ACTION PLAN

THE HUMAN LONGEVITY PROJECT

A Blueprint For Health and Longevity In The Modern World!
Episode 1
The Truth About Aging:
Can It Be Slowed or Even Reversed?

Summary

- The health and function of our mitochondria are the main factors that determine our biological aging at the cellular level.

- **Mitochondria not only produce energy inside the cell in the form of ATP, but they also produce heat and light.**

- Reactive oxygen species (ROS) are signaling molecules and a necessary component of healthy cell function.

- **Hormetic stress from plant compounds, solar UV radiation, exercise, heat, and cold can make mitochondria and cells more resilient in response to stressors.**

- **Microbiota throughout our body communicate with each other, with our mitochondria, and with human cells to determine genetic expression.**

- Genes don’t dictate health. How we think, feel, eat, and live determines how our genes get expressed.

- **Telomeres are the genetic end caps of our chromosomes. They shorten every time a cell divides. Telomerase is an enzyme that can re-lengthen telomeres.**

- **Longevity in and of itself is not a core value. Quality of life, happiness, purpose, gratitude, and harmonizing with life seems to be of greater importance.**

- Genes may be present, but environment, lifestyle, diet, thoughts, and feelings determine if they are expressed.
Action Steps

- Incorporate hormetic stressors to improve cellular health and resilience:
  - Colorful plant foods (organic)
  - Bitter plant foods (organic)
  - Plenty of sunlight without burning
  - Embrace temperature fluctuations
  - Exercise

- Give your microbiota and mitochondria a 12-hour break or more from food so they can remove cellular debris, repair and regenerate.

- Avoid hand sanitizers, non-organic food, chemical cleaning products, and toxic beauty products that disrupt microbiota balance.

- Spend time with friends & family.

- Slow down, take time for yourself, unplug from the daily grind, and simplify your possessions and lifestyle.

- Work on being present each day and increase mindfulness in all actions.

- Take at least 10 minutes a day to meditate, pray, or sit quietly and breathe.

Mitochondrial Health Products

- Bitter melon extract
- Shilajit
- Codonopsis + Astragalus Root
- Astragalus Root
- Reishi Mushroom
- Ginseng Root
- Qi Drops
Definitions

- **Senescence**: a change in cell state, resulting in a lack of cell division and shift in function toward an increase in cellular inflammation and immune response.

- **Hormesis**: is a biological phenomenon whereby a beneficial effect (improved health, stress tolerance, growth or longevity) results from exposure to low doses of an agent that is otherwise toxic or lethal when given at higher doses.

- **R.O.S.**: Reactive Oxygen Species. Reactive oxygen species are chemically reactive chemical species containing oxygen. They are signaling molecules at the proper levels and signal the nucleus as to how much energy is being produced. They also signal cell death.

- **Heteroplasmy**: high percentage of unhealthy mitochondria in a given organ or tissue.

- **Homoplasmy**: high percentage of healthy mitochondria in a given organ or tissue.

- **Microbiota**: microorganisms such as viruses or bacteria that inhabit a particular environment like the human body, soil, or body of water.

- **SNPs**: variations in a single nucleotide that occurs at a specific position in the genome of an individual.

- **Epigenetics**: the study of phenotypic changes in organisms caused by modification of gene expression resulting from factors outside the genome, rather than alteration of the genetic code itself (genotypic).

- **Epithelial tissue**: cells that line the outer surfaces of organs and blood vessels throughout the body, as well as the inner surfaces of cavities in many internal organs (e.g. skin, lungs, gastrointestinal tract).

- **Cell Danger Response**: normal cellular defense strategy to signal neighboring cells in order to protect against viruses and pathogens.

- **Genome**: the information contained within the DNA and the chromosomes.
Episode 2
The Gut and Immune System
How Microbes Keep You Free Of Disease

Summary

● Episode 2 builds on the research/knowledge shared in Episode 1, to expand into how the microbiome influences our own gene expression (epigenetics), mitochondrial function, and nearly every biological function in the body.

● Humans can be thought of as a holobiont, or super-organism, comprised of dynamic and synergistic communication, interaction, and symbiotic relationships between microbiota, mitochondria, and our own cells to control function.

● In order to create proper immune system balance and function, our body must get exposed to organisms in our environment in order to strengthen defenses, learn how to keep pathogens in check, and build immune tolerance.

● Micro-RNA are a subset of RNA (ribonucleic acid) genetic code that communicate with our own nuclear genetic code to influence function. These micro-RNA may come from microorganisms and also food.

● Your DNA and collective human genome is the “instructional manual” for the way your body should function optimally. It is determined by all of the previous environmental and lifestyle factors experienced by your ancestry.

● Examples of factors that determine gene expression:
  ○ Symbiotic microbes, pathogens, or infections
  ○ Mindset, thoughts, emotions, beliefs, music, sound
  ○ Food, water, fasting, toxins
  ○ Movement, sleep, temperature, light/darkness
Action Steps

- Spend time outside in diverse ecosystems.
- Interact with the natural environment without fear of microbes.
- Eat a diverse diet with plenty of wild, native, and natural plant foods/herbs.
- Eat organic food grown in local soil.
- Eliminate harmful chemicals in home and personal cleaning products.
- Switch to organic beauty and cosmetic products that do not contain chemicals and metals.
- Consider water point-of-use or whole house water filters to eliminate chlorinated & fluoridated tap water.
- Avoid hand sanitizers, antimicrobial soaps, and chemical detergents.
- Avoid over-washing your skin & hair. Allow the skin microbiota population to establish natural balance.
- Include pre-biotic foods in the form of organic plant foods consisting of complex carbohydrates, fruits, roots, tubers, and vegetables.
- Incorporate probiotics in the form of fermented foods, wild plants, and spore-based probiotics.

Microbiota Health Products & Resources

- [MegasporeBiotic](#) - Formulated by Microbiologist Kiran Krishnan
- [Rebel Health Tribe Microbiome Series](#) w/ Microbiologist Kiran Krishnan
- [The Gut Institute](#) - Grace Liu
- [Mother Dirt](#) - Microbiome Friendly Body Care Products
- [Airbiotics](#) - Probiotic Based Home Cleaning
- [EWG’s Skin Deep Cosmetics Database](#)
- [The Dirt Cure by Dr. Maya Shetreat-Klein](#)
- [Meet Your Microbiome by Cheryl Corcione](#) (Children’s Book)
- [Krautsource Fermenting Lid and Recipe Book](#)
• **Microbiota**: the population of microorganisms including viruses, bacteria, yeasts and parasites that exist in a given environment such as soil, water, or the human body.

• **Microbiome**: the totality of microbes and all the genetic elements in a given environment.

• **Clostridium difficile (c. diff)**: A type of bacteria in the gastrointestinal tract.

• **Enteric Nervous System**: one of the main divisions of the autonomic nervous system (ANS) which consists of a mesh-like system of neurons that govern the function of the gastrointestinal tract.

• **Metabolites**: small molecular end products of metabolism used for fuel and biological signaling in the body.

• **Mitochondrial Biogenesis**: a process inside the cell by which new mitochondria are formed via self-replication, in order to increase cellular energy or improve cellular efficiency.

• **Holobiont**: an aggregation of various species of organisms and their collective genomes, that work together to form a symbiotic ecology.

• **Toll-like Receptors (TLRs)**: a class of proteins that play a key role in the innate immune system. They are single, membrane-spanning, non-catalytic receptors usually expressed on sentinel cells such as macrophages and dendritic cells, that recognize structurally conserved molecules derived from microbes.

• **Oral Tolerance**: capacity of the immune system to recognize and respond appropriately to substances taken in through the skin, lungs and digestive tract.

• **Virome**: a total set of viruses that are also continually present as part of our meta-organism.

• **Butyrate**: a short-chain fatty acid that can be used for energy and act as a signaling molecule to regulate immune function.

• **Environmental Microbiome**: totality of organisms in the soil, water, air, and plants in a specific area or region.
Episode 3
Diet and Exercise:
The Surprising Habits of Healthy Populations

Summary

- Episode 3 investigates the variations in diet, eating patterns, and how the healthiest populations view movement and exercise.

- Cultures around the world choose foods based on their cultural heritage, local foods, seasonal production of food, and what they can grow, forage, and hunt.

- Meals are best consumed in a relaxed or communal setting with friends, family, or neighbors.

- Modern food culture has been altered to circumvent seasonal fluctuation and prevent food from spoiling. This has introduced artificial preservatives, out-of-season foods, and geographic mismatches.

- All of the elders in the film spent much of their lives without electricity. This meant no refrigeration, no significant transport of foods, eating foods as they are produced, and preserving foods with more natural methods.

- According to the elders we spoke with, much of their day involved physical labor. Movement was integrated into their society out of necessity. Because of this, there was no need or desire to exercise in a leisurely way.

- Toxins, chemical fertilizers, and pesticides were not present in the longevity regions for the majority of the last 100 years.
Action Steps

- By preparing and cooking a meal, you can stimulate the digestive process prior to eating through the cephalic phase of digestion.
- Take a moment to be present with your meal and the people around you.
  - Take five breaths in and out. Do this five times.
- Consider saying a prayer or taking a moment to be grateful for the food you have.
- Slow down and chew your food until it is nearly liquid.
- Incorporate a variety of unprocessed, whole, colorful fruits, vegetables, roots, and tubers into your diet.
- Interact with the local and native soil, air, water, and vegetation.
- Plant a garden or incorporate foods that aren’t sterilized or over-washed.
- Avoid GMO foods and non-organic crops that contain high levels of toxins, metals, and pesticides.
- If you choose to eat animal foods:
  - ensure they are either wild or pasture-raised and contain no added hormones.
  - ensure the animal’s diet is as natural and wild as possible
- Reduce frequency of eating and snacking to 2-3 times per day.
- Take a break from food for at least 12-14 hours each day. Intermittent fasting improves microbiota balance, mitochondrial function, and metabolic flexibility.
- Avoid large meals within 2-3 hours before bed.
- Avoid convenience and integrate movement throughout your daily activity.
- Make an effort to have fun, play, and move in ways that you enjoy.
- Incorporate whole-body and functional movement patterns.
Local Food and Fitness Resources

- **EWG’s Clean 15 & Dirty Dozen** - foods with the least & most toxins
- **Non-GMO Shoppers Guide** - from the Institute For Responsible Technology
- **Real Food Whole Life Recipes**
- **Easy Real Food Recipes**
- **Naturally Ella Recipes**
- **Empowered Sustenance Recipes**
- **Food Renegade Recipes**
- **Elana’s Pantry Recipes**
- **Savory Lotus Recipes**
- **Farm Match**
- **Eat Wild Farm Locator**
- **Thrive Market** - online marketplace for GMO free foods
- **Rebel Health Tribe Backyard Garden Series**
- **Nourishing Backyard Garden Formula**
- **Seed Sheets Garden Starter**
- **Boogie Brew Water Filter**
- **Bionutrient Food Association**
- **Advancing EcoAg Garden Amendments**
- **Rock Dust Local**
- **Garden Planner**
- **The Modern Farmer**
- **Seasonal Produce Guide**
- **How To Eat, Move and Be Healthy** - by Paul Chek
- **Primal Play** - by Darryl Edwards
- **MovNat Fitness**
- **Find Chek Practitioner Database**
Definitions

- **Enzyme**: a protein produced by a living organism that acts as a catalyst to bring about a specific biochemical reaction.
- **Autophagy**: a normal physiological process in the body that involves the destruction of damaged cells in order to improve new cell formation and maintain healthy function.
- **Inflammatory cytokine**: a cellular protein acting as a signaling molecule in order to modulate immune function toward an inflammatory state.
- **Endotoxin**: a toxin, produced by specific gram-negative bacteria, that is released when the bacterial cells are disrupted.
- **Nutrigenomics**: the science of food acting as an informational vector that interacts with genes and modulates their expression.
- **Phytobiome**: the environment and soil in which plant foods grow that determines their molecular patterning.
- **Transhumance**: seasonal nomadism
- **Metabolic flexibility**: our ability to switch between burning glucose as our primary fuel and burning fat/ketones as our primary fuel.
- **Cephalic Phase of Nutrition**: refers to a set of food intake-associated autonomic and endocrine responses to the stimulation of sensory inputs from sight, touch, and smell.
Episode 4
Toxic Planet:
How To Be Healthy In A Sick World

Summary

● We cannot separate ourselves from our actions to the environment. Any harm we do to nature will inevitably cause harm to us.

● The most important six inches in human life is the top six inches of soil.

● If we want to improve the health of the environment, we must make wiser choices each and everyday in our own lives, in our families and communities, and vote with our dollars.

● Environmental toxins are inextricably linked to the rise in cancer and chronic diseases of all kinds as the body burden increases.

● Key enzymes in the mitochondria require natural minerals. Toxic metals disrupt mitochondrial function and damage mitochondria by replacing these minerals.

● Chemicals such as glyphosate and antibiotics, damage both mitochondria and human DNA.

● When toxic chemicals bind to tissue proteins, they can become new antigens that can trigger an inflammatory response.

● Detoxification is a natural biological process that happens at the cellular level, in tissues like the liver, kidneys, lymphatic tissues, and brain.

● Natural minerals, water, amino acids, plant compounds, sleep, exercise, and sweating are some of the most important aspects to improve detoxification.
Action Steps

- Use plant-based remedies when possible & avoid unnecessary pharmaceuticals.
- Start a compost pile or bin.
- Start growing your own food at home or join a community garden.
- Seek out natural sources of water from springs, filtered water sources, or clean glass bottles.
- Use organic and plant-based skincare products without toxic chemicals.
- Spend more time in different natural landscapes like forests, mountains, beaches or rivers.
- Simplify your life in as many ways as possible. Reduce consumption.
- Buy natural and organic fibers for clothing and bedding. Avoid synthetics and conventional cotton.
- Increase mindfulness in all actions and purchases. Take it upon yourself to learn what is in your food, beauty products, cleaners, and furniture.
- Seek out and support local farmers and product producers. Reward mindful companies with your purchases.
- Shop at a local co-op or farmer’s market.
- Avoid feeling overwhelmed by making changes, go slowly if necessary. Every decision matters.
Environmentally Friendly Products & Resources

- EWG’s Skin Deep Cosmetics Database
- Pure Water Course - Lara Adler
- MyGreenFills Laundry Products
- Reusable Wool Dryer Balls
- Organic Cotton Bedding
- Better Life Cleaning Products
- Aunt Fannie’s Cleaning Products
- Annmarie Gianni Skincare
- Alitura Skincare
- Primal Life Organics
- Schmidt’s Deodorant
- Earthpaste Toothpaste and Tooth Powder
- Institute for Responsible Technology GMO Education - Jeffrey Smith
- Fourth Phase of Water by Gerald Pollack, PhD
Definitions

- **Bulk water**: the water we traditionally think of (H2O).

- **Exclusion zone water (EZ water)**: the fourth phase of water (AKA living water, structured water), which has a negative charge and a chemical composition of H3O2, is an ordered phase of water. Due to the charge separation and ordered phase, this water stores light energy, much like a battery, that can be utilized to carry out function in the body.

- **Endogenous**: growing or originating from within an organism.

- **Neuroinflammation**: inflammation of the nervous tissue. It may be initiated in response to a variety of cues, including infection, traumatic brain injury, toxic metabolites, or loss of immune tolerance.

- **Parasympathetic Nervous System**: one of three divisions of the autonomic nervous system. Sometimes called the rest and digest system, the parasympathetic system conserves energy as it slows the heart rate, increases intestinal and gland activity, and relaxes sphincter muscles in the gastrointestinal tract.

- **Sympathetic Nervous System**: is part of the autonomic nervous system, which activates what is often termed the fight or flight response. Stress hormones increase, blood shunts away from the trunk, and repair and regeneration is reduced.

- **Antigen**: a molecule capable of inducing an immune response in the host organism.
Summary

- In episode 5 we’re going to take a look at the natural cycles of the body, the importance of sleep, circadian rhythm and how getting natural light exposure can have a huge impact on your health.

- Sleep regulation is also involved in mood regulation, attention regulation and stress regulation. Sleep really is the foundation on top of which we build all of the other cognitive resources.

- Circadian biology means that everything in the body has a rhythm that’s tied with the day and night cycle.

- Our bodies react to light no more or less than plants. Our skin is light sensitive, our eyes are light sensitive, our brain is light sensitive.

- There are certain cues that you can use to regulate and improve circadian rhythm. Light morning movement, stretching, yoga, or a walk in the sunshine can improve circadian biological function.

- Vitamin D is synthesized in the skin in response to sunlight from cholesterol.

- Food timing is very important. Avoid meals right before bed and right before exercise.

- Electromagnetic radiation can suppress melatonin production and disrupt sleep.
Action Steps

- Make sleep a priority in your day and be consistent with sleep and wake times.
- Go outside within the first hour after dawn and get some light in your face every day and incorporate light morning movement.
- Exposure as much of your skin to sun as possible without burning.
- Use clothing or shade to reduce excess UV radiation.
- Eat light in the morning, your largest meal at lunch, and light in the evening.
- Try to eat breakfast at the same time each day.
- Expose yourself to heat and cold every now and then. Try hot/cold showers, dry saunas, infrared saunas, and ice baths.
- Turn off Wifi at night. If you suffer from health conditions, experiment with turning off electrical breakers to see if your sleep and symptoms improve.
- Use blue light blocking glasses, candles, fireplaces, or orange lightbulbs after the sun sets.
- Wear a headset when talking on the phone to reduce mobile phone EMF risk.
- Avoid having your mobile phone close to your body or in pockets. When possible, keep as much distance between you and your mobile phone when not in use.
- Utilize airplane mode on your mobile phone when possible.
- Utilize ethernet cable for internet connection instead of WiFi.
- Avoid smart watches and fit bits that constantly pulse microwave radiation.
Sleep and EMF Products

- TrueDark Blue Light Blocking Glasses
- LED Light Blackout Stickers For Electronics
- Orange Light Bulbs
- Blue Light Computer Reduction Application - *FREE*
- Blue Light Screen Filters
- Non-GMO Organic Beeswax Candles
- The Non-Tinfoil Guide to EMFs: How to Fix Our Stupid Use of Technology by Nicolas Pineault
- 3 Ways to Use Your Phone Without Zapping Your Health by Nicolas Pineault
- Stetzer EMF Filters & Shielding
- Green Wave Filters, EMF Protection
- DefenderShield - EMF Protection
- Electric Sense Educational Website
- Sleep Smarter by Shawn Stevenson
- Lights Out by TS Wiley
Definitions

- **Chronobiology**: (the study of circadian rhythm) a field of biology that examines periodic (cyclical) phenomena in living organisms and their adaptation to solar- and lunar-related rhythms. These cycles are known as biological rhythms.

- **Circadian Rhythm (circadian biology)**: physical, mental, and behavioral changes that follow a daily cycle. They respond primarily to light and darkness in an organism’s environment.

- **Photoperiod (the light-dark cycle)**: the period of time each day during which an organism receives illumination; day length.

- **Nosocomial**: hospital acquired

- **Adrenocorticotropic Hormone (ACTH)**: a hormone secreted by the pituitary gland and stimulating the adrenal cortex.

- **Autophagy**: a normal physiological process in the body that deals with destruction of cells in the body. It maintains homeostasis or normal functioning by protein degradation and turnover of the destroyed cell organelles for new cell formation.

- **Electromagnetic Field (EMF)**: a physical field produced by electrically charged objects. It affects the behavior of charged objects in the vicinity of the field.

- **Electromagnetic Radiation (EMR)**: (the energy projected from EMFs) a kind of radiation including visible light, radio waves, gamma rays, and X-rays, in which electric and magnetic fields vary simultaneously.
Episode 6
Raising Healthy Kids:
Fertility, Pregnancy, Birth and Beyond

Summary

- It is important for children to have unstructured playtime and a childhood that is not gearing them towards preparing for real life, but teaching them that real life is now.
- For kids to be healthy and happy, diet and being outside in nature are important.
- In the 1960s, less than 10% of kids in the US had some kind of chronic illness diagnosis; today, that number is more than 50%.
- Birth control pills cause nutrient depletion and a disrupted microbiota. Many women struggle with ability to conceive after coming off the pill.
- Maternal circadian rhythm during gestation is important for baby’s health.
- The birthing process, and even gestation, is a really important time for starting to develop the microbiome of the child. The womb, especially in utero, is not a sterile environment.
- Baby only gets mitochondrial DNA from mom. To improve health of the child, mothers can improve health of their own mitochondria and microbiota before entering pregnancy.
- In recent studies, almost 300 chemicals have been found inside umbilical cord blood. Babies are exposed to toxins before birth.
• 91% of the pregnant women in Canada had the BT toxin in their blood, and so did 80% of their unborn fetuses. If it's in the unborn fetus, and there's no blood brain barrier yet developed, we have a hole-poking toxin in the brains of the offspring of this generation.

• For the best birth outcomes, preconception health awareness of 4 months to a year can be important. The reason for this has to do with the maturation process of the egg, which takes 90 days to mature. With that in mind, a woman has all the eggs, but she has to get them ready for conception. In doing so, her body goes through a 90 day maturation process to get that one egg ready. During that maturation process, she is very vulnerable to environmental toxins because the egg is going through peaks and troughs of methylation. The same is true for sperm maturation, which is about 72 days.

• Working on improving health via sleep quality and quantity, stress management, ending or mending family and friend relationships for what is supportive and healthy, cleaning up the home environment, being conscious of outdoor toxin exposure, being proactive to balance circadian rhythm and exposure to EMFs should all be considered as part of a pre-prenatal plan.

• Holding mobile phones or laptops on a pregnant belly may be more dangerous than we’re led to believe. Microwave radiation and EMFs in general will concentrate in the womb due to the conductive nature of the amniotic fluid.

• There are so many benefits when a baby comes out of the birth canal. The baby gets a big dose of bacteria from the birth canal when the baby comes out that way. That then helps to influence that child's microbiome and that child's immune system and ability to digest.

• The breaking of the water plays a significant role because it unleashes and disrupts all the microbes that are sticking and adhere to mom's birth canal, and releases them and makes them open for transfer to the baby.

• When a baby is born by c-section, the baby doesn't come down the canal and doesn't get that inoculation. These kids have a much higher incidence of allergies, eczema, and asthma than those born by natural childbirth.

• If a woman knows she's going to have a c-section, it is important to have a mother’s vaginal swab placed on the baby's mouth, and then have the baby breastfeeding on the mom as soon as possible, and also placed on the dad's skin. Passing the baby around helps get the skin flora of the communal members, so the people you’re going have tight in that tribe.

• Home birthing can be very empowering because it is on mom's terms, and she is able to choose what feels right in those moments.

• Having a supportive community is important for birthing at home in order to share confidence, empowerment, and reduce fear.
• Research now is questioning the cutting of umbilical cords. A third of the baby's blood supply that was backed up into the placenta during pushing, is just completely severed, which is equivalent to a hemorrhage. This may lead to a greater need for resuscitation and higher rates of infant anemia.

• Putting baby on the mom's chest right away is important because the baby knows that heartbeat. There's a communication. And even smelling your baby can release hormones to start producing breast milk and protecting mom's brain.

• The mom's breast knows to deliver immunoglobulins. It knows exactly what to give baby to build the gut microbiota and immune system.

• The World Health Organization recommends that breastfeeding go into two years of age. Baby's gut and microbiota population isn't solidified and robust until about two years of age.

• Breastfeeding is a critical element to the natural formation of the jaw.

• Breast milk contains oligosaccharides that are not digestible to the infant, but is being produced in order to feed the gut bacteria in the colon of the infant.

• There is no formula that can do anything about the immune components.

• Bottle fed babies versus breastfed babies have a higher prevalence rate of metabolic disease, allergies, asthma, Type 2 Diabetes, obesity, and so on.

• Breastfeeding is also a natural form of contraception.

• The more we can protect a diverse microbiome, the healthier our children are. Children who are born vaginally, children who breastfeed, children who are able to experience microbes in their environment from the soil, and natural exposure to a diverse array of microbes are healthier.

• Individuals who have a genetic predisposition toward autoimmunity should be very careful with vaccinations.

• The triggers of autoimmunity are viral or bacterial antigens, food antigens, and toxic chemicals. All three are major components of vaccines.

• Many vaccines contain an aluminum adjuvant, which is toxic to the gut and the brain. Glyphosate is also now being found in vaccines.

• Vaccines are a difficult thing to objectively study. We are lacking a lot of research into the combinatory effects of vaccines and the subgroup risk associated with any vaccine.

• The best thing you can do for your child is just love and support them. Accept them for who they are, and realize they have their own destiny.
Action Steps

- If possible, have a pre-conception plan to improve the health of both parents, 6-12 months prior to getting pregnant.
- Future parents may consider focusing on improving sleep, reducing toxins in the household, improving relationships and past emotional traumas, improving microbiota health, improving mitochondrial function, getting outside, incorporating daily movement and using stress-reduction methods like meditation, art, or play.
- Prior to and during pregnancy, begin to reduce the toxic exposure in the home that might expose baby to added toxins.
- Discuss the variety of birthing options with midwives, doulas, nurses, and doctors and choose what feels right for you.
- Reduce exposure to mobile phones, WiFi, microwave ovens, and cell towers during pregnancy.
- Strive for a vaginal birth. And if the baby must be born via c-section, plan for a vaginal swab on baby and begin breastfeeding immediately.
- Delay the cutting of the umbilical cord until absolutely necessary.
- Breastfeed if possible for a minimum of 6 months, preferably longer.
- If you’re going to try a breast milk that isn’t coming from your body, a good option is a community breast milk bank.
- Meditate during pregnancy to manage stress and improve emotional balance.
- Reduce chemical and metal exposures and switch to organic products.
- Give children unstructured time to play, especially outside in nature.
- Reduce electronic screen time for children and turn devices off at least an hour before bed.
- Investigate the root causes of behavioral symptoms in children instead of jumping to medication.
Healthy Family Resources

- Earthly Wipes and Diapers
- Dr. Jolene Brighten’s Site for Women’s Health
- Home Sweet Homebirth - Anne Margolis
- Doula’s of North America (DONA)
- Baby Tula
- Earth Mama
- Sakura Bloom Baby Slings
- Ergo Baby Carrier
- Human Milk Banking of North America (HMBANA)
- The Non Tox Shop for Baby Items
- The Gentle Nursery
- Earthly Non-toxic Diapers
- Organic Cloth Diapers
Definitions

- **Earthing**: a movement that taps into the electrical energy of the earth. A form of grounding. It is believed that Earth’s electrical field transfers to the body if some part of the body touches the earth and with this connection to Earth, the body takes in free electrons, which are believed to serve as antioxidants.

- **Antioxidants**: molecules that block oxidation of other molecules, preventing the development of free radicals, which harm the body.

- **Midwife**: a person (typically a woman) trained to assist women in childbirth.

- **Lineage**: lineal descent from an ancestor.

- **Gestation**: the process of carrying or being carried in the womb between conception and birth.

- **Immunoglobulins**: any of a class of proteins present in the serum and cells of the immune system, that function as antibodies.

- **Adjuvant**: a substance that enhances the body’s immune response to an antigen.
Episode 7
Purpose, Gratitude and Community:
What All Healthy Societies Know That We Don’t

Summary

● The chaos of the world is really a reflection of the chaos that's going on in our own mind.

● The amount of information that is hitting our brains second by second in the modern world is unprecedented. We are being hyper-stimulated on a regular basis.

● The autonomic nervous system, automatically takes care of 95 to 99% of the functions that we need to survive.

● If your mind is less chaotic, your nervous system and entire biology will be less chaotic, and you're far less likely to manifest any disease.

● Stress is all about perception first and chemistry second. When we perceive a stressor based on our past experiences or our understanding of the world, hormones are instantly flooding our blood stream, changing the function of every cell and every organ in our body.

● Healing takes place when in a parasympathetic state and blood is sent to our internal organs. That's when our physiology starts to go into a state of repair and healing.

● Countries with the highest happiness are interested in living a high quality life, not necessarily a long life. Happiness is more correlated with simplicity, mindfulness, family, community, compassion, and gratitude.

● Loneliness tends to be a greater predictor of disease than smoking or obesity.
• There's always something on an emotional level that's playing a role in symptoms and disease.

• Early childhood experiences can program how you interact with the environment around you. Although we might not be aware of unresolved childhood traumas, our minds are aware of them subconsciously. Our whole body becomes influenced by unprocessed emotions from our childhood.

• The prefrontal cortex of our brain is not fully developed until we're at least 25 years old. When we're young and we have an event happen to us, this part of the brain is not fully developed yet, so we're going to make up a meaning about that event that is about us because, as children, we're self-centered. It may be things like, "I'm not good enough. I'm not smart enough. I'm not fast enough. I have to be perfect. I'm not going to survive. This world's not safe." All of these things then create beliefs that are imprinted, and we may carry them into adulthood. And then these patterns run us unless we do something about it.

• Psychosomatic trauma is real and not a bad thing. The whole being has a pattern that has been created between the mind and the body. But it often manifests as pain. It can manifest as inflammation. It can manifest as a chronic illness. It's just a manifestation of a pattern, and you can disrupt it if you want to, but you have to be willing to.

• Once you are able to get rid of emotional baggage that underlies the cause of symptoms, things will get better that otherwise won’t.

• Perhaps the most powerful ingredient in meaningful life change and healing is readiness. There is, for each of us, a point of readiness where we can begin to understand our own personal history and integrate all of the shadow elements and embrace that as a part of who we now love ourselves to be.

• Health is a willingness to engage life, and what it takes to fully engage life is the bravery to do the things that you love to do in life, and then life becomes a labor of love, and a labor of love is sustainable.

• True purpose has nothing to do with getting noticed, nor does it have anything to do with avoiding getting noticed. We know when we're connecting with our purpose because we feel filled up from it. You can craft a purpose out of just about anything and turn it into something of great meaning.
Action Steps

- Be mindful of how you perceive stress.
- Slow down and check in with yourself. What you are eating? What you are doing? How you are feeling? What are your patterns?
- Monitor your breath, bring intention to the breath, meditate, or pray.
- Cultivate gratitude for all the wonderful things you have right now.
- Nurture friendships. Spend time with friends and family.
- Put your wellbeing first so you can be your best self for others.
- Identify and work to break the patterns created by inherited, childhood, or adult-onset traumas.
- Embrace a mindset of readiness for meaningful life change and healing.
- Find a meditation practice that feels right to you.
- Seek to understand your purpose, what is most meaningful to you and embrace this in your life.
- Bring your awareness to and connect to something greater than yourself.
- Use music, art, play or techniques like yoga, tai chi, or qigong, to calm the nervous system and engage the parasympathetic functions of regeneration and repair.
- Join a church, charity, or other community organization that may foster purpose, meaning, and community.
Resources for Mental and Emotional Wellbeing

- Awaken With JP - JP Sears
- WE Holistic Lifestyle Coaching - Jator Pierre
- Dr. Bradley Nelson’s Resources for Energy Healing
- Code of the Extraordinary Mind by Vishen Lakhiani
- Mindvalley
- The Urban Monk by Dr. Pedram Shojai
- Dr. Keesha Ewers Site for Healing from the Inside Out
- Niki Gratrix’s ACE’s Quiz
- Life on Purpose by Dr. Vic Strecher
- Planet on Purpose by Brandon Peele
- Emotional Freedom Technique and Tapping

Definitions

- Emotional Dysregulation: a term used in the mental health community to refer to an emotional response that is poorly modulated, and does not fall within the conventionally accepted range of emotive response.

- Synaptic Saturation (AKA Decision Fatigue): the deteriorating quality of decisions made by an individual after a long session of decision making.

- Psychosomatic: of, relating to, concerned with, or involving both mind and body; bodily symptoms caused by mental or emotional disturbance

- Neuroplasticity: the ability of the brain to form and reorganize synaptic connections, especially in response to learning or experience or following injury.
Episode 8
Cancer and Alzheimer’s:
How Centenarians Avoid Diseases of Aging

Summary

● Symptoms are the last thing to occur in a disease process. They're a signal something is wrong. Getting rid of symptoms doesn't fix you, or make you better.

● Premature aging is a sign of poor mitochondrial health. Mitochondrial function is the underlying part of aging, brain function and health.

● We're asking our brains to survive under really extraordinary circumstances. The world that we live in today is so far removed from that in which our brains evolved.

● Alzheimer's disease and other forms of dementia and neurological diseases can begin in the gut or brain 30 to 40 years before the first symptom. People tend to think that Alzheimer's disease is a genetic disease and it's not. In 95% of cases or more, it is largely dependent on the environment in which those genes are thrust up against.

● Every day in our body, about 1.2 kilograms of cells die by apoptosis, but we don't feel it. It's a necessary form of cell death to keep us healthy. In cancer, the apoptotic (cell death) program is suppressed, which leads to uncontrolled growth of tissue.

● In cancer, apoptosis is suppressed. But if we have too much apoptosis, this might lead to different neurodegenerative diseases like Alzheimer's disease, Parkinson's disease. So apoptosis must be balanced by the body.
• The loss of energy function by mitochondria precedes all of the mutations that are being blamed for the existence of cancer.

• By taking care of your mitochondria, you can reduce your incidence of every kind of disease including cancer, heart disease, Alzheimer’s, and diabetes, all of the big killers. All of them improve when your mitochondria improve.

• There’s an emotional component of cancer. A lot of people who develop cancer have emotional baggage they haven't addressed.

• A lot of times, cancers don't kill people, they just crowd out organs. It's metaphoric for our lives. The more that emotion crowds out our happiness, the more that tumor is going to crowd out health in our body.

• Cancer is really an example of profound resilience within the cells in our body. If you throw radiation, let's say radiotherapy wavelengths at a breast cell that isn't cancerous, it will actually exhibit stem like properties and will regress to a less differentiated state, which is characteristic of the cancer phenotype, which confers profound resilience against anything you throw at it.

• Because we understand more about the mitochondria, we understand that there is signaling between the nuclear DNA is and the mitochondria. So, it's also possible that the initiating event is when the mitochondria become stressed and damaged.

• There's another theory about cancer cells and that is that cancer cells are very much like single celled organisms and that they have all the survival strategies of a single celled organism like a bacteria or a virus. And, that they co-opt the normal physiology in order to survive.

• Cancer is a metabolic disease first and foremost. And when cancer develops, it can lead to genomic mutations within that cell type, but that's an aftereffect.

• Cancer cells keep growing when there's excess of everything...excess sugar, excess amino acids, excess of growth factor. When you remove those and change the environment, the cancer cells struggle.

• It's important to be able to think of oneself as free of cancer. That means we have to have a health model. We have to have a way to create a body where cancer cannot thrive.

• Another important big lever in the physiology of cancer is the signaling from insulin and glucose. Many cancer cells have more glucose receptors and insulin receptors on their surface. Insulin is the big signal for growth. By eating a diet that doesn't trigger insulin and keeps insulin and glucose in the lowest quartile of normal, then we stop that growth signal from being there.
Action Steps

● Focus on fostering health and creating healthy mindset.
● Exercise or move actively everyday.
● Eating to protect the brain and mitochondria:
  ○ Remove chemicals and packaged foods from your diet
  ○ Eat whole, organic, fresh, unadulterated foods
  ○ Plant based diet with moderate protein and moderate fat
  ○ Eat the rainbow
  ○ Incorporate healthy fats and oils like olive oil, avocado, nuts, seeds, pastured butter, ghee, tallow, or duck fat
  ○ Find clean water sources
● The risk factors for cancer in terms of our diet and our environment and our lifestyle are so pervasive that if you want to stay cancer free, if you want to live a long healthy life, then you have to be serious about prevention.
● If diagnosed with cancer, make the choice live. And from that moment forward, everything you do should be to promote health and healing in your body.
● Instead of focusing on fighting the cancer, focus on building vitalistic health. What we focus on only expands in our lives.
● Try to look at disease symptoms as a blessing, it completely changes your perspective and creates empowered decision-making.
● Utilize a ketogenic diet a few weeks prior to chemotherapy.
● Incorporate an abundance of organic, colorful plant foods and healthy fats to create a body that turns on cancer-suppressor genes and turns off cancer-promoter genes.
● Utilize a team of health professionals when faced with a diagnosis of cancer.
● Take responsibility for the disease you have. Nourish everything in the ecosystem to bring balance in its entirety to the whole instead of just the part.
● Understand that the whole body is not separated from the mind, the soul, the spirit, and all elements that make you “you”.

humanlongevityfilm.com
Resources for Cancer and Chronic Disease

- **Chris Beat Cancer** - Chris Wark
- **Dr. Nalini Chilkov (Integrative Oncology)**
- **Dr. Dale Bredesen (Alzheimer’s Therapy)**
- **Cancer Tutor Site**
- **What’s in a Tear?** by Paul Leendertse

Definitions

- **Apoptosis**: the death of cells that occurs as a normal and controlled part of an organism’s growth or development.

- **Autophagy**: a normal physiological process in the body that deals with destruction of cells in the body. It maintains homeostasis or normal functioning by protein degradation and turnover of the destroyed cell organelles for new cell formation.

- **Carcinogenesis**: the initiation of cancer formation.

- **Hypoxia**: deficiency in the amount of oxygen reaching the tissues.

- **Sarcopenia**: loss of muscle tissue as a natural part of the aging process.

- **Angiogenesis**: making new blood vessels

- **Hallmarks of Cancer**: characteristics of tumor cells that describe how tumor cells co-opt our normal physiology for their own ends.
Episode 9
The Way Forward:
Combining Ancient Wisdom With Modern Technology

Summary

- Generational knowledge is being lost and people have grown dependent on doctors to prescribe medicine.

- The best way to build community is to love where you live and invest in it. Bring the ideas from the rest of the world to your community with the goal of making it the best place to live on earth.

- In order to facilitate more community engagement it is important to have a fluid connection between the living space, the work space, and the natural environment.

- Instead of being led by the government and feeding into a fear based system, it is important to inspire the community to lead. That is how transformation happens. Change happens with you starting to behave differently in your personal life. Your environment, your family, and then outward from there.

- When you’re stressed emotionally, or physically, or when you’re sick, the spacing between heart beats changes and heart rate variability (HRV) decreases. HRV is one of the signals of how much energy the body is making and how to allocate resources. In a healthy person, somebody who’s resilient, heart rate variability is high and is changing with each and every heartbeat.

- When you’re feeling things like compassion, appreciation, care, or love, the heart rhythm exhibits coherence.
• There've been over 300 independent studies now published on coherence that clearly show that it's the optimal state for reducing stress, and having good health, or for facilitating the body's natural regenerative processes, and keeping us healthy.

• A lot of the value of technology is allowing it to help you better engage yourself and your environment.

• Sleep tracking is much more important than tracking how many steps you take.

• The Oura Ring can be used at night to track sleep and HRV (Heart Rate Variability).

• Looking at bright phones and big screen TV's that have incredibly bright lighting, you're telling your energy production system, the one that's supposed to keep you young, that it is the middle of the day, even though it's ten o'clock at night.

• Wearing blue-blocking glasses can alter alpha brainwaves, improve sleep, foster health, and improve physical performance.

• The skin is the body's largest detoxification organ. By using a sauna or infrared sauna, you can increase the loss of metals and toxins through the skin via sweating.

• A lot of the saunas on the market are very high in EMF and volatile organic compounds (VOCs) which damage health. Radiant Health infrared saunas have been manufactured with this in mind.

• The vibratory effect of infrared is able to do things like, slice fat cells, or break open the membrane of fat cells. This gives you the ability to allow you to express more heat shock protein, which has a stress resilient effect in the body, very similar to that hormetic effect, you'd get from the consumption of wild plants. The body gets hot and produces a greater ability to be able to withstand the stressor of heat.

• The future of longevity, is about keeping that ancient wisdom going, but using the best bits of modern science to enhance it.

• The future of medicine is going to be more subtle, more energy related, more things that we can't see. We're well primed to do that because now we have so many different technologies that are enabling us to see what is invisible.

• We can move on to the finer subtler aspects that are preclinical before we've even emerged with aging conditions, or disease, so that we can actually make good choices.

• Participatory medicine really redefines who the most important person in a medical relationship is, the patient.
Action Steps

- Invest in technology that will help you better engage yourself, your behavior, and your environment in a healthier way.
- Use technology to track and improve sleep and heart rate variability, as this is the simplest way to find out if your health regimen is working.
- Use blue light blocking glasses at night and go outside during the day to get natural light exposure to the eyes and skin.
- Use a dry or infrared sauna a few times a week.
- Exercise mindfulness when it comes to sourcing your food, how you eat, how you move your body, how you engage with each other as humans, what products that you buy, with the aim of reducing exposures.

Tools & Resources to Foster Longevity

- kNew Health
- *How to Make Disease Disappear* by Rangan Chatterjee
- Erchonia Laser Therapy Practitioners
- Sophia Health Institute - Dietrich Klinghardt
- HumanOS
- Ben Greenfield Fitness
- Living Proof Institute - Dr. Sachin Patel
- OURA Ring - Use code “thlptribe” for $50 off
- Radiant Health Sauna - Use code “HLPVIP21” for discount
- TrueDark Glasses
- Heartmath (Heart Rate Variability)
- Health Optimization Medicine - Ted Achacoso
- Institute for Functional Medicine (IFM) Database
Definitions

- **Heart Rate**: How many times does the heart beat in a minute. Reflected in beats per minute.

- **Heart Rate Variability (HRV)**: the time interval between heartbeats. It is measured by the variation in the beat-to-beat interval over a period of time.

- **Allostatic Load**: the total exposure to elevated or fluctuating endocrine or neural responses resulting from chronic or repeated challenges that the individual experiences as stressful.

- **Pulse Waveform**: The progressive increase of pressure radiating through the arteries that occurs with each contraction of the left ventricle of the heart.

- **Pulse Waveform Velocity (PWV)**: the velocity at which the arterial pulse propagates through the circulatory system.

- **Polysomnography**: also called a sleep study, is a test used to diagnose sleep disorders. Polysomnography records your brain waves, the oxygen level in your blood, heart rate and breathing, as well as eye and leg movements during the study.

- **Volatile Organic Compounds (VOCs)**: any compound of carbon, excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates and ammonium carbonate, which participates in atmospheric photochemical reactions, except those designated by EPA as having negligible photochemical reactivity.