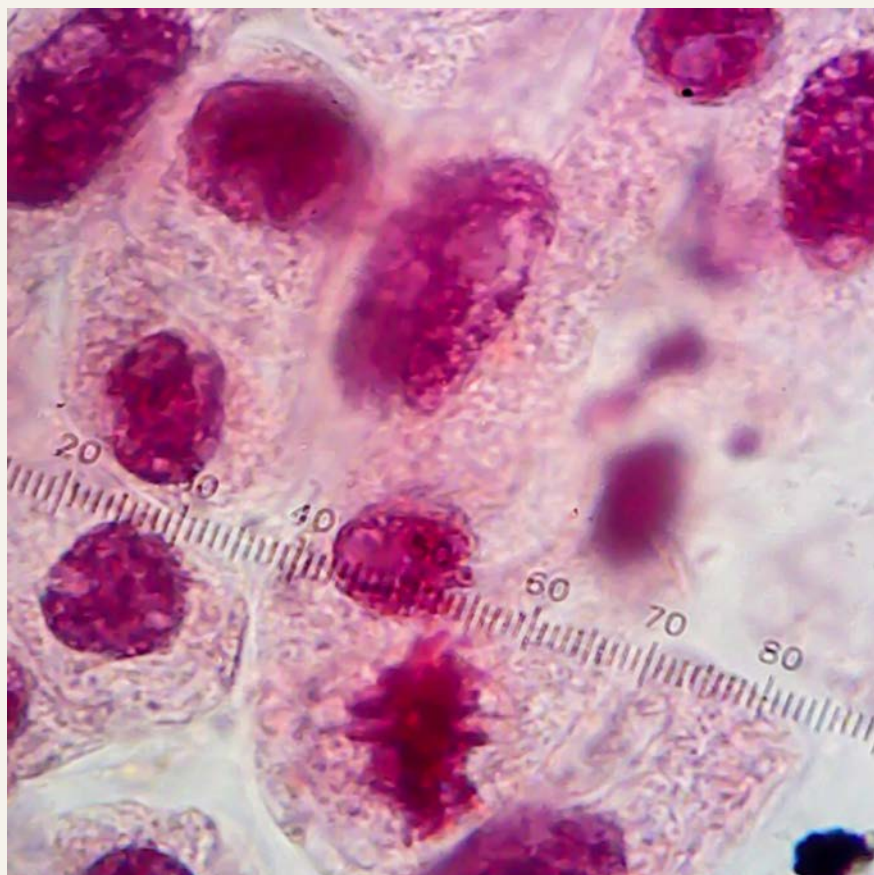
Lifestyle factors that decrease NAD⁺ levels:

- Circadian rhythm mismatches
- Chronic inflammation and oxidative stress
- Constant caloric surplus (eating too much all the time) – higher NADH, lower NAD⁺
- Elevated blood sugar and insulin levels
- Chronic alcohol use

Possible consequences of NAD⁺ deficiency:

- Impaired immune system function
- Accelerated aging
- Mitochondrial dysfunction
- Disturbed circadian clocks (with aging)
- Increased carcinogenesis and risk for cancer
- Increased risk for insulin resistance and the development of diabetes
- Increased risk for obesity

- Increased risk for non-alcoholic fatty liver disease
- Increased risk for neurodegenerative disorders
- Increased risk for heart & kidney failure

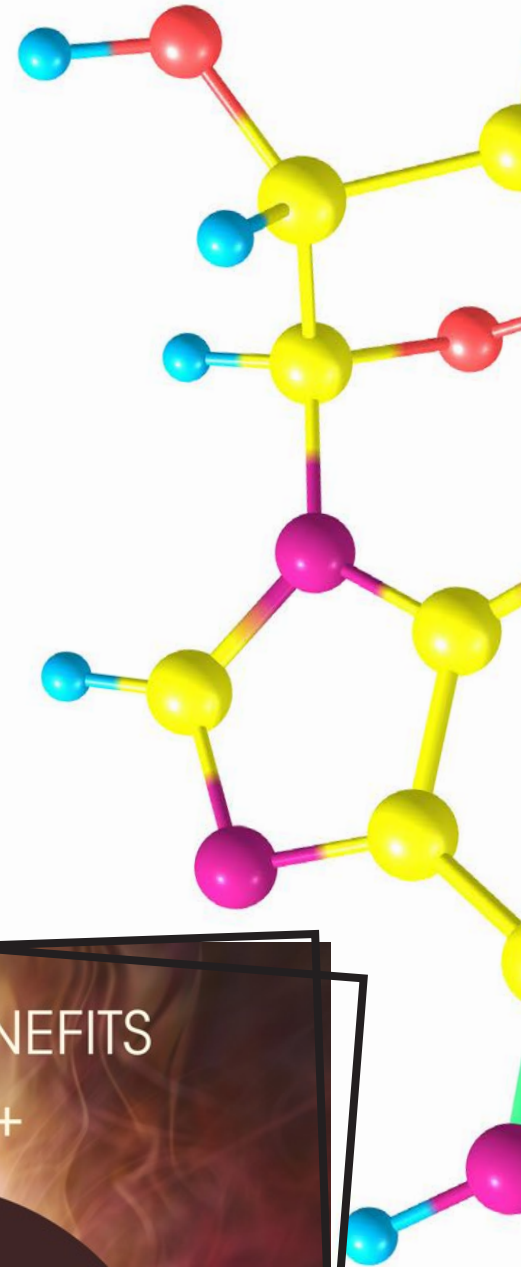


Best ways to increase NAD+ levels in the body:

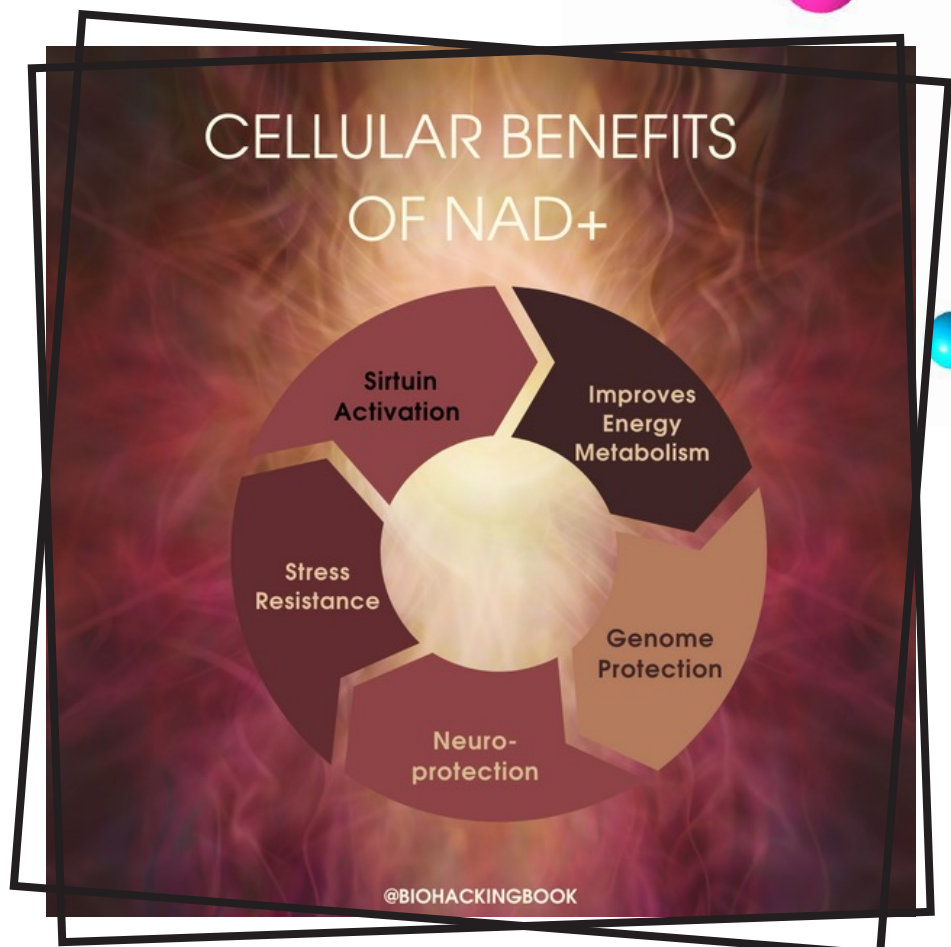
In general, intracellular NAD+ levels are maintained between 0.2 and 0.5mM, depending on the cell type or tissue. However, the concentration and distribution of NAD+ can fluctuate in response to diverse physiological stimuli and cellular stresses.

- Practice regular (intermittent) fasting and caloric restriction (read more [here](#))
- Activate ketogenesis in the body and have regular glucose restriction periods
- Exercise regularly
- Practice heat alteration (read more [here](#))
- **Best food sources of NAD+ precursors include:**
 - Raw and fermented dairy (high in NR)

- Fatty fish such as salmon, sardines, trout and mackerel (high in niacin)
- Reindeer, beef and chicken liver (high in niacin)
- Pork and turkey (high in tryptophan and niacin)
- Beef (high in niacin)
- **Supplement with NAD+ precursors**
 - Nicotinamide riboside (NR): optimal dose 300 mg per day
 - Nicotinamide mononucleotide (NMN): optimal dose 250-500 mg per day
 - Liposomal dose is about 10x times smaller
 - Use with trimethyl glycine (TMG) for optimal methylation process
 - Niacinamide (NAM): optimal dose 250-500 mg per day
 - Nicotinic acid (NA): optimal dose 250-500 mg per day



There is no long-term data on the safety of continuous supplementation with NAD+ precursors, NR and NMN in particular. Having too high NAD+ levels may also cause disruptions in the NAD+/NADH homeostasis. These include circadian rhythm mismatches and based on mice studies, sleep cycle disruptions as well as deranged hunger and appetite patterns.



Physiological benefits of having high NAD⁺ in the body:

- Optimal mitochondrial functioning
- Crucial biochemical element in energy production and muscle function
 - Having enough NAD⁺ in the body prevents from muscle atrophy, fatigue and exhaustion
- Optimal brain function and prevention of neurodegeneration
- Optimal sleep-wake cycle and maintenance of natural circadian rhythms
- Protection from oxidative stress and inflammation
- Cellular survival and oxygen production
- Slowed aging and longer lifespan & healthspan via mitophagy and DNA repair (based on mice studies)
 - Decreased risk of heart disease via reversing age-related arterial dysfunction and improved overall cardiac health (based on mice studies)
 - Decreased aging of the skin



About Olli Sovijärvi, M.D



Dr Olli Sovijärvi is one of the pioneers of holistic medicine in Finland. At the beginning of his career Dr Sovijärvi worked as a medical duty officer at the Finnish Red Cross Blood Service. In 2006 he graduated from the University of Helsinki with a Licentiate degree in Medicine and became self-employed in 2008. In 2010–2011 Dr Sovijärvi completed an Integral Theory degree at the John F. Kennedy University, focusing on psychology and philosophy.

His numerous media appearances, social media articles and Finland's first health podcast have expanded the general public's awareness of what health care can be. Dr Sovijärvi has also acted as consultant to various companies and service providers operating in the fields of wellness and health technology.

At present, Sovijärvi focuses primarily on the production of scientific content for preventive health care and wellbeing.

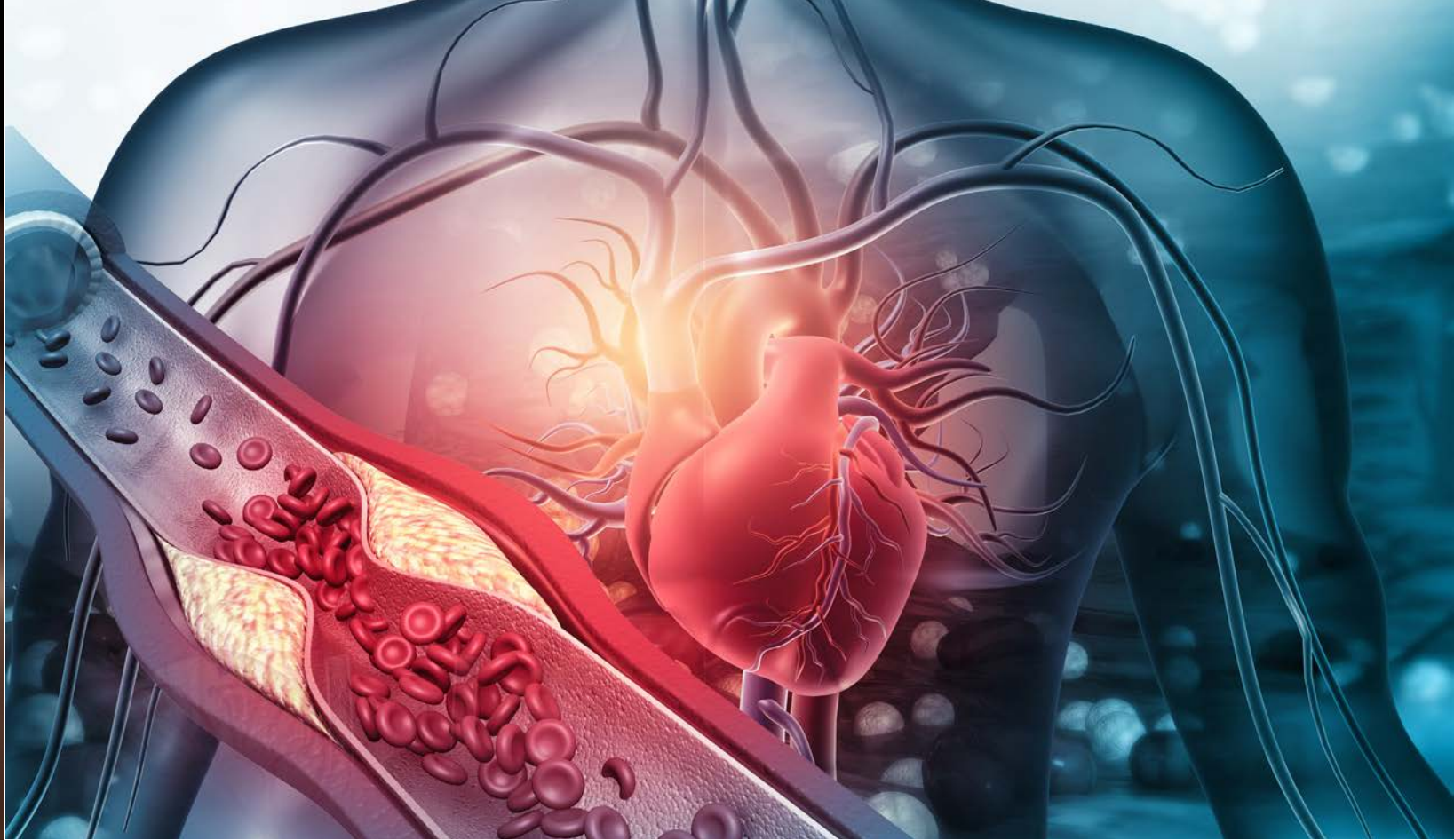
He also runs training sessions and presentations on the topics of biohacking, performance optimization, nutritional issues and maintaining the intestinal balance. In his free time he enjoys athletics, playing with his child, music and good humor.

Website: <https://shop.biohackercenter.com/>



ISOMETRIC EXERCISE AND CARDIOVASCULAR HEALTH

by Mark Young, CEO Zona Health



In the world of cardiovascular health, few things have proven to be more effective than isometric exercise. Studied by Johns Hopkins University, the Mayo Clinic, the Harvard Health Review, and countless other renowned research organizations, the connection between cardiovascular health and isometric exercise has been proven again and again – for decades.

But what is the connection, we ask? How is isometric exercise so effective? Can simply holding a static muscle contraction can have such extraordinary effects on a person's health?

Skeptics question the science, but science has proven the impact.

Let's begin with the definition of "isometric." The word "isometric" is derived from the Greek language, combining the words *isos* ("the same or equal") and *metron* ("a measure"). Literally, "equal measurement." Think of isometric exercise, then, as a

plank or a wall sit. It is holding a muscle group at an equal measurement – or equal resistance. Not pushing or pulling. Not extending or contracting. Equal. (It may sound too simple, but if you've ever done a plank for two minutes, you'll understand that it is no easy feat.)

We're all familiar with concentric exercise. That's that crunch. That's when a muscle group is contracted. And then eccentric exercise, which is the extension of the muscle group. The up and the down of a sit up. But isometric is uniquely different.

Isometric exercise provides two unique benefits to the human body, each of which has a significant impact on the cardiovascular system. The first of these is its ability to trigger a parasympathetic response in the brain.

When under duress, such as in the case of voluntary muscle contraction, the brain triggers our "fight or flight" response. As

the body senses the perceived danger (increased oxygen demand), it triggers the production of nitric oxide – specifically, the enzyme known as endothelial nitric oxide synthase (eNOS). This particular enzyme is one of the most powerful weapons the body has to fight vascular diseases, in fact.

The roughly 1014 endothelial cells of our vasculature protect us against atherosclerosis and thrombosis. However, many of us unintentionally mistreat our endothelial cells. We expose them to risk factors such as cigarette smoke, high blood pressure, high glucose, or high lipids. Despite this abuse, our endothelium bears with us for some time, tries to maintain NO \cdot production, and preserves vascular protection. However, the risk factors lead to excess production of superoxide (O $2\cdot-$; ie, oxidative stress). O $2\cdot-$ reacts with NO \cdot to form peroxynitrite, and vascular protection slowly

vanishes.

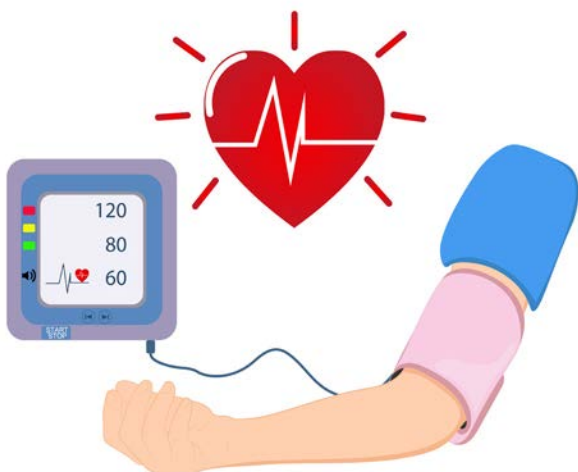
Acting as the most powerful vasodilator in the body's arsenal of self-defense mechanisms, this flow of endothelial derived Nitric Oxide acts to widen blood vessels, thus reducing the pressure which exists therein. These effects are temporary, however, and must be frequently repeated.

The second unique benefit provided by isometric exercise relates to a longer-term effect on the cardiovascular system. To better understand this benefit, however, we must first provide a primer on the function of the endothelium.

The endothelium is a thin membrane that lines the inside of the heart and blood vessels. Endothelial cells release substances that control vascular relaxation and contraction, as well as enzymes that control blood clotting, immune function, and platelet adhesion.

Endothelial dysfunction - specifically, the age-related hardening of the endothelium - has been shown to be of significance in predicting stroke and heart attacks due to the inability of the arteries to dilate fully. The dysfunction may be a result of high blood pressure, diabetes, high cholesterol, and smoking.

With this understanding of endothelial function, we must now



turn our attention to two primary electrolytes in the body: sodium and potassium. Sodium and potassium, like yin and yang, work together to maintain fluid balance in cells, blood plasma, and extracellular fluid. Potassium is found primarily inside cells, while sodium is the main electrolyte in extracellular fluid.

At a basic level, sodium and potassium must always remain at a 1:3 balance in the human body. The issue, however, for

most people is the lack of potassium intake they get from their daily diet. Thus, when potassium is lacking, it is recommended to reduce sodium intake to offset the imbalance. In contrast to commonly-accepted knowledge, high amounts of sodium are not the issue with people suffering from high blood pressure. It is actually a lack of potassium required to maintain the appropriate ratio. Maintaining that ratio is far more important



"The Zona Plus uses data and real-time feedback to teach your body to control its own blood pressure in a way that's profoundly effective, very quickly, with tons of science behind it."
 - Dave Asprey

ant than the levels of sodium or potassium themselves.

But what does this have to do with isometric exercise?

The connection lies in the way that sodium is released during that isometric exercise, differently than during aerobic exercise.

Various studies have demonstrated that during times of static muscle contraction (isometric), particularly in subjects considered hypertensive, sodium excretion levels significantly increase (for hours after exertion). As you can likely guess, this increased release of sodium forces a response from the potassium balance each cell must maintain (our 1:3 ratio).

The sodium response to isometrics creates a secondary effect, if you will, by forcing potassium release. Potassium, when released through the cardiovascular system, acts to soften the endothelium. The softened endothelium, in turn regains function.

Enter the Zona Plus.

The Zona Plus is the world's first biofeedback device which uses the science of isometric exercise to provide cardiovascular health benefits.

Assuming you have followed this complicated breadcrumb trail of physiological response, you'll understand the importance of adding a means by which you can trigger this domi-

no effect in your own body.

The Zona Plus continues to be the biohacker's choice for full-body cardiovascular conditioning. The Zona Plus uses the proven science of isometric therapy to increase nitric oxide throughout the body - naturally.

Using the science of isometrics, the Zona Plus combines hand grip exercise with a series of algorithms to trigger the body's parasympathetic response, responsible for such functions as heart rate. It is the ultimate biohack with a systemic benefit.

Try Zona Plus Risk-Free For 90 Days. Receive \$120 off today. Use code BIOHACKERS at www.zona.com



About Mark Young



With a résumé steeped in business startups and entrepreneurial ventures, Mark Young joined the Zona Health team in 2016 as the CEO with a single purpose: to make the Zona Plus a household name. To say that Young's background is diverse would be an understatement, but "one consistent thread ties it all together," he would say, "and that is a passion for education ... delivering practical solutions in a way that invites people in." And, at Zona Health, education is the key to engagement.


Although Young's credentials are impressive on their own (holding a variety of graduate degrees), he says that it is experience that matters most. Credited for the launch of previous tech startups, Young is no stranger to world of compliance, marketing, and scalable growth.

"It is our burden to provide the public with effective, scientific - and always government-compliant - solutions," he says, "healthy, natural solutions."

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ACKNOWLEDGMENTS

There is so much support behind our cause and we are eternally grateful. As a new company fresh off the block, we've had our fair share of challenges but because of all of our supporters, we've overcome them and produced, becoming more humble and stronger along the way.

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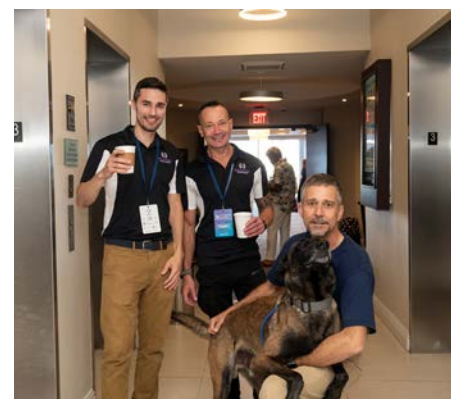
biohacking CONGRESS

Our Team recently had the chance of attending the biohacking congress in Miami and we were blown away with the groundbreaking biohacks, new-edge technology, inspiring speakers and continual camaraderie. We met so many remarkable people and truly value these connections. The biohacking congress is its own community, and it is certainly growing with the leadership of its fantastic organizers and influencers. We will definitely be at future congresses for many years to come!

biohacking CONGRESS

October 22-23, 2022

Miami





biohacking CONGRESS

Use this QR promo code to receive a 50% discount on both On-site and Live Stream tickets!

February 4-5, 2023

Austin

HealthOptimization, Longevity, Wellness

Join BiohackingCongress in Austin on February 4-5 to meet:

20+ top speakers who will share their outstanding experience

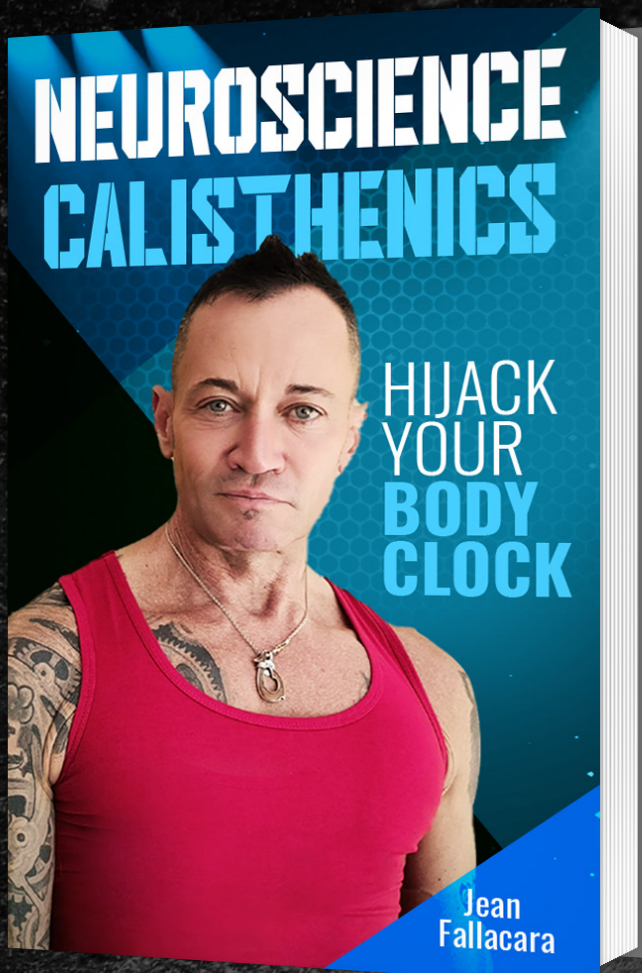
20+ selected health companies which will present their products;

500 like minded guests onsite, your friends and potential partners.



Become a part of the community!



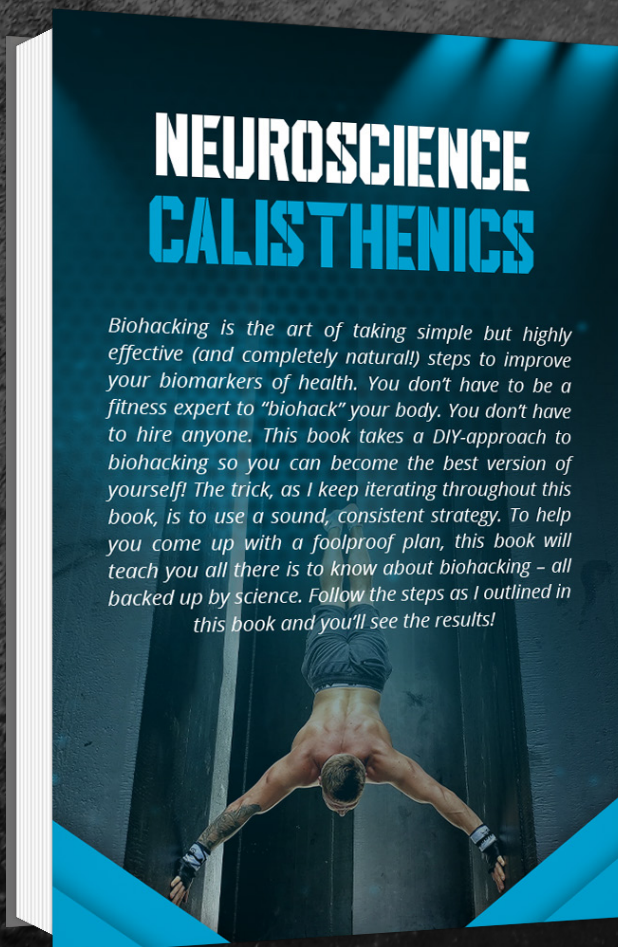


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