



SPECIAL 25th EDITION

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150: A New Epoch in Human Lifespan.

The Audacious Vision Unfolds

At the Lifespanning company, we are embarking on an unprecedented quest to redefine human existence, the aspiration of extending human life to a phenomenal 150 years emerges as a testament to the audacious advancements in science and technology. Far from being a whimsical dream, this goal is a palpable reality, forged at the intersection of groundbreaking biotechnological, genetic breakthroughs, and an enriched understanding of human potential.

The odyssey to a 150-year human lifespan is deeply anchored in the evolving landscape of science and technology. Groundbreaking innovations in genetics, especially the revolutionary gene-editing technologies like CRISPR, have unlocked realms previously relegated to the annals of science fiction. Coupled with strides in stem cell research and regenerative medicine, these developments promise not just life extension but a transformation in life quality, combatting age-related afflictions.

Artificial Intelligence and machine learning are revolutionizing healthcare. The emergence of predictive health analytics, bespoke medicine, and advanced monitoring via sophisticated wearables are not just futuristic ideas but current realities reshaping our health and aging paradigms. The science is emerging as a front runner in the realm of wellness and longevity.

However, the pursuit of a 150-year lifespan transcends mere scientific accomplishment; it represents a profound philosophical and ethical journey. This endeavor is about enriching life's quality within those added years, prompting a reevaluation of our perspectives on aging, life, and the human condition. Ethical considerations are vital, ensuring this pursuit of extended longevity is balanced with life quality enhancement and societal implications.

Achieving longevity is not only a matter of physical health. Mental wellness, social bonds, and environmental influences are equally pivotal. A comprehensive approach that includes mental health, nurturing communities, and a sustainable environment is crucial to realizing this ambitious lifespan target.

We must continue to strive for all advancements in longevity to be universally accessible, not a privilege for a select few. Ensuring equitable access to life-extending technologies and healthcare is imperative. This vision encompasses a world where the blessings of increased lifespan are available globally, bridging geographical, socio-economic, and cultural divides.

The path to a 150-year lifespan is a multidimensional odyssey, merging scientific innovation with an acute awareness of the human essence. It symbolizes our relentless quest for knowledge and our unyielding drive to push the limits of the conceivable. In this emerging epoch of human longevity, we stand on the brink of a future that reimagines the core of human life and longevity.

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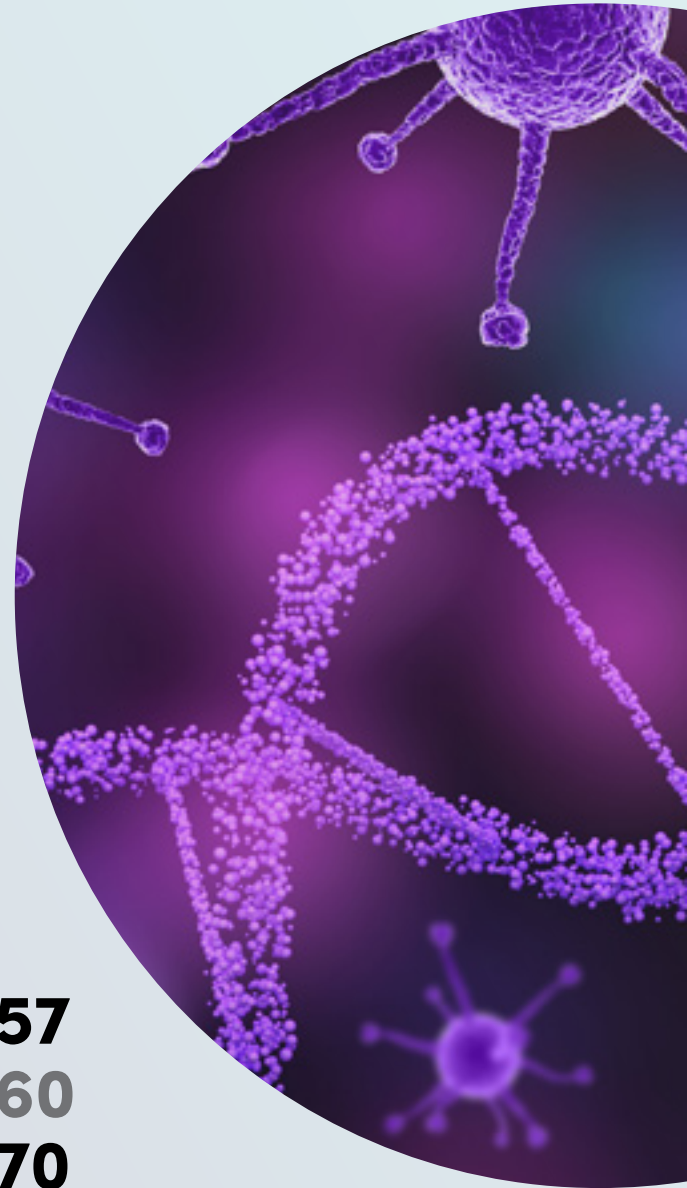
LIVE FIT. LIVE WELL. LIVE LONG.

A LIFESPANNING COMPANY

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THE LIFESPANNING EXPERIENCE

What is Life? When discussing profound topics, Socrates always liked to question his students to define what it was they were considering. I think this is more needed today to help everyone engage in their various meanings and philosophies they harness behind certain words and ideals. So how would you define a life? How would a biohacker define a life? Science tells us that it must be something separate from inorganic matter while having the capacity for growth and continual change preceding death. It's a definition that only raises further questions. It makes sense materially, when we're looking under microscopes and test tubes, but what does it mean to each of us in the real world?

By Science telling us we are organic beings, are we more apt to cling to our 'organic' appearances and corporeal structures, perhaps neglecting what drives each of our individual biological natures – namely, our souls? And by Science referencing the word, death, in the definition of life, does that then imply that death is indeed a natural part of Life? I think most would say so. But Biohackers go a bit beyond this by striving to keep death out of arm's reach and doing more than just surviving but thriving. When done safely and without ego, this approach would be considered healthy and helpful to the world. However, it's a dangerous slope – one that can have oneself falling towards the sharp briars of ego and self-entertainment on the one side, and stressful obsessive habits and burnout on the other.

Going back to the definition of Life, one might say it is an ontic experience with reality. It is recognizing what life is on the material side of things, but also

engaging with spiritual side of life that brings the fire and the zeal behind its whole encounter. With this definition then, we can then ask, what is the ideal lifespan? How long should one be trying to live for? It's a question that many will put their own number on, but I think its not a question searching for a specific number. I think its searching more for a specific measurement of how deep one truly lives and what for?

Lifespanning hopes to answer this question. Filling our present moments with joy and devotedness, while being responsible and mindful of both our individual and community's healthy future across all aspects - that's living a life like a Lifespanner. Yes, we all know that death is a part of life, and that life is full of suffering. We also know that as lifespanners we have a choice of how we want to respond to those facts. We choose to face them head on and optimize ourselves without flattering our ego or spending our life's savings. We even choose to risk death and suffering for the freedom to be able to live a life worth living – a lifespawning experience – because we all know that the principle of lifespawning is a joy and essence of life, that every human being deserves a right to pursue.

That is our mission as The Lifespawning Company - to pour our time and energy into the construction of a vibrant community of health and wellness, bonded by truth and motivated by the never-ending spirit of life. That's what we live for. Why do YOU Live? Maybe its to be a selfless, healthy, inquisitive, loyal, trustworthy, cheerful, brave, and loving Lifespanner.

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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EMBRACING THE DAWN OF A NEW ERA IN BIOHACKING: *CELEBRATING THE SILVER JUBILEE OF BIOHACKERS MAGAZINE, THE LIFESPANNING EDITION, ISSUE #25.*

Welcome to a moment in history that pulsates with unparalleled excitement and potential — a time where the boundaries of human longevity are not just being pushed, but shattered. Imagine standing at the frontier of a new world, a world where the fusion of technology, biology, and visionary thinking is not just a dream, but a vivid, pulsating reality. This is our world, the world of biohackers, and it's exhilarating!

We are riding the crest of a wave powered by the awe-inspiring XPRIZE of \$101 million for longevity, a visionary challenge set forth by Peter Diamandis. It's a clarion call to innovators and disruptors, like us, to redefine the parameters of human life. This is not just a competition; it's a battle cry for a future where age is just a number, not a limitation.

In this fertile ground of innovation, Retro Biosciences emerges as a beacon of hope, backed by an astounding \$180 million from Sam Altman. Their commitment echoes our collective ambition to unlock the secrets of aging, to turn back the clock not just for the few, but for everyone. This is the democratization of longevity, and we are at its forefront.

The proliferation of Biohacking Centers across the globe marks another milestone in our journey. These hubs are not just physical spaces but sanctuaries of innovation where like-minded rebels and pioneers converge to rewrite the rules of biology. Every center is a node in our growing network, each a testament to our growing influence and the increasing interest in lifespanning.

And amidst this whirlwind of groundbreaking developments, I find myself humbled and invigorated by the invitation to speak at the Lifelong Summit. It's not just an opportunity to share insights but to stand among giants, to echo the thoughts and aspirations of a community that refuses to accept the status quo.

This is not just an exciting time; it's a revolutionary one. Each day, we are breaking barriers, challenging dogmas, and proving that the impossible is just a milestone waiting to be surpassed. As we turn the pages of this magazine, let's remember that we are not just reading about history — we are writing it.

To longevity, innovation, and the unyielding spirit of biohacking,

About Jean Fallacara



Jean, a visionary entrepreneur and neuroscientist, is a pioneering biohacker and founder passionate about merging science, art, and technology. With a remarkable IQ of 167 and an MIT background in AI, VR, XR, Biochemistry, Genetics, and Biotechnology, he's earned numerous awards and distinctions. Having founded ventures like Z-Sciences, he strategically led its acquisition by inTEST Corp in 2021. As the Founder of Lifespanning Media, Jean aims to mainstream human longevity, emphasizing well-being and longevity exploration. His mission involves social connection, life-science education, and multimedia content to redefine lifespan boundaries. Beyond technology, Jean embraces a holistic lifestyle in Miami Beach, prioritizing family, self-optimization, and gratitude.

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Lisa Ireland

President & CEO
Longevity Science Foundation



Dr. David Karow

President
Human Longevity, INC



Dr. Daisy Robinton

Co-founder
Oviva Therapeutics



Dr. Matt Lieberman

Social Cognitive Neuroscience,
Lab Director, UCLA



Brian Kennedy

Prof. Biochemistry and Physiology
Singapore University



Jean Fallacara

CEO, Biohackers Magazine
Founder, The Lifespanning Co.



Dr. Michael Greger

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LIFESPANNER-IN-TRAINING

I'm still licking my wounds from hobbling around CES in Vegas, where most of my New Year's resolutions went to die. It was mostly indistinguishable from all the other times. Still overwhelming, exhausting and super-crowded, but also an incredibly efficient way to knock off a ton of valuable meetings in one fell swoop.

The novelty of seeing people in the flesh hasn't worn off yet, although it felt a bit more natural. It felt like January 2020 again, in some respects. One thing is for sure, connecting in person is better than Zoom.

With all the mind-blowing gadgets scattered across the Las Vegas Convention Center and practically every Casino on the Strip this year, some truths can't be outsmarted: People value their privacy. Despite the herds of technophiles and starving media monsters, personal space was at a premium. I was lucky to find the same bar stool open at my favorite breakfast spot three days in a row - God Bless Baglemania.

And probably the biggest innovation trend of the year... wait for it... Wellness. People are feeling more optimistic about AI with hopes that will have a net positive effect on our quality of life. The shock value of AR, VR, AI wore off quickly booth-to-booth. If your exhibit didn't feature a heavy dose of CAPS after your Brand Name, for-

get about it - even with the free pen and water bottle.

In closing, here are some questions I'm struggling with this month.

- How often do you feel like there's nothing to watch?
- Would you say you have more or fewer life regrets than others?
- Do the books in your home serve more of a functional or decorative purpose?
- Could you throw a last-minute dinner party for six people with everything currently in your pantry, fridge, and freezer?
- Has social media changed the way we live our lives for worse or worse?

Our world is changing. What's old is new and what's new already feels old. It's all moving so fast and furious. Living doesn't have to be complicated. Simple things like watching a sunset, feeling the grass under our feet, a jacuzzi at 104°, or indulging in our favorite book.

Let's look good, feel good, and do good.

About Jonathan Singer

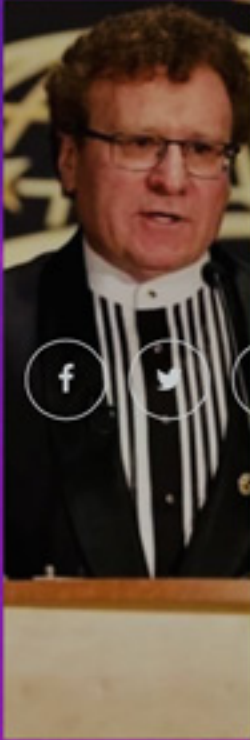
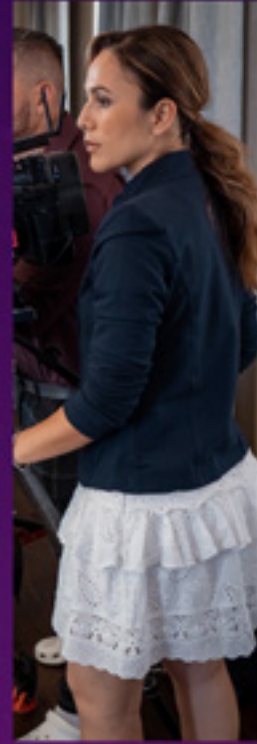
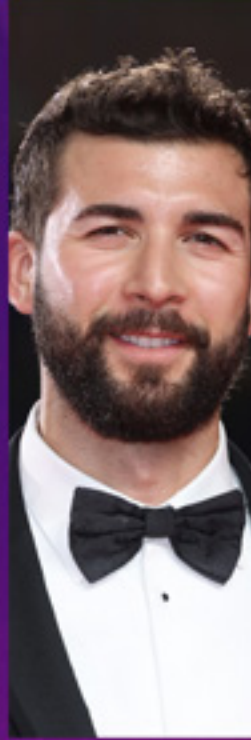
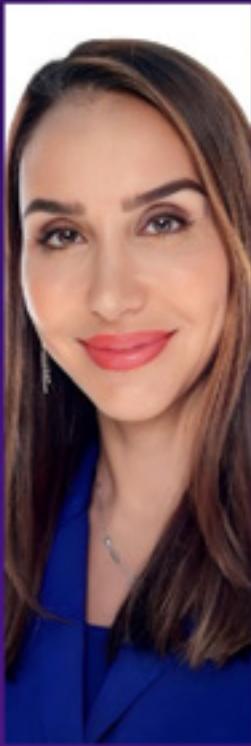


Jonathan, a Canadian-born agency chief, operations executive, and experiential creator based in Los Angeles, is a passionate entrepreneur with a deep commitment to brand building. Graduating with honors from Clark University and McGill University, he cultivated expertise in experiential marketing and brand activation, working with major brands. Jonathan's entrepreneurial journey includes founding JSEM, a renowned experiential marketing consultancy, and later joining SUBNATION MEDIA, where he developed Web3 marketing programs. In 2022, he became EVP, Managing Director, showcasing his prowess in global brand marketing. Currently, as Co-Founder of THE LIFESPANNING COMPANY, Jonathan pioneers longevity exploration through a diverse platform, emphasizing print media, digital content, education, events, life-coaching, and e-commerce. Outside work, he values family, wellness, and the Southern California lifestyle.

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CHAMPIONS OF **LIFE OPTIMIZATION**

By Dallas McClain, Editor-In-Chief



Abby Aboitiz

Founder AI Wellness Health Management Inc

Can you briefly describe your journey into the wellness/biohacking/longevity industry, emphasizing how your focus has shifted towards longevity and lifespan exploration?

My journey into the wellness and longevity industry has been deeply personal and transformative. As a visionary, entrepreneur, and breast cancer survivor, my experiences have fueled a commitment to turning adversity into innovation. Over a decade in healthcare exposed me to the failures and gaps in the system. This inspired the creation of AI Wellness, a groundbreaking venture that seamlessly integrates technology and education to empower proactive well-being.

My shift towards longevity and lifespan exploration stems from a profound realization during my health battle - the importance of embracing a holistic approach to wellness. AI Wellness strives to redefine the narrative, emphasizing not only health but also the exploration of longevity. The focus extends beyond addressing immediate concerns to fostering a sustainable and thriving life. The resounding message is clear: "You are not alone." This journey reflects a dedication to revolutionizing the wellness landscape and inspiring others to embark on their path to a healthier, more fulfilling life.

What is your philosophy on making wellness and longevity practices more inclusive and accessible to a broader audience? Does your vision include mainstream populations?

My philosophy revolves around making wellness and longevity practices inclusive and accessible to all. At AI Wellness, we believe that everyone deserves the opportunity to lead a

healthy and fulfilling life. My vision extends beyond niche markets, encompassing mainstream populations. We strive to democratize well-being by leveraging technology and education to break down barriers.

Accessibility is embedded in our mission - ensuring that individuals from all walks of life can benefit from proactive health practices. By fostering inclusivity, we empower a broader audience to engage in the transformative journey towards longevity. Our commitment lies in creating a movement where wellness is not a privilege but a universal right. Inclusivity is at the core of our vision, guiding us to redefine the standards of well-being for everyone, regardless of background or circumstance.

How do you envision an inclusive future for wellness and longevity? What trends or innovations do you believe will help achieve this vision?

I envision an inclusive future for wellness and longevity that transcends boundaries and embraces diversity. To achieve this vision, embracing innovative technologies and educational initiatives is paramount. Trends such as personalized health solutions, accessible digital platforms, and community-driven well-being programs will play a pivotal role.

By harnessing the power of artificial intelligence, data analytics, and telehealth, we can create personalized approaches that cater to individual needs and preferences. These innovations will break down geographical barriers, making wellness accessible to a global audience. Additionally, fostering community engagement and cultural sensitivity in wellness practices will enhance inclusivity.

Education is a cornerstone of an inclusive future. By providing information and resources in a way that is relatable and culturally relevant, we can empower individuals to take charge of their well-being. Collaborations across sectors, including healthcare, technology, and education, will further amplify the impact of our collective efforts.

In summary, an inclusive future for wellness and longevity involves leveraging technology, fostering community, and prioritizing education

to create a world where everyone has the opportunity to lead a healthy and fulfilling life.

What challenges do you encounter in trying to make longevity less elitist and more expansive? How do you address these challenges and overcome biohacking bias?

Making longevity less elitist and more expansive comes with its challenges, primarily centered around perceptions and biases associated with biohacking. One major challenge is the misconception that longevity practices are only for a privileged few. To address this, transparency and education are key.

By demystifying longevity practices and providing transparent information, we aim to show that these approaches are not reserved for the elite. Educational initiatives help break down complex concepts into understandable, relatable information. Shifting the narrative from exclusive terms like “biohacking” to more inclusive language can broaden the appeal. Emphasizing the universal benefits of longevity practices, irrespective of socio-economic status, helps overcome biases. Actively involving communities and fostering a sense of belonging helps counteract the elitist perception. Community-driven initiatives ensure that longevity practices are seen as part of a collective well-being journey rather than an individual pursuit. And lastly, utilizing technologies that are widely accessible and user-friendly is crucial. We must avoid reliance on expensive gadgets and em-

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brace solutions that can reach a diverse demographic.

What upcoming projects or collaborations are you involved with that our audience would appreciate?

Our upcoming Transforming Wellness Together Movement, launching during Super Bowl, is designed especially for our Biohacking audience. This movement encompasses a range of initiatives, including our education AI Wellness Mirror platform, ‘Biostacks’ – a comprehensive continual care program, our AI Wellness TV and Shopping Network Launch, dedicated wellness rooms for travelers, and announcing our Expert Panel for the 2024 year.

We’re also initiating three world record attempts during 2024, starting with the Largest Boxing Lesson on Feb 10, Largest Cardiovascular Health

Awareness Lesson on Feb 17, and the Largest Mental Health Awareness Lesson on September 16.

If you could share one encouraging message with our global Lifespanner Community, what would you offer them?

Embrace each day as an opportunity to nurture your well-being. In the journey of life, prioritize self-care, continuous learning, and meaningful connections. Remember, your path to longevity is unique, and every small step contributes to a healthier, more fulfilling life. Together, let’s celebrate the journey and support one another in the pursuit of well-being. You are part of a community that values your health and vitality. Your commitment to a better and longer life is truly commendable. Keep thriving, learning, and living well!



Alvaro Nunez

Founder & CEO at Super Luxury Group

Can you briefly describe your journey into the wellness/biohacking/longevity industry, emphasizing how your focus has shifted towards longevity and lifespan exploration?

My journey into wellness and biohacking started grounded in the bustling world of Miami's real estate. Over time, my curiosity evolved from optimizing physical spaces to optimizing human potential. In the pages of my book "Level Up," I explored personal development principles, a journey that naturally led me to the frontier of biohacking and longevity. Now, with the same passion I bring to the skies as a helicopter pilot and the challenges of ultra-endurance races, my focus is on unraveling the secrets of longevity, inspiring others to embrace their best selves every day.

What is your philosophy on making wellness and longevity practices more inclusive and accessible to a broader audience? Does your vision include Mainstream populations?

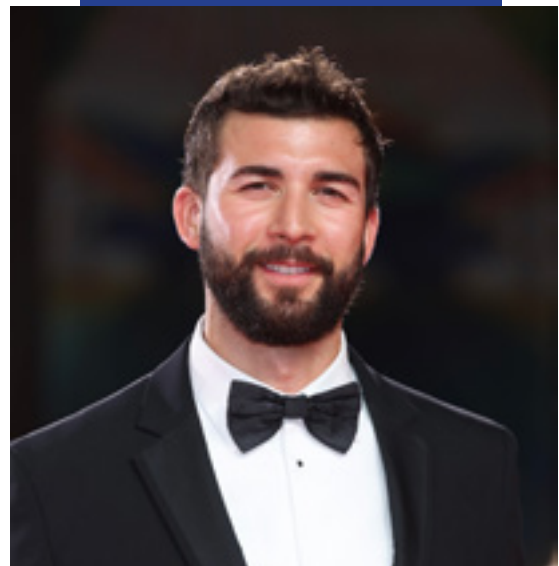
My philosophy is rooted in simplicity and relatability. I've faced challenges from the most simple daily activities all the way to the toughest races in the world, but the essence of wellness applies to everything and is universal. By demystifying biohacking practices and sharing actionable insights, my vision is to empower mainstream populations. Longevity is not an exclusive club; it's a journey accessible to all, with each small step contributing to a healthier and more vibrant life.

How do you envision an inclusive future for wellness and longevity? What trends or innovations do you believe will help achieve this vision?

Inclusivity in wellness means making it as relatable as an everyday sunrise. By combining wearable tech trends, AI-driven health platforms, and community-driven initiatives, we create a future where everyone feels invited to the longevity conversation. The actionable key lies in simplifying the complex, ensuring that individuals from all walks of life can take tangible steps toward better health.

What challenges do you encounter in trying to make longevity less elitist and more expansive? How do you address these challenges and overcome biohacking bias?

The challenge is breaking the misconception that longevity is reserved for the elite. My approach involves sharing the simplicity of biohacking methods and highlighting relatable stories, whether from my adventures in extreme sports or daily routines. By emphasizing that these practices are for everyone, I aim to overcome biases and show that the path to longevity is accessible, relatable, and down-to-earth.

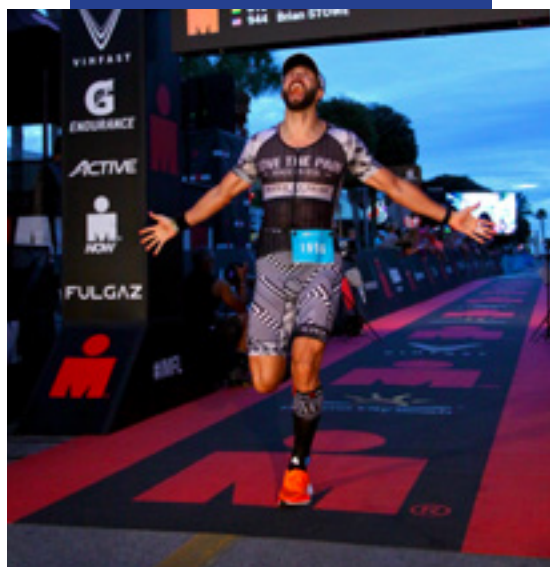


Could you share some of your daily outreach routines and promotional practices that reflect your commitment to making longevity accessible and available to the mainstream population?

Daily outreach involves sharing practical tips and insights, drawing parallels between my adventures and biohacking. Whether it's a skydiving story, a lesson from an endurance race, or a challenging business encounter, the goal is to translate some of these exciting stories into practical longevity takeaways. Collaborating with influencers and organizations amplifies the message, ensuring that the journey to optimal health is as accessible as the next sunrise.

If you could share one encouraging message with our global Lifespanner Community, what would you offer them?

Embark on your health journey with humility and purpose. Drawing inspiration from some of the stories you listen or read about, I invite you to take simple, actionable steps toward a healthier, more vibrant life. Your commitment to longevity is not about grand gestures; it's about the daily choices that make you a better version of yourself. Together, let's make wellness an inclusive, achievable adventure for everyone.



@alvaronunez

Ben Greenfield

CEO, bengreenfieldlife.com

Can you briefly describe your journey into the wellness/biohacking/longevity industry, emphasizing how your focus has shifted towards longevity and lifespan exploration?

My interest in physical culture began with a masters degree and exercise physiology and biomechanics from university of Idaho. I completed premed coursework and was accepted to several medical schools and instead decided to enter into the arena of health, fitness and nutrition consulting. Since that time, I have evolved as a speaker, an author, a consultant, and a coach, with a goal to blend my deep understanding of physics, chemistry, science and biology with ancestral medicine and an intense curiosity for research on the human body, mind and spirit.

What is your philosophy on making wellness and longevity practices more inclusive and accessible to a broader audience? Does your vision include Mainstream populations?

In my opinion, wellness and longevity practices are already inclusive and accessible to a broader audience. The blue zones, despite being controversial, have demonstrated this quite well: and movement, fresh air, real food close to nature, a wide variety of herbs, spices and fermented foods, "free" hormetic stressors such as heat, cold, radiation, etc., Photo bio modulation from natural light frequencies and the like are all methods that we could probably do a better job educating people about, versus giving the world the impression that they need expensive technologies and tools to enhance lifespan or health span.



How do you envision an inclusive future for wellness and longevity? What trends or innovations do you believe will help achieve this vision?

It all begins with parents, family, children and education. We need to get our children out of the predictable, traditional, "old-school" classroom and instead get them into nature, put them into unpredictable situations that challenge their creativity, develop a closer relationship to our planet, and learn about what truly makes the human body and brain "tick", well engaging in the core classical arts such as reading, writing, arithmetic, logic and rhetoric. That will be the first step to creating human beings who are not tied to technology in dark basements alone and lonely.

What challenges do you encounter in trying to make longevity less elitist and more expansive? How do you address these challenges and overcome biohacking bias?

I think the main challenge is that the industry is very easily monetized, so there are many influencers getting paid to feature and/or "hawk" products that give the general population the impression that they must own these expensive devices, hacks and tools to truly be an upgraded human. It is in fact quite the opposite: these type of things are just the icing on the cake and true help comes from a natural, active lifestyle with good relationships and community, connection to the sun and the Earth, connection to God, and loving others.

What key personal and professional lessons have you learned about creating an inclusive and mainstream approach to longevity?

I have learned that some people like to be challenged with new ideas, new research and experimentation with new technologies, while other simply crave simplicity and simply having the basics. I think it's OK to fall into either camp.

Could you share some of your daily outreach routines and promotional practices that reflect your commitment to making longevity accessible and available to the mainstream population?

Walking 10,000 steps a day, being outside for at least 60 minutes every day, exercising and moving for about 60 minutes every day, eating real, wild foods close to nature without obsessing over a specific diet, spending lots of time with family and in community, connecting with God and training/disciplining my spirit, and avoiding excessive use of technologies, social media and "dirty" electricity. Regularly engaging in activities that produce mild discomfort is also important, such as the extremes of cold and heat, or breath work.

What upcoming projects or collaborations are you involved with that our audience would appreciate?

I am currently creating a worldwide network of experts in all categories of life to help people embrace all of the greatest health ideas in one centralized location, with their favorite experts in their back pocket. I'm also working on a wife hacking TV show, and a 2.0 version of my bio hacking "Bible" entitled boundless.

If you could share one encouraging message with our global Lifespanner Community, what would you offer them?

Love God, love others, and choose to be content.



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Dr Robert Goldman

American Academy of Anti-Aging Medicine
A4 MD, DO, PhD, FAASP

Can you briefly describe your journey into the wellness/biohacking/longevity industry, emphasizing how your focus has shifted towards longevity and lifespan exploration?

Dr. Robert M. Goldman, MD, Ph.D., DO, FAASP, is a renowned figure known for his exceptional achievements across various domains. As a 6th-degree Black Belt in Shotokan Karate and 7th Degree Black Belt in Tang Soo Do, he has left an indelible mark as a Chinese weapons expert and World Champion athlete. With a staggering 20 world strength records, including feats like 13,500 consecutive situps and 321 handstand pushups, Dr. Goldman has rightfully earned his place in the Guinness Book of World Records.

His accolades extend beyond the realm of sports. Dr. Goldman founded the International Sports Hall of Fame, honoring sports legends worldwide. He holds multiple medical degrees, serving as a Senior Fellow at Tufts University and an Affiliate at Harvard University. His contributions to biomedical research, with over 150 medical patents, have significantly impacted brain resuscitation, trauma medicine, and organ preservation.

Dr. Goldman's influence permeates the medical field, evident in his editorial roles for various Medical Journals. His humanitarian efforts have garnered numerous awards, including the 'Lifetime Achievement Award' from Gov Schwarzenegger. As Chairman of the International Medical Commission for

over 30 years, he has overseen Sports Medicine Committees globally, exemplifying his commitment to health and fitness. Knighted by His Royal Highness Prince Gharios and deeply involved with the Sovereign Imperial and Royal House of Ghassan, Dr. Goldman's philanthropy spans the globe, focusing on sports, fitness, and medical education with a special emphasis on youth mentorship.

What challenges do you encounter in trying to make longevity less elitist and more expansive? How do you address these challenges and overcome biohacking bias?

We had to combat a lot of negative press and influences as we launch the NTG industry back in the early 90s as mainstream medicine and the pharmaceutical industry did not like answers to these questions of how to extend and expand lifespan and levels of health so it was quite a battle in the early years

What key personal and professional lessons have you learned about creating an inclusive and mainstream approach to longevity?

We think it's important to be maintained as a very inclusive industry where all aspects and all specialties are engaged together to come up with the proper solutions. Sometimes you need to look backwards to move forward by finding old age cures that they may have some strong relevance. Main thing is keeping a very open mind

Could you share some of your daily outreach routines and promotional practices that reflect your commitment to making longevity accessible and available to the mainstream population?

There are many channels, Media, Conferences internationally and websites and personal activities we've always approached things on a global scale

If you could share one encouraging message with our global Lifespanner Community, what would you offer them?

The main thing is consistency in your exercise program diet training life-style modification reduction of stress and trying to avoid environmental toxins whether be food water air etc. and being open to new therapies that have not yet proven out to be 100% verified sometimes anal evidence can be quite strong And so like most biohacking and teaching therapies self experimentation in trying things is the best way to discover if it works for you because the same things do not work for everyone so needs to be constantly titrated.



@drrobertgoldman



Jim Kwik

Founder Kwik Learning

Can you briefly describe your journey into the wellness/biohacking/longevity industry, emphasizing how your focus has shifted towards longevity and lifespan exploration?

My journey into the wellness, biohacking, and longevity industry began with personal challenges. You can say my inspiration was my desperation. As a child, when I was 5 years old, I suffered a traumatic brain injury that significantly impacted my learning abilities. At age 7 I lost my last living grandparent to Alzheimer's. These experiences were catalysts for my lifelong mission to understand and enhance brain performance, memory, learning, and longevity. Initially, my focus was primarily on overcoming learning disabilities and improving mental performance. This path led me to develop strategies and techniques to help not just myself, but others who were struggling with similar challenges.

As my journey progressed, my interests naturally expanded into the broader realms of brain health and overall well-being. I realized that optimal brain function is deeply connected to our physical and mental health. This understanding steered me towards the field of biohacking, where I explored various lifestyle changes and techniques to nurture brain optimization, including nutrition, exercise, mindfulness, and improving sleep quality. Eventually, my exploration brought me to the fascinating area of longevity and lifespan. Here, I concentrate on the importance of lifelong learning, mental fitness, and resilience, not just to extend our lifespan, but to enrich the quality of life we lead. This holistic approach underscores my belief that taking care of our brain is fundamental to living a long, healthy, and fulfilling life.

What is your philosophy on making wellness and longevity practices more inclusive and accessible to a broader audience? Does your vision include mainstream populations?

My philosophy on making wellness and longevity practices more inclusive and accessible revolves around the principle of democratizing brain health and mental fitness knowledge. I believe that everyone, regardless of their background, age, or socioeconomic status, deserves access to information and tools that can enhance their mental and physical well-being. By simplifying complex neuroscience and sharing practical, easy-to-implement strategies, I aim to empower individuals from all walks of life to unlock their brain's potential.

Utilizing our books, podcast, digital online education platform, social media, public speaking, and collaborations with educational institutions and organizations, my goal is to bring these transformative practices into mainstream consciousness, making them a natural and integral part of everyone's daily routine.

How do you envision an inclusive future for wellness and longevity? What trends or innovations do you believe will help achieve this vision?

I envision an inclusive future for wellness and longevity where these practices are seamlessly integrated into all aspects of society, making them accessible and relevant to everyone. This future is characterized by a global shift in how we approach health and well-being, moving from a reactive to a proactive stance. It's a world where schools teach brain health, accelerated learning and mindfulness from a young age, workplaces prioritize mental fitness and stress management, and communities have equal access to resources that promote healthy lifestyles. In this future, wellness and longevity aren't just for the affluent or well-educated; they're fundamental rights for every individual, regardless of their socioeconomic status or background.

Digital technology, particularly mobile apps and online platforms, will play a crucial role in democratizing access to wellness resources, offering personalized health insights and guidance that are both affordable and accessible. Additionally, advancements in AI and machine learning will enable more effective, tailored health interventions for diverse populations. At the same time, there will be a growing emphasis on community-driven and grassroots initiatives, fostering a culture where knowledge and practices related to wellness and longevity are shared openly and supportively. This

blend of high-tech solutions and community-based approaches will ensure that the benefits of a healthy, long life are within reach for everyone.

What challenges do you encounter in trying to make longevity less elitist and more expansive? How do you address these challenges and overcome biohacking bias?

Firstly, there's the issue of accessibility. Often, the resources, tools, and information related to longevity and biohacking are primarily available to those with financial means or certain educational backgrounds. To counter this, I focus on disseminating knowledge and strategies through various mediums that are widely accessible, like social media, podcasts, and free online resources. It's about simplifying complex concepts into practical, actionable steps that anyone can apply, regardless of their background.

Another significant challenge is overcoming the biohacking bias, where such practices are often perceived as futuristic or exclusive to a tech-savvy audience. To address this, I advocate for a more inclusive approach to biohacking, emphasizing that it's not just about high-tech gadgets or expensive supplements. Instead, it's about fundamental lifestyle changes that can be as simple as modifying diet, improving sleep, or incorporating mindfulness into one's daily routine. By showcasing a wide range of individuals from various backgrounds who have benefited from these practices, it helps to dispel the notion that longevity and biohacking are only for the elite.

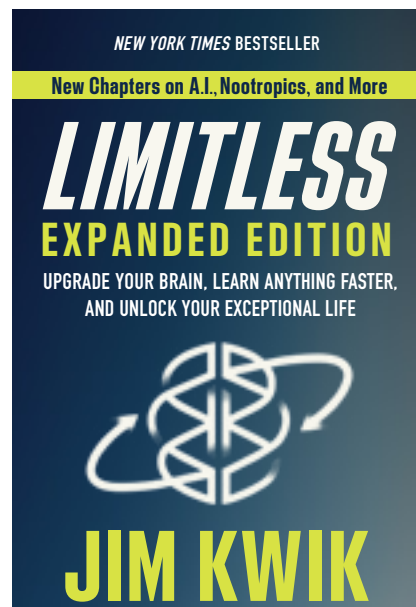
What upcoming projects or collaborations are you involved with that our audience would appreciate?

I wrote the NYT best-seller *Limitless* to serve as your owner's manual for your brain. You change your brain, you change your life, and you change our world. Our podcast is nearing 100 Million downloads, you can search my name in your favorite podcast platform to listen. Excited to post our brain optimization tips regularly on our YouTube - join over 1.3 Million subscribers there. Most excited about our cognitive type assessment that gives you complimentary personalized learning strategies at MyBrainAnimal.com.

If you could share one encouraging message with our global Lifespanner Community, what would you offer them?

There's a version of yourself patiently waiting. Keep showing up everyday until you are introduced.

[@jimkwik](https://twitter.com/jimkwik)



Kris Gethin

Cofounder of Kris Gethin Gyms founder of Kris Gethin coaching and the Kris Gethin podcast, Author, natural bodybuilder and hybrid athlete

Can you briefly describe your journey into the wellness/biohacking/longevity industry, emphasizing how your focus has shifted towards longevity and lifespan exploration?

I raced motocross for around 13 years and through injuries got into rehab via physiotherapy. That's where my passion for resistance training and nutrition came in. In the mid 90's after 3 years in college I became qualified in international health and sports therapy. Many years later, after being in the fitness industry as a writer, trainer, competitor, photographer, editor, author, supplement brand co-founder, health food co-founder and magazine publisher, I got mold toxicity in 2013. I was diagnosed in 2014 and spend 6 weeks at Dr. Sponagues clinic in Oldsmar, Florida as I went through a detox protocol. It was during this time of research of detoxification, I came across biohacking and have been submerged into prioritizing my health-span ever since.

What is your philosophy on making wellness and longevity practices more inclusive and accessible to a broader audience? Does your vision include Mainstream populations?

The community aspect of social media, social media groups, podcasts, publications, summits, streaming documentaries, retreats, expos, etc, are growing and filtering more and more information to the masses, and I do whatever I can to contribute via all of these modalities. I like to promote our ancestral wisdom bridged with spirituality, today's technology and supplements that fill the deficiencies found in today's food supply.

How do you envision an inclusive future for wellness and longevity? What trends or innovations do you believe will help achieve this vision?

If things such as peptides, TRT and Mesenchymal Stem cells from Wharton's Jelly (such as the further harvested ones we find in places like Mexico, Colombia, Panama, etc.) become more accepted by the medical system, we could greatly enhance some people's quality of life but I'd like to see a bigger mainstream focus on our nutrition education at a young age, food supply, and marketing.

Having our favorite movie star or pop singer endorsing soda and fast food should become illegal.

What challenges do you encounter in trying to make longevity less elitist and more expansive? How do you address these challenges and overcome biohacking bias?

Many people who get into the biohacking space have disposable income and think that they can buy their way into better health. I always encourage the free basics first that are accessible to everyone, but unfortunately, many of these people don't value the free stuff, only the things that require financial investment. Grounding, meditation, getting morning and/or evening sunlight, community connection, contrast therapy, putting your phone on airplane mode when possible, leaving the phone and other devices such as the computer and TV out of the bedroom, downloading a free app called "Think Dirty" which tells you what personal hygiene products, lotions, creams and sprays to avoid, eating organic, grassfed, wild caught and humane raised, etc., are all things that are accessible and free that I encourage everyone to do.

What upcoming projects or collaborations are you involved with that our audience would appreciate?

I am hosting some seminars with Ben Greenfield currently in India, and will be hosting the first of many retreats with Jay Campbell, Jeff Daubney and Shawn Wells in Tulum Mexico, beginning in May 2024. I also have an extremely exciting upcoming project that I'll be launching in April but I can't speak about it until then.

If you could share one encouraging message with our global Lifespanner Community, what would you offer them?

People are like children, and they usually influenced by observation. If you devote your life to health and positivity, people will observe and hopefully become influenced by your actions. On that note, don't just be a student of learning, be a student of application.



[@krisgethin](#)



Leila Centner

Founder & Chief Executive
Officer, Centner Wellness

Can you briefly describe your journey into the wellness/biohacking/longevity industry, emphasizing how your focus has shifted towards longevity and lifespan exploration?

My journey into the wellness, biohacking and longevity industry has been transformative, founded in a personal quest to heal myself. I had reached a breaking point of fatigue, brain fog and other symptoms. I realized I was dealing with a multitude of issues...mold toxicity, Lyme's disease and parasites.

I traveled to India many times to attend retreats focused on meditation and breathwork to improve my emotional health. To address my Lyme disease, I spent a few weeks at a health clinic in Spain where I learned about rife and magnetic frequency technology, and ozone therapy. I later traveled to Mexico where I did intensive healing work at a clinic doing red light, more frequency therapy, ozone therapy, hyperthermia and various vitamin IVs.

I also took matters into my own hands by doing coffee enemas at home twice a day for 6 months. That was a game changer for my health and I have the lab results to prove it! I observed massive amounts of parasites being expelled during my enemas. I then coupled this with a powerful line of binders and anti-parasitic herbs that helped me to effectively expel the parasites, biofilms and related heavy metals. At the same time, I adhered to a very strict diet of 100% organic, non-GMO whole foods and excluded all processed foods and sugar.

That was what led me to developing Centner Wellness. I wanted to create a healing sanctuary that had all of these amazing modalities, devices and treatments all under one roof. Once I had the idea, I couldn't wait to share it with the world!

How do you envision an inclusive future for wellness and longevity? What trends or innovations do you believe will help achieve this vision?

I am a firm believer in the very simple things that each and every person has the ability to do for free for themselves, no matter where they live or what their income. For example, starting your morning each day in prayer or meditation is a life-changing habit. This is something I've been doing for many years now as I learn to quiet my mind, set an intention, tune into my intuition and to God and spend time in prayer. Incorporating these practices into my daily routine has been a game changer for me, as well as my family.

What challenges do you encounter in trying to make longevity less elitist and more expansive? How do you address these challenges and overcome biohacking bias?

My goal is to unite the world in embracing a lifestyle of dedicated health and wellness practices to achieve optimal health and longevity. Guests can enjoy a la carte treatments and day passes at both Centner Wellness locations. This ensures that they can access amazing services without committing to long-term memberships, making achieving whole body optimization more financially attainable.

We also offer an extremely generous discount plan for all my Centner employees (this includes at my wellness center, school, farm and all our other businesses). This is a step towards making these practices more accessible for our immediate community. This beautiful facility not only offers more affordable services and treatments, but also serves as an opportunity for the mainstream community to engage with and benefit from treatments such as colon hydrotherapy, massages, ionic foot detoxification, acupuncture, assisted lymphatic treatments, infrared saunas and much more.

To combat any skepticism surrounding biohacking, we prioritize treatments, services, products and equipment that are backed by research and proven efficacy. We aim to build trust and credibility, having some of the best qualified and dedicated practitioners on staff to reinforce our commitment to ensuring that each guest can rely on Centner Wellness to help them effectively achieve their health and wellness goals.

Could you share some of your daily outreach routines and promotional practices that reflect your commitment to making longevity accessible and available to the mainstream population?

One simple thing we do is “Wellness Wednesdays,” where every Wednesday our social media accounts share easy tips and guidance that anyone can do at home. We emphasize affordable and accessible healthy habits for all followers, even outside the Miami area.

At Centner Academy, (<https://centneracademy.com/>) we do everything possible to create a completely safe and healthy environment for our kids including feeding them 100% organic food that’s fresh from our farm, using only the best filtered water, providing them with clean air free from toxic exposures, cleaning only with hydrogen peroxide, mitigating EMF exposure and much more. I’m aware of how devastating most children’s health conditions are these days and I’m determined to ensure that we provide a healthy environment for our students to learn and thrive. If our youngest generations understand the principles of living a healthy lifestyle, they will go on to teach others these critical values and practices, creating a monumental ripple effect.

How do you educate, inform, inspire diverse audiences on the importance of living better, healthier and therefore longer?

We are soon launching our brand new podcast, “Wellness Redefined” that will assist us in educating the community on health and wellness and engaging them in stimulating, thought-provoking conversations.

What upcoming projects or collaborations are you involved with that our audience would appreciate?

The Centner Wellness brand is forever growing and evolving. We are so proud to announce that we just recently closed on a brand new property in Edgewater, which will be approximately 10,000 sq. ft. and will feature another amazing spa, plus a large organic marketplace and cafe and be centered around sourcing produce, eggs, honey and more from our regenerative and organic farm, Regener8 Farm and Retreat.



[@centnerwellness](#)

Peter H. Diamandis

MD, Founder & Executive
Chairman, XPRIZE Foundation

Can you briefly describe your journey into the wellness/biohacking/longevity industry, emphasizing how your focus has shifted towards longevity and lifespan exploration?

My journey into wellness/biohacking/longevity began at Harvard Medical School, where I received my MD while simultaneously receiving a graduate degree in aerospace engineering at MIT. My interest pivoted to lifespan exploration, particularly inspired by the remarkable longevity of Greenland sharks and bowhead whales, living up to 200 and 500 years, respectively.

This led me to explore the question of “if they can live so long, why can’t we?” My answer was and still is, “that it’s either a software or hardware problem, and that this will be something we can solve.” The many companies I’ve helped co-found have worked to integrate biotechnology, genomics, and AI to advance longevity research, aiming not just to extend life but to enhance its quality.

Through initiatives like the recently announced \$101M XPRIZE Healthspan, I champion innovation in longevity, seeking breakthroughs by merging technology and cross-disciplinary knowledge. This endeavor isn’t merely about adding years to life; it’s about enriching those years, drawing lessons from nature’s most resilient beings to revolutionize human aging.

What is your philosophy on making wellness and longevity practices more inclusive and accessible to a broader audience? Does your vision include Mainstream populations?

I recently wrote a book on this very subject, called “LONGEVITY: Your Practical Playbook” which details my philosophy and practices.

My vision casts wellness and longevity not as the privilege of the few but as the universal right of all. The democratization of health—that’s the linchpin in

this vision. We’re ripping down the barriers of access and affordability, engineering a reality where the latest breakthroughs are within reach for every individual, not just in Silicon Valley or other tech hubs but globally. The key to unlocking this inclusive future? Exponential technologies.

Think AI that tailors wellness practices to the individual, regardless of their background. Picture biotech that rolls out precision therapies, cost-effectively. Envision digital health platforms catapulting knowledge across continents in a heartbeat. This isn’t science fiction; it’s a blueprint of the emerging present.

Harnessing these technological marvels, my aim is clear—to proliferate the wisdom and means of longevity across class lines, to the very heart of mainstream society. This democratization is not only poised to elevate personal health but is a catalyst for societal transformation, embedding health and longevity as the bedrock of our collective well-being.

How do you educate, inform, inspire diverse audiences on the importance of living better, healthier and therefore longer?

PODCASTS & BLOGS: My approach to spreading this message is grounded in the belief that storytelling can ignite a universal spark. I reach out through my podcast “Moonshots,” where we dissect the genius of leading minds, showing that breakthroughs in longevity are possible and happening.

BOOKS: In books like “Life Force” (With Tony Robbins) and “Longevity: Your Practical Playbook”, I distill pioneering health strategies into everyday wisdom. I take care that these insights are not just theoretical but also practical by condensing complex science into actionable steps because the power to transform our healthspan lies very much in the daily choices we make.

It’s more than education; it’s about sparking an actionable vision where each person is empowered to take charge of their well-being and longevity. In essence, I strive to inspire a world where the choice to live a vibrant, extended life isn’t just possible, it’s embraced.

What upcoming projects or collaborations are you involved with that our audience would appreciate?

The Abundance Platinum Longevity Trips, which I’ve been running for 6 years, have been an extraordinary platform. They bring together 40-50 of the top longevity scientists to share cutting-edge advancements and foster synergies in the field. Every March at my

Abundance Summit (March 17-21 this year at Teranea Resort outside LA), we prominently feature Longevity and include some of the top names in the field.

Coupled with that, BOLD Longevity Growth represents our strategic arm, hyper-focused on channeling investments into ventures at the bleeding edge of longevity and healthspan science. We are also now integrating some of the most innovative Therapeutics to Fountain Life, which will include FDA approved IND studies looking at stem cells and other secretome combinations.

All these efforts, including the \$101M XPRIZE Healthspan with nearly 200 teams worldwide, underscore our dedication to advancing human longevity. Each of these undertakings weaves into an overarching narrative of progress, where not just the length of our lives, but the quality, is enhanced for everyone.

If you could share one encouraging message with our global Lifespanner Community, what would you offer them?

I encourage each member of this vibrant community to remain inquisitive and proactive. Collectively, you all play an invaluable role in this evolution, carving a future where everyone can reap the benefits of extended health.

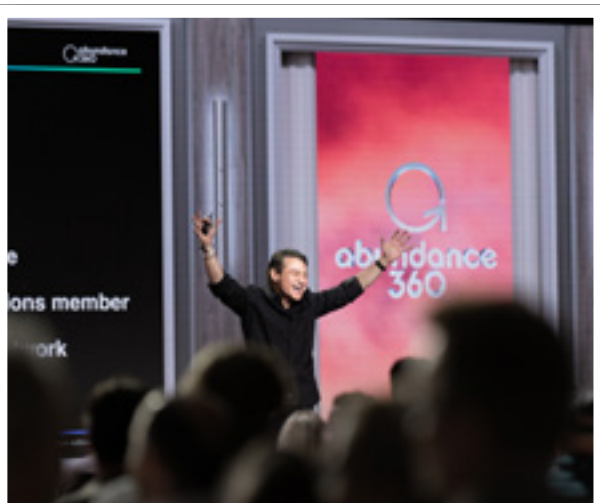
The essence of our endeavor isn't just about longevity—it's about vibrant longevity and adding "healthy years to your life" (i.e., healthspan). Keep the fire of inspiration alive, arm yourself with the latest knowledge, and most of all, stay resolute in your active participation. Remember, the once-imagined future of longevity is taking shape right now, meticulously crafted by our collective will and action. With unwavering optimism and determination, let's forge ahead.



[@peterdiamandis](#)



Photo Credit: Paul Smith Photography



Sergey Young

Co-founder of BOLD Longevity Growth (BLG) Fund

Can you briefly describe your journey into the wellness/biohacking/longevity industry, emphasizing how your focus has shifted towards longevity and lifespan exploration?

I arrived in this field by complete accident. I was working as a venture capitalist, investing in “boring” fields such as energy, mining, and real estate. Like most people, I went about my days focused on the present—doing business, making money, having fun, and taking care of my kids.

It all changed when, one day, my doctor diagnosed me with high cholesterol and explained that this put me at a high risk of heart disease. Her prescription? Taking statins for the rest of my life to control it. As someone with a degree in chemistry, taking pills for the rest of my life didn’t seem like a particularly healthy or natural thing to do. After doing some research, I treated high cholesterol without medications, using lifestyle changes alone: diet, supplements, and physical activity. Six months later, my cholesterol levels fell by 25%—almost as much as the statins had promised.

After taking back control of my health my eyes opened to the extraordinary advances being made in the longevity space. Once I became a believer in the feasibility of radical life extension, I knew I wanted to contribute to this incredible progress myself. So I began with what I already knew—and created the \$100 million Longevity Vision Fund (LVF) to support new life extension breakthroughs such as artificial intelligence, organ regeneration, genetic editing, AI-based pharmaceutical drug discovery, precision medicine, personal diagnostics, and other fields that are central to the mission of living longer and healthier than ever before. Later on, we co-founded another fund together with my dear friend and partner Peter Diamandis—BOLD Longevity Growth (BLG) Fund—to continue enabling and speeding up the development of longevity technologies.

I was so excited about this field, that I decided to

write the book ‘[The Science and Technology of Growing Young](#)’ to share my knowledge with others. I wanted more people to learn about amazing longevity breakthroughs that await us, share my practical longevity tips, and get people excited about living to 100-150 years (and beyond). It seems that people are ready for a longevity revolution: the book became a Wall Street Journal, USA Today, and Amazon bestseller, and was translated and published in 6 languages.

How do you envision an inclusive future for wellness and longevity? What trends or innovations do you believe will help achieve this vision?

My dream is to live in a world where there are no incurable diseases and where everyone gets an equal chance at health—no matter their location, income, age, or genetic predisposition. And that someday getting a new heart, lung, kidney, or liver is as easy as replacing a faulty part in a car. Thankfully, certain technologies are emerging that could soon make this a reality. Here are just a few examples from our investment portfolio:

- Genetic engineering holds the very real prospect of eliminating all hereditary diseases within our lifetime. For example, Tessera Therapeutics uses ‘gene writing’ technology, which is able to correct genetic mutations via mobile genetic elements, introducing new genes that are missing or defective

- Organ and tissue regeneration offers the possibility to regenerate damaged and aged bodies. Pittsburgh-based LyGenesis is regrowing organs such as liver and thymus inside the patient’s own lymph nodes, saving the 17 people who die each day in the US waiting for a transplant

- Artificial intelligence is speeding up the process of designing new drugs from years to just days. It has generated promising drug candidates in cancer, cardiovascular diseases, diabetes, neurodegenerative diseases

What challenges do you encounter in trying to make longevity less elitist and more expansive? How do you address these challenges and overcome biohacking bias?

One of the major bottlenecks for the entire longevity field is of a regulatory nature—the failure to officially recognize aging as a disease or as a risk factor. At this stage companies fighting aging have no other way but to target other single or multiple

disease indications. And while our strategy allows us to invest in the current regulatory framework, the recognition of aging as a disease would substantially increase the pace of scientific innovation and breakthroughs, and hence the democratization and widespread availability of longevity technologies.

We work closely with AFAR (American Federation for Aging Research) to run FDA-approved clinical trials targeting aging directly and through proof-of-concept to convince regulators to recognize aging as a disease indication for R&D

What key personal and professional lessons have you learned about creating an inclusive and mainstream approach to longevity?

Between amazing longevity discoveries and uniting people from all walks of life to get them excited about healthy life extension, the following key insight became apparent: "We have created the technologies to extend our life, but not a life we want to extend." So, while we are all waiting for longevity to become mainstream, we need to first create a life we would be excited to live-and prolong. This includes personal values such as creating meaning and purpose in our own lives, but also addressing the more global issues, such as:

- 1) Equality. How will an increased lifespan influence financial equality in the world?
- 2) Environment. How will we finally start caring properly about the planet now that we understand we will be here for longer than 120 years?
- 3) Society. Will we change our social constructs and our mindsets about careers and relationships with our extended, healthy lifespan?

What upcoming projects or collaborations are you involved with that our audience would appreciate?

One of the most exciting collaborations is being one of the co-creators (along with Peter Diamandis, Chip Wilson, and many other brilliant and generous people) of the XPRIZE Healthspan. It is a \$101 million global competition, the largest in XPRIZE history, to discover treatments that can reverse age-related degradation in body, mind, and immune system.

If you could share one encouraging message with our global Lifespanner Community, what would you offer them?

Living to 100 is within reach for most people on the planet today. So build a life that's worth living—and extending!



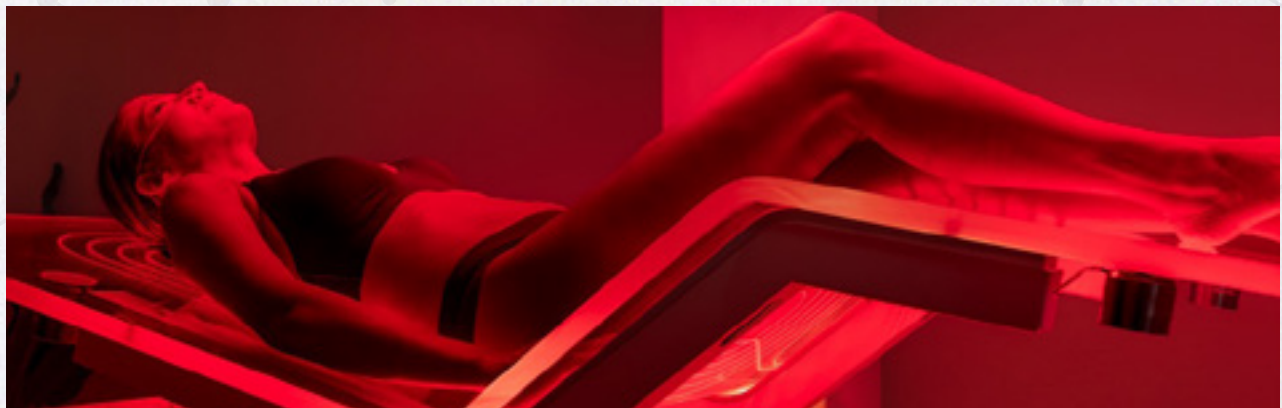
@sergeyyoung200



Diving into the Heart of Wellness:

The Spectacular Launch of Centner Wellness in Miami

Miami, get ready to have your wellness game changed forever! Biohackers Mag had the exclusive privilege to attend the VIP grand opening of Centner Wellness, and it was nothing short of a biohacker's paradise.



A Night to Remember: January 12th marked a milestone in wellness history with Leila Centner—the brainchild behind this revolutionary venture—hosting a private celebration. Picture this: an energy-filled gathering of wellness and biohacking elites, including Gary Brecka, Dr. Sandra Rose Michael, Dr. Daniel Pompa and of course, the star of the night, Leila Centner.

Farm-to-Table Elegance: The evening was a tasteful affair with healthy hors d'oeuvres and mocktails, sourced straight from Regener8 Farm and Retreat. Every bite was a testament to the pure, unadulterated goodness that Centner Wellness represents.

Stepping into a Wellness Wonderland: Entering Centner Wellness, I felt like I had stepped into a new dimension of health. The center radiates a perfect balance of tranquility and state-of-the-art design. It is truly a sanctuary where your wellness journey is reimagined and revitalized.

Leila Centner: A Visionary in Wellness: Leila's innovative approach to wellness and education has materialized into a range of services that are nothing less than revolutionary. From therapies harnessing the body's innate healing powers to advanced treatments for beauty and performance, this place has it all.

LIFESPANNER TRENDS



A Holistic Approach to Health: What sets Centner Wellness apart is their philosophy. Here, wellness is a holistic journey. You're not just a visitor; you're an integral part of a transformative experience focused on mind, body, and spirit.



Celebrating Health and Happiness: The grand opening was an engaging festival of well-being. Showcasing unique offerings like superior hydration therapies and energy healing, the event was a vivid reflection of the center's ethos.

Centner Wellness: Not Your Average Wellness Center: Under Leila Centner's guidance, this wellness hub is destined to be a beacon for those seeking a deeper, more meaningful approach to health. It's a bold statement in the world of wellness, a movement that goes beyond treating symptoms and focuses on nurturing the whole being.

Final Thoughts: As I left the grand opening, I was struck by the realization that Centner Wellness goes above and beyond the routine treatment; it's a revolution in health and happiness. It's a place where each visit brings you closer to your best self, where every treatment is a step toward a brighter, healthier future.



Challenge Yourself

Put Your Lifespanning Knowledge to the Test

1 Which nutrient, often associated with increased longevity, is commonly found in fatty fish, flaxseeds, and walnuts?

- a) Vitamin D
- b) Omega-3 fatty acids
- c) Calcium
- d) Iron

3 What process involves the removal of senescent cells from the body, potentially slowing down the aging process?

- a) Autophagy
- b) Apoptosis
- c) Senolysis
- d) Mitophagy

5 What are epigenetic clocks, and how do they relate to measuring biological age in the field of longevity research?

- a) They measure chronological age based on DNA mutations
- b) They assess the pace of cellular division
- c) They quantify DNA methylation patterns to estimate biological age
- d) They predict lifespan based on telomere length

2

Which process involves the modification of gene expression without altering the underlying DNA sequence and is being explored for its potential impact on longevity?

- a) Transcription
- b) Methylation
- c) Translation
- d) Replication

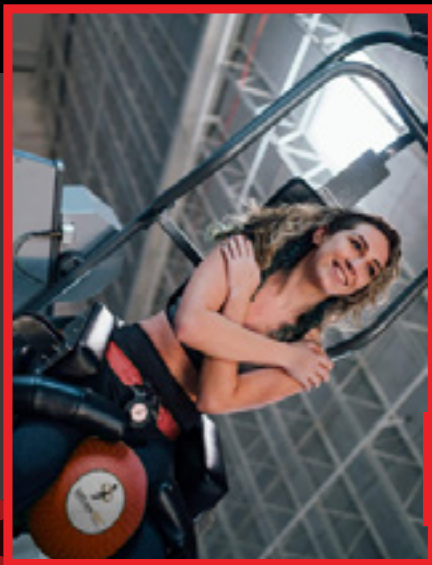
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Which adaptogenic herbs are commonly used in Ayurvedic medicine to enhance vitality and balance the body's energy?

- a) Rhodiola and Ashwagandha
- b) Ginseng and Ginkgo Biloba
- c) Echinacea and Goldenseal
- d) Milk Thistle and Dandelion

Answers:
biohackersmag.com/quiz

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- Dr. Neil McLaughlin

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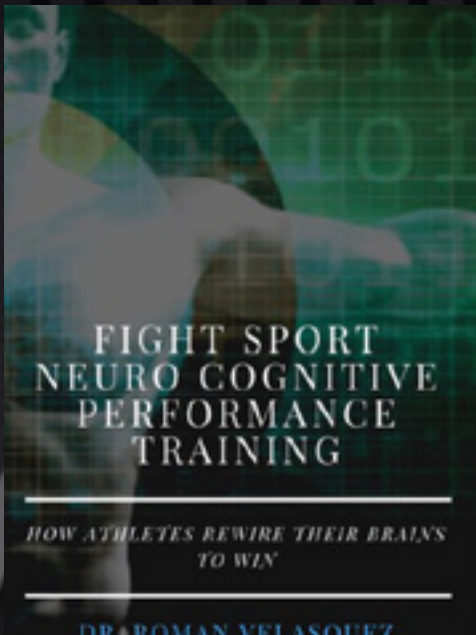


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REVOLUTIONIZING WELLNESS: TOP 10 BREAKTHROUGH BOOKS OF 2023

"FIGHT SPORT NEURO COGNITIVE PERFORMANCE TRAINING" by DR. ROMAN VELASQUEZ



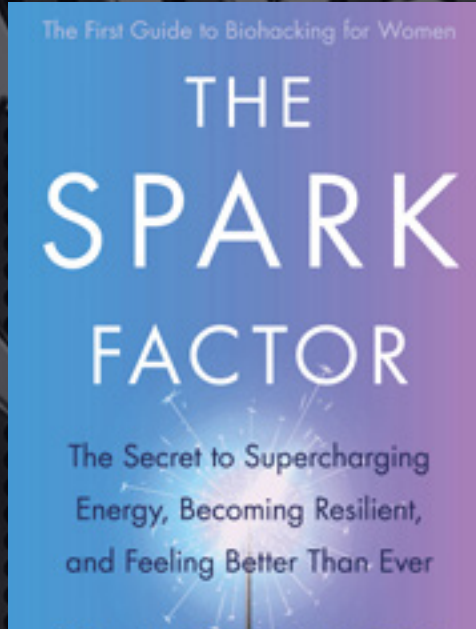
"STARING DOWN THE WOLF" by MARK DIVINE



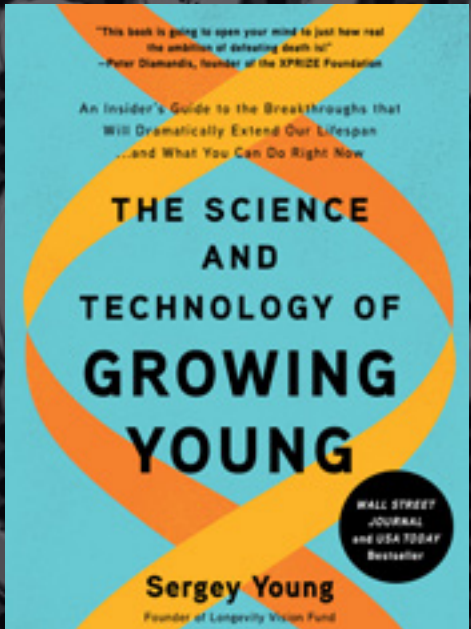
"BOUNDLESS PARENTING" by BEN GREENFIELD



"THE SPARK FACTOR" by DR. MOLLY MALOOF

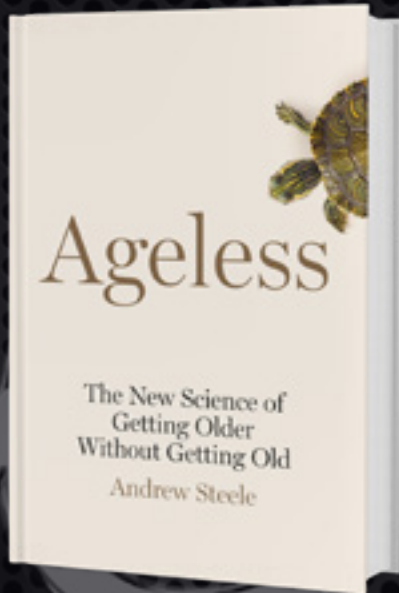


"THE SCIENCE AND TECHNOLOGY OF GROWING YOUNG" by SERGEY YOUNG

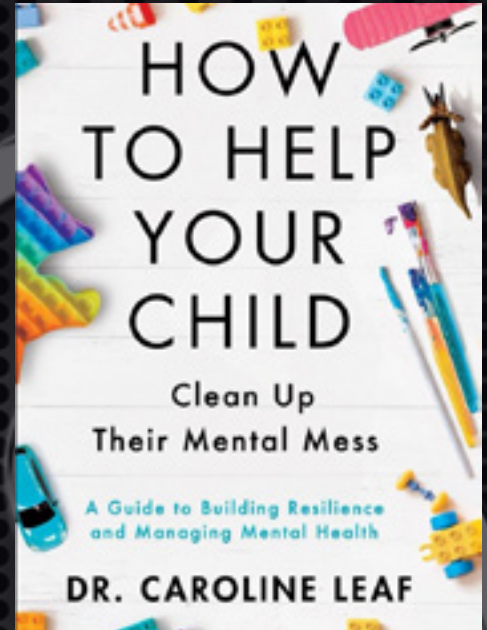


REVOLUTIONIZING WELLNESS: TOP 10 BREAKTHROUGH BOOKS OF 2023

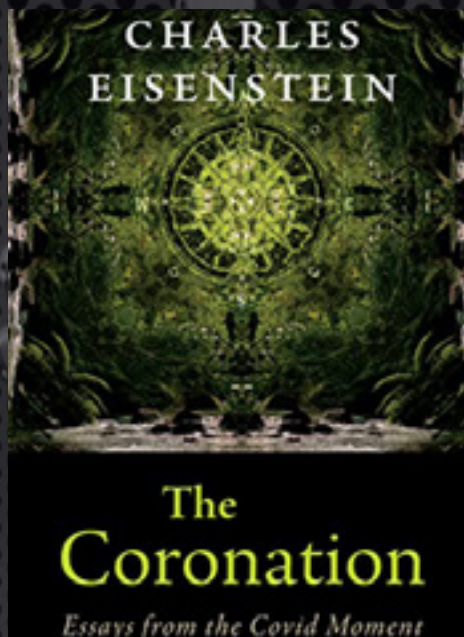
"AGELESS" by ANDREW STEELE



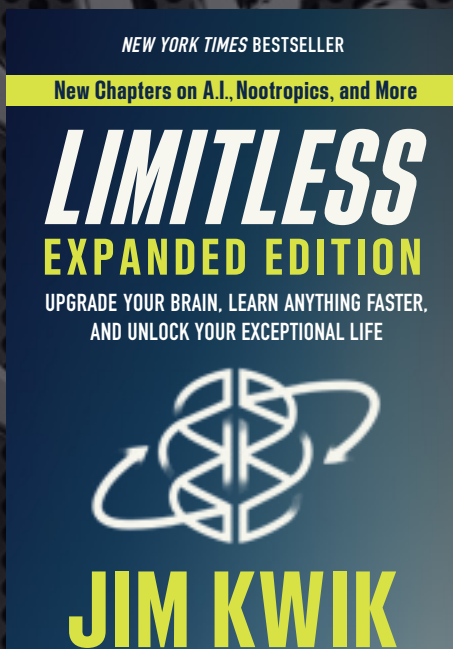
"HOW TO HELP YOUR CHILD CLEAN UP THEIR MENTAL MESS" by DR. CAROLINE LEAF



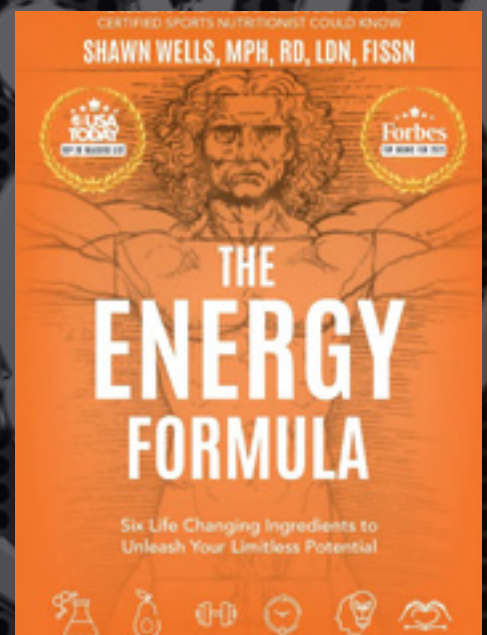
"THE CORONATION" by CHARLES EISENSTEIN



"LIMITLESS" by JIM KWIK



"THE ENERGY FORMULA" by SHAWN WELLS



“MIAMI’S PINNACLE OF BIOHACKING: THE AMMORTAL BED AND BEYOND”



Biohackers Magazine has spotlighted Miami's latest breakthrough in wellness technology: the debut of the Ammortal Chamber at the avant-garde Centner Wellness & Spa, located at 2333 Brickell Ave, Suite A-1.

Not only does this pioneering spa house this innovation, but it also features a state-of-the-art Biohacking Lab. Catering to the diverse needs of its patrons, the lab provides bespoke programs that incorporate an array of drug-free therapies.

Centner Wellness & Spa boasts a plethora of scientifically validated, cutting-edge technologies. Patrons can indulge in an impressive suite of offerings, including but not limited to EES, Refire, Theta Chamber, Hyperbaric chambers, cold plunges, red light therapy, PEMF, hydrogen treatments, and infrared saunas. A special mention to the innovative brain optimization techniques that underscore the facility's commitment to holistic wellness.

However, amidst these advancements, the Ammortal chamber stands out as a testament to the future of wellness.

The Story:

This Chamber has emerged as a game-changer, seamlessly integrating five well-established, non-invasive technologies into a single, transformative experience. This cutting-edge innovation holds the key to unlocking the untapped potential of both



your body and mind, offering a holistic rejuvenation that encompasses your entire being. The Chamber offers a meticulously curated journey that seamlessly integrates various elements such as light, vibration, electro-magnetics, molecular hydrogen, music, meditation, breath work, and intention. This transformative experience aims to synchronize and invigorate every aspect of your being. The Chamber offers a versatile solution for individuals seeking to enhance their overall well-being and optimize their physical capabilities. Whether one's goal is to promote longevity and vitality or to maximize performance and expedite recovery, this innovative device proves to be an invaluable addition to a daily regimen.

As I stand amidst the groundbreaking marvel that

is the first Miami Ammortal Chamber, it's impossible not to be awestruck by the convergence of science and innovation. The chamber's transformative experience, seamlessly blending light therapy, vibrational resonance, electromagnetic therapy, molecular hydrogen infusion, and sonic alchemy, feels like stepping into a realm where the limits of human potential are being redefined. The soothing glow of therapeutic light, the gentle vibrational resonance, and the immersive soundscape create an environment that promises to rejuvenate not just the body but the very essence of one's being. It's a testament to the incredible strides we're making in our quest for holistic well-being and the untapped potential that lies within all.

The Ammortal Chamber: A Revolution in Wellness and Optimization:

In the relentless pursuit of well-being and personal optimization, humanity has long sought the means to unlock the full potential of both mind and body. In recent years, a groundbreaking innovation has emerged that promises to revolutionize this quest – the Ammortal Chamber. Integrating five scientifically proven technologies into a single transformative experience, this cutting-edge creation offers the key to unveiling the untapped reservoirs of human potential. Welcome to the future of wellness, where the Ammortal Chamber invites you to embark on a journey of holistic rejuvenation, empowerment, and vitality.

1. Light Therapy:

Light has been recognized for its therapeutic potential for decades. The Ammortal Chamber harnesses the power of specific wavelengths of light to stimulate cellular regeneration, promote mental clarity, and enhance mood. By bathing the body and mind in these healing frequencies, the Chamber sets the stage for profound rejuvenation.

2. Vibrational Resonance:

Vibration is an integral part of the human experience, from the beating of our hearts to the synapses firing in our brains. The Chamber incorpo-

rates precise vibrational frequencies to induce relaxation, reduce stress, and align the body's energies. It's an entrainment of mind and body, guiding you toward a state of harmony and balance.

3. Electromagnetic Therapy:

Electromagnetic fields have a profound influence on our physiology. The Ammortal Chamber employs electromagnetic therapy to enhance cellular communication, sup-

port immune function, and optimize the body's self-healing mechanisms. By immersing yourself in this field of energy, you're tapping into your body's innate ability to thrive.

4. Molecular Hydrogen:

Hydrogen, the smallest molecule, possesses extraordinary antioxidant properties. The Chamber introduces molecular hydrogen to neutralize harmful free radicals, reduce oxidative stress, and support



vibrant health at the cellular level. It's a molecular boost for longevity and vitality.

5. Sonic Alchemy:

Music is a universal language that transcends boundaries and resonates with the human spirit. In the Chamber, music becomes a tool for transformation, expertly composed to guide your journey. From calming melodies that facilitate relaxation to rhythmic beats that energize your body, the soundscape is an integral part of the experience.

The Journey Within the Chamber

Stepping into the Ammortal Chamber, you're embarking on a journey that transcends the ordinary. It's a meticulously crafted experience that weaves together the elements of light, vibration, electromagnetics, molecular hydrogen, music, meditation, breathwork, and intention into a tapestry of transformation.



As you recline comfortably, surrounded by the soothing embrace of these technologies, the journey begins. The gentle glow of therapeutic light bathes your skin, penetrating deep into your cells to stimulate rejuvenation and healing. Simultaneously, vibrational resonance washes over you, encouraging a state of deep relaxation and mental clarity.

health. Meanwhile, the carefully composed music guides your mind and emotions, synchronizing your inner world with the outer experience.

Throughout this journey, meditation and breathwork elevate your consciousness. The intention you set for your session becomes a guiding force, shaping your experience and amplifying the benefits you seek.

The electromagnetic field envelops your body, aligning the energies within and enhancing your body's innate capacity for self-healing. Molecular hydrogen infuses your system, neutralizing free radicals and supporting vibrant

Unlocking Your Potential

The Ammortal Chamber is more than just a technological marvel – it's a gateway to unlocking your full potential. Whether your goal is to promote longevity and vitality or to maximize your performance and expedite recovery, this innovative device stands as an invaluable addition to your daily regimen.



For those seeking to enhance their physical capabilities, the Chamber offers a versatile solution. Athletes, fitness enthusiasts, and individuals on a quest for peak performance can harness the power of this transformative experience to push their limits, optimize recovery, and achieve new heights.

Moreover, the Chamber beckons to those who wish to embark on a journey of inner exploration and personal growth. Meditation practitioners, spiritual seekers, and anyone interested in expanding their consciousness can find a profound ally within its walls.

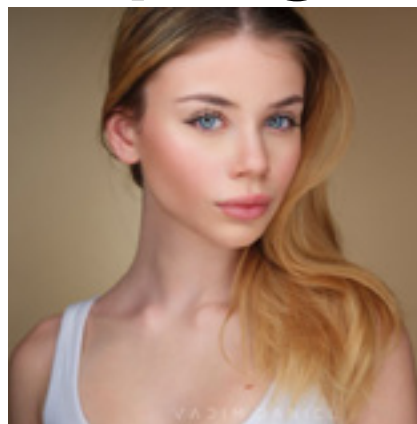
The Future of Wellness is Now

In a world driven by innovation and a ceaseless desire for self-improvement, the Ammortal Chamber emerges as a symbol of our relentless pursuit of well-being. It's a testament to the potential that resides within each of us, waiting to be unleashed.

As you step out of the Chamber, renewed and invigorated, you carry with you the knowledge that the future of wellness is here. The boundaries of human potential are expanding, and the Ammortal Chamber invites you to be part of this exciting journey. It's time to unlock the power within and embrace a life of vitality, longevity, and limitless potential.



Noee Spiegel



Noee Spiegel, born in Montreal to French parents, is a multifaceted talent. As a co-author of "Neurosciences Calisthenics," she bridges the gap between neuroscience and everyday life. A respected contributor to Biohackers Magazine, her articles explore the intriguing world of biohacking, blending technology and biology. Winner of the McEntyre Literature Prize, Noee's literary skills are as profound as her scientific insight. Her diverse interests span from philosophy to wellness, enriching her perspective. Currently studying at Western University in Canada, Noee is on an ambitious journey to become a surgeon, a testament to her commitment to advancing human health and well-being.

[@noeespiegel](https://www.instagram.com/noeespiegel)

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59 +

**TOTAL STUDIES
CONDUCTED**

48 +

**PLACEBO-
CONTROLLED**

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PROGRESS**

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Research**

EMF

Wound Healing

Hypoglycemia

Quantum-Entanglement

Sleep

ATP Production

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Stress Factors

Andrology

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Trauma

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Significant Findings:

- ✓ Improved Blood Health and Circulation
- ✓ Acceleration In Recovery and Wound-Healing
- ✓ Neutralizes Harmful Effects Of EMFs
- ✓ Improved Water Structure
- ✓ Improve HRV
- ✓ Enhancing the Quality of Sleep
- ✓ Increase ATP Production
- ✓ Optimized Energy Level

CREATINE – THE AMINO ACID FOR LONGEVITY AND VITALITY





Introduction

Creatine is one of these not the most highly studied molecules on the face of the Earth. The reason creatine has been studied so vehemently is because researchers know that creatine is safe, effective, and its positive attributes are multifactorial. If you're looking for a safe and inexpensive way to increase energy, cognition, physical performance, fertility, the function of every major organ system and body composition... creatine is for you.

What is creatine

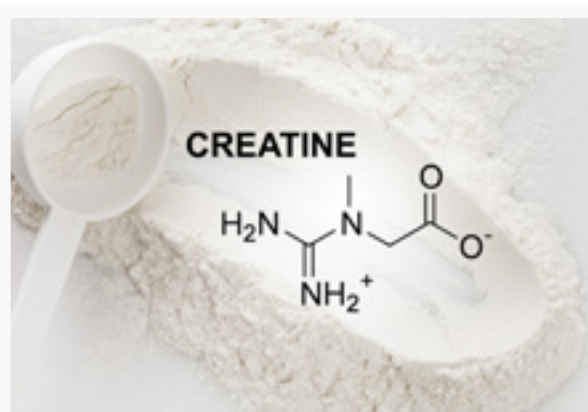
Creatine is classified as an amino acid that is created inside the body. The creation of creatine begins with two amino acids, arginine, and glycine, mainly within the kidney. The kidneys release a compound called guanidinoacetate (GAA), which is then converted into creatine in the liver using a third amino acid called methionine, predominantly in the liver. However, creatine synthesis also occurs in the kidney, pancreas, and importantly inside of the brain. In fact, it's thought that the majority of creatine present inside of the brain was created inside the brain, and was not derived from the available creatine within the blood (3). It's estimated we naturally produce approximately 1-2 grams of creatine every day, which could potentially be mildly increased by a higher protein diet, which would provide more of the substrate required for creatine synthesis (7).

Creatine storage

Creatine is stored within many different tissues within the body including the kidney, brain, liver, and even inside the eyes and ears. Approximately 95% of the creatine in the body is found inside skeletal muscle (4). It is estimated an individual can store as much as 160 g of creatine inside the body, and this is highly dependent on body size and muscle mass (5).

Natural degradation

It is estimated that we lose approximately 1-2% of our creatine stores every day. Thus, the more creatine stores you have, the more creatine you will lose daily. Creatine loss occurs due to the Degradation of creatine into an unusable compound called creatinine in what is referred to as a dehydration reaction. Dehydration is the term given to a chemical change that removes water from a molecule to form a new compound. In this case, dehydrated creatine is called creatinine. The dehydration of creatine is thought to occur randomly and occurs at the rate of approximately 2 to 3% of our whole body creatine stores per day. However, the dehydration of creatine increases during exercise. Moreover, the more intense the exercise is, the more creatinine will be formed. This effect occurs due to a decrease in cellular pH levels that occurs during exercise, which increases the rate of creatine degradation. The degradation of creatine into creatinine is increased in an acidic environment. As muscular pH decreases, you will begin to feel a greater degree of pain and sensations of "burning" in the muscle. Thus, pain perception during a workout is a proxy for a decrease in cellular pH, thus an increase in creatine degradation (6).





Dietary creatine

Creatinine can be derived from foods in fairly high quantities. Creatine is only found in animal products because plants do not naturally produce creatine, but animals synthesize and store creatine just like humans. With that being said, you would have to eat a fairly large amount of certain animal foods every single day to obtain the same amount of creatine you would get through a supplement. Relying on food to get all of your creatine could be a feasible way to maintain adequate creatine stores once creatine stores are fully saturated. It might be difficult to reach full saturation by relying only on food, and it would take more time to build up creatine stores through the amount of creatine you will derive from food, but it certainly could be achieved.

Creatine supplementation

Creatine loading

As mentioned, it's estimated humans can store up to about

160 g of creatine. Given that creatine loss is about 2 to 3 grams per day, and we synthesize approximately 1-2 grams per day, the ingestion of approximately 2 g per day is likely sufficient to maintain our current creatine stores of a 150-pound individual. Your dose should scale dependent on body weight, physical activity, and muscle mass. To increase creatine stores to maximum levels, a 150-pound person would aim to exceed the daily dose required to maintain creatine stores (2 grams per day) by approximately 160 grams, taken over at least 14 days. Once this has been achieved, for a 150-pound individual oral dosing of approximately 2 grams per day can maintain muscle creatine levels at maximum concentration. However, going beyond this intake may positively impact other organ systems, namely the brain, as I will discuss in a moment.

Effects of creatine

ATP production

Now that you know all about creatine storage, let's talk about why you'd want to have creatine stores in the first place! Inside the cells, creatine interacts with an enzyme called creatine kinase, which adds a phosphate group to creatine, creating creatine phosphate (PCr). PCr is extremely important, as you will find out in a moment.

To frame this discussion, it's important that you understand the role of ATP in human biology. Almost every single physiological process uses adenosine triphosphate (ATP) as a source of energy. The body breaks down macromolecules (glucose, fatty acids, amino acids, lactate, etc...) to power the phosphorylation (meaning to add a phosphate) of ADP, creating ATP.



In essence, all of the food that we eat is used to add a single phosphate group onto ADP in order to create ATP. There is energy stored inside of the bond between the second and third phosphate. This energy is used to power just about every single function in the body, including breathing, movement, thinking, the heartbeat, etc...When ATP is utilized outside of the mitochondria in a location referred to as the cytoplasm. When ATP is used for energy it is converted back into ADP.

PCr is present in the cytoplasm, in extremely close proximity to the site of ATP usage. When ATP is converted into ADP, PCr can quickly donate its phosphate to ADP, regenerating ATP.

The reason we are unable to continue exercising forever is that we do not have enough run ATP within the cell because we are unable to make it quickly enough. PCr can quickly regenerate ATP during exercise, and even during everyday life, in order to maintain a supply of ATP for a longer period of time. The energetic benefits of creatine are not extreme in magnitude, however, it has been shown in multiple publications that the performance increases derived from creatine are not negligible (8).

Creatine's role on ATP resynthesis is the main reason why creatine positively impacts virtually every organ system,

workout performance, cognitive performance, and most other facets of health. Due to creatine's role in ATP resynthesis, via this mechanism creatine will make you feel and perform better than you did before.

Water distribution

When talking about creating, I think it's important to address the issue of "water weight". Creatine will increase the amount of water stored inside of your body. The reason for this is that the body will always fight to maintain what is referred to as osmolality. This is the ratio of solutes to liquid within three main tissue compartments: inside the cell, inside the blood, and surrounding the cell.

Creatine is a solute, therefore wherever creatine is stored, we will also store a certain amount of water to maintain the proper ratio of solute to liquid. With that being said, creatine is stored inside the muscles. Thus, creatine will increase the amount of water stored inside of the muscles, not the amount of water stored inside of the bloodstream or the interstitial space. The potentially dangerous and unsightly accumulation of water occurs when water is retained within the bloodstream, raising our blood pressure, and within the interstitial space, referred to as edema. However, creatine will increase water content within the muscle, which

has the effect of increasing muscular size, which consequently makes the muscles larger and more defined. Moreover, this intracellular water can aid in preventing a certain degree of muscular damage and has other beneficial attributes (9).



Recovery and muscle damage

Creating supplementation improves subjective and objective recovery, and decreases muscle breakdown during and after exercise. This is likely due to its ability to enhance protein synthesis and decrease protein breakdown. Additionally, due to creatine's capacity to reduce the accumulation of metabolic waste products, creatine aids in returning the muscle cells back to homeostasis by removing waste products more efficiently. Moreover, creatine increases ATP availability for the energy-intensive recovery process, and increases cellular hydration (11).

Creatine in the brain

The brain is one organ that also uses a very high amount

of creatine. With that being said, the brain is fairly resistant to the uptake of creatine from the bloodstream, as the brain produces the majority of its creatine. Due to the low uptake of creatine from the bloodstream, higher doses of creatine may be warranted to increase brain levels of creatine. However, creatine supplementation does appear to be able to improve the concentration of creatine inside of the brain. Importantly, it does appear that brain creatine is diminished during sleep loss and head trauma. Thus, creatine supplementation has been efficaciously used in these situations to improve cognitive function, memory, and cognitive outcomes. Moreover, supplementation of creatine appears to im-

prove memory, specifically in vegans and vegetarians who do not consume enough creatine daily (19).

In essence, it does appear that high-dose creatine is wanted to improve cognitive outcomes. Within the brain, creatine has numerous roles related to energy production and maintenance, which aids in memory, cognition, and recovery from cognitive insults such as sleep loss or head trauma. Creatine also appears to be an application supplement to fight off cognitive decline and improve cognition in patients with neurodegenerative pathologies (12).



Creatine and the heart

Creatine plays a vital role in maintaining energy availability in the heart, and reducing the likelihood of heart dysfunction (13). Creatine acts to increase the ATP supply to the heart, which is pivotal for maintaining the balance of electrolytes within the heart. Electrolytes, such as sodium and potassium, are vital for maintaining proper heart rhythm, contractility, and efficiency. Energy is required to set up a concentration gradient of sodium and potassium in the heart, of which creatine is able to supply.

Creatine and the immune system

Creatine has shown a substantial degree of efficacy in improving the immune system, which is one mechanism by which creatine enhances recovery from exercise. Because the immune system is such an energy-intensive system, the increased production and availability of ATP supported by creatine can enhance the immune response and immune defense, such as defense against pathogens, bacteria, and viruses (14).

Creatine and fertility

Interestingly, it does appear that similar to the way that creatine provides energy to the brain and muscular system, creatine is used as an energy source for sperm, allowing them to swim up the vaginal canal in order to fertilize an egg. Thus, creatine supplementation in both men and women trying to reproduce may be an efficacious fertility protocol to increase the likelihood of impregnation (18).



Creatine's role in longevity

Hopefully, it is evident that creatine can improve lifespan and quality of life concomitantly. As aforementioned, creatine plays a role in both muscle strength and muscle size, both of which are extremely important factors when it comes to the risk of physical injury and deterioration later in life. Furthermore, diabetes and other metabolic disorders can reduce both one's health span and lifespan as well. The growth and maintenance of muscle mass is a key factor in regulating our risk of diabetes and metabolic diseases, with low muscle mass being a positive predictor of the onset of diabetes and metabolic disorders (17). Creatine's critical role in muscle health, function, and growth makes creatine an important molecule for preventing the onset of these metabolic disorders, helping to increase both health span and lifespan.

Moreover, creatine has demonstrated in a multitude of ways that it can help prevent, and remediate cognitive decline as we age, including playing a role in preventing the onset and symptoms of age-related diseases such as Parkinson's and Alzheimer's disease (15). Thus, creatine can improve lifespan by preventing possibly fatal mental and physical deterioration, and also improve the quality of life by improving mental and physical capabilities.

In addition, as mentioned, creatine plays a vital role in the immune system. The immune system is extremely important for ensuring we do not fall victim to widespread infections that could possibly be life-threatening. Lastly, I mentioned that creatine can also help support the heart and many other organ systems, all of which decline in function as we age. It is evident by way of creatine's numerous mechanisms that it could potentially be a healthspan and lifespan-promoting molecule, and the research does appear to back up this hypothesis (16).

Conclusion

There are many myths and misconceptions about creatine, which have been reviewed multiple times in different publications. That being said, creatine, is one of the most, if not the most, rigorously studied and tested compounds for exercise performance and overall health. Any case reports of detrimental effects of creatine are scarce, and typically only occur in individuals with underlying pathologies, such as kidney abnormalities. Moreover, creatine is a naturally occurring compound found in our food, but the addition of creatine supplementation can further increase the beneficial effects of creatine by saturating creatine stores. Importantly, many studies indicate that individuals with diets low in creatine, such as vegan or vegetarian diets, respond even more favorably to





creatine than an individual on an omnivorous, meat-heavy diet. The roles of creatine in the human body are akin to the roles of glucose, fats, and proteins, and numerous more roles of creatine are continuing to be discovered. Creatine is inexpensive and efficacious and should be considered as one of the fundamental supplements for almost anyone's lifespan-extending protocol.

References

- [1.https://journals.physiology.org/doi/full/10.1152/jap.2000.89.3.1165](https://journals.physiology.org/doi/full/10.1152/jap.2000.89.3.1165)
- [2.https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3750511/#:~:text=In%20conclusion%2C%20post%20work-out%20supplementation,as%20the%20brief%20treatment%20duration](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3750511/#:~:text=In%20conclusion%2C%20post%20work-out%20supplementation,as%20the%20brief%20treatment%20duration)
- [3.https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8912287/](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8912287/)
- [4.https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3407788/#B1](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3407788/#B1)
- [5.https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2048496/#:~:text=However%2C%20the%20average%20human%20has,urine%20%5B13%2C16%5D.](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2048496/#:~:text=However%2C%20the%20average%20human%20has,urine%20%5B13%2C16%5D.)
- [6.https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2390952/#:~:text=The%20group%20with%20moderate%2Fintense,not%20differ%20between%20these%20groups.](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2390952/#:~:text=The%20group%20with%20moderate%2Fintense,not%20differ%20between%20these%20groups.)
- [7.https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5469049/](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5469049/)
- [8.https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5469049/](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5469049/)
- [9.https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6723611/](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6723611/)
- [10.https://pubmed.ncbi.nlm.nih.gov/28595527/](https://pubmed.ncbi.nlm.nih.gov/28595527/)
- [11.https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9213373/#:~:text=Creatine%20monohydrate%20reduced%20the%20level,single%20bout%20of%20strenuous%20exercise.](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9213373/#:~:text=Creatine%20monohydrate%20reduced%20the%20level,single%20bout%20of%20strenuous%20exercise.)
- [12.https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8912287/#:~:text=Furthermore%2C%20creatine%20has%20shown%20some,diseases%20appears%20to%20be%20lacking.](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8912287/#:~:text=Furthermore%2C%20creatine%20has%20shown%20some,diseases%20appears%20to%20be%20lacking.)
- [13.https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8067763/](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8067763/)
- [14.https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9533032/](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9533032/)
- [15.https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4304302/#:~:text=New%20studies%20indicate%20that%20creatine,%2C%20Alzheimer's%20disease%2C%20and%20stroke](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4304302/#:~:text=New%20studies%20indicate%20that%20creatine,%2C%20Alzheimer's%20disease%2C%20and%20stroke)
- [16.https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4304302/](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4304302/)
- [17.https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7915263/](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7915263/)
- [18.https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8839819/#:~:text=The%20addition%20of%20creatine%20phosphate,in%20vitro%20fertilization%20%5B34%5D.](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8839819/#:~:text=The%20addition%20of%20creatine%20phosphate,in%20vitro%20fertilization%20%5B34%5D.)
- [19.https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7910963/#:~:text=McMorris%20and%20colleagues%20%5B174%5D%20reported,%2Fday%20for%207%20days.](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7910963/#:~:text=McMorris%20and%20colleagues%20%5B174%5D%20reported,%2Fday%20for%207%20days.)

Calvin Scheller



Calvin, an industrious individual with a profound interest in human physiology and nutrition, has been ardently pursuing his passion since the age of 13. Earning the distinction of valedictorian at his high school, Calvin is currently enrolled in college, where he is diligently working towards obtaining a degree in biology with a specialization in bio-process technology. Remarkably self-taught, Calvin's pursuit of knowledge has surpassed conventional expectations. His dedication to studying is exemplary, outclassing the efforts of many in his field. Calvin possesses a wealth of expertise in biohacking, a subject he has delved into for several years. Through his endeavors, he has acquired a comprehensive set of tools aimed at optimizing health, energy levels, and longevity.

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LIFESPANNING'S EFFECT ON THE BIOLOGICAL AGE TEST

A Comprehensive Guide
to Healthy Aging

GlycanAge

Introduction

Aging is an intricate interplay of time and biology. While chronological age marks the passing years, our biological age offers insights into our actual physiological state. As the new year unfolds, we're beckoned to understand not just the hallmarks of aging, but how modern science offers tools, like the GlycanAge test, to uncover the mysteries of our biological clock.



Hallmarks of Aging: Biological Milestones

Aging is more than the passage of time; it's a complex web of biological processes that define our health and vitality. Key hallmarks include:

- **Genomic Instability:** DNA damage accumulates over time due to radiation, pollution, and dietary choices, leading to age-associated diseases.
- **Telomere Attrition:** The protective ends of chromosomes, telomeres, shorten with cell divisions. When critically short, cellular aging ensues.
- **Epigenetic Alterations:** The dynamic markers that control gene activity undergo changes, shifting the patterns of gene expression.
- **Loss of Proteostasis:** Disruptions in protein function and structure can impair cellular functions.
- **Deregulated Nutrient Sensing:** Efficiency in metabolic regulation pathways diminishes with age.
- **Mitochondrial Dysfunction:** The cellular energy powerhouses, mitochondria, may falter over time.
- **Cellular Senescence:** Non-functioning cells linger in the body, heightening inflammation and disease risks.
- **Stem Cell Exhaustion:** Over time, the reservoir of tissue-regenerating stem cells depletes.
- **Altered Intercellular Communication:** Disrupted cellular signaling can impair functions and heighten inflammation.

• **Lifespanning:** The Blueprint for Quality Aging

Understanding these hallmarks provides the foundation to counteract the effects of aging. The art of lifespaning encourages:

- **Nutrition:** Oxidative stress is combatted with antioxidant-rich foods. Intermittent fasting and caloric restriction enhance metabolic pathways.
- **Physical Activity:** Exercise strengthens mitochondrial and cardiovascular health and bolsters cognitive function.
- **Mental Wellness:** Practices like meditation and continuous learning preserve brain health and cognitive prowess.
- **Sleep:** Regular sleep routines aid DNA repair and cellular health.
- **Social Connections:** Strong social bonds counteract cognitive decline and nourish mental wellness.
- **Minimize Toxins:** Reducing exposure to pollutants limits DNA damage.
- **Regular Health Check-ups:** Early detection prevents complications from age-related issues.



Diving Deeper: The Glycan-Age Test

Yet, there's more to aging than just hallmarks. The GlycanAge test offers a revolutionary look into our biological age. By examining glycans, sugar molecules that modify proteins, this test reveals our body's inflammation state, a key determinant of biological age.

The brilliance of glycans lies in their intimate involvement in several biological processes and their direct link to major diseases. As responsive markers, they paint a real-time picture of our health based on lifestyle choices. Chronic inflammation, an underlying perpetrator in many age-related diseases, is closely monitored by glycans.

A personal experience with this test, revealing a biological age of 28, showcases its potential. Such tangible feedback enables real-time adjustments in lifestyle choices. It's not about simply knowing our age, but understanding our health's narrative.

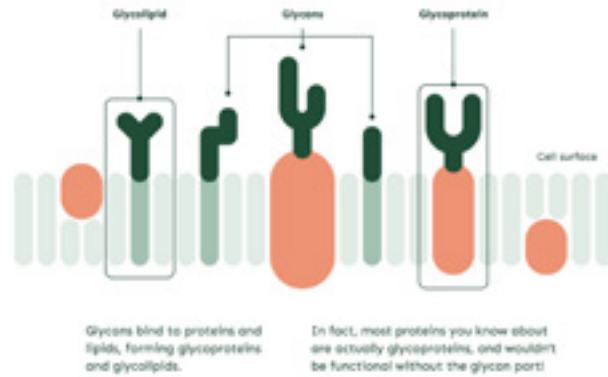
Conclusion

Each new year illuminates the possibilities each life phase presents. With a deep understanding of aging hallmarks, combined with the precision of tools, we're empowered to journey through life with vibrancy and purpose. The blend of traditional wisdom and modern science offers a roadmap to celebrate each year, understanding it's not just about longevity but living each moment to its fullest potential.

Glycans are on our cells.

Since they exist on our cell's surface, you can think of them as a sugar coating on our cells.

They look like tiny antennae – which is very convenient because they play an important role in cell communication.



Glycans are complex sugars.

They're built from multiple simple sugars:



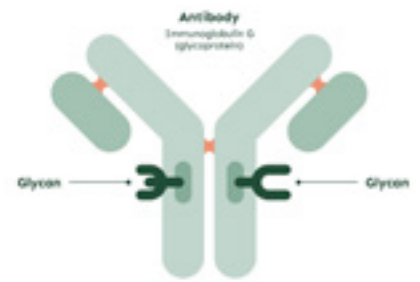
Their unique and complex structure makes them the most information-dense biopolymers on earth.

Glycans can change & adapt.

Your glycome (sum of all glycans) changes based on many factors.

In some cases it can change up to 10 years before onset of disease or hospitalization.

Because of this, it's an excellent early warning system.



GlycanAge analyses the glycome on your antibodies, and can tell you if you should change your lifestyle (and how).

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Jean Fallacara



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Jean, a visionary entrepreneur and neuroscientist, is a pioneering biohacker and founder passionate about merging science, art, and technology. With a remarkable IQ of 167 and an MIT background in AI, VR, XR, Biochemistry, Genetics, and Biotechnology, he's earned numerous awards and distinctions. Having founded ventures like Z-Sciences, he strategically led its acquisition by inTEST Corp in 2021. As the Founder of Lifespacing Media, Jean aims to mainstream human longevity, emphasizing well-being and longevity exploration. His mission involves social connection, life-science education, and multimedia content to redefine lifespan boundaries. Beyond technology, Jean embraces a holistic lifestyle in Miami Beach, prioritizing family, self-optimization, and gratitude.

IN THE LAB

Some of the latest scientific research in the fields of lifespans and longevity



Unlocking the Power of Diet: Provitamin A Could Hold Key to Cognitive Health in Battle Against Dementia

As the global dementia crisis escalates, a pioneering study revisits the impact of provitamin A, specifically BETA-carotene, on cognitive decline. Drawing from under-explored data in the Physicians' Health Study, this research suggests a potential dietary strategy, urging a reexamination of micronutrients for their role in mitigating dementia risk through innovative multi-omic approaches."

<https://pubmed.ncbi.nlm.nih.gov/36939000/>

Game-Changer for Autism: Cord Blood Therapy Shows Promise in Cost-Effective Long-Term Outcomes"

"Innovative modeling predicts that integrating cord blood therapy with standard care for autism spectrum disorder (ASD) could be cost-effective, offering a potential breakthrough. The study emphasizes the importance of optimizing intervention costs and efficacy to enhance economic efficiency and improve adaptive behavior in individuals with ASD."

<https://pubmed.ncbi.nlm.nih.gov/37071655/>



Metformin Unveils the Fountain of Youth? Breakthrough Study Shows Epigenetic Age Reversal in HIV Patients

"A retrospective analysis of metformin's impact on aging biomarkers reveals a potential breakthrough. In virologically-suppressed people living with HIV (PLWH), a 24-week clinical trial showcased significant reductions in epigenetic age of monocytes, suggesting metformin's role in promoting healthy aging. Further studies are urged for validation and broader exploration."

<https://pubmed.ncbi.nlm.nih.gov/37675817/>



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AGE BACKWARDS

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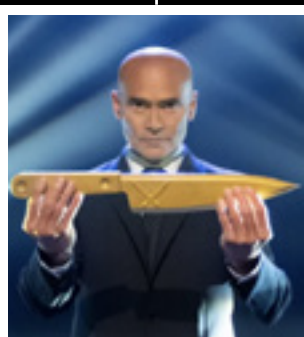
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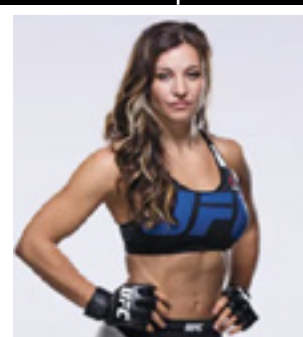
KEYNOTE SPEAKERS



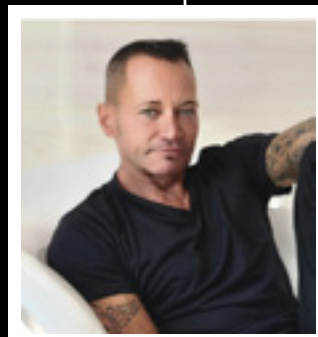
William Shatner
Explorer, Star Trek



Mark Dacascos
John Wick, The Iron Chef



Miesha Tate
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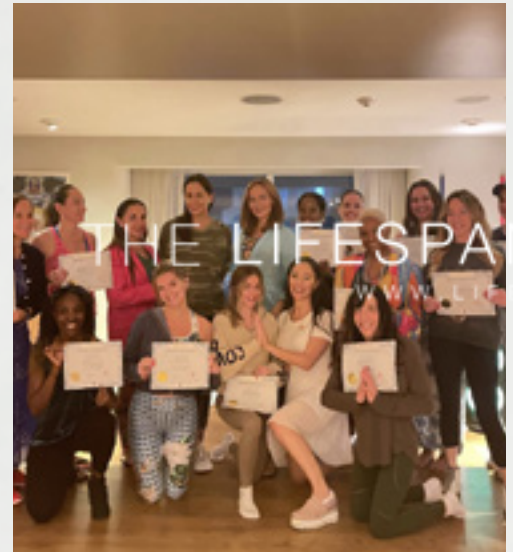
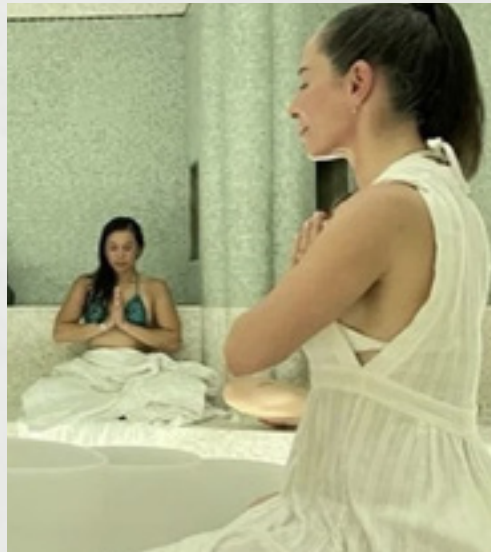
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LIGHT THERAPY FOR HEALTH CRAVING BRAIN



Light, as an element of the electromagnetic spectrum, plays an indispensable role in our daily lives, beyond just illuminating our surroundings. One of its lesser-known forms, infrared light, has garnered significant attention in recent years for its potential benefits to brain health. This article delves into

the nature of infrared light and the contemporary technological applications it finds in the domain of neurology and brain well-being.

What is Infrared Light?

Infrared (IR) light is a type of electromagnetic radiation with wavelengths longer than visible light but shorter than

microwaves. It's classified into three categories based on its wavelength:

Near-Infrared (NIR): 700nm - 1400nm

Mid-Infrared: 1400nm - 3000nm

Far-Infrared: 3000nm - 1mm

Out of these, it is the near-infrared light that has shown promise in brain health applications.

Near-Infrared Light and Brain Health: The Science

Research into the effects of near-infrared light on the brain has yielded intriguing results:

Neuroprotection and Recovery: Exposure to near-infrared light (NIR) has demonstrated neuroprotective effects, especially in cases of traumatic brain injury or stroke 1. The theory is that NIR helps enhance mitochondrial function, which in turn can aid in cell survival and reduce inflammation.

Cognitive Enhancement: Preliminary studies suggest that NIR light can boost cognitive performance by enhancing the metabolic capacity of neurons and increasing blood flow to the brain 2.

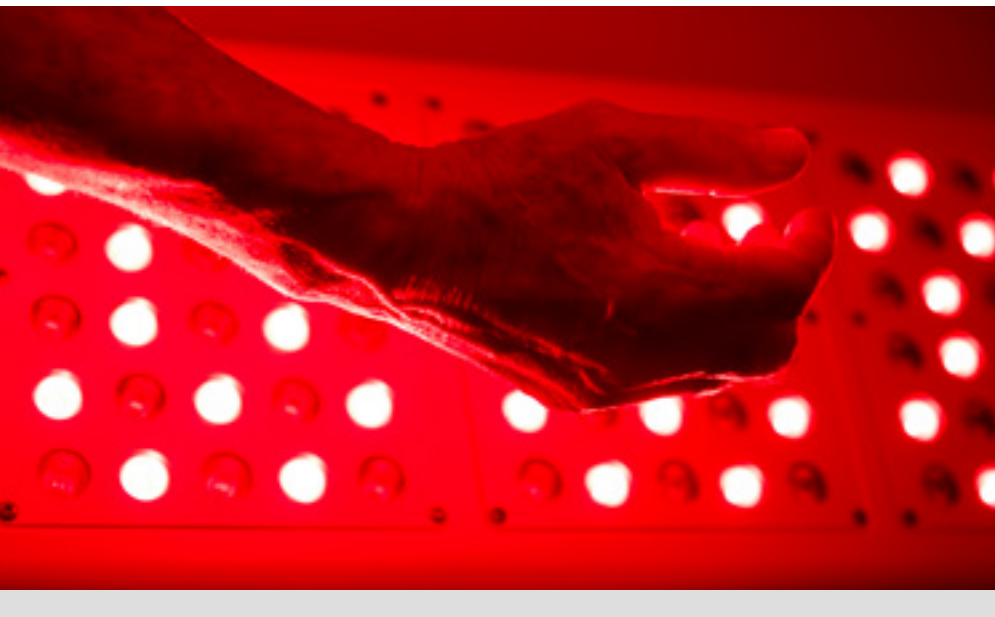
Alleviation of Neurodegenerative Diseases: In certain animal models, NIR exposure has slowed the progression of diseases like Alzheimer's and Parkinson's by reducing oxidative stress and promoting cellular repair 3.

Technological Advancements in Infrared Therapy for Brain Health

Given the potential of infrared light in promoting brain health, several technologies have emerged:

Infrared Brain Devices: These devices, which look like helmets, emit specific NIR wavelengths and are designed to treat traumatic brain injuries and potentially slow the progression of neurodegenerative diseases an example of which can be found at [Neuronic](#) who are pioneers in the near-infrared range.

Infrared Saunas: While primarily known for their detoxifying effects, infrared saunas expose the body, including the head, to a broad spectrum of infrared light, promoting overall health and possibly aiding in cognitive function. One of the companies shaking up this space is [Sunlighten](#) who provide ways for detoxification, weight loss and heart health.



Low-Level Laser Therapy (LLLT): A non-invasive procedure where NIR is directed to specific areas of the brain. This therapy is being studied for its potential benefits in treating depression, anxiety, and even migraines. More than just a company this has been shown in Massachusetts General Hospital which has a photobiomodulation clinic. While generally safe when used properly, lasers can pose a risk if not applied correctly.

Whole-Body Infrared Light Therapy: Utilizing red light pads and panels is a holistic approach to wellness that extends beyond the confines of traditional treatments. This non-invasive procedure bathes the entire body in Near-Infrared (NIR) light, offering a myriad of potential benefits. Research indicates that

this therapy may contribute to alleviating pain management and muscle recovery.

Infrared light, specifically near-infrared light, is an exciting frontier in the world of brain health research. While much remains to be discovered about its full range of applications and benefits, the emerging technology holds promise for those seeking to enhance their neurological well-being. As always, individuals interested in exploring NIR therapy should consult with healthcare professionals to make informed decisions.

References:

1. <https://www.massgeneral.org/news/press-release/mgh-led-study-shows-light-therapy-is-safe-modulates-brain-repair-and-may-benefit-patients-with-moderate-traumatic-brain-injury>
2. <https://pubmed.ncbi.nlm.nih.gov/34092636/>
3. <https://alzres.biomedcentral.com/articles/10.1186/alzrt232>

Liam Pingree



Liam Pingree is an entrepreneur and Co-Founder of Neuronix, a pioneering company focused on optimizing brain capacity throughout all stages of life. With a mission to enhance and monitor brain health, Neuronix develops cutting-edge smart MedTech devices that integrate the latest research findings.

Liam has experience in fund administration and structuring, pricing risk on derivatives, and business strategy acquired across 3 continents from various start-ups such as off-grid solar companies in Rwanda to a trading floor in Manhattan New York. Liam is responsible for business development at Neuronix and oversees the marketing and sales team.."

[@liampingree](#)

UNLOCK THE ANCIENT SECRETS OF INNER MOBILITY WITH IHEART

Learn how to tap into the power of Inner Mobility to achieve persistent wellness and longevity.



Yoga, meditation, and stress management techniques share a common thread - they all emphasize the importance of proper breathing. The practice of mindful breathing, rooted in Eastern culture for centuries, has gained recognition in Western medicine in recent decades. Its potential health benefits are now being acknowledged by medical professionals worldwide.

Studies have found that deep controlled breathing can reduce stress, lower blood pressure, and lower the level of stress hormones. Have you ever wondered how the simple act of inhaling and exhaling promotes health? It's all about

how, with every breath, your spine, ribs, diaphragm and other tissues work in a coordinated and connected fashion to promote health of your entire body. Youthful movement of body structures, expanding and releasing with each breath, can be called Inner Mobility. Inner Mobility is directly linked to how well our body and mind function to maintain wellness and achieve longevity.

For decades, eastern medicine has promoted gentle, integrative, stretching exercises such as Tai Chi, Chi Kung and Yoga to allow the body to move in ways supporting Inner Mobility. This article aims to demystify the profound principles of breathing and Inner

Mobility, making them accessible and comprehensible. By providing a clear understanding, it empowers you to unlock the health benefits associated with these ancient practices.

After reading this article, you will discover techniques to preserve youthful energy and health by drawing from both ancient Eastern wisdom and modern Western scientific knowledge. We will take you through the journey of understanding human physiology to better manage your wellness and objectively track benefits from exercise, healthy diet, and stress management. By the end, you will have the essential knowledge to restore health, maintain wellness, and live a long life.



What is Inner Mobility?

All body systems are dependent on Inner Mobility to promote organic function. Inner Mobility allows each breath to act as an engine of health. Breathing involves the diaphragm, ribs, spine, and abdominal muscles joined by strong and elastic connections. Even the pelvis is involved in breathing movements. The dynamic assembly of the body's core muscles, tendons, and tissues creates Inner Mobility. Inner Mobility enlists the entire body in rhythmic breathing movements.

To understand how Inner Mobility works, let's begin by creating a model of human functional anatomy. Our body can be divided into four cavities containing our life-sustaining organs as shown in Fig 1. These four cavities are the skull/spine, chest, abdomen and pelvis. This four-cavity pattern is simple yet comprehensive. It will help you understand how breathing pro-

motes the function and health of all organ systems.

The diaphragm muscle, shown in Fig 2 and viewed from below in Fig 3, separates the chest cavity and abdominal cavity.

During inhalation, the diaphragm descends, compressing the liver, spleen and kidneys in a sponge-like fashion as shown in Fig 4. Compression/release cycles promote the flow of body fluids through billions of tiny channels in these organs. These channels are lined with cells performing the biochemical work of life.

As the Diaphragm descends, the rib cage expands and the spinal curves stretch out with each breath, decreasing pressure in the chest. This drop in pressure draws air into the lungs as well as returning blood and lymphatic fluid to the heart. The heart and lungs are dependent on Inner Mobility for full function.

The spine, rib cage, pelvis

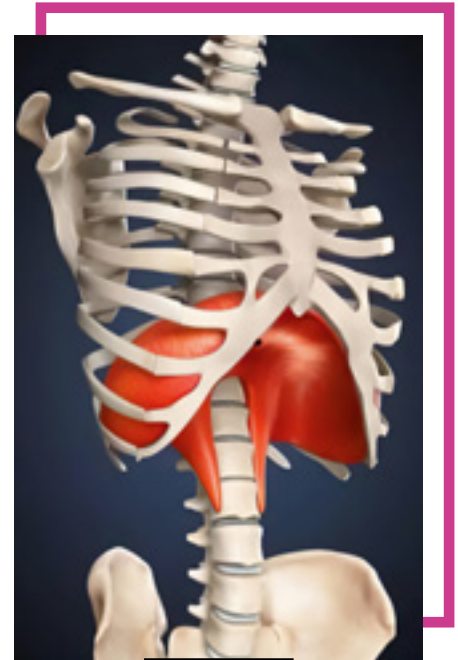


Fig 2

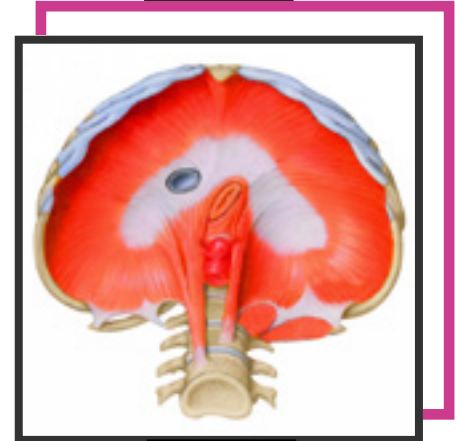


Fig 3

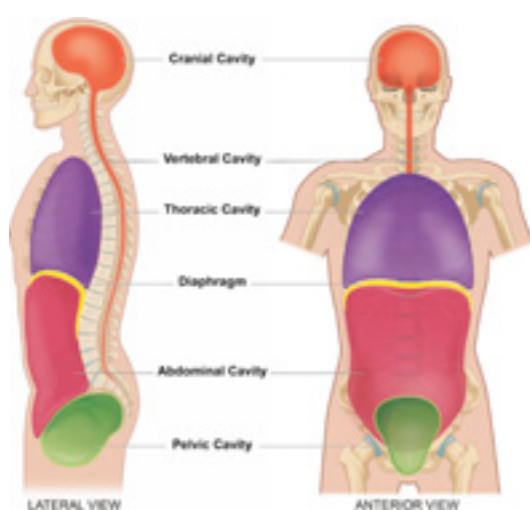


Fig 1

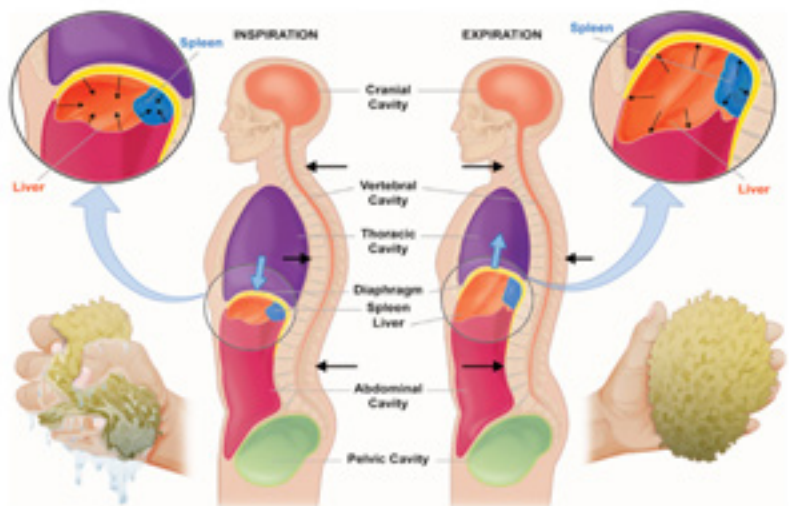


Fig 4

and other parts of our skeletal structure are the bony part of our Inner Mobility engine. Working with a network of muscles, tendons, ligaments and other tissues they together create the bellows of life.

Youthful Inner Mobility creates pressure changes in the spine that, with each breath, propels cerebrospinal fluid (CSF) up the spine to the brain as shown in Fig 5. This helps circulate CSF through the inner chambers of the brain, providing nutrition to brain cells. CSF flows past frond-like tissues known as the choroid plexus that remove toxic waste and maintain purity of the brain's environment. Youthful Inner Mobility allows the brain to function optimally and protects against cognitive decline.

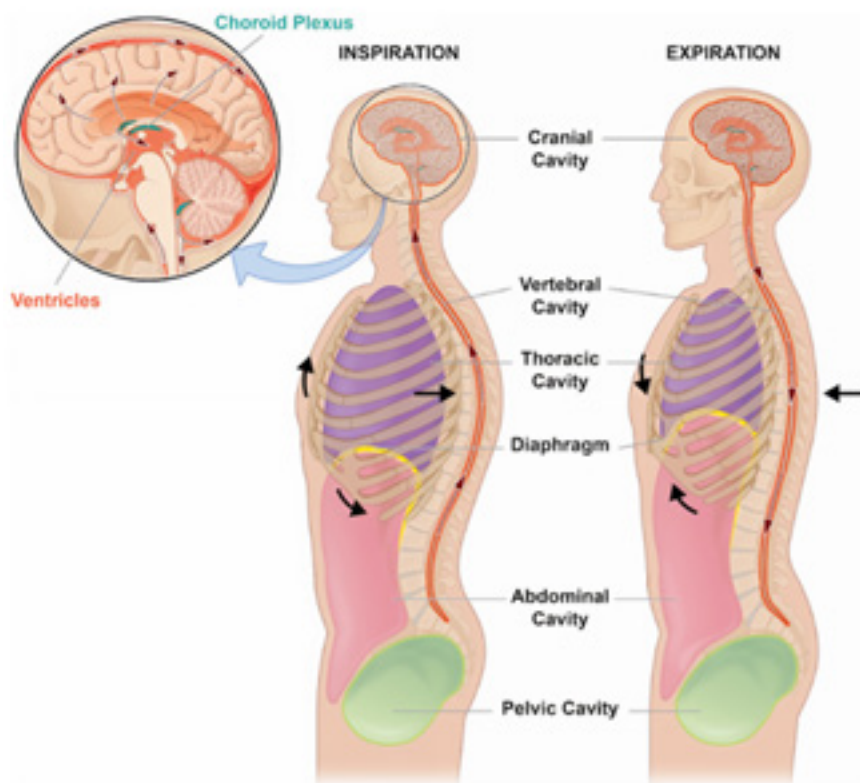


Fig 5

Improving Inner Mobility

Recognizing the importance of Inner Mobility transforms a person's understanding of health and offers a path to wellness and longevity. Simple daily efforts will produce benefits and restore youthful Inner Mobility.

1. Exercise: As in all things it's best to keep it simple. Exercise can be one or more activities, on your own or at a fitness club. Exercise is, most importantly, the simple but powerful act of moving your body. Exercise regularly to progressively improve Inner Mobility. Having a Fitness Trainer with an integrative approach speeds the progress. Learning ancient arts such as Tai Chi and Yoga



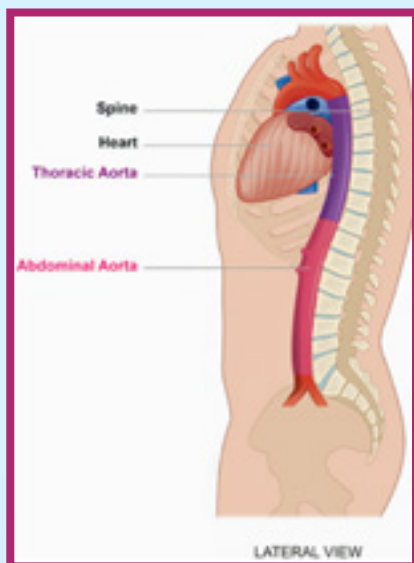
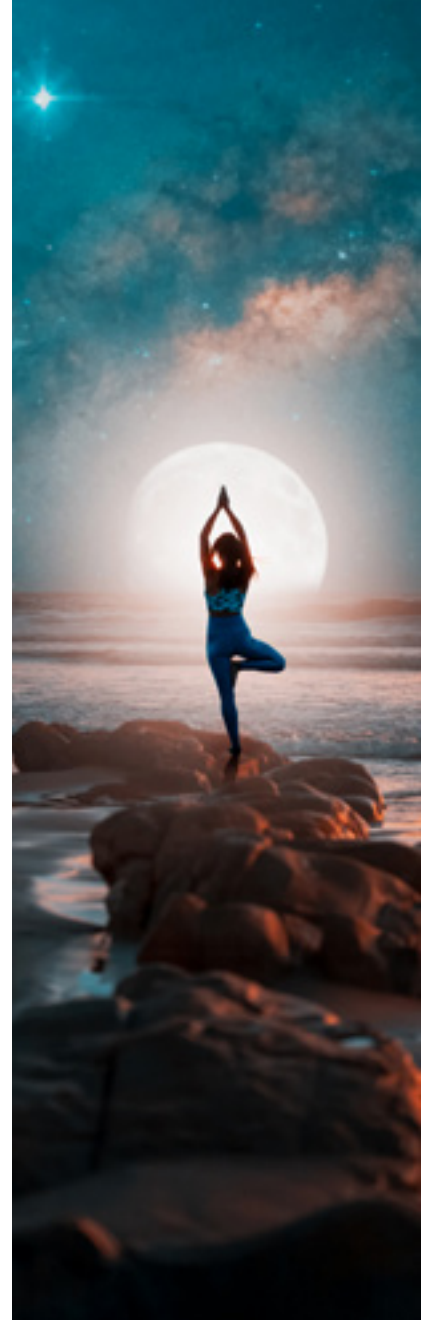
will help you understand how movement and alignment transform your body. It will help you understand the ways to harness increased body comfort and energy. Modern core and spine-focused arts such as Pilates will produce great benefits. Walking and hiking need no classroom and serve as their own teachers. They are a great way to get close to your own nature. Listen to your body, stop thinking, and allow yourself to regain the natural movements of childhood. Inner Mobility flows from regular bodywork and offers breathing-based benefits to every part of your being.

2. Diet: Eating should be directed to support life and not overwhelm your body. Quantities of food should be just enough for energy, protein, and other nutritional needs. There should be a time for the body to rest metabolically. Eating too quickly or late at night can cause digestive difficulty and discomfort interfering with Inner Mobility.

Diaphragmatic descent with inspiration is important for the promotion of abdominal internal organ microcirculation. Bloating interferes with diaphragmatic descent.

3. Stress management: A stressed and fatigued mind will not be able to allow the body to relax and breathe effectively, promoting Inner Mobility. A restful sleep is essential to tissue healing and stress reduction. It promotes breathing in a connected but soft and elastic fashion. Fear and anxiety decrease the respiratory depth and increase the rate of respiration. Inner Mobility benefits from reduced stress and increased peacefulness. Mindfulness training and other techniques help achieve a calm and effective state.

Inner Mobility is a path leading to persistent wellness and long life. The more time you devote to cultivating Inner Mobility the better you will feel and the longer you will live.



Aortic Stiffness: A measure of Inner Mobility

Youthful Inner Mobility is crucial for health, wellness, and longevity but how to measure it? Luckily, with the advancement of Western medicine, modern medical science has discovered a health metric, Aortic Stiffness, able to measure spinal flexibility and assess Inner Mobility.

The Aorta is the body's largest blood vessel, running from the heart, through the chest

and abdomen. The aorta and spinal cord are in intimate contact, as shown in the diagram to the left and in Fig 6 below, and as a result are mechanically coupled. Aortic Stiffness has been shown in published studies to have a strong relationship with spinal flexibility and inner mobility. Aortic Stiffness is a surrogate measure of spinal flexibility providing unique and valuable insight into Inner Mobility.



Fig 6

It should be mentioned that Aortic Stiffness is recognized as a powerful indicator of cardiovascular risk. Increased aortic pulse wave velocity is linked with high blood pressure (Hypertension). It also causes decreased blood flow through the coronary arteries causing coronary artery disease and increased workload of the heart. These changes can lead to cardiac events such as heart failure and heart attack. Spikes in blood pressure, due to increased Aortic Stiffness, cause damage to the walls of the brain's small blood vessels, causing areas of brain cell death known as cerebral microangiopathic angiopathy. These changes accumulate leading to cognitive decline and Dementia. Maintaining Inner Mobility and avoiding increased Aortic Stiffness help you maintain good brain function.

Published scientific articles recognize the relationship between Aortic Stiffness and overall health (All-Cause Mortality). Aortic Stiffness is a uniquely integrative measure because of its relationship to spinal flexibility and Inner Mobility. <https://www.sciencedirect.com/science/article/pii/S0735109710002809?via%3Dihub>

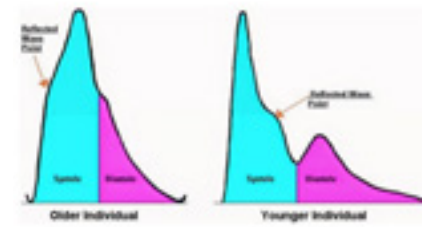
Track Your Progress with iHeart

When you are trying to lose weight, you measure the progress through a weight scale. Aortic Stiffness tracks your Inner Mobility and acts as a 'Master Metric', able to assess overall Wellness. There are published studies showing improvement in Aortic Stiffness and Inner Mobility with exercise, with diets high in antioxidants and with stress management activities. Tracking changes in Aortic Stiffness will objectively show benefit from healthy lifestyle choices promoting Inner Mobility.

In the past, measurement of Aortic Stiffness has required sophisticated systems using pressure sensors over arteries in the neck and thigh. It also required a skilled operator and equipment costing over \$10,000.

Fortunately, there is now an easy and affordable way to measure Aortic Stiffness. The iHeart Oximeter www.goiheart.com uses the fingertip pulse signal to assess Aortic Stiff-

ness. It turns out that shape of the fingertip arterial pulse wave changes with ageing as a result of changes in Aortic Stiffness as



shown in the picture above.

The Reflected Wave Point noted in the picture above indicates position of a wave, originating with each heart beat and reflected from the lower Aorta, in the pulse signal. With a youthful and flexible Aortic, wave travel is slower and the Aortic Reflected Wave arrives later in the pulse signal. Aortic Wave Reflection is described in Fig 7.

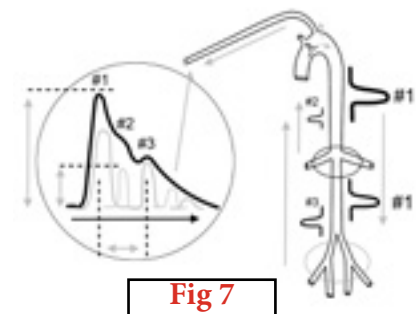
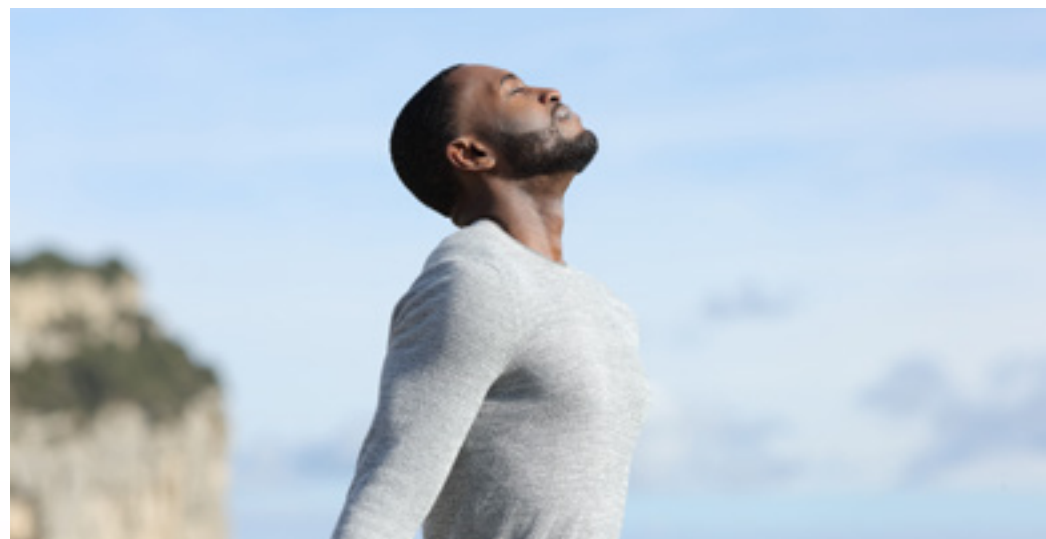


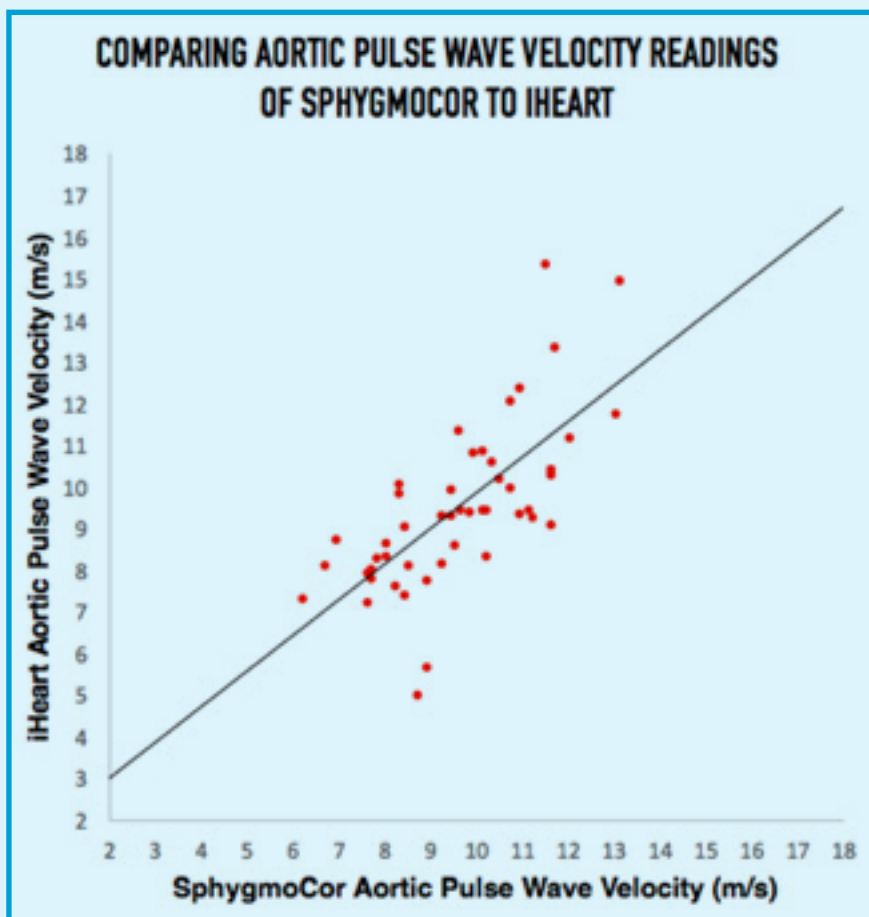
Fig 7



Changes in fingertip pulse shape are measured by the iHeart Oximeter and used to calculate Aortic PWV (pulse wave velocity). Aortic PWV is the way Aortic Stiffness is usually measured in published articles.

A comparison of Aortic PWV calculated by the iHeart oximeter and by the SphygmoCor gold standard Aortic PWV measurement system is shown in the diagram to the right. The graph shows good correlation between these methods. iHeart Internal Age can help you assess Aortic Stiffness and track Inner Mobility related benefits of daily healthy lifestyle efforts.

Once the Internal Age app calculates Aortic PWV it is compared to average age-related values of Aortic PWV to deter-



mine a person's Internal Age.

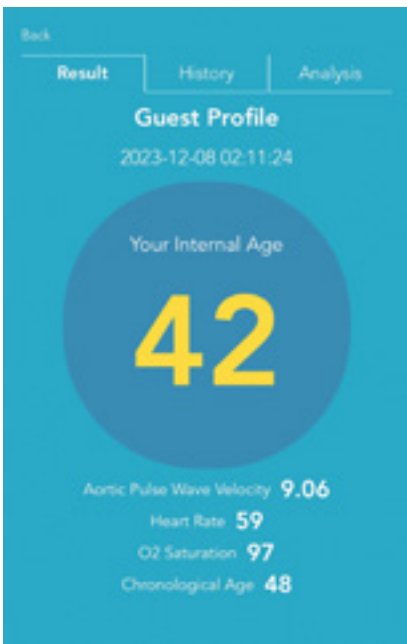
The **iHeart Oximeter** is shown in the pictures to the left. The iHeart fingertip oximeter at www.goiheart.com has a higher sampling speed and higher resolution than any other commercially available oximeter to precisely identify and characterise the Aortic Reflected Wave and calculate Aortic PWV.

The iHeart Oximeter is intended to be thrown in a drawer and taken out every few weeks to 'check in' on yourself. Change happens over weeks and months and iHeart Internal Age compliments your subjective sense of improving wellness.

Take Advantage of iHeart's Added Benefits

The iHeart oximeter provides Internal Age as an indicator of Aortic Stiffness and Inner Mobility. The iHeart oximeter offers access to iHeart Internal Age as well as four other apps providing insight into health and wellbeing. The five iHeart apps are reviewed below.

iHeart Internal Age uses measurement of Aortic Stiffness to provide insight into Inner Mobility, overall health, and longevity. Aortic Stiffness is a powerful and integrative metric that shows benefits from exercise, a good diet, and stress management. The iHeart Internal Age results screen is shown below.



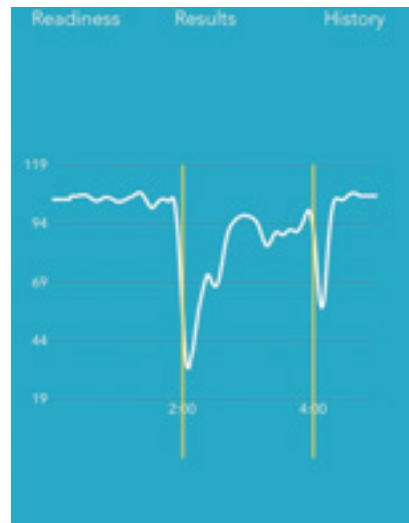
iHeart Internal Age also tracks testing history to reveal trends as a result of lifestyle choices.



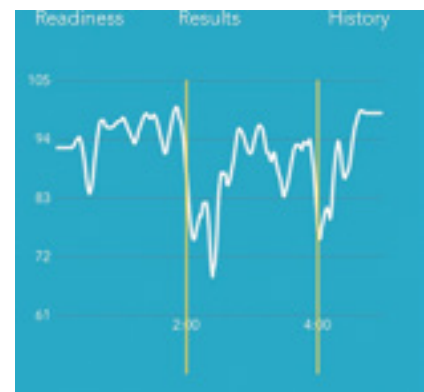
iHeart Brain provides an assessment of the Autonomic Nervous System (ANS) function allowing tracking of progressive benefits. The ANS controls function of every organ system in the body.

iHeart Brain tracks the fall in blood pressure after standing up to reveal the pattern of blood pressure recovery. Results are shown visually and with a score.

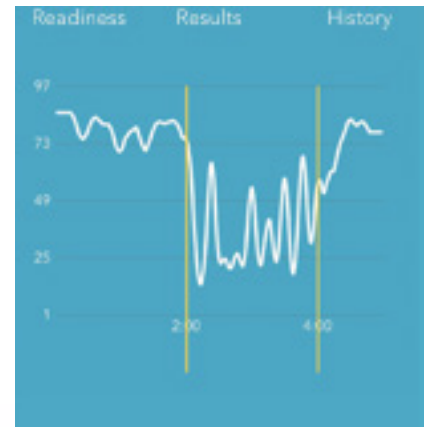
An iHeart Brain recording showing healthy ANS function and rapid recovery of BP is shown below.



An iHeart Brain recording showing impaired ANS function with delayed recovery of BP to baseline and poorly sustained BP recovery is shown below.



An iHeart Brain recording showing inadequate recovery of BP to baseline indicating very impaired ANS function is shown below.

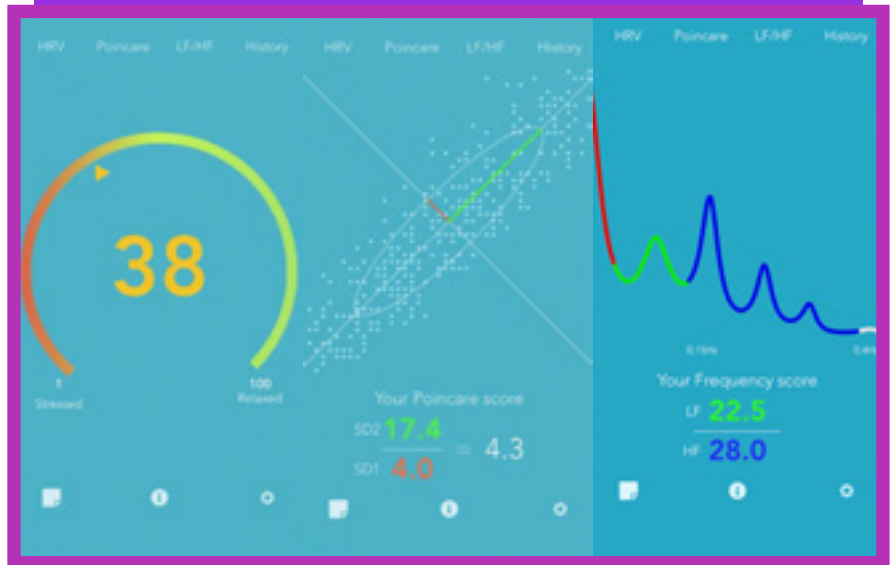


iHeart Brain, for the first time, allows a simple and easy assessment of overall ANS function. iHeart Brain will objectively show how improving Inner Mobility leads to more effective ANS function.

iHeart HRV uses heart rate variability analysis to assess stress levels. The HRV app display of the overall score, Poincare (scatter graph) distribution, and spectral analysis is shown in the screenshot to the right.

iHeart Record allows the recording of heart rate, breathing rhythms, and blood oxygen for selected periods of 1,3,5 and 10 minutes. Various protocols can be used to assess physiological responses and track benefits from various initiatives. Heart rate recovery time would be easy to test.

iHeart Remote allows a practitioner to connect remotely



with a client and view heart rate, breathing rhythms, and blood oxygen on a real-time basis. Various protocols can be used to assess Neurological responses and track benefits from various initiatives. Breathing-based relaxation response training can be facilitated using iHeart Remote.

Inner Mobility is a simple concept linking youthful Inter-

nal Mobility and each breath's ability to maintain wellness and promote longevity. The iHeart Health Assessment System offers insight into the relationship between Internal Mobility and the health of the body and mind.

For more information about Internal Mobility and the iHeart system please visit: www.goiheart.com

Dr. Jess Goodman



Jess is a Physician who has practiced medicine for over 45 years and currently cares for Seniors in Long Term Care and Retirement Home settings. Jess uses a Nurse Practitioner/Physician onsite care model to double the time before Retirement Home residents transition to Long Term Care.

Jess studied Tai Chi with Moy Lin Shin, a Taoist monk, for over 20 years. Towards the end of his life Mr. Moy asked Jess to show people the benefit of stretching 'between the heart and the kidneys' - along the spinal axis. This request led Jess to an understanding that spinal flexibility and mobility of the body's core regions (Inner Mobility) was essential for wellness and longevity. He then discovered that stiffness of the Aorta could be used as a surrogate measure of Inner Mobility. Jess put together a team of engineers to offer individuals a simple and easy to use method for Aortic Stiffness measurement. This effort resulted in the iHeart fingertip wireless oximeter and iHeart Internal Age app. Jess continues to practice Tai Chi and encourage others to recognize their ability to cultivate health through efforts to move the body in youthful ways.

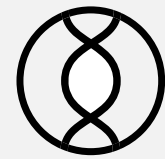
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At no other time in human history have we dealt with such life circumstances. Combine technology, machine learning, and social media, the world is now moving at a breakneck speed.

All coming together and creating a society (let's face it) that is getting sicker and sicker, with the most recent research suggesting that over 88% of Americans are "metabolically unhealthy."



1. Joana Araújo, Jianwen Cai, June Stevens. [Prevalence of Optimal Metabolic Health in American Adults: National Health and Nutrition Examination Survey 2009-2016](#). Metabolic Syndrome and Related Disorders, 2018; DOI: [10.1089/met.2018.0105](#)

Be it as it may, many believe the tipping point may have resulted from the life-changing COVID-19 "aftermath" we are all currently dealing with. Social mandates, staying home, saving lives, and the changes we all experienced have shifted how we think about health, how we interact with each other, and society as a whole.

It seems that our current health practices and policies have a crack in their foundation, as the majority of Americans are getting sicker and sicker. Many question what the current best health practices should be and are

very open to something new. With something that works. With both.

Sadly, those cracks in the foundations and our getting sicker trajectory are only the beginning of more to come.

Nutrient depleted foods, pesticides, sprays, contaminated water sources, and unhealthy chemicals and compounds. These are just some examples of a much more extensive and expansive list.

As much as that creates a bleak picture, the science in human performance, neurology, biotechnology, and artificial intelligence suggests an exciting turning point. Those who want to remain metabolically healthy understand the need to stay ahead of the curve.

Enter the trend of the "biohacker". Among the original "OG" biohackers were the Eastern Europeans, who were

less effective, and, therefore, limited information is actually shared to the public as a whole. Lifespanning is committed to the democratization of human performance, bringing forth the information, making it accessible, and distributing it in an unbiased and objective way.

Finally, Lifespanning is committed to teaching you the concept of "less is more." Lifespanning, in its simplest form, is all about connectivity. Connectivity to what's around you. Connectivity to your own mind and body, all one of the same. Connectivity to your purpose. Connectivity for you to be able to make the best decisions for yourself, your health, and your family. Connectivity to your nervous system, the release of neurochemicals, and being in control of your mind state.

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Dr. Joel Rosen



@dr.joelrosen

From the outdated, reductionistic, pharmaceutically based model, to the latest science that combines nutrition, biochemistry, genetics, and environmental factors, and their impacts on the human body, medicine is heading into the 2.0 version. It is Dr. Joel Rosen's mission to carry that torch to help usher in the new, by educating tens of thousands of people around the world on how to regain their energy and their lives.

Dr. Joel Rosen attended the Los Angeles College Of Chiropractic from which he graduated as a Doctor of Chiropractic and as a member of the Delta Sigma Honors Society. During his schooling in Los Angeles, he also went on to earn his Certified Strength and Conditioning Specialty.

Dr. Joel is a Functional Medicine Practitioner with a focus on nutrigenomics, and the understanding of how nutrients and supplements interact with the genome at the molecular level.

Dr. Joel is the founder of <https://thetruthaboutadrenalfatigue.com/> and <https://drjoelrosen.com/> and creator of "Your Adrenal Fix Podcast" and The Age Reversing Blueprint Podcast.

Let me know if there is anything else I can provide.

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UNLEASHING THE POWER OF NLP

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I have two great passions in life: fitness and art. The first has dominated and defined my professional and public life for over 25 years. As a fitness instructor, business owner, inventor, and brand ambassador I've taught, lectured, discussed, dissected, talked about, written about, and thought about fitness a million different ways for decades.

Painting, on the other hand, has always been largely unconscious for me. I feel like the energy of the universe is flowing through me and I diligently and delightfully follow where it leads. Fitness is like tuning an instrument, so it sounds its best. Painting is like conducting an orchestra to create a beautiful symphony.

So, when Jean asked me to write about my experiences with Neuro Linguistic Programming, and specifically the impact of NLP on my art, I jumped at the opportunity. Not only do I hope that sharing my experiences may prove useful to someone else, but also Jean is a dear friend who shares my love of art and psychology.

Accepting this assignment was the easy part, though. I quickly realized that, not only have I never written about painting in a structured, systematic way before, I've never really thought about it that way before. How do I break down and dissect something so ethereal and indivisible?



The answer, of course, is NLP.

NLP was developed by Richard Bandler and John Grinder, who believed it was possible to identify the patterns, thoughts, and behaviors of successful individuals and to teach them to others. By studying the methods of therapists who consistently produced exceptional results, they developed a set of practices encapsulated in The Presuppositions of NLP.

They are.

1. Have respect for the other person's model of the world.
2. The map is not the territory.
3. We have all the resources we need.

4. Mind and body form a linked system.

5. If what you are doing isn't working, do something else.

6. Choice is better than no choice.

7. We are always communicating.

8. The meaning of your communication is the response you get.

9. There is no failure, only feedback.

10. Behind every behaviour there is a positive intention.

11. Anything can be accomplished if the task is broken down into small enough steps.



I attended my first NLP course years ago because I thought it would make me a better Personal Trainer. What I didn't realize was that it would take me down a path of self-discovery that would impact and improve every aspect of my life. I live most of my life in a way that is sometimes called 'right brained.' I generally operate on emotion and intuition, approaching problems with creativity and making decisions by 'going with my gut.' That approach worked for me, and I was very comfortable operating in that mode. Learning NLP put me in a very 'left brain' place by teaching me to be present in my own body and in my thoughts through conscious study and meditation. It was exhausting but rewarding.

These new skills did make me a better Personal Trainer. Prior to studying NLP, I'd ask clients, "Why didn't you work out?" which was followed by explanations that would tug on my heart strings (my kids aren't sleeping, work is very demanding, etc.). I would let them off the hook, try to stay positive and encourage them to do better next week. Post NLP I had powerful tools to understand behaviour better, to ask appropriate meta-questions, uncover limiting beliefs and help them foster a self-image that prompts consistent actions towards their goals. One of those techniques involves scripting their own movie.

Here is a beautiful example; "I am lean at 15% body-fat, I weigh 120 lbs and I look drop dead gorgeous in that red dress, I have enough energy to mountain bike up the mountains, Banff is so beautiful in the spring, with my husband by my side. We are having a great time; I can feel the crisp morning air fill my lungs and flow through my hair. We are admiring the beauty of the hillside; the trees are in bloom and the birds are singing. My husband tells me what a great idea this was and how great my legs look when I sprint up ahead of him." She wrote this a year (and 60lbs heavier) before it became a reality.



Unexpectedly, this practice enabled me to engage my 'left brain' while painting. Mindfulness enhanced my ability to organize, study and analyze what used to be a mysterious and unknowable process (without losing its essential creative, intuitive core). Essentially, I was teaching myself to move right to left and in and out of flow state. This was a fascinating development for me and here are some of the lessons learned.

1. Have respect for the other person's model of the world. This might be the most difficult one for me artistically because I prefer to paint in the flow state and just for me. When I get a commissioned piece though I must consider the client's vision for the piece. In life we must first seek

to understand and as tough as that can sometimes be, my most beautiful pieces and relationships have come about this way.

2. The map is not the territory. How we see the world is our incredible nuanced interpretation of the territory. Painting a bouquet of flowers is my map of the territory. Understanding this presupposition has helped me become more compassionate for how others behave as they move through their constructs.

3. We have all the resources we need. Much of this abundance comes from our ability to learn and our creativity. In my professional life, and in painting I have always found

that getting started before knowing how I was going to accomplish the task has always led me to find the necessary resources.

4. Mind and body form a linked system. This might seem obvious but the level to which they are connected is complex and they profoundly affect each other. Take three deep breathes right now (I'll wait) and notice how your shoulders drop, your field of vision widens, and you feel calmer. I breathe deeper while painting and have made a conscious decision to bring this into my life.

5. If what you are doing isn't working, do something else. Sometimes we get "stuck", and

this can halt progress. We all know what Einstein famously said about the definition of insanity. One of the best ways for me to get “unstuck” is to move. This works equally as well for fitness as it does for painting.

6. Choice is better than no choice. While it's important to have more choices be careful not to get “paralysis by analysis”. This happens often in fitness with so many ways to workout. And when I feel this way painting, I switch to flow state and just go with whatever choice feels right in the moment.

7. We are always communicating. As humans we crave it and even without language, we pick up on so much of it. Learning non-verbal strategies to communicate is like painting; why not learn how to do it artfully and beautifully?

8. The meaning of your communication is the response you get. Sometimes what we convey is interpreted much differently than intended and it's important that we take responsibility for this to become a more effective communicator.

9. There is no failure, only feedback. I live this way. My latest collection “String Theory” was inspired by the “mistakes” that littered my studio floor. They since have become the most vibrant, colourful, and energetic pieces I have ever done.

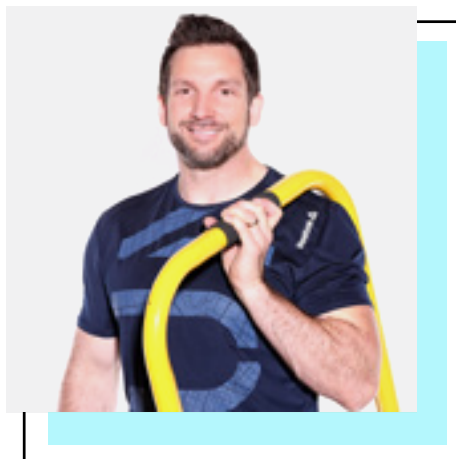
10. Behind every behaviour there is a positive intention. We may not agree with everyone's behaviours but in that moment and given the tools they have at their disposal; their intentions were principled. Knowing this we can have more compassion and understanding for others and for ourselves.

11. Anything can be accomplished if the task is broken down into small enough steps. I think people often feel overwhelmed when looking at the entire painting. Start with individual brush strokes and before you know it you will have a masterpiece!

As I navigate this ongoing journey of self discovery through NLP and painting, I can't help but see how powerfully intertwined they are and how they have pushed me to grow professionally. Renowned artist Chuck Close said this; “Inspiration is for amateurs. The rest of us just show up and get to work. If you wait around for the clouds to part and a bolt of lightning to strike you in the brain, you are not going to make an awful lot of work. All the best ideas come out of the process; they come out of the work itself”.

With NLP I understand this now.

Marc Lebert



Marc Lebert is the Chief Fitness Officer (CFO) of Lebert Fitness, a fitness club owner, Black Belt, Certified NLP Practitioner, International Presenter, Silver Lining Entrepreneur of the Year, NEOS International Personal Trainer of the Year, named as one of Canada's #Top 100 Health Influencers by Optimyz Magazine and of course, an artist.

[@marc_lebert](https://www.instagram.com/marc_lebert)

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Revolutionizing Wellness:

“My Epic Journey into the Heart of The Biohack Lab with Dr. Sienna Steckel ” *By: Jean Fallacara, Biohacker Extraordinaire by day, CEO by Night*



First off, the vibe at the lab is like stepping into a sci-fi movie – serene, sleek, and smart. Packed with the coolest biohacking gadgets, it's the ultimate playground for any wellness warrior. And Mathieu, the knowledge wizard? This dude defies age – he's in his 40s but looks like he just stepped out of a college dorm!

They've got everything: cryotherapy to chill your bones, hyperbaric oxygen therapy to supercharge your cells, machines that make athletes weep with joy, and therapies that light up your body like a Christmas tree. It's like an all-you-can-treat buffet for your body and mind.

Get ready to have your mind blown!



I just dove headfirst into the future at The Biohack Lab in Fort Lauderdale, a place where science fiction meets reality, founded by the visionary duo Natasha and Steven Cole.

Invited by the awesome Caroline Sada, Mathieu Folliot, and my rad friend Dr. Sienna Steckel, an Emergency Medicine maestro, this lab is a paradise for those obsessed with pushing human limits. It's like walking into a future where we're all superhuman.



LIFESPANNER TRENDS



But wait, there's more! Mindfulness, light therapy, cellular rejuvenation, detox protocols – it's a cornucopia of cutting-edge treatments. Whether you're looking to turn back the clock, boost your brainpower, or supercharge your immune system, they've got you covered.

The Biohack Lab isn't just about treatments; it's an educational haven. They don't just treat you; they teach you. You become a student of your own body, learning to unlock your hidden potential.



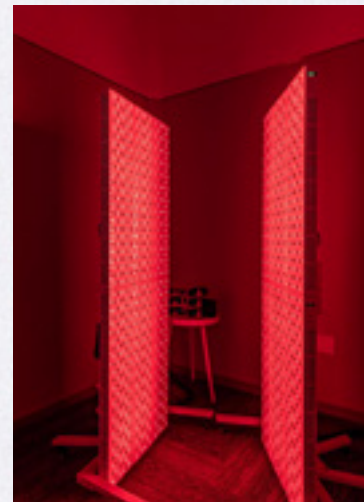
Classes? Oh, they've got them. Guided breathwork to find your zen, meditation to tap into your inner sage, lucid dreaming to explore uncharted mental territories, and sound healing to tune your soul's strings. It's a masterclass in becoming your best self.

And if that's not enough, check out their healing lab and lounge & store. It's like having a personal health detective uncovering the secrets of your body, and a treasure trove of health-boosting goodies to take home.

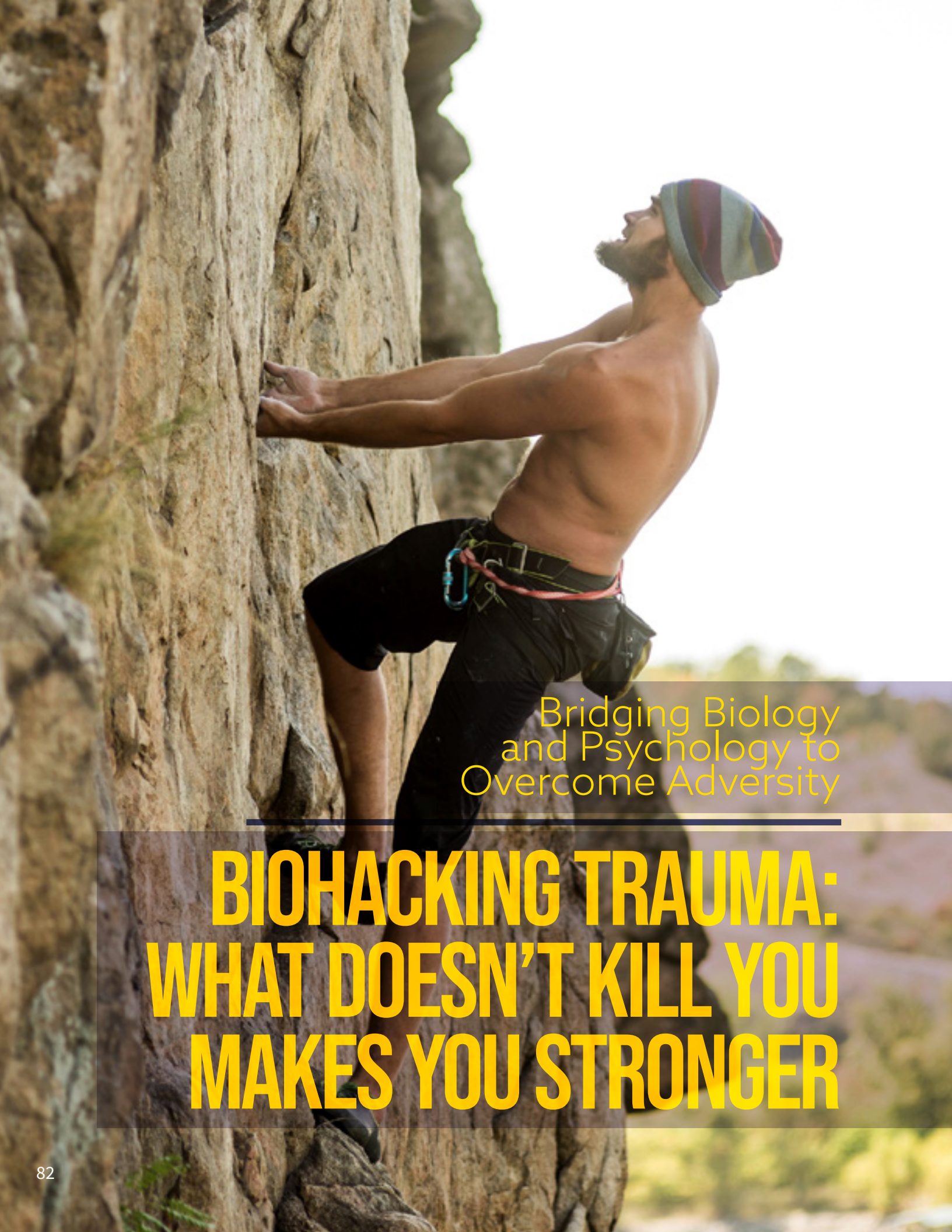
- **The pièce de résistance?** The CVAC cellular repair Pod. It's like a spaceship for your cells, rejuvenating every inch of your body.

And the OligoScan – it's like having a crystal ball revealing the secrets of your inner health.

- **My report?** A little low on calcium but high on life! And the revelation about that toothpaste and deodorant? Mind-blowing!



In conclusion, The Biohack Lab isn't just a place; it's a revelation. Dr. Sienna Steckel and the team are not just healers; they're pioneers on the frontiers of human potential. One day there, and you're not just learning; you're evolving. The Biohack Lab isn't just about living; it's about thriving like a boss! Total Lifespanning!



Bridging Biology
and Psychology to
Overcome Adversity

BIOHACKING TRAUMA: WHAT DOESN'T KILL YOU MAKES YOU STRONGER

Have you ever wondered why some people emerge stronger in the face of adversity, while others struggle to move forward? This is the story of trauma – a journey from survival to growth.

The Invisible Wounds of Our Times

In today's fast-paced, high-stress world, trauma has become an all-too-common part of the human experience. Recent studies indicate that up to 70% of adults worldwide have experienced at least one traumatic event in their lifetime. The aftermath of such experiences, particularly when they manifest as Post-Traumatic Stress Disorder (PTSD), can be crippling. However, trauma is not solely the domain of catastrophic events; it can stem from a myriad of sources, often overlooked in our everyday lives.

How can understanding the nature of trauma not only help us survive its aftermath but also enable us to thrive in its wake? Here are resounding insights from 150 years of trauma research that every biohacker should know and apply.

Redefining Trauma: Beyond the Event Itself

Trauma's impact is far more intricate and pervasive than these extreme instances alone. Contrary to common perception, trauma is not exclusively the result of major, life-altering events. The DSM-5 (Diagnostic and Statistical

Manual of Mental Disorders) broadens this perspective, indicating that merely witnessing a traumatic event can be sufficient for an individual to experience trauma. This insight shifts the focus from the event itself to our physiological reaction to it.

Trauma, therefore, is defined not by the event(s) but by how we physiologically respond to these events. Our adaptive system, designed to protect us, can ironically become a source of ongoing stress. Each time we encounter a situation reminiscent of a painful past experience, our body reacts as if the past threat is present, triggering a cascade of stress responses.

In our modern "matrix world," brimming with constant stimuli, many of us operate in a state of continuous physiological arousal. This "hot system" – a chronic state of stress – can itself be traumatic. Our daily lives, inundated with various stressors, push our adaptive mechanisms to their limits, often without our conscious awareness.

This constant state of arousal, where the sympathetic nervous system (responsible for the 'fight or flight' response) is perpetually engaged, leads to a range of psychological and physical health issues. It underscores the importance of understanding trauma not just as a response to isolated events, but as a reaction to the ongoing stresses of modern life.





Trauma: A Physiological Perspective

Traditionally, trauma was viewed through the lens of the events that triggered it. Modern science, however, paints a different picture. Trauma is less about the specific event and more about our body's response to it. It's a physiological process – a dance of adaptation and mitigation within our nervous system. When faced with trauma, our body initially reacts with adaptation mechanisms, akin to the body's inflammatory response to an injury (like a paper cut). However, when these mechanisms are overwhelmed, our body shifts to a mitigation response – a state of numbing or disconnection, often observed in shock.

Sometimes people react in both ways - first there will be an attempt to adapt, and if the system is really out of balance, they will move to a mitigation

process (separation between pain and consciousness).

Understanding this physiological process of trauma helps us see how not just major events, but daily stressors can accumulate and impact us.

Trauma Response: From Major Events to Daily Accumulations

Moving from the definition of trauma as a single terrible event to a physiological response, situations that put the body in a state where the nervous system goes out of balance, over time, frequently or repeatedly can lead to symptoms of trauma.

The nervous system is responsible for regulating body reactions. It works autonomously, without human consciousness, and is divided into the central nervous system (in the brain) and the peripheral nervous system (the rest of the body). In

the peripheral nervous system there are two additional sub-systems that are sometimes referred to as the "cold" system (parasympathetic - "rest and digest") and the "Hot" system (sympathetic - "fight or flight").

The 'Hot System' in Action

When the sympathetic system ("Hot system") is dominant, it turns on everything from the diaphragm up, blood flow changes, heart rate, breathing, temperature, muscle tension and more. When switching to a sympathetic arousal state, there are natural and predictable processes involved.

The nature of the sympathetic system is to be focused on one activity only - the threat. Like, for example, in a car race, the focus is on victory, there is no room for thinking about dinner. Therefore, the nature of the sympathetic system is to be immediate, impulsive, irrational, with no future planning beyond what is happening now, very little self-view, very little assessment of a situation, and this is a completely normal response- in life or death situations.

We all have a certain endurance in relation to the body's ability to bear stress, and it is constantly fluctuating.

When a person mostly stays within their tolerance range, they are more likely to have better problem-solving abilities, health, and resilience. When we push our upper limit it becomes problematic.



In any event where the sympathetic system is dominant, we will receive a “cocktail” of at least 30 elements, natural chemicals, that will help us survive another day on the planet, and this is absolutely essential when we need to find shelter and return fire after being injured or fleeing at a rapid pace beyond our fitness. The recovery of the sympathetic system depends on how long it will take the body to metabolize this “cocktail”, which can range from 12-30 hours.

The difference between a big event and small events that lead to a trauma response, is that instead of receiving this “cocktail” all at once, we receive it in small portions, a little each day, until we cross the threshold where we can function.

The body primarily learns to use the sympathetic system through environmental interactions.

When the nervous system is out of balance it will respond

with a survival strategy over deliberateness and intent. The symptoms represent changes in the nervous system, and trauma is a response to increased sympathetic arousal.

We can experience low self-awareness, inability or low ability to self-regulate, to set goals, to behave consistently, low self-image, anger, aggressiveness, impulsiveness, hostility, inattention, anxiety, difficulty in self-expression, outbursts, disconnection, crying, avoidance from the investigation of the world and so on.

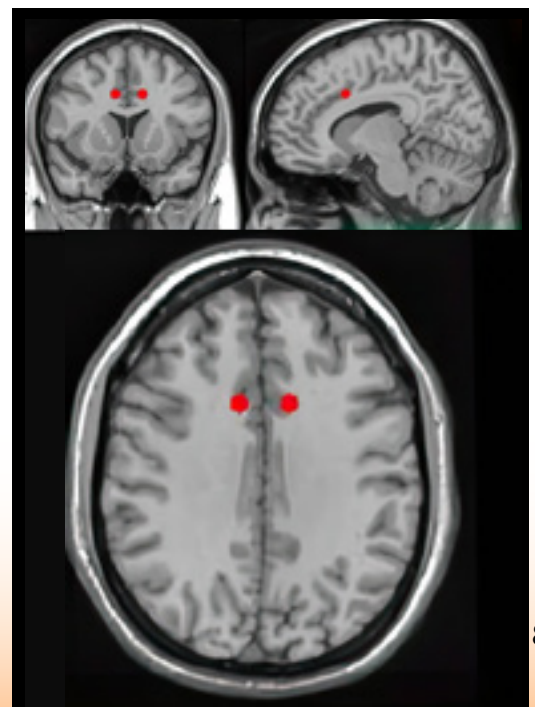
What makes us activate the “hot system”? A small, yet extremely significant component in our brains- the Anterior Cingulate Cortex (ACC).

The Role of the Anterior Cingulate Cortex (ACC) in Trauma

The activation of the emergency system, or the sympathetic system, is linked to a brain component known as

the ACC - anterior cingulate cortex, which acts like a ‘radar’ for assessing risks. It’s important for processing different types of information, including sensory inputs.

Repeated activation of this “radar” results in difficulty distinguishing between an actual threat and a perceived threat. The space between stimulus and response is collapsing, categories collapsing, there’s increasing interference between what’s important and relevant versus what’s unimportant in the here and now. Imagine a situation where one day you are exposed to a flower that smells good but you get an allergic reaction. The whole body is stimulated, and you are forced to get a special shot. From now on there is no more “flowers” category. There are “flowers” and “flower”. Even if it’s just one flower, the whole category collapses. When the ACC is working properly, it helps us assess risk, but when it’s not functioning properly, there is a shift from relying on sensory information to relying on learning history.



Trauma survivors fail to separate between “being safe” and “feeling safe”. They are convinced that whenever they are afraid, they are in danger. Often they adopt compulsive actions to feel safe even though they are safe. Indeed, on many occasions, I have treated trauma-related OCD, stemming from repressed trauma.

We call the sympathetic system “fight or flight”, but we actually also have the freeze response, and the fawn response.

Trauma and PTSD are sometimes referred to as the freeze response.



Brain scan of a healthy brain VS brain of a trauma survivor. In a healthy brain, all the parts communicate well, compared to a trauma survivor's brain that shows high activity in back areas that are related to survival, and a decrease in activity in front areas that are related to cognitive functions and social interactions. credit: CDC

PTSD vs. Trauma: Understanding the Difference

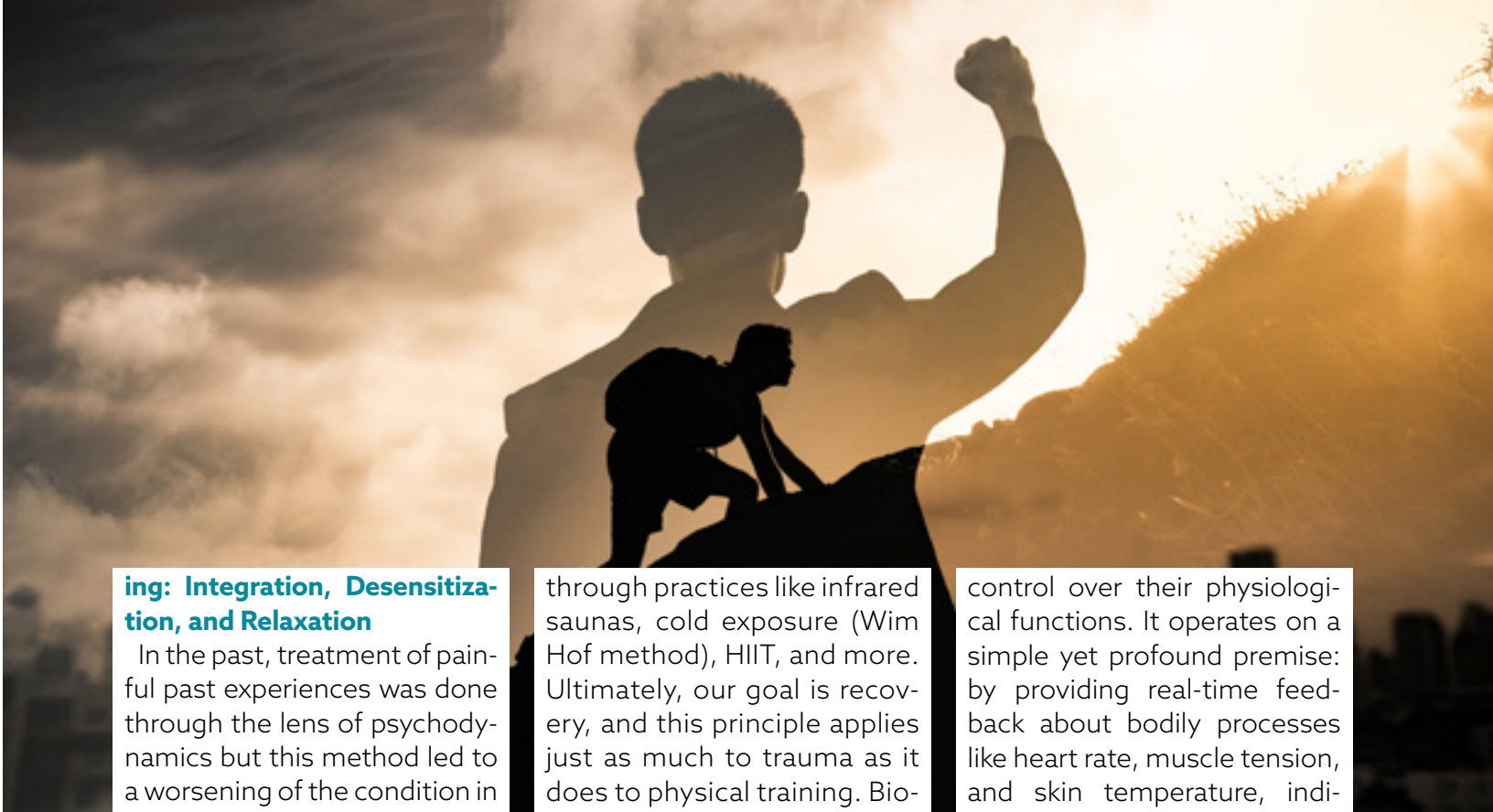
While trauma and PTSD are often used interchangeably, they are not synonymous. PTSD is a specific psychiatric disorder that can occur following the experience of a traumatic event, characterized by symptoms such as flashbacks, severe anxiety, and uncontrollable thoughts about the event. On the other hand, trauma is a broader term that encompasses a wide range of emotional responses to distressing events.

If traumatic events are the storms that break our windows, PTSD is the relentless gust that sneaks in through the cracks, reminding us of the storm long after it's passed. It's more than just memories; it's a mental bind that chains us to our traumas.



Both trauma and PTSD represent that unexpected whirlwind, pulling the rug from under our feet, leaving us to grapple with fragments of our former selves. Whether it's the heartbreak of losing

someone dear, the shock of an accident, or the weight of surviving a near-death scenario, these moments challenge our equilibrium, making us question our safety and sanity. The Road to Heal-



ing: Integration, Desensitization, and Relaxation

In the past, treatment of painful past experiences was done through the lens of psychodynamics but this method led to a worsening of the condition in many cases. The 21st century is characterized by teaching ourselves to be in a regulated autonomous system even before entering the depth of the models we treat with.

We invest so much money in developing more and more treatment methods when the solution is simple (it is not easy, but definitely simple), and that is first to teach strategies of self-regulation and relaxation, to restore the balance to our nervous system.

And here, biofeedback comes in.

Biofeedback stands out as a key tool that effectively bridges our mental-emotional processes and bodily responses. As biohackers, we understand the value of strategically increasing stress to enhance physical resilience,

through practices like infrared saunas, cold exposure (Wim Hof method), HIIT, and more. Ultimately, our goal is recovery, and this principle applies just as much to trauma as it does to physical training. Biofeedback can help us heal our wounded hearts.

Biofeedback: A Bridge Between Mind and Body

My journey with biofeedback began in my military service, where I trained elite combat soldiers with Biofeedback. One of the most notable applications was with snipers, who learned to control their heart rate and breathing to enhance focus and precision. It was extremely important for them to be relaxed in their role, because every micro-movement here is a deviation of yards on the horizon. During my service I witnessed not only demonstration of biofeedback's efficacy in high-pressure situations but also its potential as a therapeutic tool in trauma treatment.

Biofeedback is a technology that allows individuals to gain

control over their physiological functions. It operates on a simple yet profound premise: by providing real-time feedback about bodily processes like heart rate, muscle tension, and skin temperature, individuals can learn to regulate these functions consciously.

By enabling individuals to gain awareness and control over their physiological responses, biofeedback offers a pathway out of the relentless cycle of stress and trauma.

Here's a crucial insight: trauma cannot exist in a relaxed body. This axiom lies at the heart of biofeedback's efficacy in trauma treatment. Once we manage to process painful emotions in a safe, nurturing, and relaxed state, the path to healing becomes accessible. Biofeedback serves as the gateway to this state, allowing individuals to access and maintain relaxation, setting the stage for deep and lasting healing.



Figure 1 Biofeedback system data showing variability in heart rate and reduced consistency in breathing, potentially indicative of sympathetic nervous system activity.



Figure 2 Biofeedback system data suggesting engagement of the parasympathetic nervous system during rhythmic breathing.



Figure 3: Biofeedback system data illustrating heart rate variability and smoothness during exposure to various essential oils, potentially indicative of relaxation and parasympathetic engagement.

Biofeedback allows us to monitor the physiological reactions of the body's systems in real time and experiment with all kinds of relaxation techniques. Techniques such as rhythmic breathing, muscle relaxation, peripheral vision training, positive affirmations, mindfulness, etc., affect different people differently, and biofeedback helps us to verify what works best for each unique individual, in a certain, measurable and objective way.

For trauma survivors especially, it is difficult to accept the element of uncertainty that is built into life itself, therefore, based on the fact that trauma reactions are physiological, and that the traumatized person may not have felt comfortable and safe in his body for a long time, he can completely forget the experience of relaxation. The certainty around what really helps him to relax, how it feels to have a relaxed body, and what he can do to feel that way (neutralize the helplessness) is necessary before approaching the traumatic experience itself and increases the chances of healing and insights.

Nietzsche once said "what doesn't kill you makes you stronger"

I want to suggest that "what doesn't kill you, but makes you adapt, makes you stronger". Biofeedback helps you adapt.

Research has shown that biofeedback, alone and in

combination with other behavioral therapies, is effective for treating a variety of medical and psychological disorders, ranging from headache to hypertension and anxiety to temporomandibular to attentional disorders.

PTSD is characterized by a constellation of symptoms seemingly tailor made for biofeedback. Anxiety, depression, and the physiologic hyper-arousal create significant disability for sufferers of

PTSD. Many of the triggers, the sights, sounds and smells of a trauma, operate on a subliminal level. Patients are often unaware of the many factors which provoke the symptoms of PTSD. Biofeedback can provide the bridge between a trigger and awareness.

A 2023 meta-analysis, reviewing 30 years of neurofeedback studies (biofeedback of the central nervous system in the brain) suggests that neurofeedback is a promising and effective treat-

ment for complex PTSD.

As we explore the transformative capabilities of biofeedback, we are led to a critical junction – the choice between remaining confined by our traumatic experiences or harnessing these tools for growth and resilience.

Conclusion: Choosing Growth Over Confinement

Trauma is a physiological response of increased sympathetic arousal. It does not have to result from a single and catastrophic event, but also from small and repeated events (micro-trauma) that activate the sympathetic system. When we learn to relax the body, and rewrite our story, we can set ourselves free from our traumas.

Every time we broke our integrity, yelled at our kids, took shortcuts- we were in sympathetic mode. Our ability to calm our bodies despite what is happening around us is essential to living life with intention and being the people we want to be. This is the top of Maslow's pyramid of needs - self-actualization.

It is impossible to live a life of purpose and choice when the space between stimulus and response collapses.

In Viktor Frankl's words, "Between stimulus and response there is a space. In that space is our power to choose our response. In our response lies our growth and our freedom."



In my new book: "The Phoenix Awakening: Rising Up From The Ashes Of Trauma" I share stories of hope from my clinic as a Trauma therapist and proven methods for healing micro and macro trauma in an approachable way, including beneficial accessible resources. In the book you will find a whole chapter on biofeedback, the difference between relaxation and self-regulation and simple yet powerful practical exercises to try yourself.

Now that you've learned the true nature of trauma, my question to you is- "will you remain confined by the scars of yesterday, or will you rise from them, awakening the Phoenix within?" Your journey to growth and resilience begins here:

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References

- 1.American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). American Psychiatric Publishing.
- 2.Choi, Y.-J., Choi, E.-J., & Ko, E. (2023). Neurofeedback Effect on Symptoms of Posttraumatic Stress Disorder: A Systematic Review and Meta-Analysis. *Applied Psychophysiology and Biofeedback*, 48. <https://doi.org/10.1007/s10484-023-09593-3>
- 3.Friedman, M. J. (2004). Acknowledging the psychiatric cost of war. *New England Journal of Medicine*, 351(1), 75-77.
- 4.Gentry, J. E., Baranowsky, A. B., & Rhoton, R. (2017). Trauma Competency: An Active Ingredients Approach to Treating Posttraumatic Stress Disorder. *Journal of Counseling & Development*, 95(3).
- 5.Gevirtz, R., & Dalenberg, C. (2008). Heart Rate Variability Biofeedback in the Treatment of Trauma Symptoms. *Biofeedback*, 36(1), 22-23.
- 6.Lande, R. G., Williams, L. B., Francis, J. L., Gragnani, C., & Morin, M. L. (2010). Efficacy of biofeedback for post-traumatic stress disorder. *Complementary Therapies in Medicine*, 18(6), 256-259.
- 7.Rhoton, R. L. (2016). A Trauma-Informed Approach to Anxiety: Various Effects on the Brain. *Interaction*, 33(4).
- 8.Shapira, O. (2023). *The Phoenix awakening: Rising up from the ashes of trauma*. Retrieved from <https://amzn.to/3FyzGHA>
- 9Van der Kolk, B. A. (2014). *The body keeps the score: Brain, mind, and body in the healing of trauma*. Viking.
- 10.Wampold, B. E., & Imel, Z. E. (2015). *The great psychotherapy debate: The evidence for what makes psychotherapy work*. Routledge.
- 11.Weerdmeester, J., van Rooij, M. M. J. W., Engels, R. C. M. E., & Granic, I. (2020). An Integrative Model for the Effectiveness of Biofeedback Interventions for Anxiety Regulation: Viewpoint. *JMIR Publications*, 22(7).
12. Wolpe, J. (1958). *Psychotherapy by reciprocal inhibition*. Stanford University Press.



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Oneg Shapira (M.A, CCTP,CMCC, BF-CBT) is a behavioral therapist and author dedicated to helping individuals navigate and overcome trauma. Her book, "The Phoenix Awakening," reflects her commitment to guiding people through their recovery, illuminating the path with her expertise and compassion.

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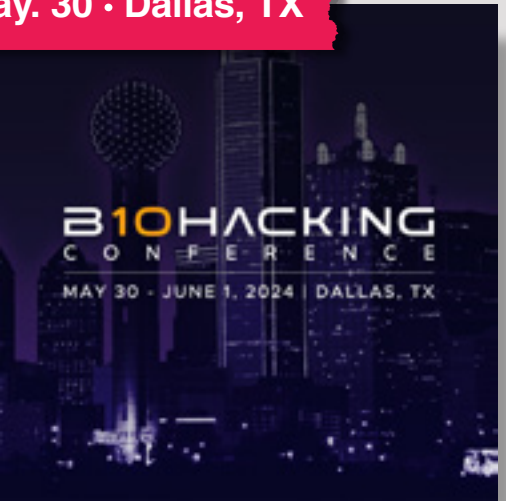
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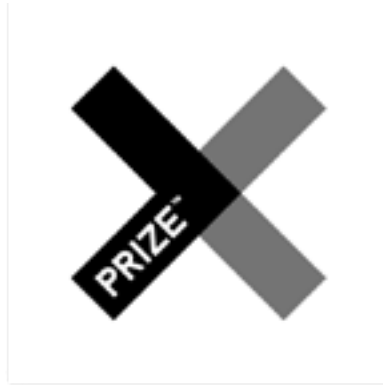


EXTENDING HORIZONS:

HOW THE X PRIZE FOUNDATION FUELS
LIFESPANNING INNOVATIONS FOR
HUMANITY'S FUTURE

An influential figure in the field of incentive competitions designed to promote technical advancement and creativity, the X Prize Foundation was established in 1995 by businessman Peter Diamandis. The foundation is a non-profit entity. Known for its daring challenges, it inspires groups from all around the world to work on space travel, health, and environmental sustainability, among other urgent issues.

Charles Lindbergh's 1927 Orteig Prize for the first solo non-stop flight across the Atlantic Ocean served as the impetus for the establishment of the foundation. The X Prize Foundation was founded by Diamandis as a result of his vision for a comparable competition to promote space exploration. In 1996, the Ansari X Prize, named after the first non-governmental organization to successfully launch a reusable manned spacecraft into orbit twice in two weeks, offered a reward of \$10 million. This challenge was launched by the



XPRIZE

foundation. Mojave Aerospace Ventures, headed by aeronautical engineer Burt Rutan and supported by Paul Allen, co-founder of Microsoft, took home this honor in 2004 with their SpaceShipOne project. Not only did this monumental feat establish the feasibility of private spaceflight, but it also set the wheels in motion for the rapidly expanding commercial space industry.

The organization widened its scope to encompass other areas when the Ansari X Prize became a smashing success. Large monetary prizes are offered annually in the form of the X Prizes to encourage creative problem-solv-

ing in response to certain social, technological, or environmental issues. Various fields are represented by these prizes:

1. Private Space Exploration and Technology: The foundation has carried on its tradition of space innovation by launching multiple prizes to encourage private space exploration and technology.

2. Environmental Sustainability: Topics covered in this category include renewable energy, reducing carbon emissions, and maintaining healthy oceans, all of which are important for the environment.

3. Healthcare: Prizes in this field seek to improve the accessibility and efficacy of healthcare technology through revolutionary changes. Innovations in digital health, medical equipment, and genome sequencing all fall under this category.

4. Education: These rewards aim to encourage innovations in learning technologies and ways to improve education worldwide, acknowledging the significance of education.

5. Global Development: These challenges tackle issues including water accessibility, food security, and poverty alleviation, with a focus on broad and effective aims.

With its emphasis on free and fair competition, the X Prize Foundation takes a novel approach. The foundation encourages creativity from all corners



by outlining a clear objective without dictating a certain path to reach there. Thanks to this welcoming environment, creative teams from many walks of life—from academic groups to startups—have been able to join forces and bring their unique perspectives to the table.

The influence of these awards goes beyond the actual contests. They speed up technical progress and decrease costs by acting as catalysts for improvements in the industry. For example, SpaceX and Blue Origin were both founded as a result of the Ansari X Prize, which boosted the commercial spaceflight industry. Prizes in other areas have also spurred innovation, which in turn has helped to establish new markets and alter existing regulations.

Some have criticized the X Prize Foundation despite all of its good

work. Some think the strategy might not work for smaller organizations or individuals because it rewards larger teams with more resources. Some have raised concerns about the long-term viability of ideas that were generated during the competition, arguing that certain innovations may not be able to achieve their maximum potential or be fully integrated into the market unless they receive continuous support.

In addition, the foundation is always up against the difficulty of how to establish goals that are both attainable and aspirational. The credibility and appeal of the rewards depend on striking this equilibrium.

As we look ahead, the X Prize Foundation is always changing to meet the demands of a world with rapidly developing technology. The capacity of the founda-

tion to motivate top brains and direct their energies into practical problem-solving is crucial to its continued success.

1. The foundation's emphasis on environmental sustainability is expanding in response to the pressing need to address climate change. Renewable energy, carbon capture, and climate resilience are expected to be the focus of future awards.

2. AI and Robotics: The X Prize has the potential to spur morally sound and socially useful advancements in AI and robotics, which could lead to solutions for pressing societal problems.

3. Biotechnology and Healthcare: The COVID-19 pandemic has brought attention to the significance of swift innovation in healthcare. Personalized med-



icine and biotechnology are two areas where the foundation is well-positioned to support innovations in the fight against disease and its treatment.

4. Digital Education: With the growing digital divide, the X Prize may support inclusive and effective educational technology for all students around the globe.

5. Space Exploration: The X Prize is still interested in the last frontier, and future challenges may center on exploring the moon, sending a spacecraft to Mars, or even mining an asteroid.

Not only has the X Prize Foundation inspired several technological advances, but it has also left an indelible mark on prob-

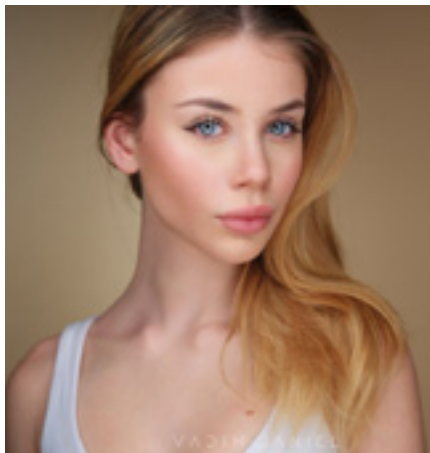
lem-solving methodology. The foundation has shown a novel approach to accelerating technical and scientific progress by harnessing the force of competition and the allure of reward. In response to this model's success in tackling difficult problems, other groups and governments have begun to use incentive-based strategies.

Additionally, the X Prize has proven that individuals and small teams can compete globally and make important contributions to technological advancements, hence democratizing innovation. This decentralization is in line with the foundation's principle of achieving "radical breakthroughs for the benefit of humanity."

All things considered, the X Prize Foundation is proof that incentive competition can propel innovation. Not only have their difficulties spurred revolutionary technology advancements, but they have also brought together entrepreneurs, innovators, and philosophers from all over the world. The foundation's impact on technological innovation and international crises is more important than ever as it undergoes further transformation. The X Prize Foundation's dedication to a better, more inventive future for everyone is reinforced with each new prize.

[@xprize](#)

Noee Spiegel



Noee Spiegel, born in Montreal to French parents, is a multifaceted talent. As a co-author of "Neurosciences Calisthenics," she bridges the gap between neuroscience and everyday life. A respected contributor to Biohackers Magazine, her articles explore the intriguing world of biohacking, blending technology and biology. Winner of the McEntyre Literature Prize, Noee's literary skills are as profound as her scientific insight. Her diverse interests span from philosophy to wellness, enriching her perspective. Currently studying at Western University in Canada, Noee is on an ambitious journey to become a surgeon, a testament to her commitment to advancing human health and well-being.

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Where is the Movement leading us?

RETRO BIOSCIENCES:

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Retro Biosciences is a biotech startup focused on increasing the healthy human lifespan by ten years. They are starting with approaches like cellular reprogramming, autophagy (the process where cells dispose of toxins), and plasma-inspired therapeutics.

Sam Altman, the CEO of OpenAI, has invested \$180 million in Retro Biosciences. This investment is significant as it's one of the largest individual investments into a startup pursuing human longevity. Altman's involvement in Retro Biosciences was initially kept confidential, allowing the company to develop autonomously without being overshadowed by his prominence in the startup world. Retro Biosciences is led by Joe Betts-LaCroix, who is known for his work in the longevity field and was an associate of Altman at the startup accelerator Y Combinator.

The motivation behind Alt-

man's investment and his interest in anti-aging research can be traced back several years. He has been exploring "young blood" research, which involves studies showing rejuvenation effects in older mice when their blood systems are combined with those of younger mice. This interest eventually led to the establishment and funding of Retro Biosciences, with the goal of extending human life and defying aging.

Retro Biosciences Inc. is an innovative company at the forefront of a remarkable transformation in the field of biotechnology, specifically in the domain of aging and age-related diseases. Founded with a vision to tackle the complexities of aging and extend healthy human lifespan, they stand out for their groundbreaking approach and ambitious goals.

Retro Biosciences was founded by a team of scientists and entrepreneurs who shared a common vision of addressing the underlying mechanisms of

aging. The company's mission is to decode the biology of aging and utilize this knowledge to develop innovative therapies and interventions. By targeting aging at its root, Retro Biosciences aims to prevent, halt, or reverse age-related diseases, fundamentally shifting the paradigm of modern healthcare from treatment to prevention.

Their approach is multidisciplinary, combining cutting-edge research in genomics, computational biology, machine learning, and clinical science. Key to their strategy is the understanding that aging is not an inevitable decline but a series of biological processes that can be influenced. The company focuses on identifying biomarkers of aging, understanding cellular and molecular aging mechanisms, and developing therapies that target these mechanisms.

1. Biomarker Identification: By identifying and validating biomarkers of aging, Retro Biosciences seeks to measure biological age more accurately and assess the effectiveness of anti-aging interventions.

2. Cellular and Molecular Research: The company invests heavily in research to understand the cellular and molecular drivers of aging, such as telomere attrition, genomic instability, and cellular senescence.

3. Therapeutic Development: Leveraging its research, Retro Biosciences is working on de-





veloping therapies that target aging processes. This includes drugs, gene therapies, and possibly lifestyle interventions.

Retro Biosciences has made significant strides in its relatively short existence. While specific achievements may vary depending on the company's timeline, they likely include advancements in biomarker research, successful preclinical studies, and potentially ear-

ly-stage clinical trials.

Collaboration is a cornerstone of Retro Biosciences' strategy. The company partners with academic institutions, research organizations, and other biotech firms to accelerate its research and development efforts. These collaborations bring together diverse expertise, from bioinformatics to clinical practice, creating a robust and innovative research envi-

ronment.

Despite its promising approach, they face several challenges. First, the science of aging is incredibly complex, and much remains unknown. Translating basic research into effective clinical interventions is a significant hurdle. Moreover, regulatory pathways for anti-aging therapies are not well-established, posing a challenge for approval and market entry. There is also a societal and ethical dimension to consider; the idea of extending human lifespan significantly raises questions about the implications for society, resource allocation, and the nature of aging itself.

Another challenge lies in funding and investment. Although there is growing interest in anti-aging research, the field is still nascent, and securing consistent funding can be a hurdle. Retro Biosciences must navigate this landscape to sustain its research and development activities.

At the heart of Retro Biosciences' work is a deep dive into the biology of aging. The company focuses on the hallmarks of aging, which include genomic instability, telomere attrition, epigenetic alterations, loss of proteostasis, deregulated nutrient sensing, mitochondrial dysfunction, cellular senescence, stem cell exhaustion, and altered intercellular communication. Understanding these processes is crucial for developing effective anti-aging therapies.

The company employs advanced technologies such as CRISPR for gene editing, AI and machine learning for data analysis and prediction, and state-of-the-art genomic sequencing techniques. These tools enable the team to unravel the complexities of aging at an unprecedented scale and speed.

The implications of Retro Biosciences' success could be profound. By delaying or reversing aging, the company could not only extend lifespan but significantly improve the quality of life in later years, reducing the incidence of age-related diseases like Alzheimer's, cardiovascular diseases, and cancer.

From a healthcare perspective, this shift could alleviate the burden on healthcare systems worldwide, as a healthier aging population would likely require less medical intervention. Economically, it could lead to an extended period of productivity and creativity among old-

er individuals, impacting labor markets and even retirement systems.

As with any endeavor in biotechnology, especially one as ambitious as extending human lifespan, ethical considerations are paramount. Issues such as access to treatments, potential societal inequalities, and the long-term ecological and social impacts of a significantly longer-living population are areas of active debate. Retro Biosciences, along with the broader scientific community, faces the responsibility of addressing these ethical challenges as part of its mission.

Retro Biosciences stands on the cusp of potentially revolutionary breakthroughs in biotechnology and healthcare. As the company progresses, it will likely attract attention from both the scientific community and the public. Its journey is not just a story of scientific endeavor but also of a shift in how we perceive and approach the nat-

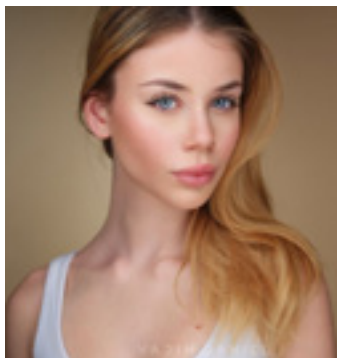
ural process of aging.

The company's future developments, potential discoveries, and the subsequent impact on society will be closely watched. Success in their mission could herald a new era in human health and longevity, presenting both exciting possibilities and complex challenges.

Retro Biosciences Inc. embodies the bold spirit of scientific exploration and innovation. By tackling the fundamental biological processes of aging, the company is not just advancing biotechnology but also challenging our understanding of life's natural progression. While the path ahead is fraught with scientific, ethical, and societal challenges, the potential rewards – a healthier, longer life – are immense. As Retro Biosciences continues its quest, it contributes significantly to a field that could redefine the human experience in the 21st century and beyond.

[@retrobiosciences](#)

Noee Spiegel



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