



TRANSCENDING AGING

—◆—
Inspired by Peter Attia's best-selling book *Outlive*

Presented by Dr. John Hughes, DO

Basalt Library | October 25th, 2023

FINANCIAL DISCLOSURE



Dr. John Hughes currently has a local business, Aspen Integrative Medicine, which specializes in longevity and wellness medicine as well as regenerative procedures.



Outline

1. Four Horsemen, Medicine 3.0, Lifespan and Health Span
2. Biggest Contributors to Wellness and Longevity
3. Assess and Maximize Your Personal Wellness
4. Wellness Programs for Transcending Aging





DEATH
FACE IT...even VISUALIZE IT

Car accident

Infectious disease

Predator

Trauma

A hero in battle

Debilitated from a chronic disease...

or peacefully in good health



“Slow death has supplanted fast death.” (p. 14)

Four Horseman



Cardiovascular Disease

Diabetes

Cancer

Neuro Degeneration



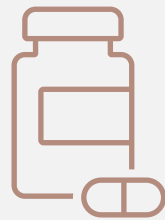
Medicine 1.0 & 2.0



Medicine 1.0

Disease was something due to Nature, not just punishment from the gods or God

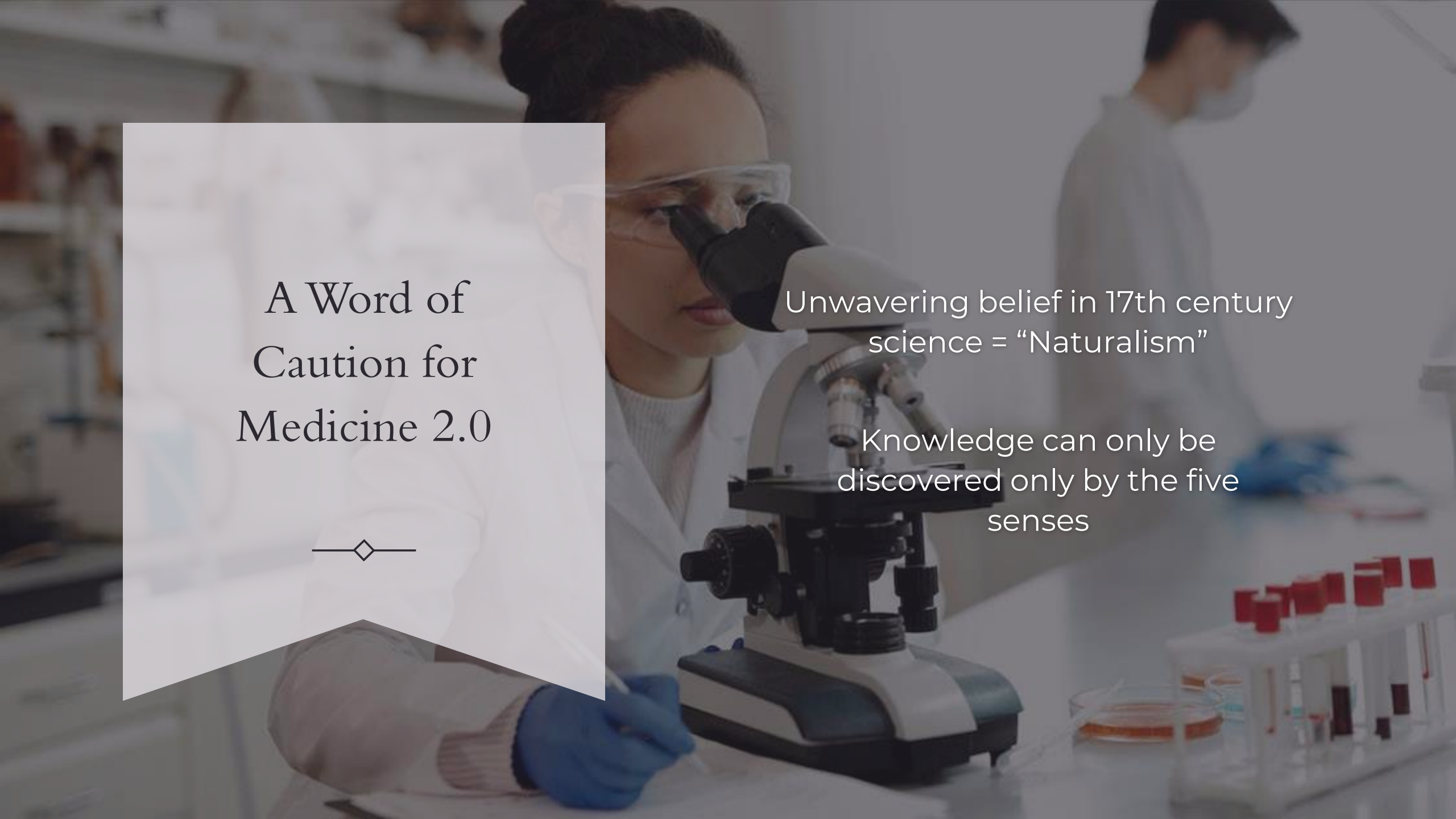
– Hippocrates, Aristotle, Galen



Medicine 2.0

Disease due to bad air; fight disease with the scientific method

Penicillin in the 1940s, antiretrovirals for AIDs in the 1990s



A Word of
Caution for
Medicine 2.0



Unwavering belief in 17th century
science = “Naturalism”

Knowledge can only be
discovered only by the five
senses



Medicine 2.0 in Error

Much of the scientific literature, perhaps half, may simply be untrue

- 30% of all studies tend to be wrong or exaggerated, even from the most widely cited, controlled trials in the world's most prestigious medical schools.
- 5 out of 6 nonrandomized studies are errant
- 47 out of 53 cancer drug studies are not replicable





Medicine 3.0

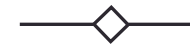
Focuses on Health Span

Longevity has two components:

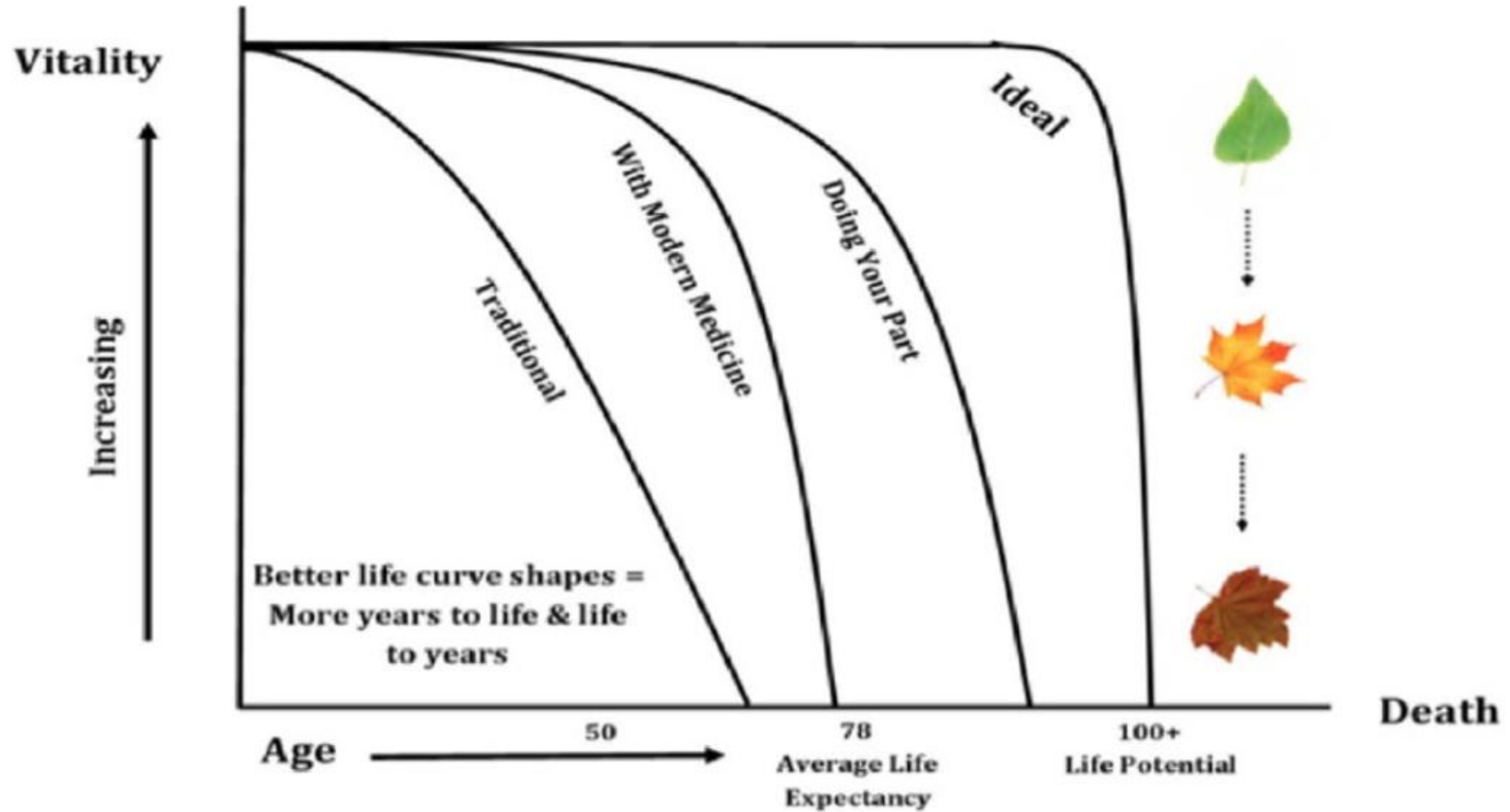
1. Lifespan: How long you live
2. Health span: How well you live

Health Span: Strong, fit, beautiful, intelligent, connected spiritually and physically to Source
(The Aspen Idea)

You are always participating,
never passive.



SQUARING THE CURVE



Biggest
Contributors to
Wellness and
Longevity



- Exercise and fitness
 - Quality Sleep
 - Diet and nutrition
- Mental-emotional-spiritual health
 - Minimizing toxic inputs
 - Fostering community

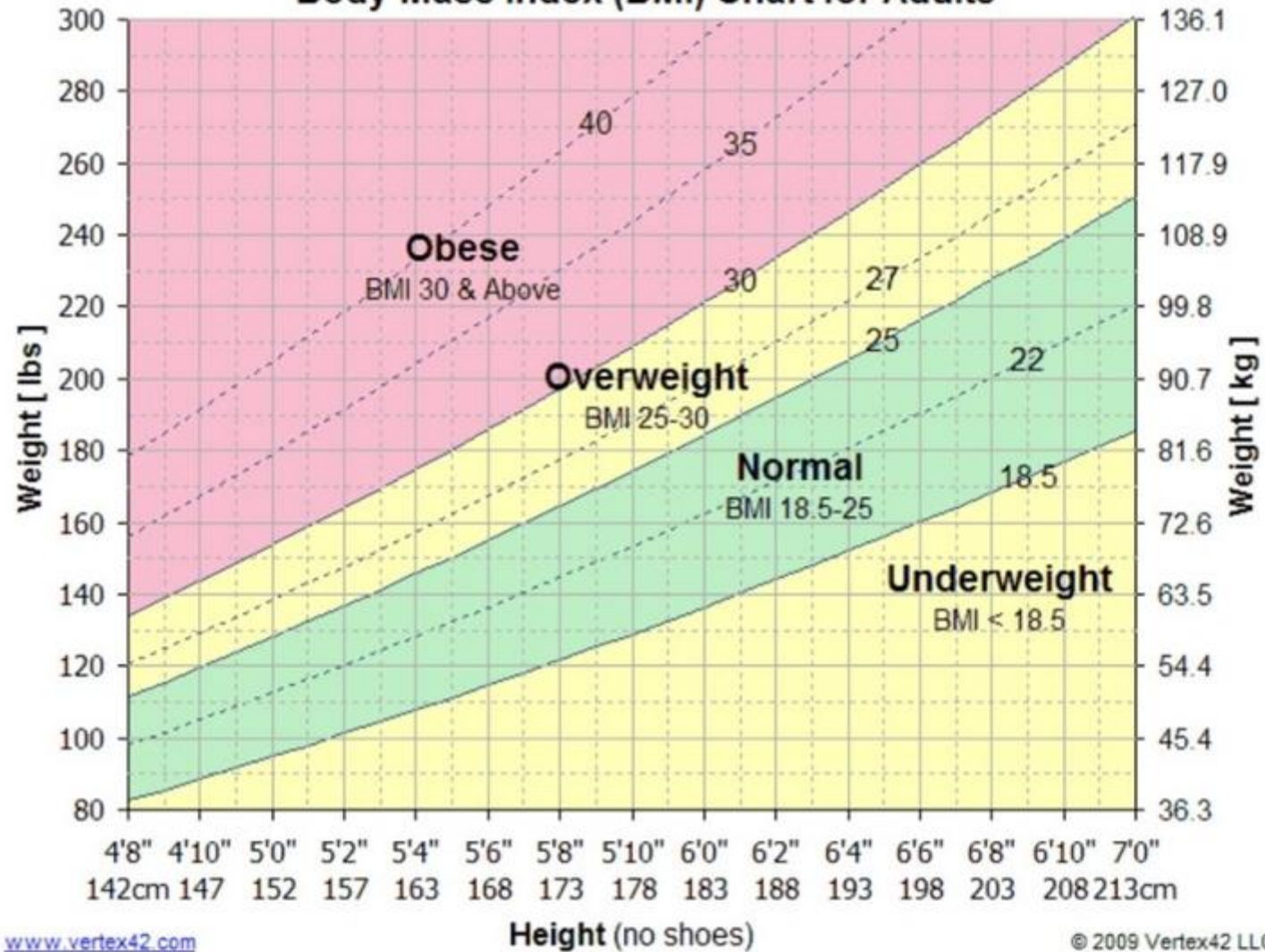
A person is shown from the waist up, lifting two purple dumbbells. The person has long blonde hair and is wearing a light-colored top. The background is a plain, light-colored wall. The image is semi-transparent, allowing the text to be overlaid.

Exercise

- Strengthens heart
 - Improves mitochondrial function
 - Helps us metabolize glucose and fat
- Improves muscle mass to protect the body from falls
- Increases BDNF (Brain Derived Neurotrophic Factor)
 - Preserves brain vasculature and volume



Body Mass Index (BMI) Chart for Adults



www.vertex42.com

© 2009 Vertex42 LLC

The BMI chart

VO2 Max

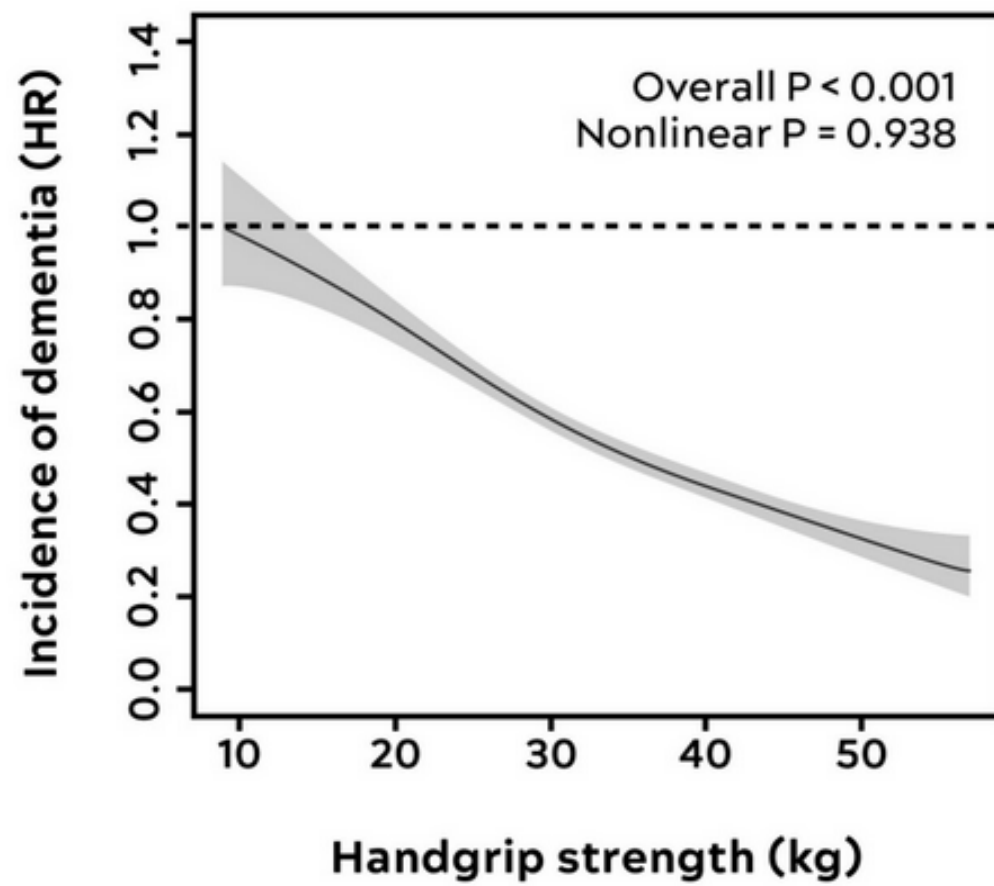


- The maximum rate of oxygen utilization
- 50+ (age 35-50), 45+ (50-75), 40+ (75-100)
 - Healthy women generally 5 points lower
 - Average 45 yr old man will have a VO2 max around 40 ml/kg/min
 - Elite endurance athletes are high 60s and above
- The most powerful marker for longevity

Strength may even trump cardiorespiratory fitness



Figure 8. Association of Handgrip Strength with Dementia Incidence



Sleep



- Lowers glucose
- Improves brain function – waist cleanup
- Improves endurance, VO2 max, strength
 - Lowers heart attack risk
- Improves memory and emotional health





Sleep Hygiene

- Deep sleep is key
- REM and NREM deep sleep
- 7 to 8.5 hours is the goal

Avoid:

- Light/LEDs
- Computers/Screens
- Remove electronics from room
- Coffee, alcohol, food 3h before bedtime
- Lunesta, Ambien, Valium, Lorazepam
 - Alternatives: Trazadone in 50 to 100mg doses or less is better
 - Ashwagandha, charcoal, magnesium
 - Tryptophan and theanine
- Rule out sleep apnea

A person is sitting on a dark wooden bench outdoors, reading a book. The book is open and has a blue cover with the text 'SUPER 11' and 'Muster' visible. The person is wearing a dark t-shirt and blue shorts with yellow stripes. In the background, there is a building with white columns and a large green tree with white flowers.

Are You Getting Enough Sleep?

Rate how likely you are to fall asleep in certain situations, on a scale of 0 (not likely) to 3 (very likely):

- Sitting and reading
- Watching TV
- Sitting in a meeting or other public place
- As a passenger in a car for an hour
- Lying down to rest in the afternoon
- Sitting and talking to someone
- Sitting after lunch (without alcohol)
- In a car, stopped for a few minutes in traffic





Food: Key Principles

- Eliminate junk food (SAD diet)
- Consume essential proteins
- The quality of the food is as important as the quantity



AVOID being SAD (Standard American Diet)



- Middle of grocery store
- Cookies, bread, cereals, crackers, cakes, refined flours
- Packaged goods with added sugar, highly refined carbohydrates with low fiber content, processed oils, and other very densely caloric foods.

Dangers:

- Fat storage
- Impaired glucose metabolism
- NAFLD, diabetes, cardiovascular disease, elevated ApoB and LDL, Alzheimer's, early debilitation, and feeds cancer cells





Replacing SAD with Essential Protein

- Amino acids rich foods
- Derived from the Greek word proteios, meaning “primary”
- US RDA for protein is 0.8 g/kg of body weight – to stay alive
- Best to strive for 1.6 g/kg/day as the minimum (2x the RDA)
 - If you weigh 120lbs, then you need ~100g’s of protein a day = 2.5 chicken breasts

Benefits:

- More satisfaction/satiation
- Lower liver fat
- Lower glucose
- Better insulin sensitivity





Plant Protein

- Tied up in indigestible fiber = less bioavailability
- Less of the essential amino acids methionine, lysine, and tryptophan, leading to reduced protein synthesis
- Overall quality of protein derived from plants is significantly lower than that from animal products





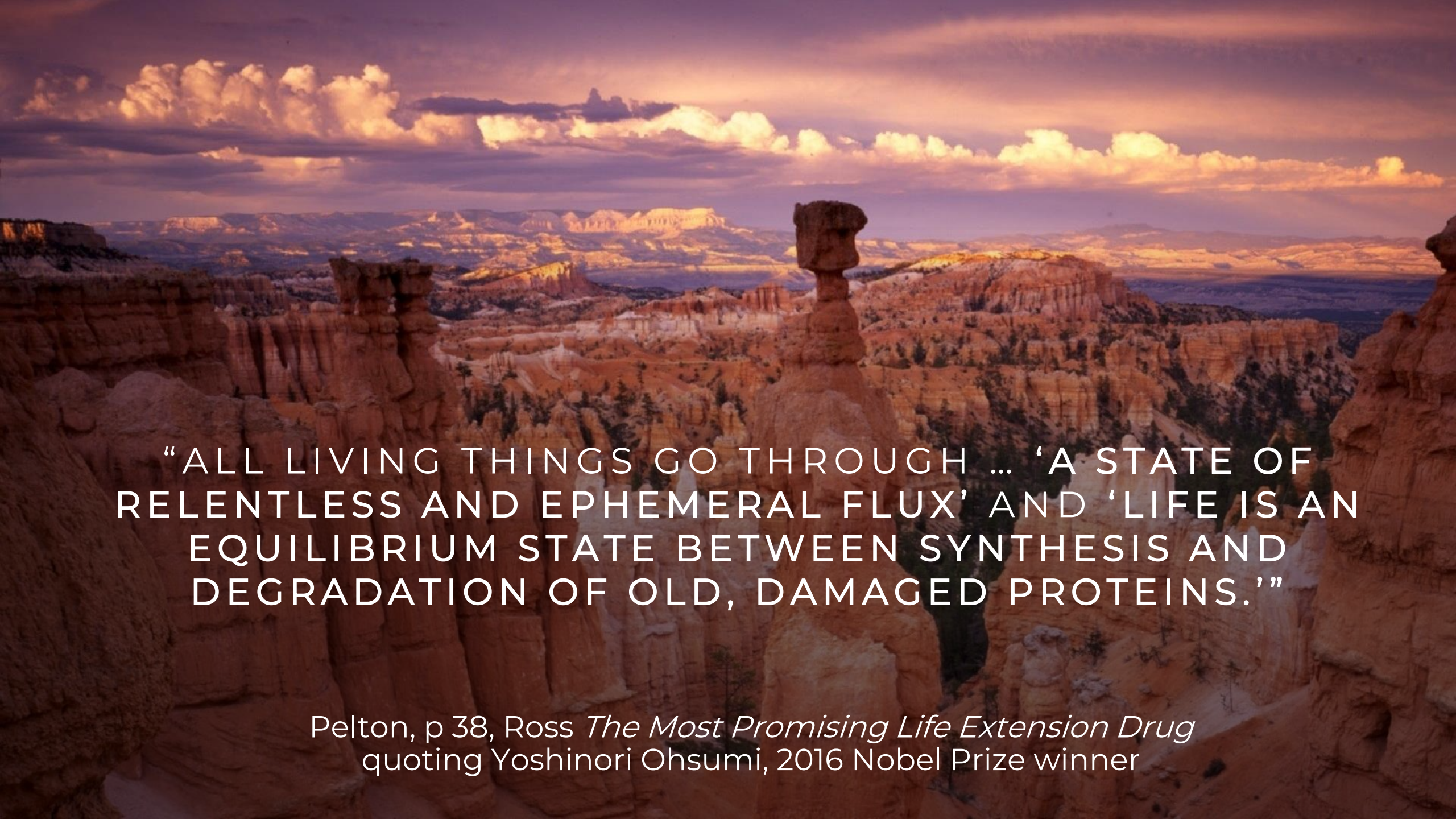
Protein Utilization

- Eggs = 60%
- Meat/Chicken/Fish = 30-40%
- Soy (highest plant protein) = 17-20%
- Perfect Amino (supplement) = 99%

Dangers: Animals contaminated with GMO fed corn, pesticides cause cancer, heavy metals in farm raised fish, etc.

Only consume animals fed their natural organic diet living in real pastures





“ALL LIVING THINGS GO THROUGH ... ‘A STATE OF
RELENTLESS AND EPHEMERAL FLUX’ AND ‘LIFE IS AN
EQUILIBRIUM STATE BETWEEN SYNTHESIS AND
DEGRADATION OF OLD, DAMAGED PROTEINS.’”

Pelton, p 38, Ross *The Most Promising Life Extension Drug*
quoting Yoshinori Ohsumi, 2016 Nobel Prize winner

Proteins and Aging

“A MAJOR CAUSE OF AGING IS THE PROGRESSIVE ACCUMULATION OF DAMAGED MACROMOLECULES AND COMPONENTS WITHIN CELLS ... OXIDIZED, MISFOLDED, CROSSLINKED, AND/OR AGGREGATED PROTEINS. THE HEALTH OF AN INDIVIDUAL DEPENDS ON THE ABILITY TO ELIMINATE THESE OLD, DYSFUNCTIONAL CELLULAR COMPONENTS...”

Pelton, p 46



Figure 1: Our Ancient Ancestors

mTOR/autophagy "balance" for 99.99% of human evolution



Figure 2: Modern humans

Severe overexpression of mTOR: mTOR Syndrome



Other Macros: Fats and Carbs



MUFAs (monounsaturated fats): organic EVOO

Saturated fats in small quantities (beef tallow, grass fed ghee)

Avoid:

Trans Fats (Crisco, Margarine)

PUFAs (canola, soy, safflower, sunflower)

Be careful with seed oils and vegetable oils

Be careful with keto diets - they raise TGs and LDL

Refined carbohydrates = poor glucose management

Oats and rice can have a high glycemic index





Danger of Seed Oils

- Most common: corn, soy, safflower, canola, sunflower
- Major causes of heart disease
- Cause the LDL to oxidize
- Unoxidized LDL does not cause atherosclerosis
- LDL's susceptibility to this oxidative process is controlled by the LA (linoleic acid) from seed oils
- SEED OILS ARE IN ALMOST ALL RESTAURANT FOOD AND PACKAGED FOODS!



How to Assess Your Wellness

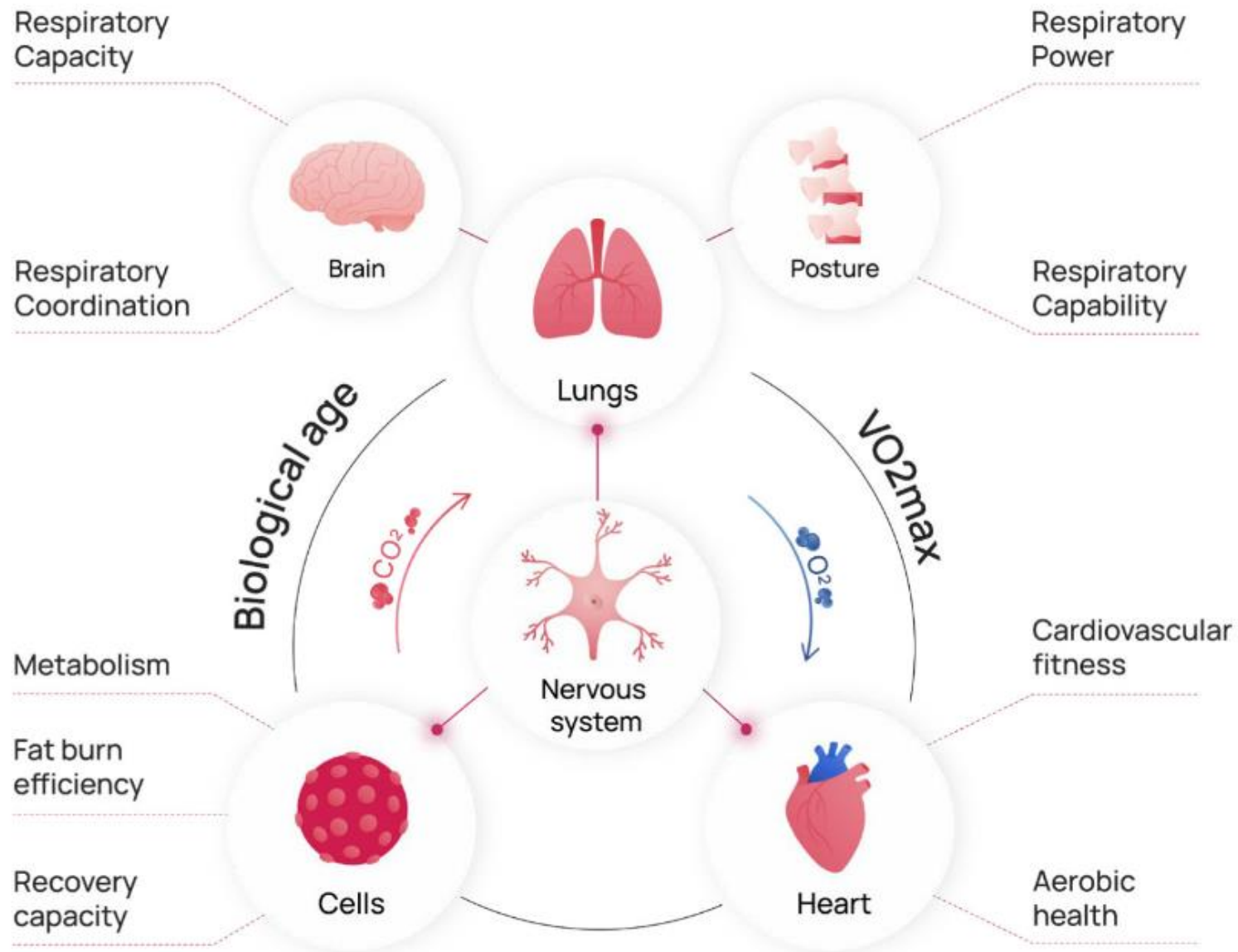


Unique Screenings:

Breath (by PNOE)

Continuous blood sugar (by Levels Health)

Blood labs (by Function Health)



PNOE

VO₂ Max
 Resting Metabolic Rate
 Fat-Max Zone
 Calorie Burn
 Fat / Carbohydrate Burn
 Movement Economy
 Heart Fitness
 Lung Fitness
 Cellular Fitness
 Biological Age
 + MORE

[VIDEO](#)



Measure with clinical precision



Biological age
Excellent



Lung fitness
Excellent



VO2max
Neutral



Heart fitness
Neutral



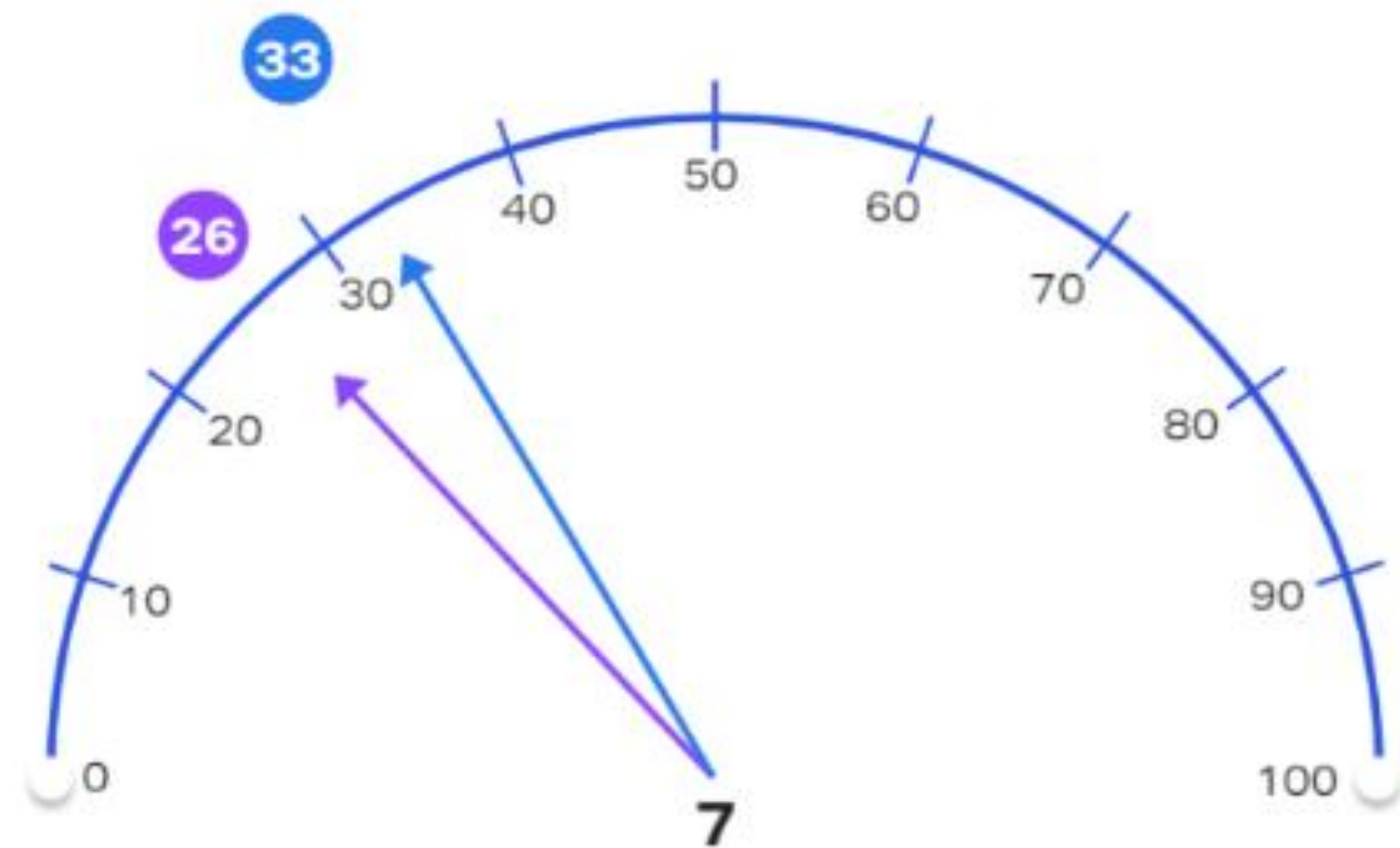
Metabolic rate
Limitation



Recovery capacity
Excellent



Fat burn
Neutral



7
compared to your
chronological

Factors affecting your biological age:

VO2Max ↑

Fat burn efficiency ↓

Metabolic rate ↑

↓ Reduces your age

↑ Increases your age

● Biological Age

● Chronological Age



Continuous Glucose Monitoring: by Levels Health

Assist and maximize

Daily Activities

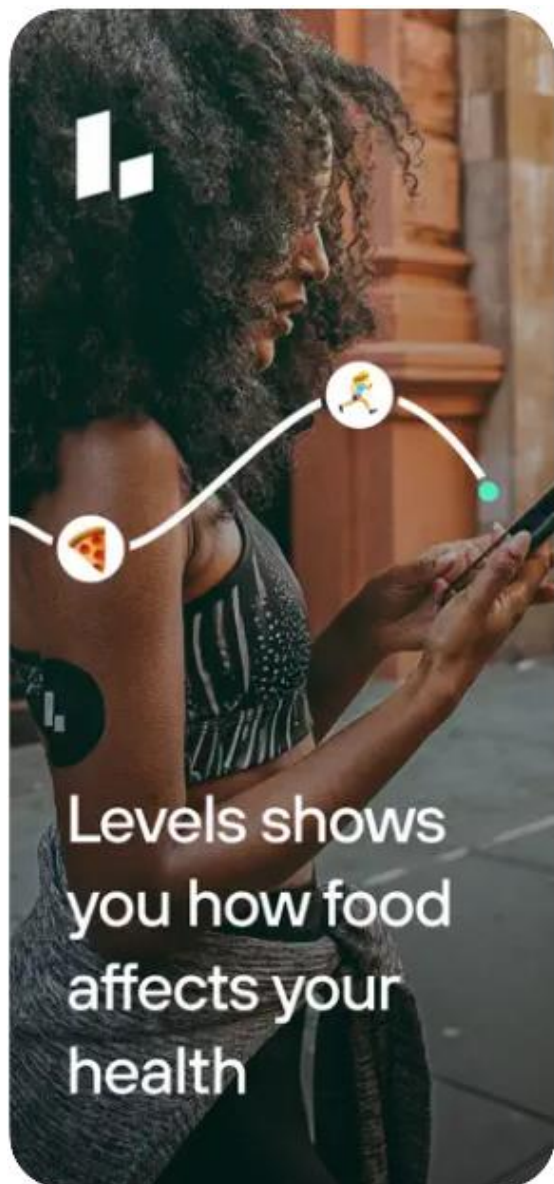
Diet

Metabolic health

Fitness

Weight loss





Levels shows you how food affects your health

Track your **blood sugar in real-time** to take control of your diet and make better choices

LEVELS

18 ³/₄
Stable Hrs

You're Stable
Nicely done, you've been stable for most of the day

92 mg/dL

6 AM 12 PM 6 PM

Levels makes food choices easy with personalized **nutrition guidance**

LEVELS

Try this alternative to oatmeal

Chia pudding is a better option

Chia pudding is an excellent swap for oatmeal, and it's a Levels community favorite. Next time you're having your

Convenient home blood testing provides a **complete picture** of your health

LEVELS

Metabolic Health Panel Reports

Hemoglobin A1c	6.1 %	Out of Range
Fasting Insulin	4.4 uIU/mL	Optimal
Triglycerides	87	Optimal
ApoB	97 mg/dL	In Range
Uric Acid	4.0 uIU/mL	Optimal

4 OF 5 BIOMARKERS IN RANGE



Blood Labs by Function Health



100+ lab tests for all major biological functions &
60+ labs at 6 month follow up

Heart	Hormones
Thyroid	Pancreas
Immune	Urine
Autoimmune	Electrolytes
Liver	Heavy metals
Kidney	Allergies
Metabolic Health (including Biological Age)	Blood Type
Male and Female	CBC
	+ MORE

HOW TO MAXIMIZE YOUR WELLNESS



Regenesis

REGENESIS Wellness Assessments

- PNOE 23
- Levels CGM
- Function Health Labs
- Functional Genomic Testing
 - Epigenetic Testing
- Urine Screening - heavy metals, mold
- Viral Testing - Lyme, EBV
- WAVi Brain Scan – EEG technology
- Cardiac Calcium Scoring
- Carotid IMT Testing
 - Nutri-Eval
- GI Maps Testing
- Food Allergy Testing
- Galleri Cancer Screening
- Alzheimer's Screening Lab Test
- Circul – Sleep and activity monitoring
- DXA Bone Scan
- EMF Screening



REGENESIS Wellness Treatments

- Concierge Medical Care
- Health and Weight Loss Coaching
 - Cardio/Weight Coaching
- Hormone Replacement Therapy
 - Peptide Therapy
- Nutritional & Pharmaceutical Supplementation
 - Genetic Nutritional Consultation
- IV Therapy – Chelation and Nutrition
 - Platelet Rich Plasma
 - Peripheral Blood Stem Cells





REGENESIS

Unique Treatment: PRP and Stem Cells

- Brain Injury and Neurodegeneration
 - Chronic Sports Injuries
 - Degenerative Joint & Disc Disease
 - Chronic Sprains and Strains
- Cervical, Thoracic, and Lumbar Spine Strains
 - Traumatic Brain injuries
 - Arthritic Joints
- Shoulder Pain, Hip Pain, and Knee Pain
 - Ligament Laxity or Tears
 - Tendon and Ligament Injuries
 - Carpal Tunnel Syndrome





REGENESIS
Unique Treatment:
Rapamycin

The Ultimate Longevity Drug

- Fine-tunes the immune system
- Suppresses a protein called mTOR (mTOR results in type 2 diabetes, cancer growth, inflammation, fat deposition)
- Enhances autophagy – cellular recycling
 - Anti-obesity effect



SILO MODEL OF DISEASE



CANCER
CARDIOVASCULAR
DISEASE
DIABETES
ALZHEIMER'S DISEASE
=
"AGING"
(ONE SILO)

Conclusion

How will you live and die?

Medicine 2.0 isn't enough to live well or prevent aging

Living well requires you assess and maximize your health span

Medicine 3.0 has the tools to help you live longer and better

To learn more, visit aspenintegrativemedicine.com/regenesis



APPENDIX



References



Outlive by Peter Attia

Spring Chicken by Bill Gifford

Rapamycin: The Most Promising Life

Extension Drug by Ross Pelton

The Search for the Perfect Protein by

Dr. David Minkoff



Recommended Books

Longevity:

- Outlive
- Spring Chicken
- Search for the Perfect Protein
- The Longevity Solution
- Young Forever
- Eighty is the New Fifty

Dietary Guidance:

- Nourishing Traditions
- Eat to Live
- Diet for A New America
- Pro Vita Plan
- Dental Diet
- Plant Paradox





Critical
Diagnostic
Assessments: Labs



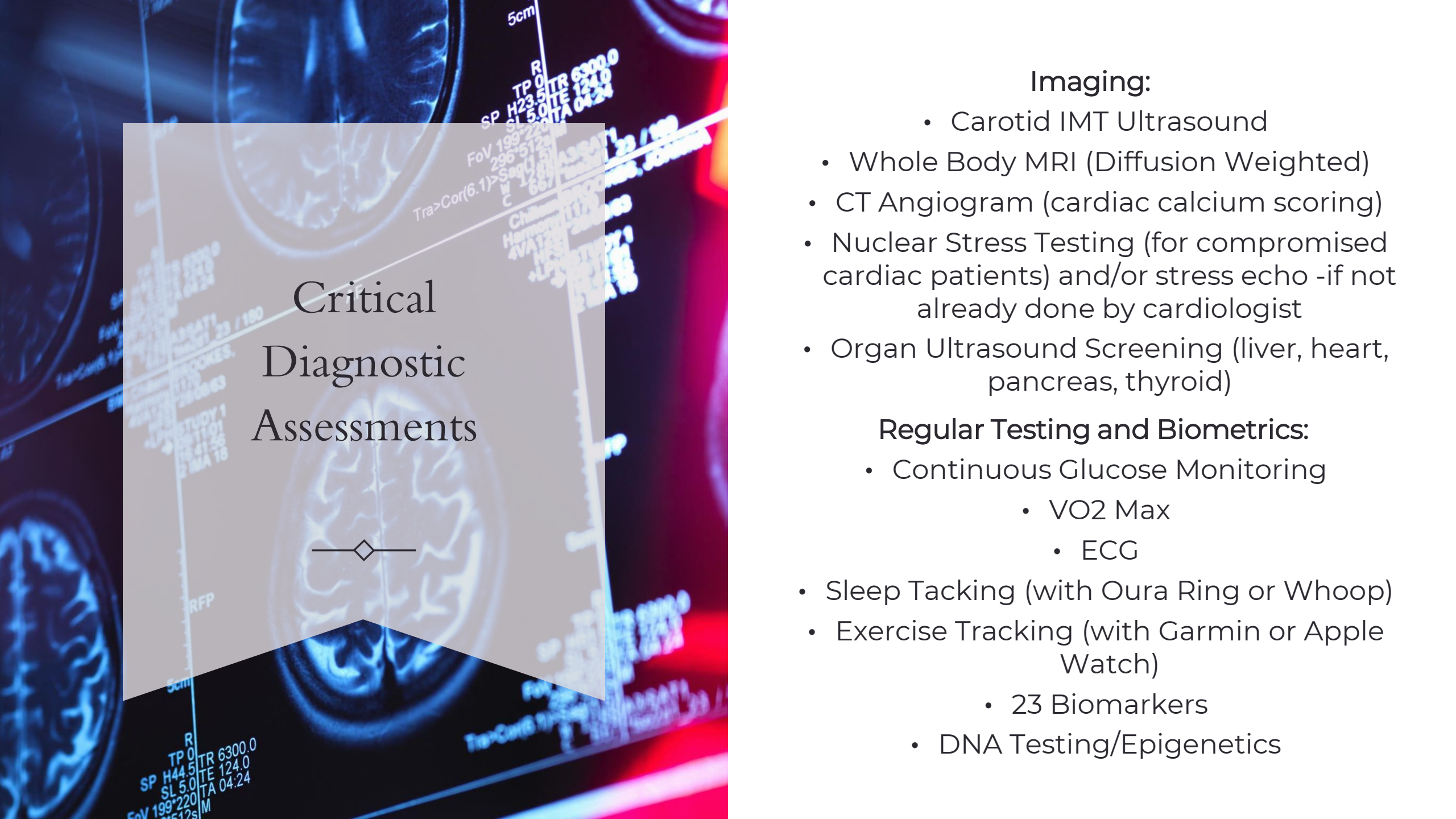
Cardiovascular Health: ApoB, LDL, HDL, TGs, homocysteine, HS- CRP, Testosterone (total and free), Estrone, Estradiol, SHBG, DHEA-S, Progesterone, urine heavy metal screening, volatile organic solvents (as needed), Thyroid panel, Cortisol, nutrient profiles (especially for amino acids), functional genomic screening, GIMAPs (for gut health), MD Labs (vector transmitted disease profile 420 and immune compromised panel 2500), fibrin/fibrinogen, quantitative d-dimer, Ca, Mg, Phos

Cancer Screening: Galeri screening, PHI test, AMAS, Nagalase, all major tumor markers, mold toxins, iron levels (Fe, Ferritin, TIBC)

Alzheimer's: Beta-amyloid, ApoE genotype (for e2, e3, e4), B12, Folate

Diabetes/Metabolic Health: A1C, Fasting Insulin, CMP (AST and ALT), CBC, uric acid, lactate levels, Vit D3

Labs outside normal values to be done every 3 months.
Regular retesting of all major labs every 12 months.



Critical Diagnostic Assessments



Imaging:

- Carotid IMT Ultrasound
- Whole Body MRI (Diffusion Weighted)
- CT Angiogram (cardiac calcium scoring)
- Nuclear Stress Testing (for compromised cardiac patients) and/or stress echo -if not already done by cardiologist
- Organ Ultrasound Screening (liver, heart, pancreas, thyroid)

Regular Testing and Biometrics:

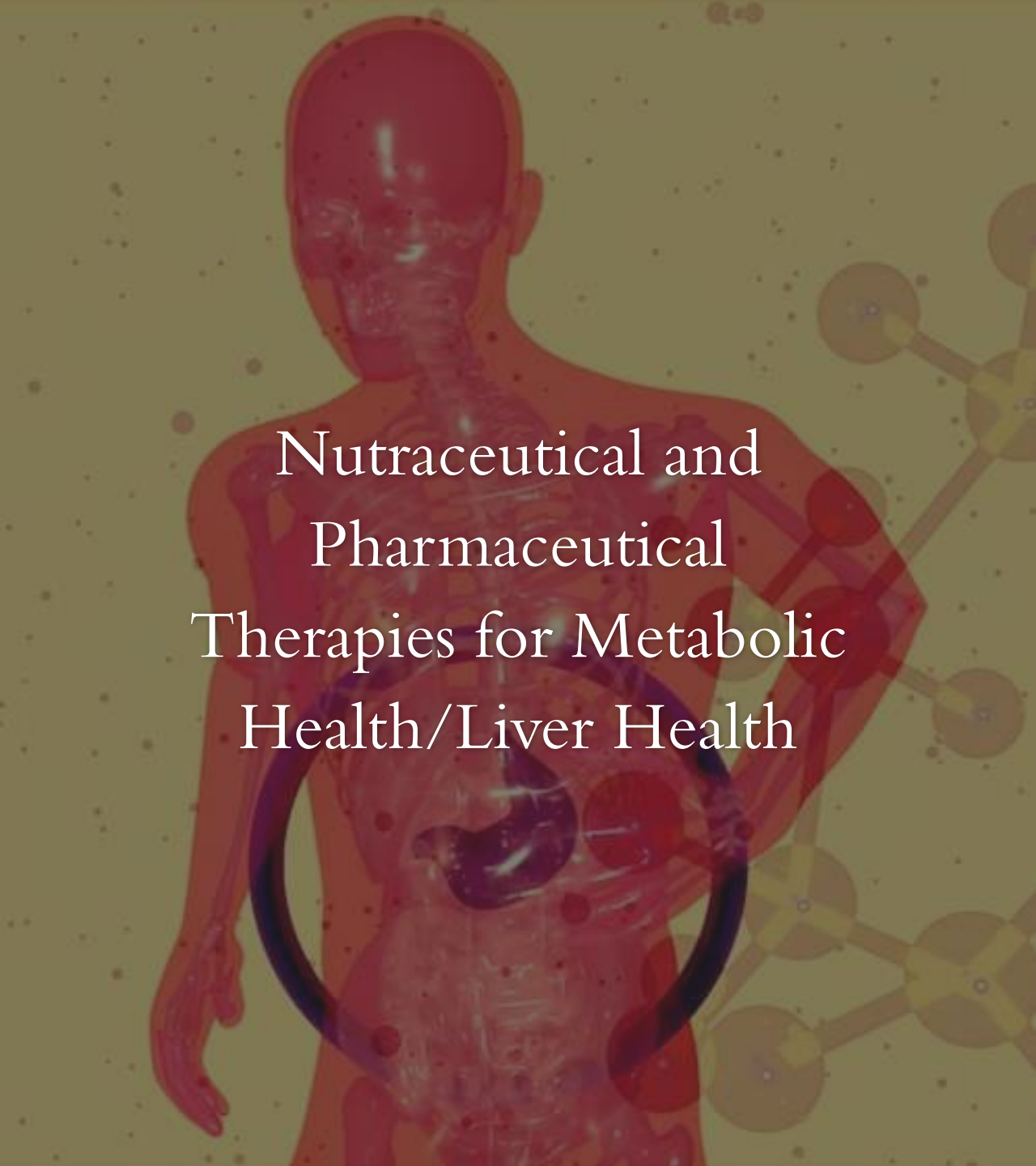
- Continuous Glucose Monitoring
 - VO2 Max
 - ECG
- Sleep Tacking (with Oura Ring or Whoop)
- Exercise Tracking (with Garmin or Apple Watch)
 - 23 Biomarkers
- DNA Testing/Epigenetics



Nutraceutical and Pharmaceutical Therapies for Heart Health

- Tudca
- Arterosil
- Endocalyx Pro
- EDTA chelation (if heavy metals)
- Niacin
- Durable
- Polyphenols from Pomegranate extract
- Policosanols
- Olive Leaf extract
- Crestor (or other statins) or Red yeast rice (must take with CoQ10 in low doses)
- PSK9 inhibitors
- Zetia





Nutraceutical and Pharmaceutical Therapies for Metabolic Health/Liver Health

- Protein: Perfect Amino tablets or Power Meal
- IV nutrition: Ozone, high dose vit c, alpha-lipoic acid, B-Vitamins
- Liver detoxification: IV glutathione, B-vitamins, minerals, Ultimate Detox, Metal Free
- Dietary (glucose stabilization): Belly Burner, Real Ketones, Magnesium Hydroxybutyrate
- Muscle and Bone: Raw Calcium, HMB, Testosterone,
- Hydration and Minerals: Extreme Hydration, Trace minerals
- Antioxidants: Vit C, blueberry extract, pomegranate,
- Pharmaceuticals: Metformin, Insulin (for Type 1 diabetics)
- Dietary guidelines: Dental Diet, Nourishing Traditions, Eat to Live





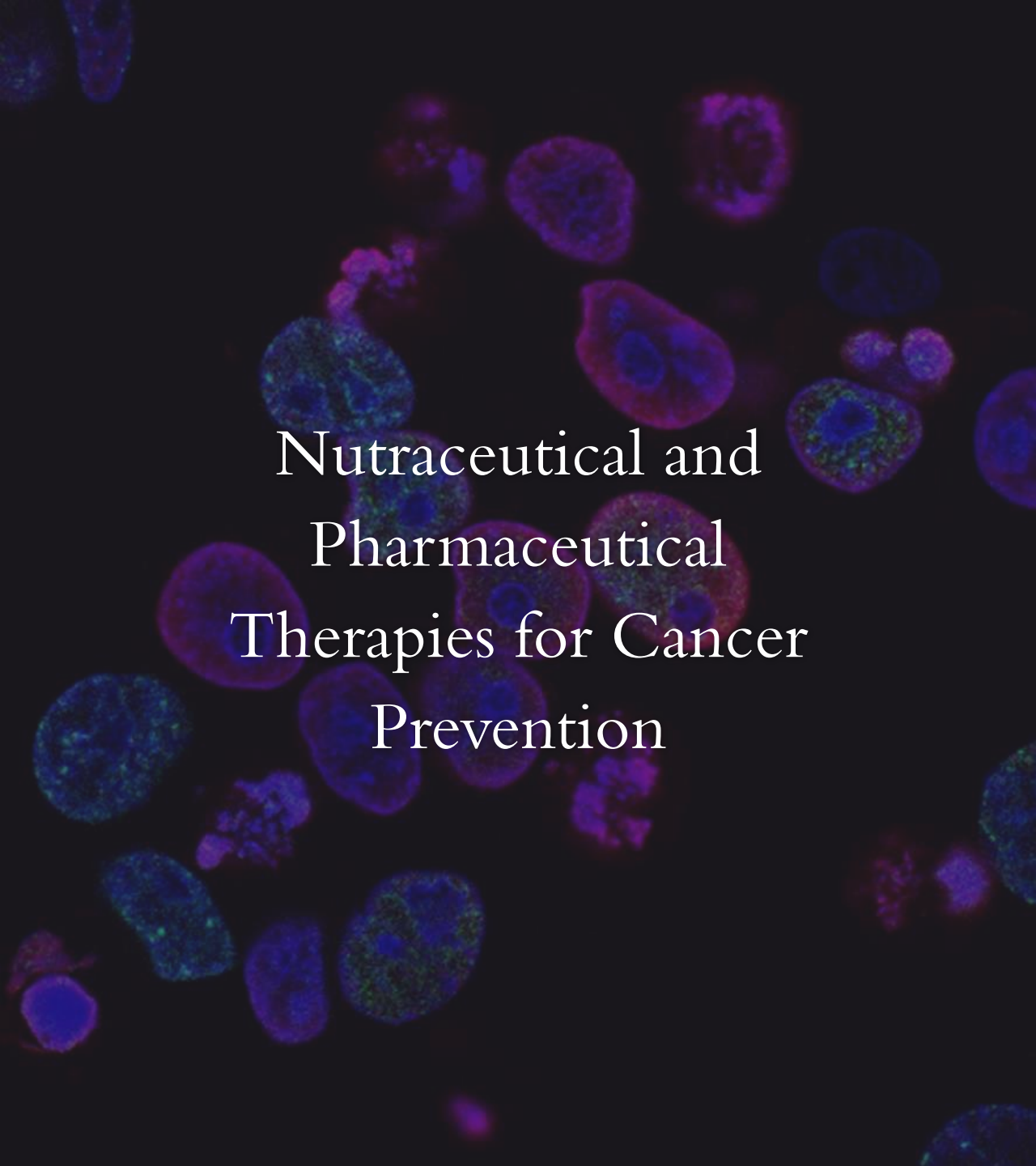
Nutraceutical and Pharmaceutical Therapies for Brain Health

In general, what supports the heart and metabolism also supports the brain

Critical for maintaining IQ, memory, and reducing the inflammation:

- Hyperbaric Medicine
- Heavy metal detox
- Intranasal insulin
- Intranasal and IV plasma, stem cells
(see tbitherapy.com)





Nutraceutical and Pharmaceutical Therapies for Cancer Prevention

- In general, what supports the glucose metabolism also can prevent cancer
- Over ½ of all cancers are due to environmental toxins
 - Toxic environmental exposures: radiation, chemicals (gasoline, beauty products, hair salons, fracking wells, air and water pollution, pesticides)
- Foods: Focus on low glycemic, organic foods
- Detoxification protocols
- Immune support protocols such as mistletoe therapy, Kelley protocol, IV Antioxidants (Vit C and antioxidants)
- Also, look within: psychological/emotional trauma can lead to cancers (which are often just a neglected aspect of a human consciousness wanting attention)





12 Ways to Lower Blood Sugar by Levels Health

1. Avoid added sugar and refined foods
2. Exercise regularly
3. Prioritize sleep
4. Minimize stress
5. Get more fiber
6. Eat fat and protein first
7. Limit saturated fat
8. Try intermittent fasting
9. Eat earlier in the day
10. Add vinegar to your meal
11. Sprinkle the cinnamon
12. Don't chug water with meals

