

# RB

RoseBar Journal

Issue 01  
2022

**Sleep Cycle**  
How our 24h  
clock drives  
every cell  
in the body

**Plus Up**  
Supplements  
that make  
all the  
difference

## Smart Cells

How exosome therapy is shaping the future

**Tech tricks**  
Biohacking  
tools you  
can't afford  
to miss

**Clear air**  
Understanding  
the lost art  
of energy  
medicine

Science + Spirituality = Longevity

# A New Future

The age of longevity medicine is now with us. The latest advances in science and technology, fused with a greater understanding of spiritual and mental health, are beginning to suggest extraordinary potential to extend human life.

A fact: 75% of aging is caused by our lifestyle decisions and only 25% by our genes. This is good news. It shows we have the power to alter the course of our health, that we can own our own destiny.

The unique proposition is to fuse together these two evolving fields. By combining the best available science with an emphasis on finding inner peace and tranquility, the prospects of longevity reach new heights.

Combating aging requires attention, intervention and monitoring. In this journal we bring you the latest thought leadership shaping these exciting fields of longevity medicine. Fields that shows that with the right intervention, a year from now you could be younger.

**Are you ready to defy the aging process?**



# Contents

## Meet the Experts

The RoseBar team are a carefully curated panel of expertise

Page 6

## Life After 100

The field of longevity medicine is making quick progress. Here's what's happening

Page 14

## 21 Ways to Hack your Health

The quick fixes that will change your life

Page 22

## Understanding Sleep

Much is made of this science, but what you really need to know is how your circadian rhythm runs the show

Page 24

## Fit for Life

Exercise for longevity: why Hiit and triathlon are what the experts recommend for supporting your longevity plan

Page 30

## The Supplement Plus Up

We all know you are what you eat, but what are the ingredients that really do you good?

Page 36

## Smart Cells: the Future

Exosome therapy is an exciting new frontier in science. Here's what it could do

Page 42

## The Injectables

Intravenous infusions are an efficient and effective way of loading up on vitamins. Which are the ones worth having?

Page 46

## The Biohack Calendar

Explained: the next generation equipment that can make a real difference

Page 48

## Youth and Beauty

Everyone wants to hang on to that youthful glow. But how does our skin age, and what can we do about it?

Page 54

## Shamanism and Science

Alberto Villoldo uses his neuroscience background and training in the Amazon to explain how you can grow a new body

Page 58

## Trauma: the Questionnaire

Childhood trauma can harm your long term health. Take this recognised quiz to see if you need to address your past

Page 66

Cover photo by Philippe Vogelenzang.

Art Editor: Amber Burrows

Photography: Philippe Vogelenzang, Pierre Hue de Fontenay, Steve Herud

# The Rosebar Experts

The RoseBar leadership team span a myriad of expertise and experience.

Turning their focus to longevity, they have come together to create a progressive force at the vanguard of this exciting new science.



**Dr Mark Hyman**  
Chief Medical Officer

Dr. Mark Hyman is leading a health revolution, using food as medicine to support longevity, energy, mental clarity, happiness and more. His passion for Functional Medicine has made him a go-to authority on the subject, working with the White House and Surgeon General on government policy, as well as an internationally recognized leader, speaker, educator, and advocate. A practicing family physician, Dr Hyman is the founder and director of The UltraWellness Center, the Head of Strategy and Innovation of the Cleveland Clinic Center for Functional Medicine, a fourteen-time New York Times bestselling author, and Board President for Clinical Affairs for The Institute for Functional Medicine. His podcast The Doctor's Pharmacy is hugely popular for its compelling insights, and regularly tops the podcast charts.



## Anna Bjurstam

### Wellness Pioneer

Anna Bjurstam has been a renowned innovator in the spa and wellness space over several decades. As a shaman, the holder of a BioGeomerty diploma, together with a Master's Degree in Finance, and with a passion for quantum physics and science, her experience spans a variety of wellness fields. She successfully sold the spa group Raison d'Étre in 2013 and is today the Strategic Advisor and Wellness Pioneer for Six Senses and Raison d'Étre, as well as an independent consultant and on a number of boards including the Global Wellness Summit advisory board. She is right now pioneering initiatives in wellness communities, biohacking and longevity.



## Alberto Villoldo

### Medical Anthropologist

Alberto Villoldo is a leading practitioner of energy medicine, and the founder of the Four Winds: practices that help students live and act with integrity, honor the sacred feminine, dream the world newly into being every day, honor all living beings, practice beauty and heal the body and soul. A psychologist and medical anthropologist by training, Alberto has studied the healing practices of the Amazon and the Inca shamans for more than twenty-five years. At San Francisco State University, he founded the Biological Self-Regulation Laboratory to study how the mind creates both health and psychosomatic illness. A lover of skiing, hiking and mountaineering, Alberto leads annual expeditions to the Amazon and the Andes to work with the wise teachers of the American continent.



## Dr Alon Yaar

Executive Director,  
Pharmaceuticals

Dr Yaar has been working as a clinician in the field of biotechnology for 20 years, working on all fields of biology from pharmaceuticals to biologics to regenerative medicine. His speciality is developing technologies in the field of preventive medicine, most recently in the treatment of kidney disease patients. He is also integrated into the research and development of medical equipment in all fields connected to longevity medicine, incorporating cognition, inflammation, diet, supplements and the microbiome.



## Tommy Wood

Medical Research  
Professor

As Assistant Professor of Pediatrics and Neuroscience at the University of Washington, Tommy's research focuses on ways to increase resilience and treat injury in the developing brain. With a bachelor's degree in biochemistry from the University of Cambridge, a medical degree from the University of Oxford, and a PhD in physiology and neuroscience from the University of Oslo, Tommy also serves as President of Physicians for Ancestral Health.



## Boniface Verney-Carron

Integrated Osteopath

Boniface is a UK registered osteopath and acupuncturist with over 16 years of experience. Trained in level 1 and 2 Garuda, Boniface started his holistic clinic in London in 2013 and since then has been focusing on working collaboratively with doctors and other complementary therapists to promote healing and physical wellness for patients. Taking into consideration biomechanics, neurology, circulation, digestion as well as psychology, Boniface considers the somatic-emotional side of osteopathy as well as the physical realm. To share his expertise in sustainable health, Boniface also runs a digital educational health and fitness platform called Oona Series.



## Dr Tamsin Lewis

Medical Director

Dr Tamsin Lewis applies the art of science and longevity to practice. A medical doctor who graduated with honours from Kings College and Guys and Thomas's hospital, London. She holds a BSc in neuroscience and the biology of aging, and has specialist training in psychiatry and sports medicine. She is a member of The Royal College of Psychiatrists and trustee of the British Society for Lifestyle Medicine, and is a former GB elite triathlete.

# Longevity

“We typically overestimate  
what we can do in a day  
and underestimate  
what we can do in a year.

If you’re just starting  
your journey to  
getting healthier,  
it’s ok to start small.”

Dr Mark Hyman, MD



# What's possible?

It's a question that has gripped civilisation for centuries, but science, and a greater appreciation of ancient wisdom, are beginning to show where progress can be made, reports **Tiffanie Darke**.

*There is always a lesson in history. In this case, it's Greek mythology. Eos, the beautiful goddess of the Dawn, fell in love with the mortal Tithonus. She whisked him off to Ethiopia where the two lived in carnal bliss, eventually bearing two sons. But Eos's happiness was bittersweet: Tithonus was mortal, and she knew one day she would lose him. Eos went to Zeus and begged him to grant Tithonus eternal life. Taking pity, the supreme god granted her wish, but Eos made a tragic mistake. She forgot to ask for eternal youth. As the years passed, Tithonus withered and degenerated, eventually able just to babble complaints of his old age.*



**M**uch progress has been made in the last 100 years into extending the human lifespan. At the turn of the 20th century, life expectancy was just 49 years; by the end of the century that had doubled to 80 years. The main cause of death - infectious disease - has been almost eradicated, to be replaced by degenerative disease. Today, these degenerative diseases - cancer, cardiovascular disease, dementia, diabetes - are often slow burners, dominating end of life for many years. For while our lives have got longer, our ability to remain healthy has actually decreased. Like Tithonus, end of life care is becoming an increasingly pressing issue. Government health data shows an extraordinary 20% of our life is now likely to be spent in poor health. For women it's even greater, up to 25%.

But a shift is going on in the medical community. Healthcare systems built in the 20th century were all focussed on the detection and treatment of disease. Modern advances now allow us to detect the markers for those diseases before they manifest. The pandemic also showed us that a healthier diet and lifestyle can be taken into our own hands, and the pre-pandemic mindset of 'pushing on through' and 'toughening up' did not serve us. The age of preventive - or better, proactive - medicine, is upon us. This is being fuelled by two avenues of discovery, firstly a greater understanding of behaviors and environment, and how this is contributing to our degeneration. And secondly the advance of cutting edge AI. In this field, some believe that the first person to live to 1000 is already alive. This may sound a little daunting, (what would you do with all that time?), but while most of us wouldn't want to live forever, we'd be happy with a good 100 years.



So where do you begin? Knowledge, as they say, is power, and so understanding what your biological age is, and the speed of your aging, right here, right now, gives you a status report. “A simple DNA test will tell you a lot, detecting pre-disease states before they manifest,” explains Dr Tamsin Lewis, RoseBar Medical Director. You can also test for cholesterol, diabetes, liver function, heart disease, thyroid and more. “A comprehensive blood panel will give us a biological age - with the blood biomarkers we use AI to predict your rate of aging.” Further tests can also show hormone levels, gut health and oxidative stress markers which are related to cancer risk.

You may feel some of this you would rather not know, but through a support system named ETAPS, or Evaluation Testing Assessment Plan, you can implement changes that will directly impact how you feel and function, now and going forward. The plan might include dietary changes, nutrition supplements, hormones for people who are in perimenopause and sleep support. Biohacking technologies are also recommended, due to the tremendous results they are now showing. (Since an Israeli study on Hyperbaric Oxygen Chambers came out two years ago demonstrating its ability to slow down the rate of aging, uptake has been exponential - even department stores are ordering them).

The medical anthropologist Alberto Villoldo has this to say about it: “There are three species on the planet that don’t have a death program in their DNA. They are whales, dolphins and humans, and they alone, amongst the 40 million species on the planet, have the concept of grandparents built into their society, and experience the menopause. As humans, we should all consider ourselves part of a grand longevity experiment that nature is running. We get to be part of this

experiment today,” he enthuses. “If you don’t take part in the experiment you get to be in the control group. You get to be that big part of the bell curve where 33% die from heart disease and 29% cancer and 30% dementia. If you survive that, you have a 50% risk of diagnosable alzheimers. And as we are all going to be living till we are 100, by the time you’re 90 you have a 75% chance of alzheimers - and that’s not forgetting your car keys, that’s forgetting who your kids are.”

“Your early thirties is actually the best time to start thinking about your healthspan, as this is when your body starts aging,” says Dr Lewis. “People need to understand that aging is a continuum. We start to accumulate cellular damage in our late 20s and early 30s, and most people have very little awareness of how their behaviors in their 20s are going to impact them in the long term.”

By limiting the damage from environmental stress, whether that’s pollution, time shifts, jet lag, job stress, lack of quality sleep, poor nutrition and poor gut health, can make a huge difference.

“Then there’s children,” Dr Lewis continues. “Having children is stressful physiologically and psychologically. Sleep deprivation, changes in hormones, less priority on oneself, less self care all contribute to the aging process.”

As people reach middle age, there’s also a tendency to ignore symptoms like ‘mild’ IBS, back pain or migraines. “Putting up with them is not right,” says Dr. Lewis. “What you need to do is tease it apart, find the root cause and look at how to change your day to day so you feel and function better now and protect your health for the future.”

Almost everyone agrees, the best place to start is nutrition. The agricultural economist Barry Popkin published a paper on ‘Nutrition Transition’ in 1994, which correlated the rise in modern degenerative disease in populations that had switched to an ultra processed diet. Heart disease, cancer and diabetes seem to increase exponentially once people start eating ‘modern’. In so-called blue zone geographies, where populations have an above average lifespan, a diet of whole foods is a common denominator. That and an active (read non-screen) lifestyle. By understanding the ways modern lifestyle and diet are damaging, the design of specific antidotes have become possible. Specifically, pharmaco-nutritional tools such as supplements and adaptogens that can neutralize inflammatory stress.

Cell inflammation is the marker of the onset of these diseases: unhealthy cells show their condition by becoming inflamed. This happens when they are under attack, due to illness, lack of sleep, bad diet or stress. ‘Inflammaging’ is an increasingly common term correlating cell inflammation to the process of aging. We can prevent inflammation by supporting the immune system and reducing stress - getting out of ‘fight or flight’ should be a priority. This hyper vigilant state is where our immune system starts tagging things in our environment and producing inflammatory molecules that cause cell damage and oxidative stress.

Bringing down your stress levels to minimize

cell inflammation is one reason to embrace the spiritual approach to age deceleration. By spirituality, no one is talking about worship, or belief. That’s a personal choice. Instead, it denotes a means to tranquility and inner peace. Blue zone studies show that in those parts of the world where people live longest, common themes in these societies are a strong sense of purpose, the ability to take joy in life and an understanding and appreciation of the universe we live in. Anna Bjurstam, Six Senses Wellness Director is

very clear on this: “Understanding your inner self and sense of purpose is key to life extension,” she says. “Learning to feel at one with yourself, to get out of your head and come into your body is not only a joyful experience, it is a key component of self care. You can achieve this with breathwork, energy medicine and meditation. Do this in a beautiful environment where you feel safe and held, then you can effectively release your mental and emotional blockages.”

Switching to an environment rooted in nature, taking time out from the day to day stresses and spending some time with yourself, is where RoseBar comes in. Set in one of the most beautiful places around the world, it is a unique synthesis of science, spirituality and preventive medicine. It recognises that no individual methodology is going to get you to your millennial birthday (and, let’s face it, who would want that?), but with a better understanding of the harmful effects of modern lifestyle there’s much we can do to optimize our later life, and in so doing extend it.

**As humans,  
we should  
all consider  
ourselves  
part of  
a grand  
longevity  
experiment  
that nature  
is running**



“The effects of aging  
start from 30”

Dr Tamsin Lewis  
RoseBar Medical Director

# 21 ways to extend your healthspan

The little things: support your healthspan in the day to day with small lifestyle tweaks. In between the RoseBar immersions, there's plenty you can do to make a difference.



**1** Divide your day in two: 12 hours should be for sleep, exercise and self care, 12 for you to give to everybody else.

**2** Take a cold shower every day: train your nervous system to withstand shock.

**3** Get 30 minutes of sunlight on your retina each morning: this sets up your circadian clock for success.

**4** Try an LED mask: for an instant youthful glow.

**5** Take a Vitamin D supplement: if you live in the northern hemisphere the chances are you are suffering from Vitamin D depletion.

**6** Have a RoseBar Longevity IV: formulated to enhance neurotransmitter production, as well as a restorative effect on the nervous system. Also included is a power boost of antioxidants, proven to slow down biological aging.

**7** Eat more fermented foods: plus up your probiotics and give your gut the boost it needs. Sauerkraut, miso, tempeh, kimchi, pickled vegetables and kefir are all great sources.

**8** Meditate for 10 minutes every day. Or one minute, or 30. Either way this is proven to bring down your stress levels - and so much more.

**9** Fast from early evening to a minimum of 11am the next day. It gives your gut the rest and recovery your body has evolved to expect.

**10** Breathe. Five out breaths longer than your in breaths will bring your blood pressure and anxiety levels down.

**11** Put MCT oil in your coffee. Drop the milk and switch to medium-chain triglyceride (MCT) oil, which is easily digested due to its shorter length. Most commonly extracted from coconut oil, MCT oil has been shown to promote weight-loss, increase energy by supporting ketosis, a metabolic process by which the body burns fat instead of carbs for energy.

**12** Drink water. It's your lubricant and you need more of it than you think.

**13** Eat 5 day old broccoli sprouts. The longevity food at the heart of good health.

**14** Try and eat 30 different plants a week. Variety is the best tonic for your microbiome.

**15** Practice gratitude. Journal three reasons to be thankful every day.

**16** Add strength training, or body weight exercises. Lean body mass de-ages you.

**17** Stress is all in the mind. You can bring down stress if you change your perception.

**18** Hold a stone. It will remind you of the ground beneath your feet.

**19** Have fun. Joy is a key component of life - take it seriously.

**20** Eat less sugar. Glucose spikes are the enemy of balance.

**21** Look after yourself, first. If you are not happy and healthy, no one else around you will be.

Follow [@rosebar.longevity](https://www.instagram.com/rosebar.longevity) on instagram for more tips and tricks



# The Circadian Rhythm

The timing of your sleep is set by your circadian clock. However new research reveals it could be the key to much more, says **Dr Steven Lockley**.

## What do we know about the effect of sleep on the body?

Sleep is an essential behavior - if we don't sleep, we won't survive. Lack of sleep affects all our organs, in particular our brain. Recent research shows that sleep 'cleans' out substances that have built up during the day each night. Sleep also helps file away information learned during the day and is therefore essential for memory and learning. If you don't sleep you don't learn, and your cognition, ability to interact with people and mood all suffer. In animal studies, sleep deprivation has been shown to be more damaging - and more fatal - than starvation, causing organs to fail across the body.

## How do you measure the effects of sleep deficiency?

Sleep deficiency is caused by not getting enough sleep each night. Shift workers highlight the extreme end of sleep disruption. In the short term, sleep loss leads to fatigue and causes sleep related accidents

or injury. We know that overnight workers have a 40% increased risk of an accident while at work and doctors are nearly 2 and a half times more likely to have a car crash on the way home when they work a long (24h) shift, and are three times more likely to kill their patient.

In the long term, epidemiological studies show that shift workers, and anyone who sleeps less than six hours a night, have a much higher risk of cancer, depression, diabetes, stroke and other cardiovascular complications - in short, all the disorders of our modern society.

Steven Lockley is an Associate Professor at Harvard Medical School and a world-renowned expert in sleep and circadian neuroscience. He has spent 25 years studying the circadian clock, and works with clients such as NASA and Formula 1's elite.

## Why does it seem everyone has a sleep problem these days?

Our society is increasingly geared up to chip away at the time available for sleep. We have 24 hour shops and services, 24 hour TV and internet, and 24 hour light availability at the touch of a button, all of which moves us away from the natural light and dark, day and night cycle that our biology evolved under. There are increasing distractions from our time to sleep, and we give in to that. This sleep deficiency is causing long term health problems. Sleeping enough every night - at least 7 hours per night in adults - is a key component of health and wellness.

## How do we sleep?

The strong signal for us to be asleep or awake is our internal 24-hour circadian clock, which is reset every day to the daily dark/light cycle, which used to be the natural cycle of the sun. Timing of sleep is under the control of our circadian system, the 24 hour clock in

the brain that ensures that our behavior anticipates environmental time cues like light, food availability and interacting with others - the early bird has to be awake before the worm to catch it! Modern life allows us to override the natural tendency to sleep at night and be awake in the day, and this is unique to humans - no other species can turn on a light and extend the duration of the 'day'.

#### How does the circadian clock work?

Our internal clock sets up our behavior and physiology to interact most efficiently with our environment. It does this primarily by responding to the light-dark cycle. Light and sleep are very intimately linked - if we are thinking about getting better sleep, we have to think about getting better, more stable, light or dark exposure. Sleeping badly exacerbates the problem as sleep 'gates' light: If you're awake at the wrong time, you're seeing light at the wrong time, and that's putting your clock out

of sync with the natural light/dark cycle. Anything we do to go against that cycle affects our ability to sleep, our immune system, our reproductive health, our metabolism and the many other systems that the clock controls.

#### Tell us more about the developing science of the circadian clock.

There are clocks all over the brain and body that we didn't know about until fairly recently. The circadian clock in the brain was discovered in the 1970s in an area of the hypothalamus of the brain called the the SCN (suprachiasmatic nucleus). The SCN is a group of about 50,000 cells, each an individual clock, all generating internal rhythms spontaneously without the need for any external influence. This collection of individual cell clocks sends signals to the rest of the brain and body to help them keep time - think of the SCN as the conductor of the orchestra.

#### Where else do we have clocks?

We have clocks in all our organs including the lungs, liver, heart, kidney, ovaries, and skin. Those are the players in the orchestra, all looking to the main clock in the brain to keep them in sync. When we talk about circadian synchrony or circadian alignment, there is internal and external synchrony. Internal synchrony is making sure internal rhythms are in synch, so that the brain is aligned with the liver and heart and kidneys etc, allowing those systems to work in harmony.

#### What is 'external synchrony'?

External synchrony is how well these clocks align with external time cues, such as the light-dark cycle, to make sure our biology interacts appropriately with the outside world. These effects of light are detected only through the eyes and sleep influences the timing of light that hits the retinae, which in turn changes the light information going to the brain.

#### How does that work in blind people?

The importance of light for resetting circadian rhythms is illustrated by what happens to totally blind people. Individuals whose eyes cannot detect light, or people without eyes, cannot synchronize to the light dark cycle. Most totally blind people develop a disorder called Non 24 hour Sleep Wake Disorder - which means their internal rhythms can't synchronize to the 24 hour light/dark cycle, and they revert to their internal non-24-hour rhythm, affecting sleep and many other rhythms controlled by the circadian clock. On average, our circadian clocks are a little longer than 24 hours, around 24.2 hours. If a totally blind person has an internal clock of 24.5 hours, the brain will tell them to go to sleep 30 minutes later every night, forever in a never-ending cycle. This is fine for a few days but after 24 days, the brain would be promoting sleep during the day, and wake at night. In this example, it would take 7

weeks to go 'all around' the clock before sleep returns to the night time. If you lost your eyes tonight, you would start this process tomorrow. This is known as 'free running' on your own internal time. That internal time is different for all of us, it's genetically set, and ranges from 23.5 to 25 hours across the whole population. This genetic clock setting is what determines whether you are a morning or an evening person, sometimes termed being a lark or an owl. People with a quicker clock (23.5-24 h) tend to be morning types; those with a slower clock (24.5-25 h) are evening types who wake up later and feel better later in the day.

#### How does this affect jet lag?

Your internal clock determines how easily you can adapt to shift changes such as jet lag - those with an internal clock slightly less than 24 hours are naturally going a little bit east every day, and find eastward travel easier, whereas those with a longer clock are na-

turally trying to go a bit west every day and find it easier to travel west. Interestingly, about three quarters of the population have a clock that's longer than 24 hours, which is why three quarters of people prefer to travel west, whereas only a quarter prefer to travel east.

#### How does that work when we live with other people?

Two people might be living in the same time zone and trying to sleep at the same time to get to work in the morning, but if their biological clocks are different then they will have different abilities to sleep at the same clock time. If you don't sleep at the right circadian time, you are sleeping against your clock, and we think that many sleep disorders are due to this mismatch between social time and internal circadian time. We published a study recently that as many as 20% of insomniacs actually have a circadian disorder, and not insomnia. Their problem is caused by sleeping at the wrong time in their circadian

cycle. When you sleep is a really key component of sleep duration and quality, because that determines when you see light, when you see dark and how your internal clock is reset to the 24 hour world.

#### How much deviation can our bodies take?

The more you get it wrong, the more of a problem there is. Think of circadian alignment as a continuum - if you never changed a single thing and saw exactly the same light/dark cycle every day forever, you would have a perfectly attuned circadian clock and be perfectly in tune with the world. While you might try to be perfect and do the same thing every day, life gets in the way. The bigger the deviation from that perfect situation, the bigger the problem. Shift workers are at the extreme end of this continuum and consequently have lots of health problems. Even if you are not a shift worker, having a large deviation between weekdays and weekends can cause health problems. We have

evolved to have a very small amount of deviation every day in our light/dark cycle because the sun changes incrementally from day to day, and even the changes in extreme latitudes are less than the variability we induce with our ability to override the darkness with electric light. No one really knows why there is a range in internal clock times, but part of it could be to allow flexibility for seasonal changes in light/dark cycles.

#### Can I train my clock to be more flexible?

Even though your clock is genetically set, it can be shifted, it is plastic. Lab studies have experimented with this, in particular those funded by NASA. These studies have looked at preparing astronauts for Mars - a Martian day (or 'sol') is longer than an Earth day, at 24 hours and 40 minutes. The further your internal clock is from the day length you are trying to synchronize to, the harder it is. Those with a clock close to 24 hours will find it easier to synchronize to

Earth time but harder to align with Mars. Conversely, people with slower clocks will find it easier to synchronize to Mars when we finally get there. Back on Earth, in general, the closer your clock is to the 24 hour target, the easier it is to synchronize and the better it is for health. People who are at the extreme ends of that range are likely to be less healthy than the ones who are closer to 24.

#### How can I optimize my own clock?

You know when you perform best and when it's a good time to go to sleep. Morning types should do their best work in the first half of the day, whereas evening types will wake up later and do their best work later in the day. Performance might peak in the late afternoon for evening types, but around late morning or lunchtime for a morning person.

#### What are the best practices for exercise and eating?

You don't want to be exerci-

sing soon after sleep as your core temperature is still low. You should do strenuous exercise later in the day. Likewise, if you exercise too late, it alerts the brain and makes it harder to sleep. Time Restricted Eating, sometimes called intermittent fasting, is a circadian intervention, pushing food intake into the daytime, which is more natural for a diurnal species like humans. We can't metabolize food very well at night - if you eat the same food at 1am and 1pm, the 1am food will end up with a much higher spike in glucose, insulin and fats. It's also good to avoid eating shortly after sleep which is likely still early in your circadian metabolic cycle.

Food and exercise are weak at resetting the clock in the brain. The internal clocks in the liver and the heart are likely to be more sensitive to food timing. As a diurnal animal, we have evolved to sleep at night and eat and be active during the day. While we are still trying to fully understand these systems, if you want to

maximize your metabolic and activity profiles you should exercise and eat during the day.

#### Can I hack my clock?

I also work with a company called Timeshifter that creates solutions to manage your circadian rhythms. The Timeshifter Jetlag app will tell you when to sleep, nap, see light, avoid light, and use caffeine or melatonin if you decide to do so. There are many claims about other solutions for jet lag, for example acupuncture, fasting and hydration. While they might make you feel better temporarily, they do not reset the clock which is the key to tackling jetlag. Ensuring you are exposed to light, and dark, at the right time is the most important consideration for jetlag and the Timeshifter app will tell you how to do this. You don't have to follow the advice perfectly but the more you do, the less jetlag you will have. We will also soon launch a Timeshifter app for Shiftwork to help people manage their sleep and circadian rhythms when working

variable schedules.

#### What's the future for circadian medicine?

There are many potential applications for circadian medicine. Most aspects of our biology have a circadian component and we don't yet fully understand the implications of circadian misalignment on health. For example, we know that when to take certain drugs is important - how well a drug works or how toxic the side effects are, is often determined by when you take it. Even how to interpret your blood test at the doctor's office will have a circadian component - for example, high cholesterol in the morning may be abnormal, whereas the same level in the afternoon may be fine. Circadian medicine will become more and more important as we measure circadian rhythms more regularly as for many aspects of our physiology, it's not just what you do, it's when to do it. Circadian timing will become a whole new frontier for medicine.



# Fit for life

Exercise is your insurance policy for later life.  
Global Sports Consultant Vicent Beltran explains the  
best type of exercise to support the aging process.



**F**ew of us need to be convinced of the benefits of exercise, but taking care of your body's strength and aerobic capacity is paramount in the fight against aging. "If you don't exercise, if you don't put your body through a physically challenging stimulus, then it deteriorates," says Sports Consultant Vicent Beltran. "Likewise, maintaining your aerobic capacity will ensure your ability to perform activities like working, dancing and walking in later life - ones we all take for granted now, but which as we get older, become more difficult."

**If you could recommend one training approach for longevity, what would it be?**

HIIT - or High Intensity Interval Training. It allows you to train with more intensity for longer periods compared to if you exercise in a more regular way. I like to train in circuits for HIIT. So short intense periods of challenge, followed by a rest, followed by

more challenge. In circuits you get to switch the area of focus each time.

**What about fat burning?**

HIIT is especially good for this - it helps you to burn more calories in a shorter amount of time by increasing your metabolic rate. Increased metabolic rate equals fat burning. HIIT will also improve oxygen consumption, reduce heart rate and blood pressure and help in the management of blood sugar. Aerobic exercise increases heart health and builds your immune system. And crucially, it allows you to gain muscle by increasing muscle mass.

**What is so crucial about muscle mass as we age?**

As we age, we all suffer from sarcopenia, or decreased muscle mass. You can fight this with strength training exercises, but if you don't, the likelihood of you falling, being less able to carry out simple day to day functions

like carrying home the supermarket shopping, will arrive a lot quicker. If you build more muscle, this will help you when it comes to keeping your balance, and in your later years you will be less likely to suffer a fall. It's hugely important that you train with a view to putting on muscle, and include strength training in your exercise routines. For example in HIIT circuits you can alternate cardio with weights with rest.

**Is it enough to use your own body weight in strength training or do you need to include weights?**

In any strength training, your body will improve until a certain point, and then plateau. After this your strength capacity then deteriorates, so you have to keep increasing the challenge to the body. If you are just using the weight of your own body against yourself, you will eventually need to add weights.

**What are the benefits**

**of exercise on mental health?**

Exercise helps you to manage anxiety and to sleep better. It may not feel like this at 6am when the alarm goes off for your morning training session, but the sense of achievement and satisfaction, not to mention increased blood flow and oxygen to the brain, builds up over time. There are many studies showing exercise is a good way to combat depression. It is also great for socialising.

**And on your hormones?**

For women exercise helps regulate the menstrual cycle and other hormone cycles too, so can also be something to help manage menopause symptoms.

**What do you recommend in terms of competitive sport?**

Triathlon is a very good discipline for this. The beauty of triathlon is it allows you to train in three different disciplines, which gives you enough variety to exercise all the muscles in the body. It helps

with stamina, strength and aerobic performance - and then each discipline training has a positive impact on the other. For example, the benefits of cycling helps benefit your running. You can use swimming as recovery for running, reducing the training load and the risk of injury at the same

**HIIT  
increases  
your  
metabolic  
rate allowing  
you to burn  
more calories**

time. If you run every day the danger of injury increases because of the high impact. Combine with swimming, and you have a solution.

**You helped design the Six Senses Ibiza triathlon, what do you like about it?**

It's completely unique! It is an eight discipline race where we combine yoga, meditation, swim, bike, run, yoga, self appreciation and then celebration. Yoga and meditation help you prepare physically and mentally for the race. It's a very challenging course as the terrain around Six Senses is not flat. It's fun, but there's a lot of hills! After the run, we do yoga again to help stretch, then self appreciation to thank yourself for what you have done - followed by an Ibiza style celebration with a DJ. We will be holding the next one in April 2023.

**What are the distances for the Six Senses Ibiza triathlon?**

You can do super sprint (400m swim, 10km bike, 2.5km run); sprint (750m swim, 20km bike, 5km run) or Olympic (1.5km swim, 40km bike, 10km run). To make it more accessible we also allow people to compete in teams of three, with each entrant completing one discipline. It's a good way to build up to the whole race.

# Science

“Think of your genes  
as the software that runs  
everything in your body.

Your genes only do what  
you instruct them to do.”

Dr Mark Hyman, MD

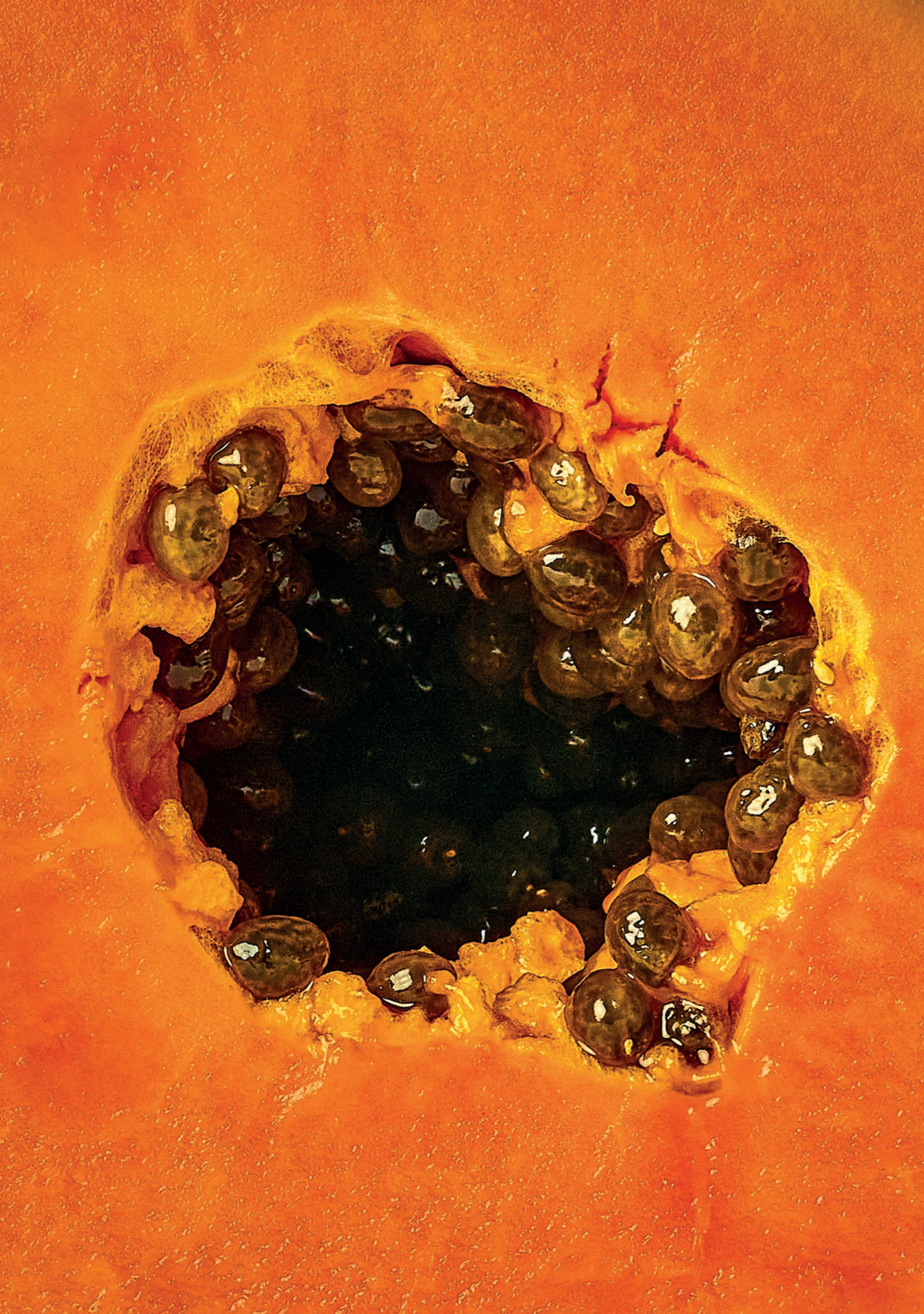




# The Nutraaceutical Fix

**Dr. Nadya Lisovoder**, RoseBar's Chief Scientist, outlines the importance of what we eat - and what extra ingredients can make the difference for a long and healthy life.

Nutrition and gut health is very important, but firstly it is important to point out that you cannot focus on it in isolation. Health is an ecosystem, where you have to support all aspects, physical and mental, to turn back time. Evidence based medicine shows you will experience better aging if all of aspects work together, and for that we include IV infusions, exosome therapy, nutrition, sleep, biohack tools and spirituality. Spirituality because you cannot deal just with physical health and not pay attention to your emotional health. Purpose and joy are paramount to your long term health. If you can zoom out and view the whole picture to support all aspects, that's what will help you build your health into the best shape. However, plenty starts with the gut.



### Nutrition and Your Microbiome

What we see in nature is the mood, body and physiological ability of a person is dictated by their microbiome. The microbiome is the living landscape of bacteria that inhabit our gut, up to 39 trillion microbial cells including bacteria, viruses and fungi that live on and in us. When you consider there are 30 trillion cells in our whole body, you can begin to understand why the gut is just as, if more important, than our genome. Every mouthful of food contains up to a million microbes, and these, plus those we inherited from our mother at birth, determine the health of our gut landscape.

The bacteria in our microbiome are responsible for many things. From the way we smell to our cognition, mobility, mood, gastrointestinal symptoms and levels of inflammation, even our propensity to develop psychiatric diseases and ADHD.

Much has been discovered recently about the gut-brain axis too, the two-way biochemical signaling that takes place between the gastrointestinal tract (GI tract) and the central nervous system (CNS).

Healthy food that supports a healthy gut, is therefore key in fuelling good function.

### Testing

To take care of your microbiome, you need to design a nutritional diet plan with world class nutritional experts, ideally with personalized microbiome and nutraceutical products to support you in the day to day. This starts with collecting individualized tests of your microbiome to prescribe different protocols. The microbiome samples are sent to the lab where they can sequence the full genome of all the bacteria in your gut. From that we can understand a lot about your health and prognostic future.

### Delivery systems

A focus on delivery systems for nutraceuticals is of great importance, as no supplement will be effective if it does not have good bioavailability (in other words it can be usefully absorbed by the body). New technologies have recently been developed which, when combined with nutraceutical supplements, allow for highly efficient absorption. For instance, Lipisperse is a delivery system technology that makes a thin lipid envelope around the molecule and allows for maximum absorption of the product. This is mandatory for a curcumin supplement, as without it the body is not available to absorb it on its own.

### The Nutrients to Focus On

Aging is primarily related to inflammation, stress, cognition and sleep. Combining best in class nutraceuticals with a broad intake of vitamins is the best way to support health. These are the nutraceuticals that should be your primary focus.

#### Antioxidants

Also called 'free radical scavengers' antioxidants are the soldiers that combat the damage to cells caused by free radicals, the unstable molecules caused by the body's reaction to environment and other pressures. Glutathione is a powerful antioxidant found in spinach, avocados, okra and asparagus. However once isolated, the body's ability to absorb glutathione is very low and so it is often given in IV.

#### Resveratrol

This is a powerful antioxidant and anti-inflammatory agent that has been shown to increase sensitivity, balance and metabolism. Resveratrol can be found in grapes, wine, grape juice, peanuts, cocoa, and berries such as blueberries, bilberries, and cranberries. It is a key nutraceutical tool in the longevity process.

#### Ashwagandha

Otherwise known as 'winter cherry', ashwagandha is an evergreen shrub that has powerful abilities to reduce inflammation, lower stress, calm the brain, lower blood pressure and alter the immune system.

#### Q10

Q10 is an enzyme that occurs naturally in the body, and can be found in foods such as cold water fish, (mackerel, tuna, sardines), vegetable oils and meat. As a supplement it supports energy production and improves cardiovascular health and health in general.

#### Curcumin

Inflammation is not a healthy process in the body but high absorption of curcumin can do a great job in supporting this process. Curcumin is a widely recognised and well known anti-inflammatory agent in the body. In addition, curcumin is also related to cognition improvement and mobility.





# Exosome Therapy: The Future Frontier

Recent advances in biotechnology have revealed a possible new therapeutic in the form of exosome therapy. Already in development as a potential treatment for kidney disease and Lupus, biotechnology expert **Dr Alon Yaar** explains how it works.

## What happens to our cells as we age?

Aging can be defined by the loss of physiological function over time, and this is reflected in nine distinct hallmarks. These comprise genomic instability, telomere shortening, epigenetic alterations, loss of proteostasis, deregulated nutrient sensing, mitochondrial dysfunction, senescence, stem cell exhaustion, and altered intercellular communication. Consequently, they reflect the accumulation of cell and tissue damage, the loss of repair capacity, and cell proliferation.

Let's start with stem cells exhaustion. Think of stem cells as the mother that make up all the other cells in the body. Stem cells expand and either make more stem cells, or specialized cells such as brain cells, blood cells, heart muscle cells or bone cells. As we age our body produces less stem cells, and the ones we do make are not good. The telomeres are short, and they cannot develop into healthy cells. However, all the information that makes stem cells so

important is connected to the cells themselves. Think of the cells instead as factories, and these factories produce tiny bags, called EVs, or exosome vehicles, that contain all the information (proteins, small RNAs, DNA) needed to communicate with other cells

## How does stem cell production affect longevity?

These tiny bags actually contain all the information of aging and anti-aging. If we can use a good EVs source, we can change the route of the longevity path. A few decades ago, it was thought that exosomes just contained all the garbage of the cell, known as "cellular dust". Seen for many years as not having any value. We now know these small bags contain a lot of information. They contain nucleic acid - mRNA or micro RNA (you might recognize this from the COVID vaccine technology) and if they are given to someone, this mRNA can go directly to the cells, find the relevant DNA fragment and tell the cells exactly what they should pro-

duce. In the case of anti-aging, that would be the same proteins, lipids and nucleic acid we produced as a teenager. If we can do this, we can change the route of aging.

## How can we introduce exosomes into the body?

We thought initially we could take the exosomes of young people. But billions of years of evolution makes us understand that the mammal kingdom is based on the same basic information that is being given through the mother's milk - whether that's goat milk, human milk or horse milk.

## What does this milk contain?

Milk is produced by mammary glands and is the "natural food" of newborns. The milk of cows, goats, humans, and other mammals is a unique source of exosomes since they produce large volumes of milk per day, which is much higher than the volume of exosomes produced in cell culture fluid or blood plasma. Unfortunate

ly, milk exosomes are currently much less studied than exosomes of blood or culture fluid.

The basis of biological functions of milk exosomes is due to their components: lipids, proteins, and nucleic acids. We use milk from goats and found a lot of exosomes inside this. What's more these exosomes contain information that can change the route of aging.

**Haven't we heard this before?**

Yes. You may remember the story of Cleopatra, queen of Egypt, who was famous for her baths. She would protect her skin from damage by taking baths in goats milk. According to history she kept a herd of 7000 goats, and once a week would take a 30 minute bath of goat milk. History tells us she was the most beautiful woman on earth at the time.

**Is this the future of beauty?**

If we can isolate the exosome from the milk and produce topical products there is a

**These tiny bags contain all the information of aging. If we can find a good source we can change the longevity path**

good chance that exosomes could protect and rejuvenate the skin. We believe in the power of the exosome from milk to do this.

**What other applications are you looking at?**

If we already have this exosome, we can use it not just as a topical product, but also an oral product in small capsules. The power of this exosome will be multiplied by the idea that it can be absorbed by the intestinal tract.

We are also looking at how we could administer IV infusion directly into the bloodstream. This would be the most efficient way of receiving it - and it could be done regularly once every three to four months.

**Is it just milk that is a good source of exosome?**

There are many plants that contain very good anti-inflammatory and anti fibrosis powers. Curcumin, lemon and broccoli are strong in the potential to fix oxidative damage. Lots of scientific publications are talking about isolating exosomes from plants to treat skin, cognition or any kind of inflammatory process. Since milk and plants are being consumed by people on a regular basis, there is no safety concern using these EVs based products to handle the aging process.

**What evidence do we have that it works?**

This is a relatively new field of science, and has only started to be explored in the last few years. Most information is

coming from academic institutions, where experiments are showing evidence they can change the route of aging in animals. There are about 40 or 50 clinical studies using EVs all over the world in total. In humans, we are just doing our clinical studies on patients with kidney disease or lupus. Since the safety concern is minimal, we are planning to start the first clinical study once we have the final products - sometime in the next year.

**How has exosome therapy performed in treatment**

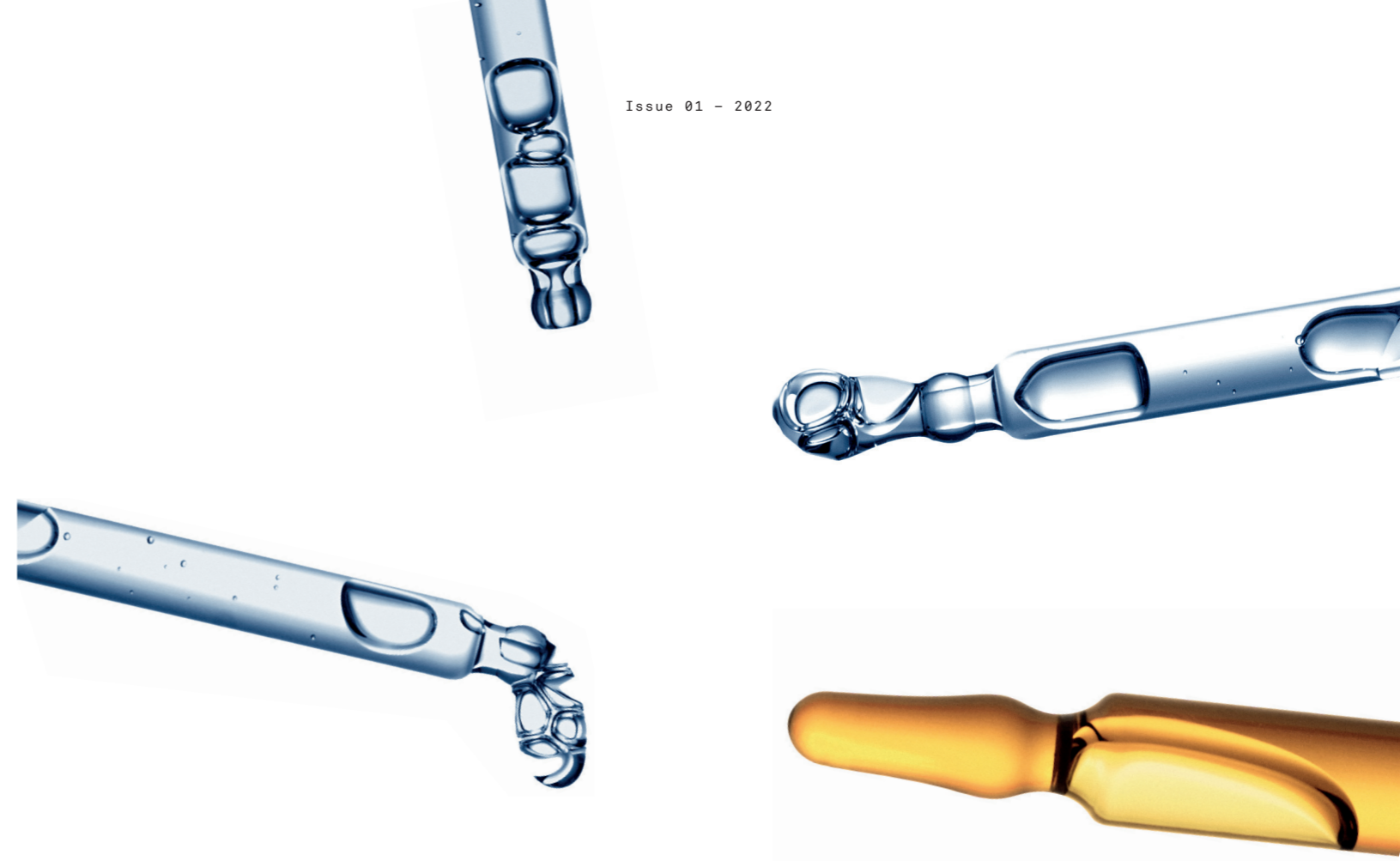
**of kidney disease?**

In kidney disease patients this technology will be able to modify the prognosis once they reach stage 5. At this stage they have only 2 options - dialysis or transplant. Kidney disease is a systemic disease affecting all organs in the body. Exosome therapy will convince the kidney to stop acting like a diseased organ, and instead to rejuvenate and repair by introducing compounds that tell the sick kidney cells to produce a healthy microenvironment. This is just like in the coronavirus vaccine: the exosome con-

tains many micro RNAs just as the vaccine does. Once introduced to the body, the vaccine, like the exosomes, goes to the cells and orders them to react to the RNA message..

**So essentially exosomes are the carriers for RNA?**

Exactly, RNA is exosome cargo. RNA are telling the cell what to do, and we can use specific RNA for specific roles. The RNA is connecting to the DNA and asking the DNA to produce the proteins that are doing all the work in the body.





# Direct to source

Intravenous injections of vital vitamins and minerals can provide a powerful lift back to balance.

**Dr Tamsin Lewis**, a seasoned practitioner on what it's worth - and not worth - considering.

There is a widely accepted school of thought that all vitamins and minerals can be sourced from a balanced diet - so what need for an IV? There is truth in this, however, the way many people live their lives depletes them of the nutrients they need to function well. And diet is not always consistent and able to make up the shortfall. You can supplement orally with vitamin pills, however intravenous administration is a much more efficient way of taking on board nutrient deficiencies, as it bypasses the gut and liver and allows the goodies to go straight into the blood.

If you are stressed, not sleeping well, or your immune system is run down, it is likely that you have deficiencies in your body. People who travel a lot, those with small children, anyone suffering from chronic fatigue or long Covid or a compromised gut function can benefit.

In my practise, patients consistently report that IV infusions leave them cognitively clearer, with a better functioning immune system and feeling more hydrated. They also find they sleep better.

Remember though, it's not the IV that counts - it's what goes in it. Ingredients need be of high quality and well sourced. It is difficult to measure precisely what everyone needs, but a snapshot blood test will show deficiencies in vitamin b12, magnesium, iron and vitamin D, (however a high dose of vitamin D needs to be administered intramuscularly, not intravenously).

To measure amino acid deficiencies, we look at metabolites via a urine test, but as there is no risk of overdosing, this is not necessary, as adding amino acids to the mix can only bring good things.

The IV ingredients we have evidence that make a difference are:

## Vitamin C

In a 3-10g high dose - this is a multi purpose vitamin with antioxidant effects that reduce cellular stress and damage, mopping up free radicals, the toxins that buzz around the body causing damage.

## Zinc

Improves the mucus membrane of cells, which is the first barrier of defense against infection.

## Glutathione

A major antioxidant in the body that has poor oral absorption, so best delivered intravenously. A free radical scavenger, it has similar effects to vitamin C, but also supports liver function and detoxification.

## Magnesium

Extremely potent at calming the nervous system, reducing heart rate and lowering blood pressure. It can also improve gut motility (constipation).



# Biohacking, or Bioharmonising?

Evidence is mounting that biohacking technologies can effectively slow down the rate of aging. But which ones should you try, and how should you incorporate them into your life?

**Dr Tamsin Lewis** reports.

**T**en years ago, biohacking outliers were waking up and doing several biohacks before breakfast. Cold showers, fasting, MCT oil in their coffee. Back then these enthusiasts were considered fringe, but evidence is mounting that many of these hacks can make a real difference. Many of them can be done quickly, easily and for free, some require specialised equipment.

At Rosebar we prefer the term 'bioharmonising' to biohacking. Biohacking implies a continual state of putting yourself under tension. Better to follow a program of gradual improvements that will strengthen your physiology and psychology, whilst giving your body enough time to repair and regenerate. Consulting an expert about what would work best for you, your body and your lifestyle will help you design the optimum program.



## Cryotherapy

Essentially the use of extreme cold to freeze and remove abnormal tissue. Administered in a temperature controlled chamber, cryotherapy has a myriad of benefits from treating skin issues to burning fat. By improving brown adipose fat tissue production, which is very metabolically active, it is particularly effective at burning calories.



## Hyperbaric oxygen therapy

There is compelling evidence to support the efficacy of hyperbaric oxygen therapy. An Israeli study published 2 years ago proved how the treatment could slow down the rate of aging. By plus-ing up the amount of oxygen into your body, it puts you into a parasympathetic recovery state, where all the cellular processes become much more efficient. Oxygen is infused into cells, and the body effectively repairs and heals better. Medically, it is used to speed up healing of carbon monoxide poisoning, gangrene, wounds that won't heal, and infections in which tissues are starved for oxygen. As a biohack it will regenerate cells and also give you an energetic boost. With increased adrenaline production you will also experience increased brain clarity.

## PEMF

Pulsed electromagnetic field therapy stimulates regeneration and metabolism at a cellular level. Used by top athletes and NASA scientists to help cells regain their positive charge, PEMK provides a grounding field of energy in the body in which the body's cells are able to work more efficiently.

## Normatec Acupressure boots

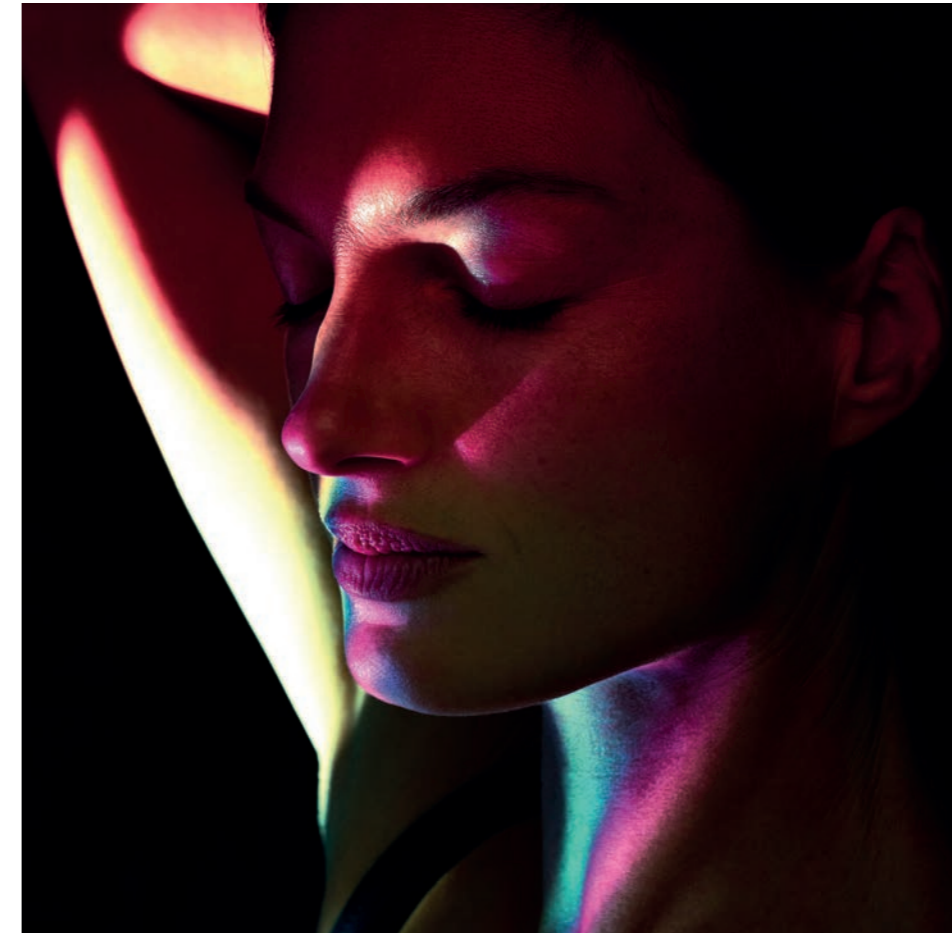
A next generation recovery system that fits an electric pulse to the legs via a pair of compression boots. Benefits include decreased muscle tension and inflammation, increased range of motion and flexibility, and increased circulation. Particularly effective for improving muscle recovery post exercise, decreasing any swelling in the legs post flights, and treating lower leg pain.

## Hypoxic interval training

Think of HIT as a 'cell gym': by limiting the amount of oxygen into the body, hypoxic interval training will increase the efficiency of your body's oxygen usage. This gives the body a stimulus to produce new red blood cells which improves how much oxygen the body can carry. Used to treat disease, manage fatigue and boost athletic performance.

## Hot and cold therapy

There's a reason why cultures all over the world for thousands of years have indulged in hot and cold bathing. Heat therapy, or hyperthermic conditioning, clears toxins including heavy metals like mercury through sweat. (Don't forget to replace lost salts with an electrolyte drink). Hypothermic sessions induce heat shock proteins which protect cell function and stability via a hormetic effect. Also heat therapy is an exercise "proxy", in that it stimulates similar effects to exercise, encouraging cardiovascular adaptations, lowering blood pressure and heart disease risk. It is also shown to support mental health by encouraging the release of endorphins and increasing blood flow to the brain. Heat therapy also encourages the growth of hormone levels which is inherently anti-aging. Cold plunge encourages the metabolism of brown fat cells, helping to burn calories (we lose this ability as we age). Cold therapy also releases adrenaline in the brain which acts as an antidepressant, boosting immune function and blood circulation.



## Photobiomodulation

Otherwise known as a 'red light sauna', photobiomodulation improves mood, mitochondrial function and cognitive function. It does this by directly supplying energy (in the form of light) to mitochondria, the energy batteries of cells. In turn this helps the mitochondria relieve inflammation, stiffness and soreness by increasing blood circulation (delivering more oxygen rich blood for a faster recovery) and carrying off more metabolic waste products. It also supports skin integrity by stimulating collagen production.



# Youth and Beauty

Can you reverse the aging process of skin?  
We ask the experts.

“Put simply, skin aging is due to a combination of intrinsic (internal) aging and extrinsic (external) aging,” says Sarah Bradden, founder of the renowned Bradden Method. “Our environment and factors including alcohol, smoking, poor diet, sun exposure, lack of sleep, illness and stress are all responsible for extrinsic aging. You can control these with a healthier diet, a calmer routine and increased oxygen and movement.” Before you do anything, Bradden advises, add more zinc and essential fatty acids to your diet, and minimize refined sugar, caffeine and alcohol. “Sensible changes really make a huge difference,” she says. “Skin suddenly appears clearer, brighter, more supple and plump.”

Bradden’s Method has been designed to work specifically with intrinsic aging. “Intrinsic aging effects the production of collagen which causes wrinkling and skin sagging,” she says. “This can’t be reversed, however finding the right treatments can make a huge difference. I’ve seen the appearance and condition of my client’s skin transform.”

Bradden uses a combination of therapies in her method. She starts with cosmetic acupuncture, which relaxes facial tissue and encourages circulation stimulating, repairing and renewing skin mechanisms from within the dermis. She supports this with acupressure facial massage to tighten the face and jawline.

Next Bradden uses LED light therapy to activate skin cells and focus on the skin’s cellular regulation. “LED works via specific wavelengths of

light that target wrinkles, helping generate collagen.” With advances in biohacking techniques, Bradden has now added the HigherDose Infra-red PEMF Mat as a final stage. “PEMF stands for pulse electromagnetic field, and also known as High Energy Inductive Therapy. Think of it as a battery recharge to your cells supporting your body’s innate healing abilities,” she says.

Dr. Moisés Amselem is an aesthetic doctor working in Madrid. For his clients, he recommends minimizing the aging lifestyle factors and then “Improving the mechanisms of cellular repair with antioxidant substances.” Specifically, he recommends a multivitamin, with amino acids, polynucleotides, peptides and nucleic acids for repair. Next, “Hyaluronic acid is a fundamental element for the skin due to its antioxidant, filling, moisturizing, anti-flaccidity, and volume recovery properties. These increase plumpness and elasticity of the skin.” Amselem recommends two injections a year. For those who can’t face needles, he suggests a radiofrequency technique.

To stimulate the skin’s collagen and elastin production, Dr Amselem recommends the insertion of thread inductors such as calcic hydroxyapatite, polycaprolactone, polylactic acid or polydioxanone. Botox, to prevent dynamic wrinkles, he recommends for the upper third of the face, the forehead, frown and “crow’s feet”. To treat skin stains and imperfections, chemical peels, IPL and CO2 laser are recommended for when sun exposure can be limited.

While beauty surely comes from the inside out, it’s reassuring to know plenty can be done from the outside in.

# Spirituality

“If you can master your relationship with your inner energies, you can dream your world into being.

This is what shamans call ‘spirit’, and we call the forces of creation.”

Alberto Villoldo, Medical Anthropologist





# How to Grow a New Body

Alberto Villoldo took his scientific training to the Amazon jungle and returned with the keys to longevity. Now one of the world's most sought after healers, he tells **Tiffanie Darke** what he found.

It's impossible not to warm to Alberto Villoldo. The 73 year old Chilean is wrapped up in knitwear in the depths of the Patagonian winter, but his beatific smile and gentle, humorous tone is enough to warm the most cold hearted cynic. And then there's the conversation: a career that has spanned academic laboratories in prestigious American universities, spells in the jungle, on the savannah and remote mountain ranges, makes for the most compelling observations. "I am a scientist and a shaman," he says, "a medical anthropologist."

What Villoldo has learned over the course of his studies is that a more creative approach to medicine can yield wildly more imaginative returns. "Most doctors don't read science, they read medical studies," he explains. "Medical studies are funded by big pharma, and are fundamentally flawed." He points to a comment piece Richard Horton, Editor of *The Lancet* wrote in 2015, in which he stated: "Much of the scientific literature, perhaps half, may simply be untrue. Afflicted by studies with small sample sizes, tiny effects, invalid exploratory analyses, and flagrant conflicts of interest... science has taken a turn towards darkness." For Villoldo, it's not science that is the problem, it's the methodology. "While most of the scientific studies produced today are coming to the wrong conclusions, the scientific method is extraordinary."

Villoldo's study began in the neuroscience department at San Francisco University, where he began to pursue the hypothesis that, if the human body can create psychosomatic disease, why not psychosomatic health? "It turns out it's the brain that normally gets us into trouble, but it doesn't know how to get us out of trouble. My

take on longevity is if your brain is broken, you're going to get sick. And the first rule of longevity, is you don't want to die young," he chuckles.

Toiling away in the lab, he gradually realized, "I was looking down the wrong end of the microscope. Instead of going smaller, into the neurons and neurotransmitters, we had to go bigger - into social context." Villoldo realized what made a brain positive and energetic could be measured by, "how many friends you have; do you have love in your life; do you forgive easily; do you wake up looking forward to your day - and beyond that, you had to have 'a sacred map' of what your life is about." Because life is not only about being successful, having money and a bigger house, "but about having meaning and purpose," he asserts. "So I closed my lab to study two things - plant medicine and trauma." And to do that, he needed to spend time with the masters of the plants in the Amazon.

You have  
to have a  
'sacred map'  
of what  
your life  
is about

"We have to start with our inner nature. Our inner nature is our gut flora. We have 100 trillion cells and 90 trillion belong to over 10,000 species of bugs—bacteria that live inside of us that process all of the foods we eat. They turn broccoli - something that is not "us" - into us. This is where we begin to get in touch with our inner nature. It's not through meditation, but by having a really healthy gut flora."

In the Amazon there is little or no instance of cancer, dementia or heart disease. The masters of the plants, otherwise known as the shamans, "had already discovered the plants that create longevity; they identified them 500 years ago. They look for plants that work synergistically, not along a single pathway or a single molecule." These are 'the sacred plants', (not to be confu-

sed with psychedelic plants, "the teacher plants", which now we are discovering are highly effective in solving anxiety, depression and PTSD).

Villoldo spent 25 years in the Amazon with the plant masters, and by taking the sacred plants back to the lab and studying them, discovered "there are plants that will switch on the genes that create health and longevity, and switch off the ones that create disease. We discovered they work on the NRF2 longevity pathway."

So how did the shamans identify the right plants? "Because the plants spoke to them," smiles Villoldo. "Shamans were people never kicked out of Eden. They are speaking to spirit, to God, to the rivers and the plants." Back at the lab, Villoldo realized the shamans had found the plants that switch on first the detox, and then regeneration pathways. "Ones that get rid of the poisons in your brain like mercury and pesticides, and help your brain go into repair then regeneration." Modern life is toxic. Not only are we exposed to metals and chemicals that we would never have come across 50 years ago, the speed of information and living is incredibly stressful.

"If you are producing stress molecules, you are going to be making psychosomatic disease - making cancer," he says. "You need first to stop the fight or flight syndrome, then repair the hippocampus. The brain normally grows 1500 new neurons every day, unless it's toxic, then you start losing hippocampus volume. But you can repair it in 6 weeks. Once you upgrade the hippocam-

pus, you stop producing adrenaline, cortisol, and you can start creating psychosomatic health."

Once you stop making stress molecules, you begin to make the bliss molecules - serotonin and melatonin. "You get sleep and rest, and then the higher brain methylates serotonin into a tryptamine, adds a couple of bonds to it, and turns it into dimethyltryptamine which is the most powerful psychedelic known to humans. The bliss molecules help you feel communion and oneness. You're in love with the world. Then you're creating health."



So what are these sacred plants? Turns out many are universal. They are blueberries, wildberries, omega 3s, curcumins, and especially 5 day old broccoli sprouts. "Broccoli sprouts are rich in sulforaphane, but it's only produced in 5 day old sprouts. You cannot package it or bottle it, as an enzyme, myrosinase, is released when you chew the sprouts. It's created

by the sprouts to protect themselves against predators - this is their natural defense system. When we take it, our body reads it like a toxin and mounts a defense reaction. This repair reaction epigenetically switches on the genes for longevity."

Today we have the science for what the shamans knew half a century ago, and Villoldo points specifically to the work of Dean Ornish, Clinical Professor of Medicine at UCSF, who has discovered that in six months these plants switched on 200 health creating genes, and switched off 500 that create cancer and heart disease.

For the second part of his study, Villoldo looked at our energy field. “The energy producers in your body’s cells are mitochondria. They manufacture energy which is the fuel you need to repair and regenerate.” However, there is an energy field that surrounds the entire physical body that is created by the nervous system. “Think of it like a wire with electricity running through it, and perpendicular to that you have a magnetic field - this is your electricity. We have these long nerves or wires that create an energy field around the body. It’s an information field that contains the information of trauma. In Chinese medicine they call it stale chi. When it becomes big enough, it manifests through the weakest organs in your system, and will trigger some kind of degenerative disease. You have to clear these from your system. They are the toxins in the energy field just like you have toxins in your body and your cells.”

This process of energy cleansing is what shamans master. “It’s not part of the scientific world that these energies exist in the body, because we can’t measure them. But in most other cultures they have them - Hindus talk about them as chakras, in acupuncture they are known as meridians, shamans speak about them as the stale energy that creates illness.” Trauma is something that can be experienced either directly by you, or your mother whilst you were in the womb, or by your culture or your people. “Today the shamans are healing the collective trauma of the conquest, the devastation that happened at the mercy of the conquistadors,” says Villoldo.

Naturally Villoldo took his observations to the laboratory, where he mapped our energy anatomy. “The energy points are created exactly where a nerve plexus coincides with an endo-

crine gland, and these are the two communication systems in the body. The nervous system is electrical, and the chakras connect with hormones, thoughts and feelings, and they are always overlapping. The shamans bring balance to the energy field and that triggers the body’s innate healing response.”

“If you don’t clear trauma you will be creating cancer - that’s the equation,” he says. “Trauma remembers not what happened to you, but the story you created around it, the way you remember it. The body remembers it in tissue. The body keeps score.”

**We are  
awash in  
a world  
of energy  
and we  
are energy  
beings**

Villoldo then had a unique opportunity to try out his discoveries. “I had a big health crisis 10 years ago. I had picked up parasites on my travels that had settled in my liver, and my liver stopped working. My doctors told me to get in line for a liver transplant. I had parasites in my brain and holes in my heart.”

Could he repair and regenerate himself? “I used western medicine to kill the critters - western medicine is really good at killing stuff. Then I used plant medicine to grow a new body. I grew a new liver, a new heart and I repaired my brain. Instead of having a death sentence, now I have a calling. My work now is to expand our notion of reality, including science. Unfortunately doctors don’t listen to the scientists, they don’t have time, but we are living at a time of convergence - the ancient science with the modern science. Shamans mediate between the worlds of matter and energy. We are awash in a world of energy and we are energy beings - if you can master your relationship with your inner energies, you can dream your world into being. This is what they call spirit, and we call the forces of creation.”







“Connecting with  
your inner self  
empowers life  
extension”

Anna Bjurstam  
Wellness Pioneer

# How healthy was your childhood?

Traumatic experiences in childhood can greatly effect your ability to achieve health in adult life. The ACE (Adverse Childhood Experiences) test is a widely held standard in modern psychology for measuring such trauma. Take the test and score one point for each 'Yes' answer.

## Q1

Before your 18th birthday, did a parent or other adult in the household often or very often...

swear at you, insult you, put you down, or humiliate you?

*OR*

act in a way that made you afraid that you might be physically hurt?

*YES/NO*

## Q2

Before your 18th birthday, did a parent or other adult in the household often or very often...

push, grab, slap, or throw something at you?

*OR*

ever hit you so hard that you had marks or were injured?

*YES/NO*

## Q3

Before your 18th birthday, did an adult or person at least five years older than you ever...

touch or fondle you or have you touch their body in a sexual way?

*OR*

attempt or actually have oral, anal, or vaginal intercourse with you?

*YES/NO*

## Q4

Before your eighteenth birthday, did you often or very often feel that...

no one in your family loved you or thought you were important or special?

*OR*

your family didn't look out for each other, feel close to each other, or support each other?

*YES/NO*

## Q5

Before your 18th birthday, did you often or very often feel that...

you didn't have enough to eat, had to wear dirty clothes, and had no one to protect you?

*OR*

your parents were too drunk or high to take care of you or take you to the doctor if you needed it?

*YES/NO*

## Q6

Before your 18th birthday, was a biological parent ever lost to you through divorce, abandonment, or other reason?

*YES/NO*

## Q7

Before your 18th birthday, was your mother or stepmother:

often or very often pushed, grabbed, slapped, or had something thrown at her?

*OR*

sometimes, often, or very often kicked, bitten, hit with a fist, or hit with something hard?

*OR*

ever repeatedly hit over at least a few minutes or threatened with a gun or knife?

*YES/NO*

## Q8

Before your 18th birthday, did you live with anyone who was a problem drinker or alcoholic, or who used street drugs?

*YES/NO*

## Q9

Before your 18th birthday, was a household member depressed or mentally ill, or did a household member attempt suicide?

*YES/NO*

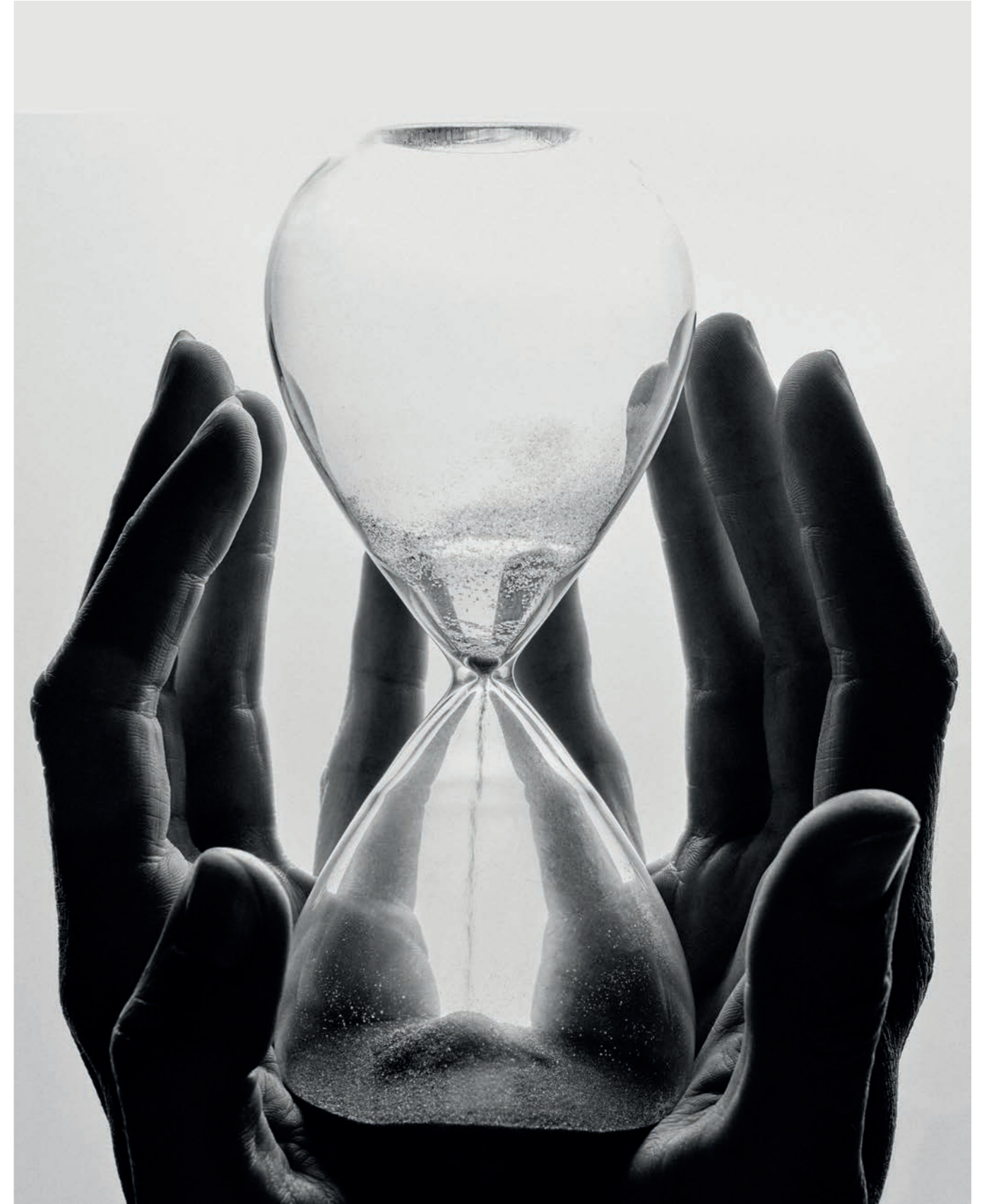
## Q10

Before your 18th birthday, did a household member go to prison?

*YES/NO*

What your score means: Understanding ourselves as adults often means revisiting our childhoods. The higher your ACE score, the higher your likelihood of suffering detrimental physical and emotional outcomes. Knowing your ACE score means being able to understand your risks, and prevent the consequences.

A year from  
now, you  
could be  
younger



# RoseBar<sup>®</sup>

Science

+

Spirituality

=

Longevity

RoseBar is a Longevity Club at Six Senses Ibiza  
For more information go to [rosebarlongevity.com](https://rosebarlongevity.com)