

Meet The Family!

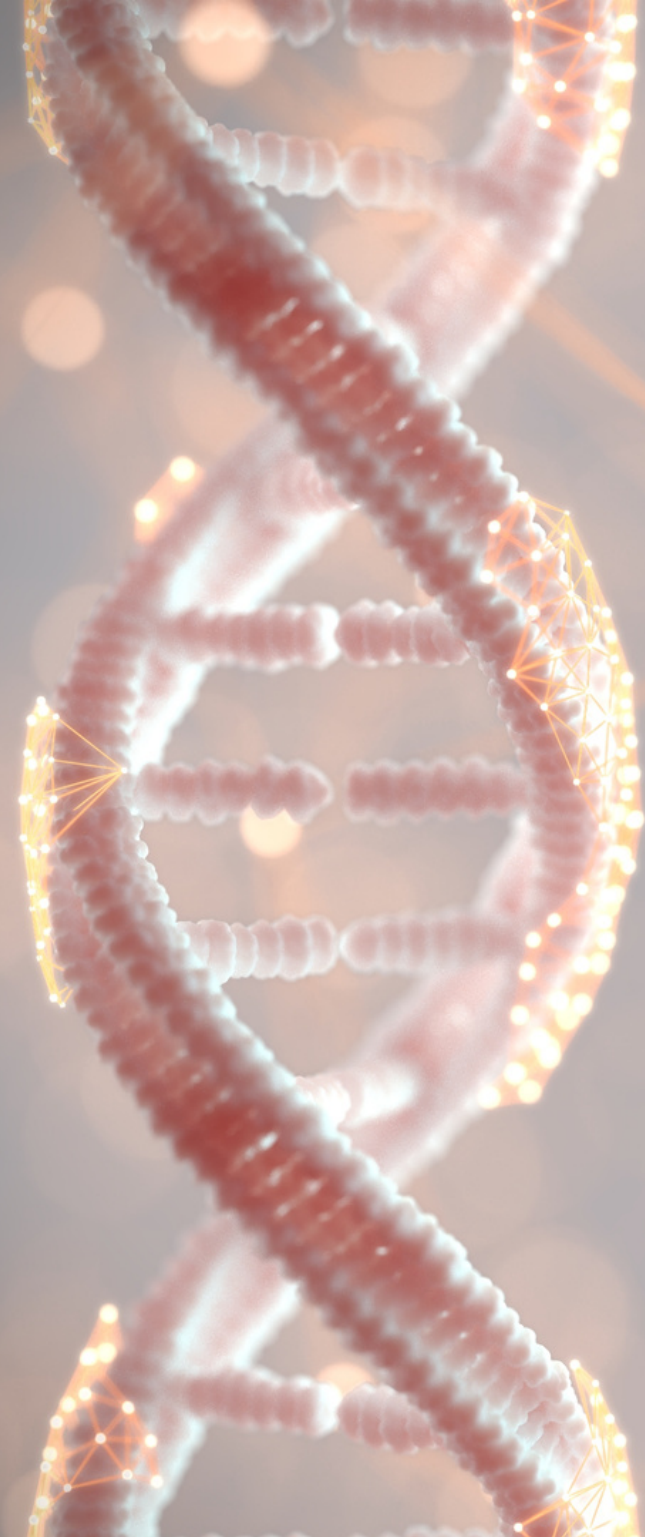


You are ancient wisdom embodied—the culmination of everyone who came before you in your family line for hundreds of years.

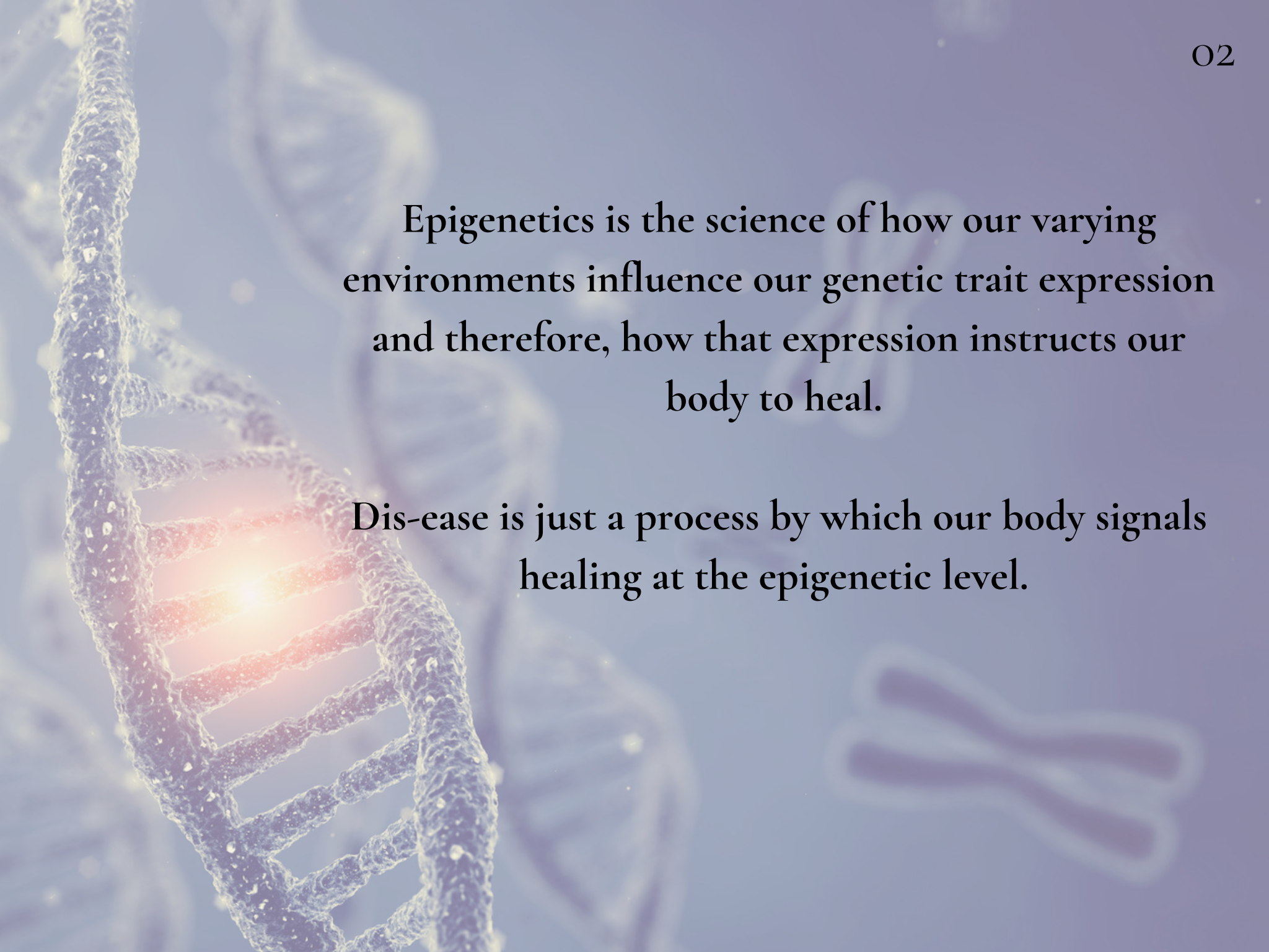
Meet The Family!



Epigenetics is the art and science of taking the very best of your past and improving on it to confer maximum health to you and that of your future offspring.



“For better or worse” epigenetics is the science that shows us HOW we’ve adapted to our environment(s) over time and how we’re capable of optimizing health by understanding and accepting the primary variables that influence our trait expression over time.



Epigenetics is the science of how our varying environments influence our genetic trait expression and therefore, how that expression instructs our body to heal.

Dis-ease is just a process by which our body signals healing at the epigenetic level.

The Cards We're Dealt



Regardless of any lifestyle or environmental modifications we make, the genetic profile we're born with is the one we keep our entire life.

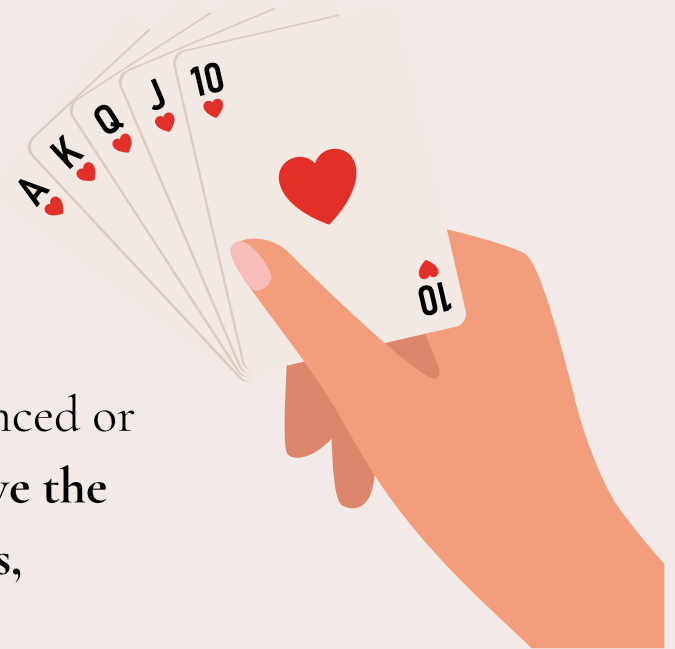
Does this make some people more innately susceptible to accelerated aging than others? Yes. This is why we say, "genes load the gun, epigenetics pull the trigger."

How We Play The Game

"You can't change the cards, but you can control how they're played."

-Tru Diagnostic

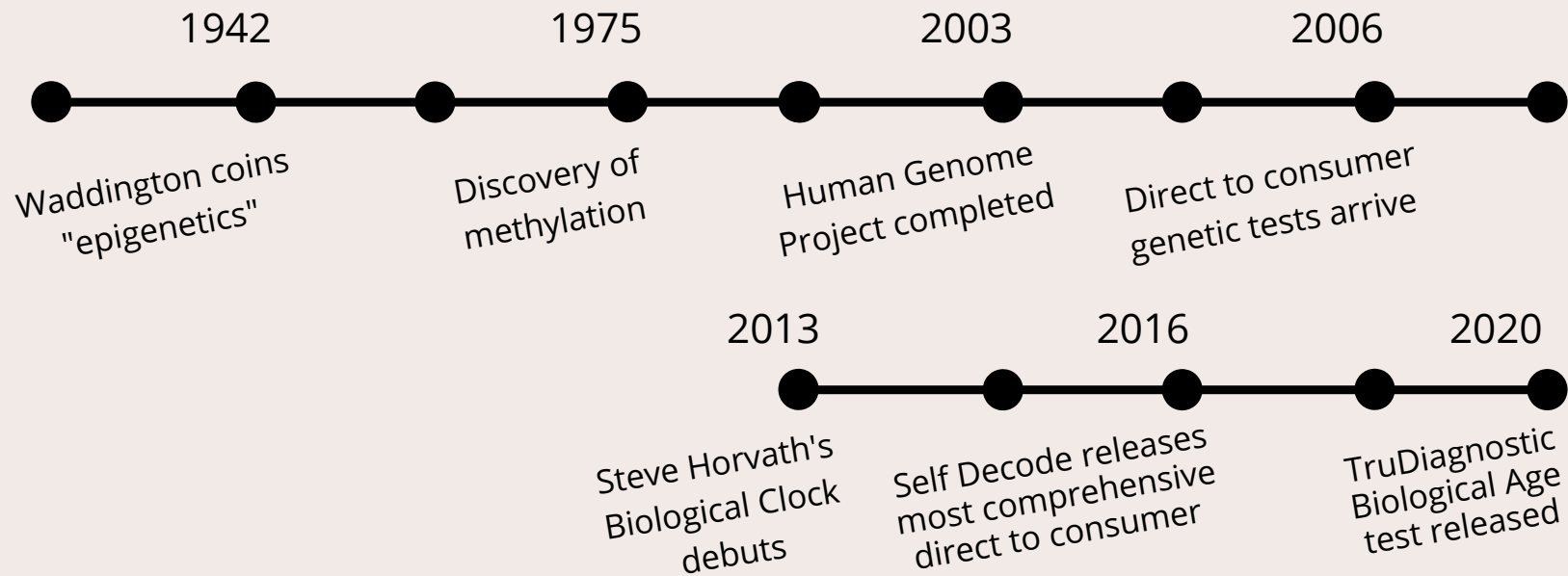
Want to win the game? Gene expression is either silenced or amplified by the information you expose them to. **Give the body high-quality information over toxins, pollutants, discordant relationships and so on.**





History of Epigenetics

The term "epigenetics" was coined by British biologist Conrad Waddington in 1942. He used it to describe the study of the interactions between genes and their environment, and how these interactions influence the development of an organism.





Genotype

GENOTYPE refers to the genetic code of the individual. This is all the information that is found inside the individual's cells.

Everything someone inherited from their parents

Example: there is one brown hair cell and one blonde hair cell and the person has brown hair

Phenotype

PHENOTYPE is the expression of the genotype that is *visible* to others, it can be observed.

Influenced by the environment

Example: The phenotype only includes info about brown hair because that's what we observe when we look at this person



TWINS more than meets the eye

Methylation results show us that over time monozygotic twin's genetic expression diverges based on their environmental exposure.

Of these exposures, the psychological effects of quality of caregiving is also evidenced in the methylation pathway.

Differential exposures to environmental factors promote methylation divergence over time. Twin studies support that biological age is often different than chronological age.

Epigenetic Phenomena of Multi-Generational Trauma & Experiences: It Didn't Start With YOU

Stem cell biology, epigenetic research in family trauma: Bruce Lipton, Rachel Yehuda and Mark Wolynn

WE TEND TO OBSERVE MULTI-SYSTEMIC HEALTH CONCERNS AS A RESULT OF PASSED ON TRAUMA:

- Psychosocial: Depression & Anxiety
- Autoimmune & Cancer Activation
- Neural: Cognitive Issues
- Cardio-metabolic



Why Humans Take So Long to Change Their Minds and Therefore Bodies: The Hollow Mask Effect

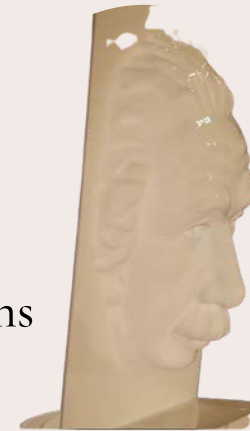
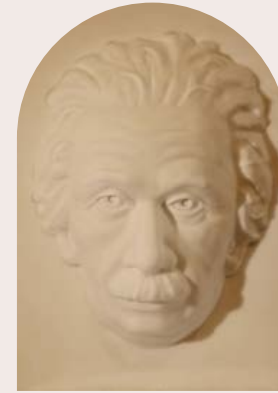
Our identity and expectations are based on past experiences. This involves societal and cultural systems that are upheld and perpetuated. We observe that it can take too much cognitive energy to break down certain frameworks in our minds and we therefore, out of perceived or biological survival perpetuate lifestyle patterns whether they truly serve us or not.

PAST LEARNINGS CAN LITERALLY BLIND US FROM SEEING CURRENT AND FUTURE TRUTHS.

"Change your mind, change your life"

"The world is not as it seems, it's as we are"

"We don't get what we want, we get what we're being"



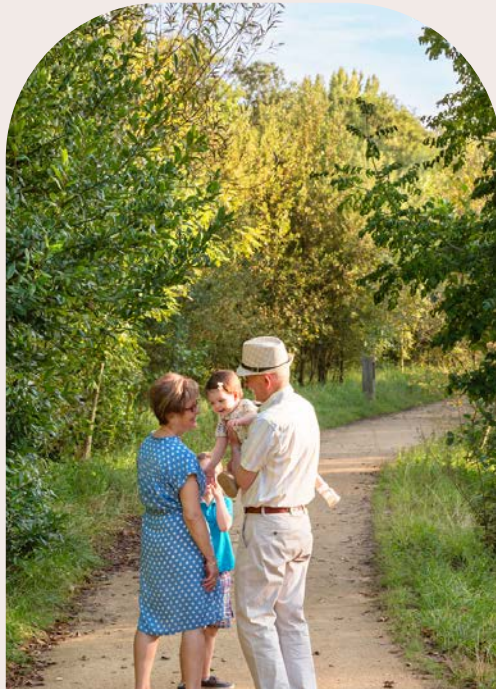
Did you know humans are biased to faces?

Our preference causes us to ignore the shadow cues observed here in the top photo that should be telling us it is the back end of a mask.

Instead, we rely on tried and tested routes within our brains, generating the image of another face.

Biological Age

Biological age refers to the actual age of an individual as determined by the condition of their body and its functions. **It is based on various biological markers such as physical health, organ function, and cellular aging.** It is often used to assess a person's overall health and can be influenced by factors such as genetics, lifestyle choices, and environmental factors.



Chronological Age

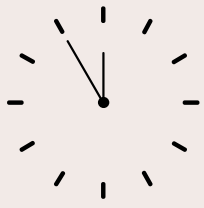
Chronological age refers to a person's age as measured in years, months, and days since their birth. It is the actual amount of time that has passed since a person was born.



Epigenetic Clocks

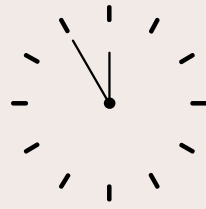
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Variables speed up or slow down the clock. BEST predictors of how you are aging!



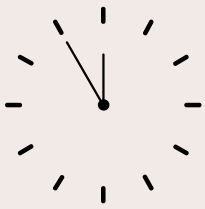
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Horvath Clock: Developed by Steve Horvath, this is one of the earliest and most widely used epigenetic clocks. It uses DNA methylation data from multiple sites across the genome to estimate biological age.



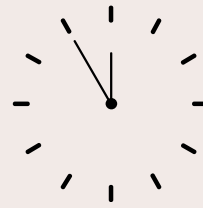
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PhenoAge Clock: This clock, developed by Morgan Levine, incorporates a combination of DNA methylation, clinical biomarkers, and chronological age to estimate biological age.



2

Hannum Clock: This clock, developed by Gregory Hannum, also uses DNA methylation data but focuses on a different set of markers compared to the Horvath Clock.



4

GrimAge Clock: Developed by Steve Horvath, this clock is designed to predict aging mortality risk and incorporates DNA methylation data as well as additional biomarkers associated with aging-related diseases.

Epigenetic Clocks

II

Rate of Aging Clock:

Measure how fast you are aging, how fast the clock is ticking.

- Typically more accurate and precise, especially to determine how lifestyle interventions impact your age process.
- Best to gauge recent interventions



Biological Aging Clock:

Measure your biological age which is the time on the clock how much time has passed.

- Measure epigenetic damage or upgrades
- Total physiological changes you have "accumulated" across your lifespan.

BEST AGING CLOCK: DUNEDIN PACE AGING CLOCK

For decades, researchers have followed more than a thousand people in a small city in New Zealand called Dunedin regularly **measuring hallmark aging biomarkers such as grip strength, blood biomarkers (e.g., cholesterol, inflammation), dental health, brain shrinkage etc.**

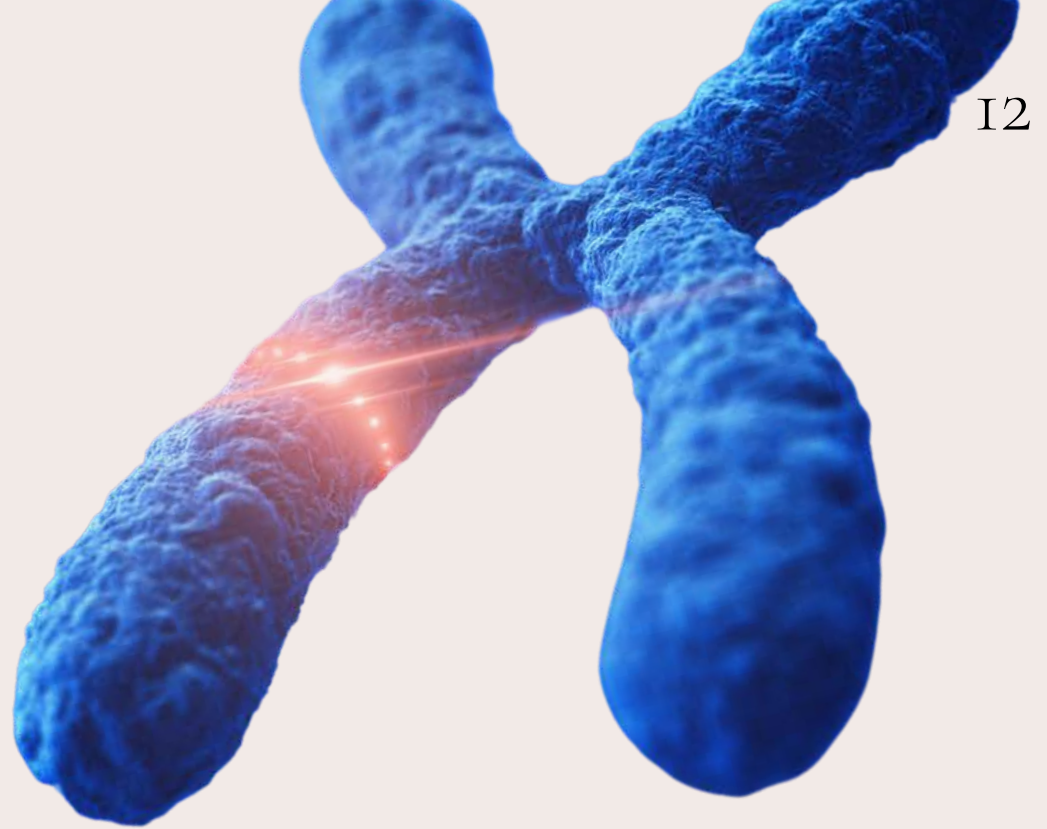
Developed by scientists collaborating all over the world, published in peer-reviewed scientific journals, allowing independent researchers to verify and check these clocks and the methods used.

TELOMERES

Repetitive DNA sequences located at the ends of chromosomes

Telomeres:

- Prevent the loss of genetic material during DNA replication
- Play a role in cellular aging and the lifespan of cells to prevent the uncontrolled growth of abnormal cells
- Have been linked to increased susceptibility to certain cancers, cardiovascular diseases, and neurodegenerative disorders when shortened.



Therapies to Optimize Telomere Length

- Epithalon Peptide
- Concentrated red light
- NMN
- Resveratrol

DNA Methylation

Methylation influences almost every essential physiological process. It's necessary for:

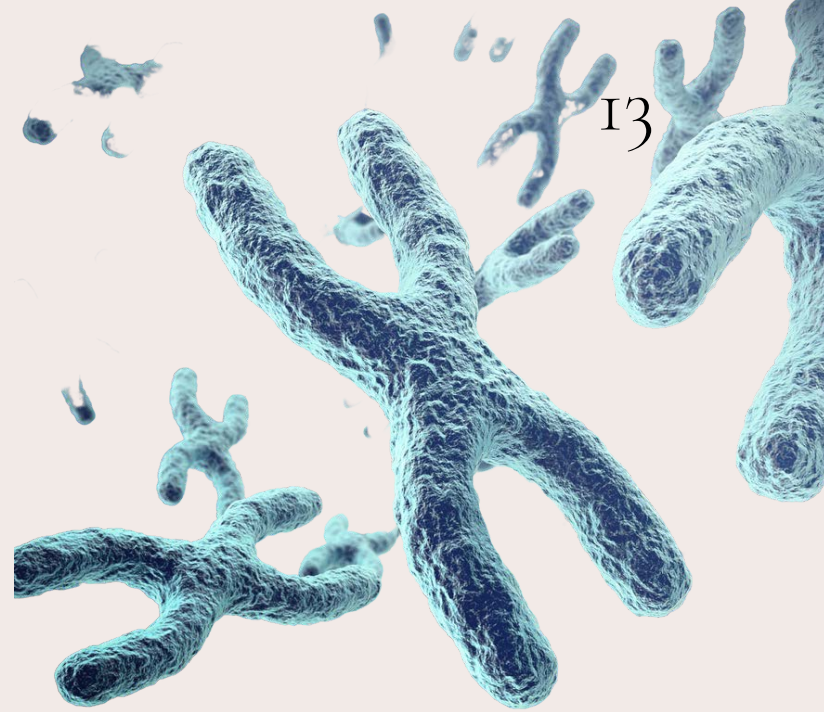
- The production of amino acids & antioxidants
- Neurotransmitters
- Hormones
- RBCs
- DNA & RNA

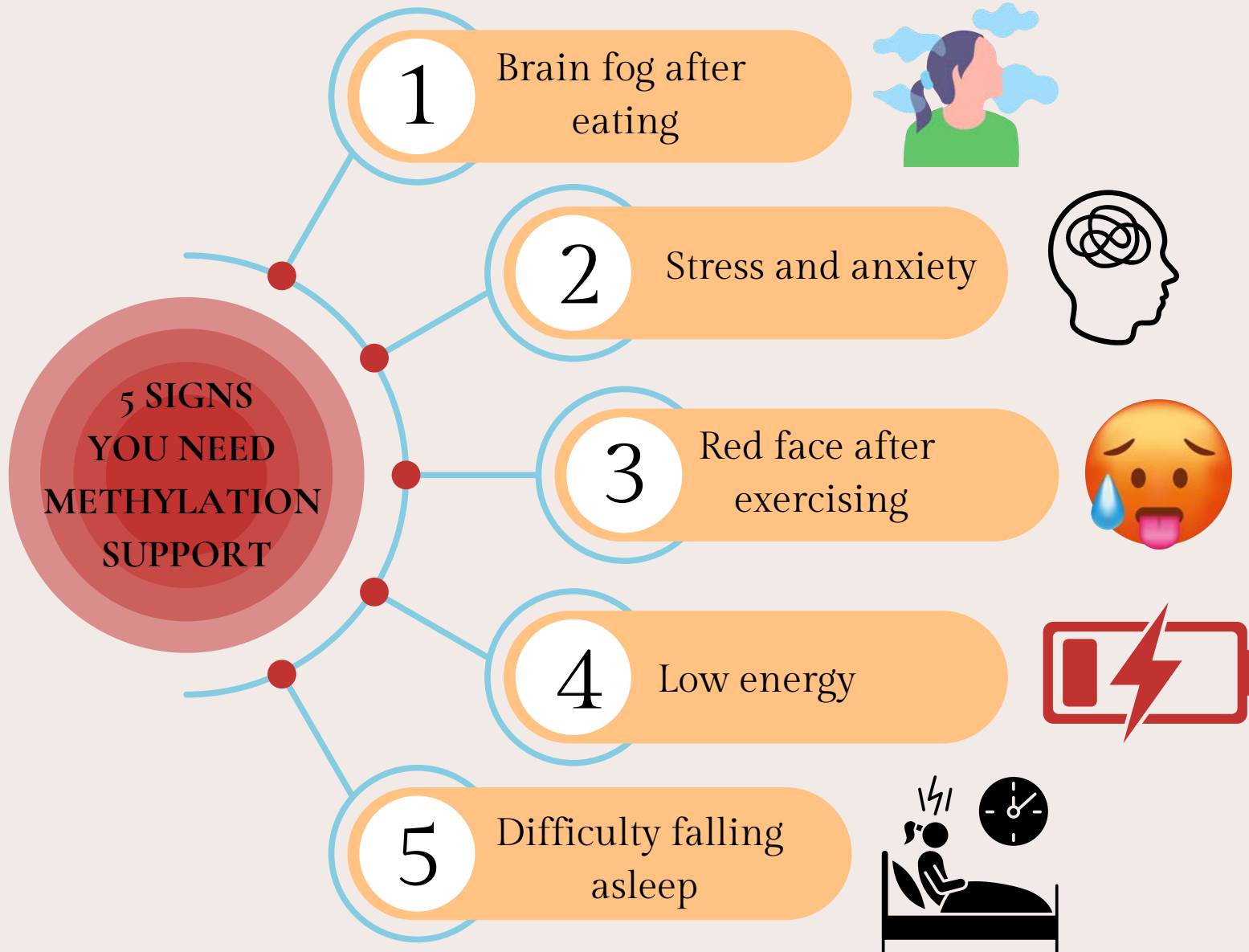
IT DETERMINES WHETHER OR NOT CERTAIN GENE GROUPS WILL BE EXPRESSED.

WE RELY ON OPTIMAL METHYLATION FOR MAINTAINING ADEQUATE DETOXIFICATION OF HORMONES AND TOXINS.

WE CAN HYPER- AND HYPOMETHYLATE—METHYLATING TOO QUICKLY OR NOT METHYLATING ENOUGH CAN BOTH ACCELERATE DISEASE OR SLOW DOWN PHYSIOLOGICAL PROCESSES RESPONSIBLE FOR PREVENTING DIS-EASE STATES.

DNA methylation is an epigenetic mechanism involving the transfer of a methyl group onto the C5 position of the cytosine to form 5-methylcytosine.







Epigenetic Tests

Whole Genome Testing

Gold standard tests account for millions of genetic trait expressions

Methylation Testing

Helps us understand how genes are expressing and how we can monitor their expression optimally

Biological Age Testing

Combines methylation data with Biological Clocks to help determine how body physiology is aging



Tests to Gauge Success of Epigenetic Modifications

Neural:

- Blood Brain Barrier Study
- Brain Immunology
- Tangle Disease Status

When the blood-brain barrier is damaged, pathogens and toxins can cross, thereby disrupting neuro-cognitive signaling

Brain-Gut:

- Mycotoxins
- Parasites & Viruses
- Gut-Brain-Oral Microbiome

Gut pathogens enter the bloodstream when permeability exists. They disrupt optimal physiology and epigenetic expression

Environmental Toxicity:

- Pesticides, Plastics & Phthalates
- Parabens & PCFAs
- Heavy Metals & VOCs

These chemicals have a direct effect on methylation status and our ability to eliminate them from the body.

*Known as endocrine disruptors

LIFESTYLE THERAPIES TO OPTIMIZE EPIGENETICS



Stress
Reduction



Tai Chi



Stem cells



Meditation



Exercise



Neurofeedback



Thermodynamic
Compression



NAD+ IV



Peptides



Smart-ceuticals

- NMN
- Resveratrol
- Quercetin
- Fisetin



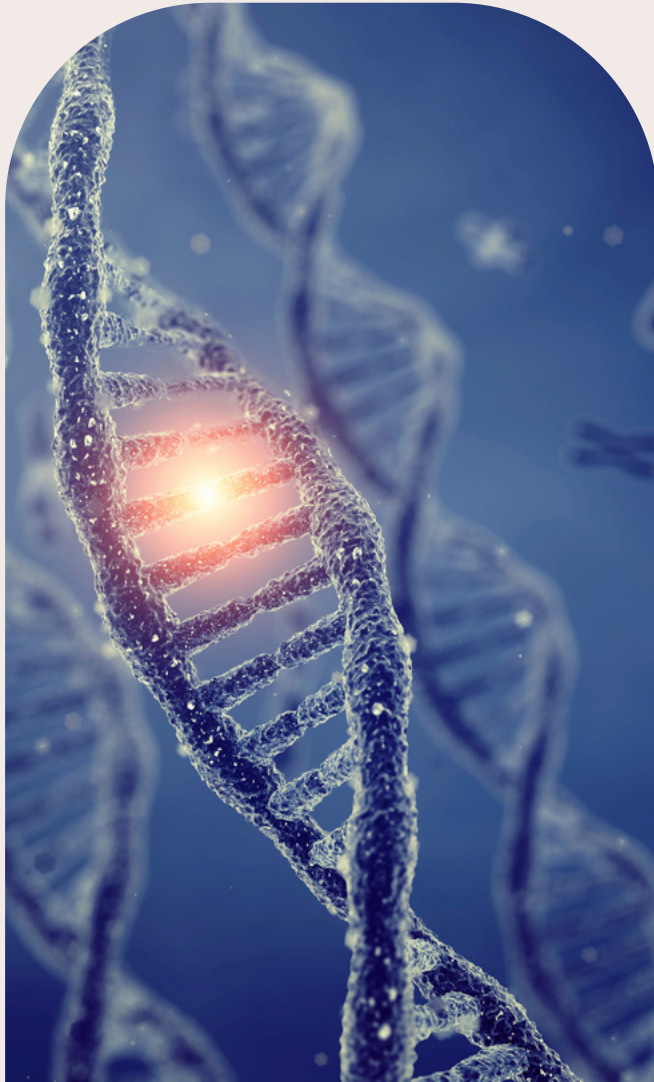
Organic, biodynamic
longevity whole foods

Results of Epigenetics

Upgraded

1. Overall disease prevention and higher quality of healthspan.
2. Improved grip strength & balance
3. Blood brain barrier optimized
4. Significant reduction risk for developing cancer, dementia, Alzheimer's, Parkinson's, multiple sclerosis, diabetes, rheumatoid arthritis, lupus, osteoarthritis, cardiovascular concerns, thyroid issues AND optimizing ability to heal from dis-ease states.
5. Memory and focus optimized
6. Ability to eliminate toxins improved
7. Fitness levels optimized
8. Save \$\$\$, get more time doing what matters most!





Research of Interest

- O1 Studying Chromatin Epigenetics with Fluorescence Microscopy: International Journal of Molecular Science
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9409072/>
- O2 Transgenerational Epigenetic Inheritance of Traumatic Experience in Mammals: The Swiss Journal of Genes
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9859285/>
- O3 Epigenetics & Lifestyle: Journal of Epigenomics
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3752894/>



Research of Interest

04

The Use of DNA Methylation Clock in Aging Research: Experimental Biology & Medicine

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7885055/>

05

Twin Research in the Post-Genomic Era: Dissecting the Pathophysiological Effects of Adversity and the Social Environment:

International Journal of Molecular Sciences

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7247668/>

06

The Role of Epigenetics in Psychological Resilience: Lancet Psychiatry

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3752894/>

"If you look deeply into the palm of your hand, you will see your parents and all generations of your ancestors. All of them are alive in this moment. Each is present in your body. You are the continuation of each of these people.

-Thich Nhat Hanh

*By Christine Dionesse,
Integrative Epigenetic
Health Specialist
hosted by
The Marion Institute*

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