Essential Principles for Longevity & Health Span:

Translating Information Into ACTION Using A Powerful Method For **Self Management**

Presentation to Sons In Retirement
Monterey, California
February 8, 2024

by Irv Beiman, Ph.D.

Includes **Technical Appendix**:

- *Information Theory of Aging*
- *Why Exercise?*
- *How Not To Diet*
- *IB Reflections*

Disclaimer

- Information contained herein is drawn from published research and personal history. In that sense, it is evidence-based, or follows from recommendations by licensed professionals who rely on published research.
- It should **not**, however, be construed as recommendations for treatment of medical conditions or disease, without the participation by trusted health care providers who are knowledgeable about the medical condition or disease, as well as exercise physiology and nutraceutical research.
- Each person's body and cellular metabolism varies across a wide range. What works for one, might not work or be harmful for someone else.
- What is presented below appears to be effective for Irv Beiman.
- All recipients are advised to do their own personal research at: www.pubmed.gov and www.nutritionfacts.org
- Then figure out what works for their own body and goals, based on personal experience while using ***Self Management*** to achieve progress.

An emerging ***New Paradigm***: Aging and disease result from …

1) Genomic instability caused by ***DNA damage***
2) Deterioration of ***telomeres***, the protective endcaps of chromosomes
3) Alterations of the ***epigenome*** that controls which genes are turned on and off
4) Loss of healthy protein maintenance, known as **proteostasis**
5) Deregulated nutrient sensing caused by metabolic changes
6) ***Mitochondrial*** dysfunction
7) Accumulation of ***senescent*** zombielike cells that inflame healthy cells
8) Exhaustion of stem cells
9) Altered intercellular communication and the production of ***inflammatory*** molecules

Nine Hallmarks of Aging in ***Lifespan*** *[2019, pg 19]*, by David Sinclair PhD

Also see ***Technical Appendix*** at end of presentation

Three Low-Risk Synergistic Strategies

1. Target current disease condition(s) identified via non-invasive tests
2. Enhance longevity and healthspan through information gathering, diet, nutraceuticals and exercise
3. Instill commitment to sustainable action via repetitive mind/body exercises

- Strategy 1 is illustrated by a brief *case study*, actual blood test results over time and recommended info sources [slide #5-11]
- Strategy 2 elements are presented in detail [slide #8-24]
- Strategy 3 mind/body exercises [slide #24-31], with link to detailed explanation: www.ReadyForBetterMethod.com

IB Brief Case Study: Unfavorable Genetic and Environmental Background

- Both parents suffered for the last 20 years of their lives
- Father: diabetic, intestinal cancer 2x, died after second surgery 18 years after the first one
- Mother: blind from macular degeneration, severely crippled with painful osteoarthritis, multiple little strokes from TIA's
- IB:
  - Grew up in Birmingham: 1946-1964 was continuously exposed to harmful air pollution from iron and steel industry.
  - Lived/worked two decades in Shanghai. 1993-2013. Exposed to harmful air, food and water pollution [mercury, lead, cadmium] from high sulfur coal-fired power plants.

IB's Journey of Discovery

- 1968-1973 Ph.D. research training in clinical psychology [UIUC], developed healthy respect and appreciation for published evidence-based information for optimizing health and wellness.
- 1978 – During father's first surgery for intestinal cancer, discovered "*Diet & Disease*" text in Univ of Ala medical school bookstore. Thousands of published studies linking diet to a variety of disease conditions. Shifted to vegetarian diet.
- 1980 - Taught seminar in holistic health while on psych faculty at UGA
- For many years, hung out in health food stores, read voraciously, tested supplements for various maladies through personal experience.
- 2014-2022 – internet research on supplements for various maladies
- 2023 – www.pubmed.gov research on hyper-/dyslipidemia; *Lifespan [2023]* by Dr. David Sinclair; and *How Not To Age [2023]* by Dr. Michael Greger
- Learning from ***direct experience*** via ***adjustments*** to diet, nutraceuticals and exercise regimen

IB Lipid Test Results

Optimum Targets	>>>>>>	< 180	< 100	< 70	> 60	<467
TEST SERVICE	DATE	Cholest	Triglycer	LDL	HDL	sdLDL
Quest/CHL	9/2021	181	124	104	55	843
Quest/CHL	4/2022	170	113	95	54	
Quest/CHL	10/2022	193	129	113	56	692
Quest/CHL	2/2023	160	73	83	62	537
Quest/CHL*	10/2023	156	63	82	60	429
Lab Corp*	10/2023	152	60	80	60	

CHL = Cleveland Heart Lab

*** = Cross Test Service Reliability**

Low Density Lipoprotein

High Density Lipoprotein

Small Dense LDL

REACHED TARGET OPTIMUM LEVEL

Three 3's for Longevity and Health Span:
Translating Information Into ACTION

- 3 areas for focus to improve longevity and health span
  - **Movement, Diet, Nutraceuticals**
- 3 arenas where this provides benefit at the cellular level
  - **Mitochondria, Sirtuins, Autophagy**
- 3 ***Self Management*** keys to create cellular benefits for improving longevity and health span:
  - **Repeat aspirational goal(s)**
  - **in rhythm with breath**
  - **In rhythm with movement**

First Key to Progress:

MOVEMENT

- Brisk Walking

- Steady State **Cardio** • **Stretching** after exercise

- Walk-Run **Intervals** • **Stretching** after exercise

- Fitness Center **Strengthening** • **Stretching** after exercise

Second Key to Progress [for **Dyslipidemia**]:
🔑 Food Research → **Dietary Adjustment**

- Recommended Info Sources:
  - Dr. Michael Greger's noncommercial website at www.NutritionFacts.org has search function for curation of published scientific research on diet and disease, plus
    New Book: *How Not To Age [2023]*
  - Dr. Mark Houston's chapter on nutrition and nutraceuticals for dyslipidemia in *Integrative Medicine 5th ed. (2023).* Available on Amazon
  - Dr. David Sinclair's book: *Lifespan – Why We Age and Why We Don't Have To [2019]*
- IB's Adjustment to Diet that already included protein powder + legumes
  - Increased healthy fats [freshly ground flax seeds in breakfast oatmeal and mid-day kale smoothie, high polyphenol olive oil, walnuts, almonds]
  - Substituted barley for rice. Added more cruciferous vegetables. Added Kale smoothie.
  - Added local wild caught fish 2x/week [king salmon, sole] plus *activated charcoal*
  - Monitored weight before breakfast and before bed, which led to…
  - Controlling weight of dinner meal every night to optimize regulation of body weight

Third Key to Progress [for **Dyslipidemia**]:

🔑 Nutraceutical Research → **Supplement Adjustment**

- ❑ Consider above recommended info sources above, plus www.pubmed.gov *queries: 1 "nutraceuticals for dyslipidemia"; 2 "nutraceuticals for hypercholesteremia"; "nutraceuticals for [problem X, Y or Z]"*

- ❑ Supplement adjustments [for Dyslipidemia] based on Dr. Houston's chapter recommendations:
  - **For Lowering LDL**: *Metagenics Coratin [2400mg red yeast rice (RYR)/plant sterols], *Metagenics Berberine [1000mg], pantethine [450mg 2x/day] *avail on Amazon*
  - **For Lowering triglycerides and improving HDL**: Omega 3 fatty acids and non flush niacin
  - **For reducing inflammation and oxidation:** resveratrol, curcumin, EGCG and delta tocotrienols.
  - Additional nutraceuticals from www.lifeextension.com

OVERVIEW:
The WHAT, HOW & WHY of Longevity & Health Span

WHAT To Do?

- Anti-Inflammatory Lifestyle, Diet and Nutrition
- Regular **Physical Activity**
- Attain Healthy Body Weight
- Implement Cognitive Engagement
- Establish Purpose & Positivity
- Social Connections
- Sleep
- Preventive Health Care

WHY Do?

Sedentary life style, unhealthy food and inadequate nutrition contribute to ***suffering*** from chronic disease

HOW To Do?

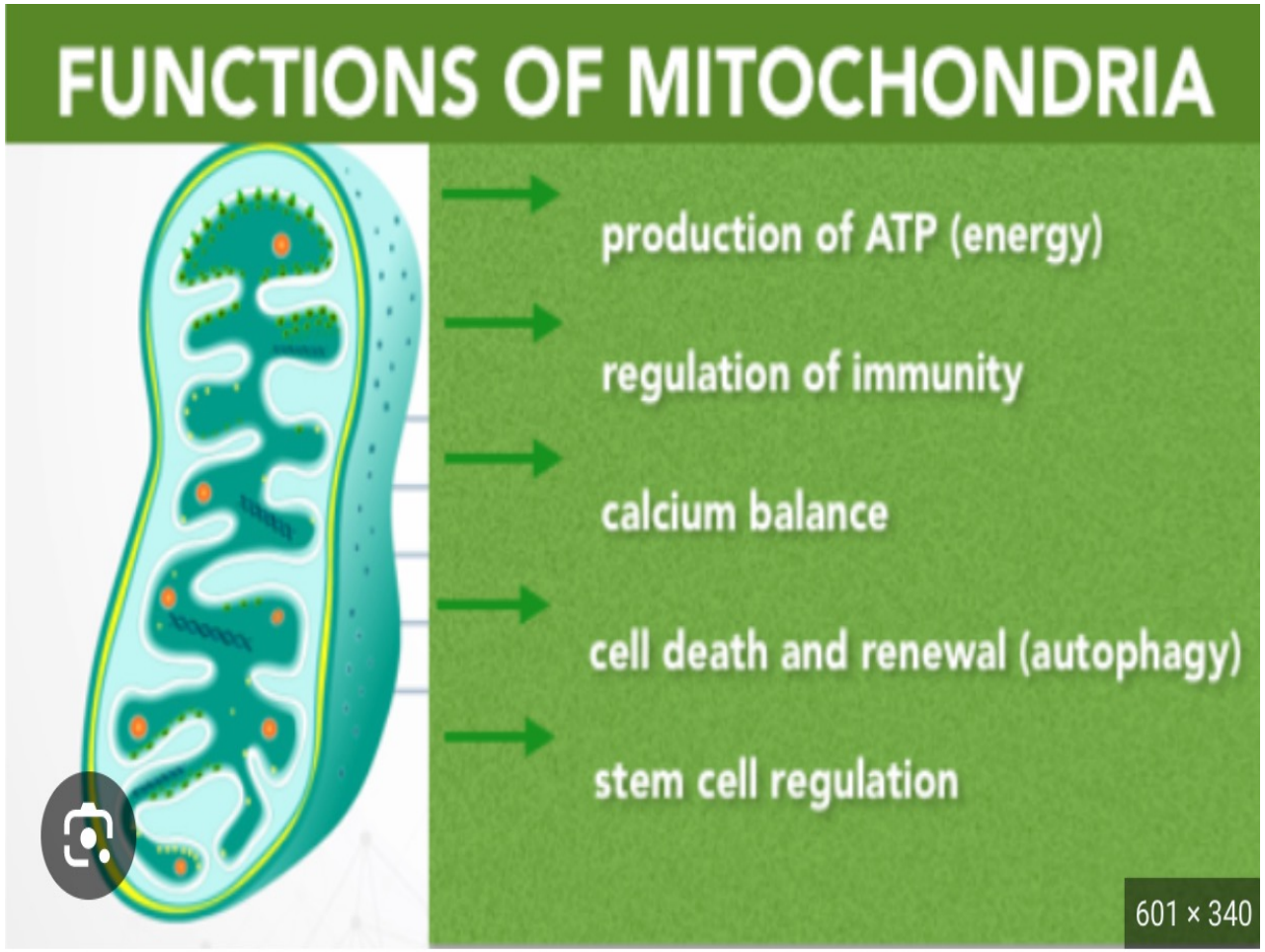
- Gather Information
- Clarify Goals
- Use **Powerful Self Management Method** to stimulate/sustain optimum behavioral adjustments
  - 1 Move Rhythmically
  - 2 Breath Deeply
  - 3 Repeat Aspirational GOALS in Rhythm with Breath and Movement
  - 4 Observe Results, Adjust and Repeat

Exercise Benefits Your Cells

- Stimulates growth of new ***blood vessels***
  - Enhancing blood supply to muscles, delivering more oxygen throughout the body
- Increases ***nitric oxide*** production by endothelial cells in blood vessels
  - Causing vasodilation, lowering blood pressure, enhancing blood flow and nutrients to cells
- Increases cellular ***mitochondria***
  - The energy production ”powerhouses” for thousands of cellular metabolic processes
- Supports ***telomeres***
  - Caps at end of chromosomes that are considered biomarkers for biological aging
- Activates ***sirtuins***
  - Enzymatic genes that control longevity by turning genes on/off and stimulating *autophagy*

Cellular Mitochondria Are Important

- **Modulate Inflammation** – a major cause of chronic disease and aging
- **Use Anti-Inflammatory Diet & Nutrition** to *Feed Cellular Mitochondria*
- **Minimize** sugar, alcohol & unhealthy saturated/trans-fats
- **Shift to Mediterranean diet**: fresh fruit, veggies, healthy fats [olive oil, Omega 3s] lean meat
- **Cellular mitochondria – key source of cell function and energy**



Stimulate *Sirtuins* to Increase Health Span

Sirtuins are enzymatic genes that protect the body against deterioration of aging

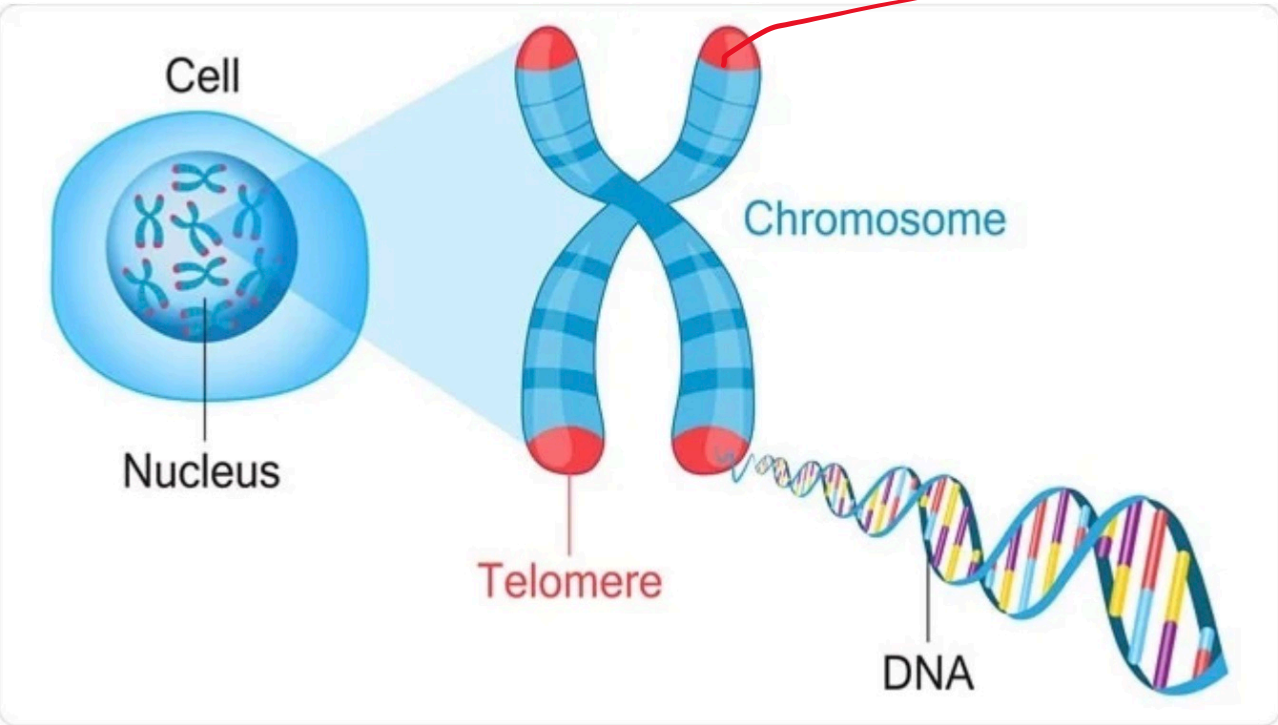
- DNA repair and regulation of gene expression [autophagy]
- Support cell survival and longevity
- Modulate inflammation
- Maintain health of endothelial cells that line the blood vessels and enable healthy blood flow
- Control blood sugar

- Mitochondrial biogenesis (create new mitochondria)
- Reverse mitochondrial dysfunction
- Maintain mitochondria health

What Nutraceuticals and Eating Time Window Activate Sirtuins?

- NAD+ precursors: **Niacin, Nicotinamide Riboside**
- Polyphenols: **Resveratrol, Quercetin, Fisetin, Blueberries**
- Fatty Acids: **Olive Oil, Omega 3s**
- Amino Acids: **Leucine**, Isoleucine, Valine
- Caloric Restriction
  [Recommend weighing dinner meal beforehand for better portion control]
- Intermittent Fasting: Restrict eating window to **8-9 hours**, while sun is out

Telomeres are Biomarkers for Aging



Telomeres are protective caps on the end of chromosomes. Cell, chromosome and DNA vector illustration. Credit: Fancy Tapis / Shutterstock

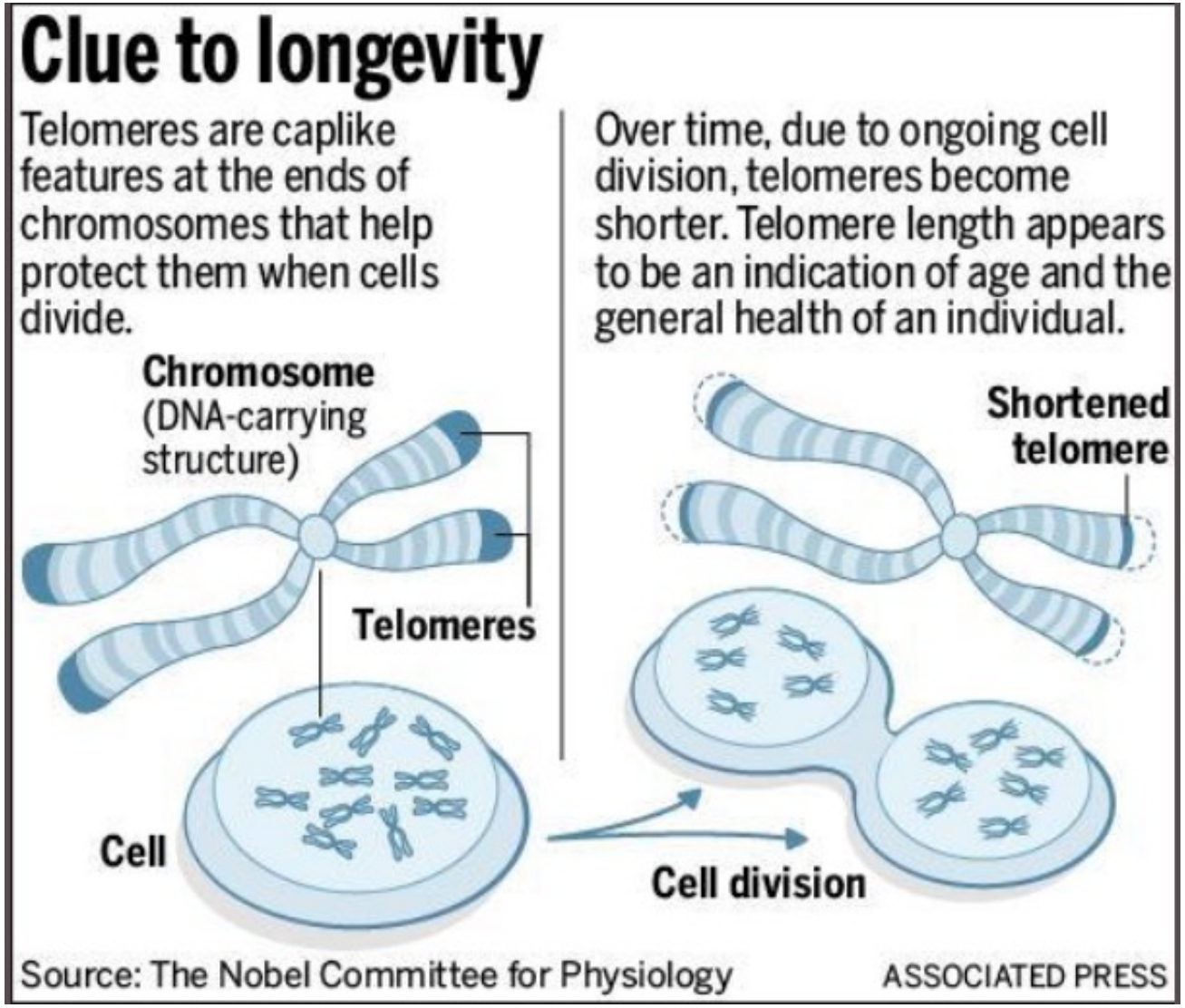
https://www.news-medical.net/news/20190902/DNA-methylation-closely-linked-to-telomere-length.aspx

- Telomeres are **caps** at the end of chromosomes that protect our DNA from damage [shortening and fraying].
- Telomeres shorten every time a cell divides until the cell finally dies.
- Rebuilding the shortening telomere can increase the number of cell divisions and improve human lifespans.

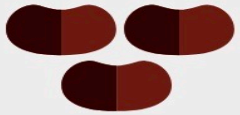
https://www.healthycell.com/blogs/articles/how-to-lengthen-telomeres-with-10-natural-ingredients

Telomere Health

- Manage Stress Level → Relaxation/Meditation
- **Exercise Regularly → Cardio + Intervals**
- **Healthy Diet** → Mediterranean/Whole food plant based
- Nutrition →
  - **Vit's C & E**
  - **B complex [B-6 folate]**
  - **Omega 3s**
  - **Fiber** [e.g. oats, lentils, chickpeas]
  - **AC-11** [DNA repair]
- *Switching to Mediterranean Diet reduced chance of dying on any day by 31%*



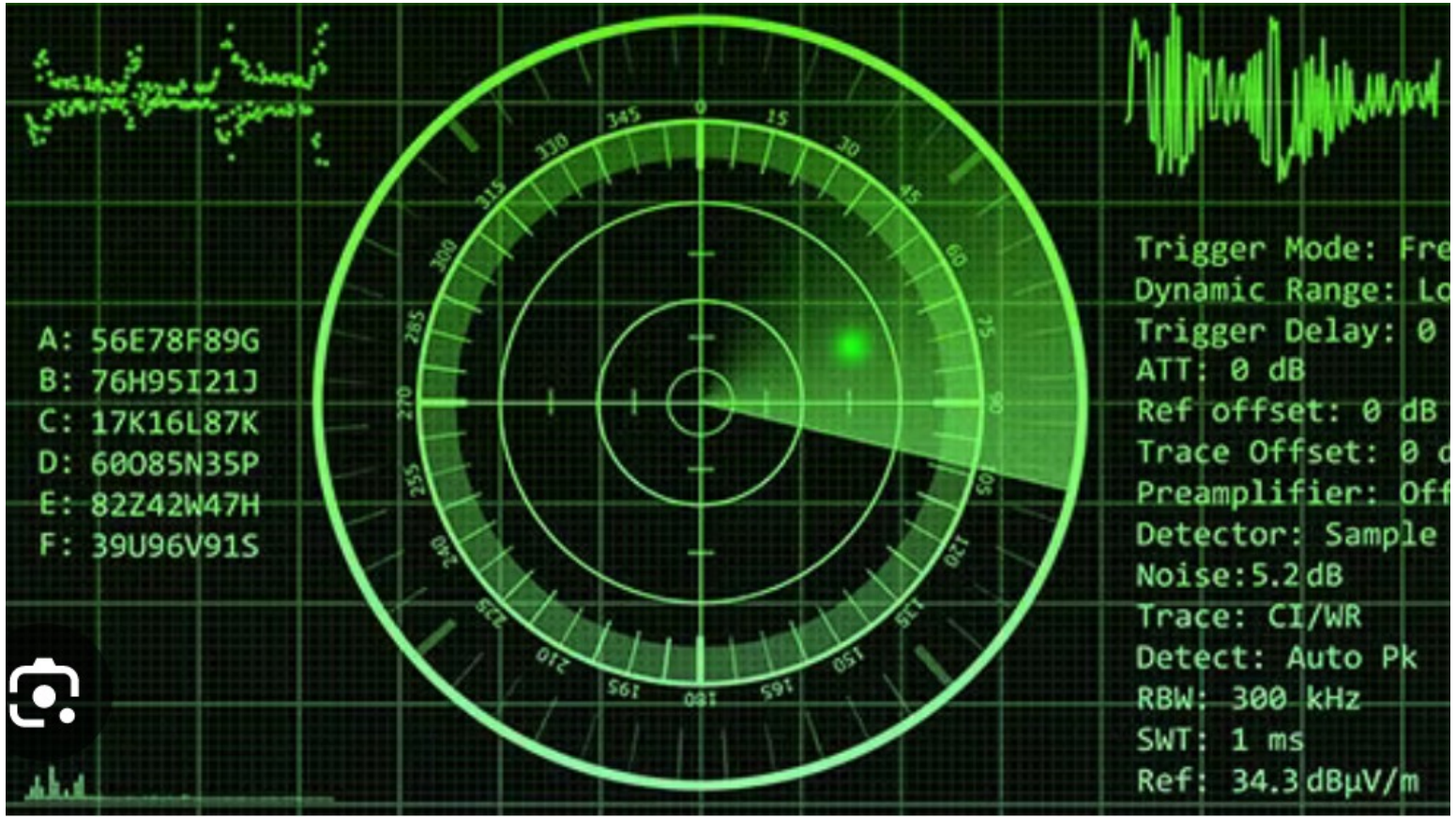
Dr. Greger's Recommended Daily Dozen www.NutritionFacts.org

Beans Servings: 3 per day black beans  cooked w/ clove powder e.g. ½ c. cooked beans, ¼ c. hummus	**Berries** Servings: 1 per day  blueberries e.g. ½ c. fresh or frozen, ¼ c. dried	**Other Fruits** Servings: 3 per day  pears, banana e.g. 1 medium fruit, ¼ c. dried fruit	**Cruciferous Vegetables** Servings: 1 per day  broccoli, cauliflower e.g. ½ c. chopped, 1 tbsp horseradish
Greens Servings: 2 per day Kale smoothie  Cooked spinach e.g. 1 c. raw, ½ c. cooked	**Other Vegetables** Servings: 2 per day  mushrooms, bell peppers e.g. ½ c. nonleafy vegetables	**Flaxseed** Servings: 1 per day Freshly ground brown seeds  2 Tbsp/day e.g. 1 tbsp ground	**Nuts and Seeds** Servings: 1 per day  walnuts, almonds e.g. ¼ c. nuts, 2 tbsp nut butter
Herbs and Spices Servings: 1 per day  e.g. ¼ tsp turmeric Turmeric + black pepper	**Whole Grains** Servings: 3 per day 40-50 g barley at dinner  e.g. ½ c. hot cereal, 1 slice of bread	**Beverages** Servings: 60 oz per day  Mud/Wtr.com e.g. Water, green tea, hibiscus tea	**Exercise** Servings: Once per day ESSENTIAL! ESSENTIAL!  ESSENTIAL! ESSENTIAL! e.g. 90 min. moderate or 40 min. vigorous

Practical Tips for Daily Dozen Foods

- **Breakfast**:
  - Cook Black Beans overnight in crock pot with clove powder to reduce gassiness. Store in refrigerator. Add to morning oatmeal
  - Grind flax seeds daily for morning oatmeal and mid-day smoothie
- **Mid-Day Smoothie**:
  - Blend kale, banana & KACHAVA protein/nutrient powder in smoothie
- **Dinner**:
  - Substitute legumes [chickpeas, lentils, tofu] for red meat
  - Add olive oil, turmeric powder, black pepper + favorite spices for dinner seasoning of legumes and veggies
- ***Fish-vegetarian diet*** had the lowest mortality in 7th Day Adventist study. Red meat diet had the highest mortality. [.81 vs 1.0 hazard ratio]. Local wild caught fish is best.

Three KEYS for Putting Longevity & Healthspan Onto The Center of Your Personal Radar Screen Using A Powerful Method for Self Management



First 2 Keys: Movement + Deep Breathing

Deep Breathing with Movement

Increases Available Oxygen

Enabling More Vigorous Movement

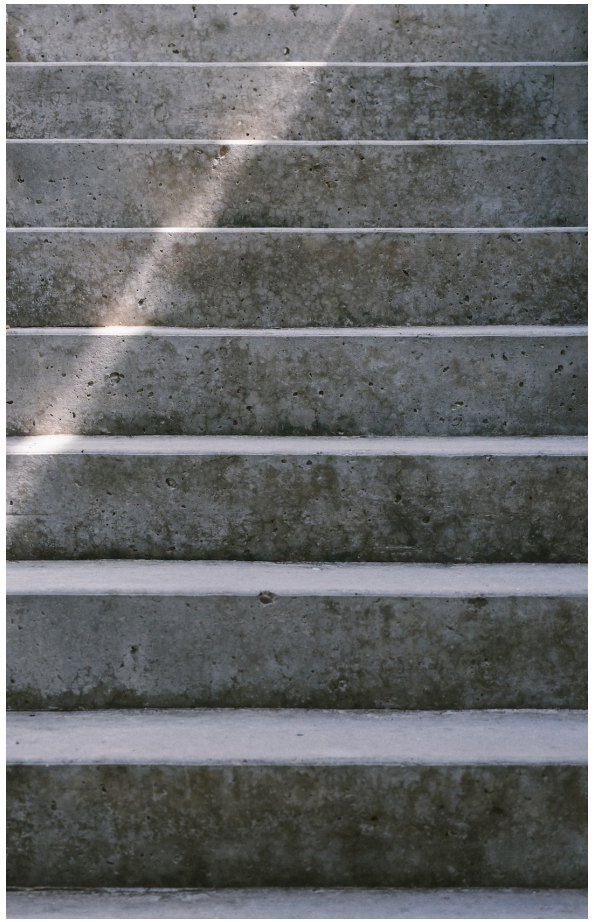
Repetition Increases Cellular Mitochondria

Enabling Even More Vigorous Movement

Optimizing Telomeres

Enhancing Longevity & Healthspan

Conditioning Enables Progress at Your Own Pace



walk/run-sprint

↑

walk/run

↑

walk/jog (longer stride)

↑

slow walk/faster jog (short stride)

↑

slow walk/slow jog (short stride)

↑

brisk walk

↑

slow walk

Practical Tips

- Health/EKG check first & periodically
- Listen to messages from your body
- Focus on deep breathing to maximize oxygen uptake by lungs
- Adjust # of steps/breathing cycle according to body's oxygen needs
- Allow time for recovery within and between sessions
- Notice progressive conditioning
- Combine intervals with strengthening [leg press, elliptical]
- Optimum may be 3 interval and 2 strengthening sessions/week

Increase pace or stride as conditioning progresses. Increase reps, weight, or # of sets for strengthening

L-Carnitine+Creatine Monohydrate, CoQ10 and B complex vit's can increase energy available for exercise

Combining Movement with Clear Intention is a Powerful Practice

Research discoveries by William Greenough Ph.D.
Award winning research psychologist (UIUC)

- 1960's: discovered teaching old rats new skills caused their brains to weigh more.
- 1990's: with advanced technology, established that ***aerobic exercise*** increases vascularization [blood flow] in the brain, and ***learning*** increases brain cell growth and synaptic complexity

- **IB Conclusion** based on direct experience + personal communication w/ Dr. Greenough [2000]: **Increased vascularization and neuronal growth enable behavioral responsiveness to new information AND enhanced self management as the body/mind is imbued with the personally formulated *INTENTION*.**

3rd Key Is A Powerful Approach To ***Self Management***

Repeating goal in rhythm with breath, in rhythm with movement

- **Stimulates growth and complexity of brain cells**
- **Increases raw usable intelligence**
- **Enables increased focus on what's important.**
- **Increases commitment for taking action.**
- **Increases awareness of internal/external clues about what to do next.**
- **Increases strategic learning & enhances bio-behavioral progress**

Group Exercise 1:
Abdominal Breathing for Increased Oxygen Uptake

- Swimmers, Singers, Horn Musicians, Yogis know how to do “Belly Breathing”
- Learning/Practice Exercise: **2 count breath**
  - Vigorously pull your stomach in while exhaling
  - Thrust your stomach out while inhaling
  - Repeat until you get it
- Learning/Practice Exercise: **4 count breath**
  - **1** Inhale to the belly, then **2** inhale further into the chest [expand rib cage]
  - **hold** the breath for a moment to enable increased oxygen uptake by the lungs
  - **3** exhale from the chest by collapsing the rib cage, then **4** suck stomach in to complete the exhale
  - Repeat until you get it

Group Exercise 2:

Regulate Breath

While Walking In Place

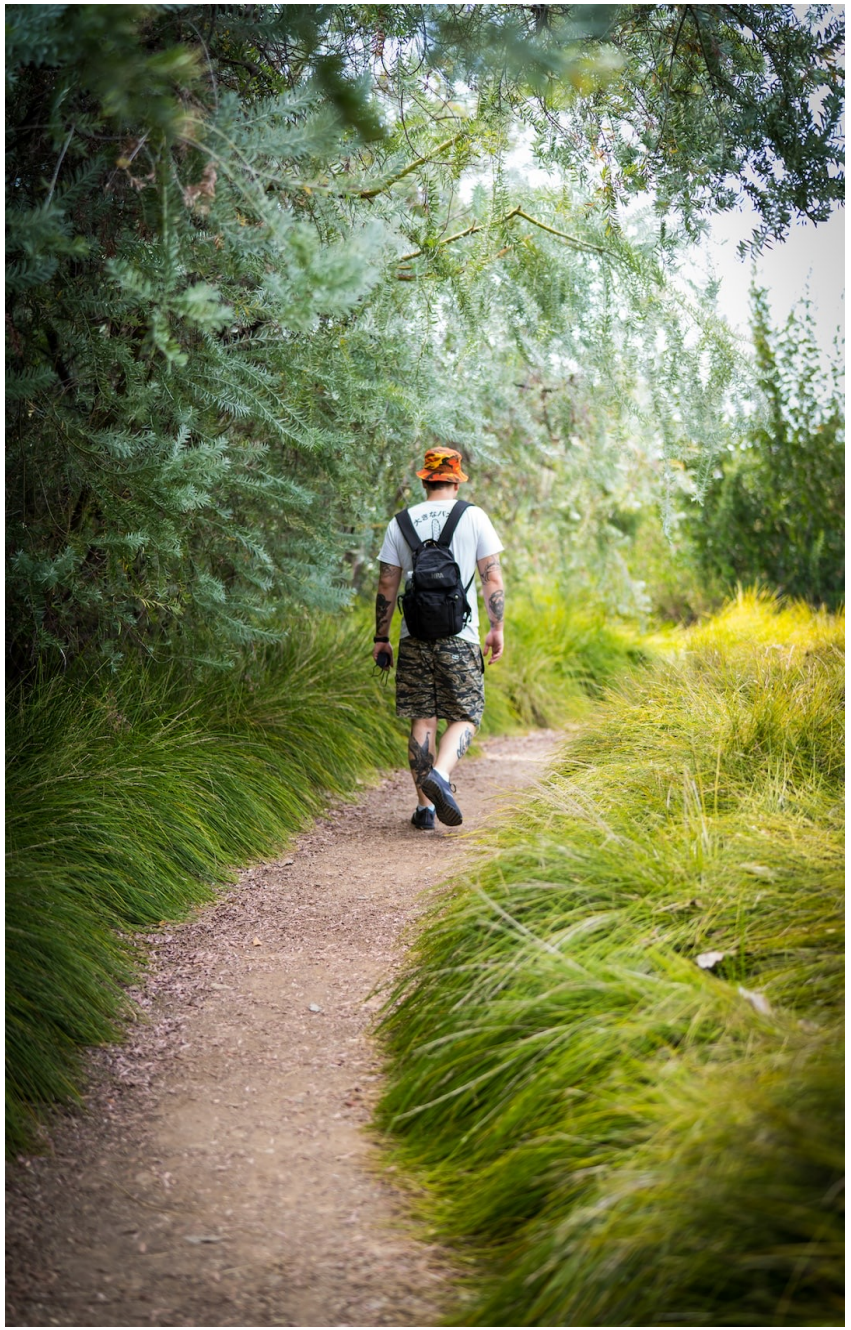
- Begin by walking in place,

  4 steps on the in-breath,

  4 steps on the out-breath

- Repeat until you get it

- Develops *breath awareness*



Group Exercise 3:
Formulate a Longevity/Healthspan Goal

Examples:

- I am exercising daily
- I am breathing deeply during exercise (for increased energy)

- I am adjusting my diet to improve my longevity and healthspan
- I am eating more legumes and veggies

- I am monitoring my weight daily
- I am adjust*ing* my diet and exercise to accomplish my weight loss goal

- I am adjusting my diet and exercise to improve my longevity and healthspan

- **Customize one for yourself** *[for key issues, goals, purpose, health, etc]*

Group Exercise 4:

Repeat your goal

in rhythm with your breath & movement

while walking in place

Review:
How to Improve Longevity & Healthspan

- **Gather information**
- **Develop your strategy to include diet, nutraceuticals and exercise**
- **Clarify key goals**
- **Repeat your goal(s), in rhythm with movement, in rhythm with breath**
- **Observe your Results, Adjust and Repeat**
- **May the Force Be With You** 😉

See Technical Appendix: Supplemental Information

Request copy and send Qs, comments, suggestions to Irv Beiman bu3690@gmail.com

for Self Management Method detail, go to www.ReadyForBetterMethod.com

Technical Appendix
Supplemental Info

A. ***Information Theory of Aging***

   [from *Lifespan, 2019,* by David Sinclair PhD + presentations]

B. ***Why Exercise?***

   [from Bente Klarlund Pederson MD PhD, AARD 2023 Conference]

C. ***How Not To Diet, 2023***

   [by Michael Greger MD, book launch presentations]

D. ***IB Reflections, 2023***

   [links to related essays by IB]

A. Information Theory of Aging [1]

Aging is the degradation and loss of cellular information

- Each Cell nucleus contains 46 chromosomes -- 23 from mother and 23 from father
- Every chromosome contains two types of info within its double helix strand of DNA: *digital info* and *analog info*
- ***Digital info*** is contained within the different combinations of A, T, C and G in the genes inside the DNA in every chromosome.
  - There is a ***backup copy*** available for each cell's digital genetic info
- ***Analog info*** surrounds this digital DNA info and controls/regulates the chromosome's genes by turning them on and off, as well as accessing the *backup copy* of genetic info
- This analog info is called the ***epigenome.*** It operates at a level above the genes, is affected by multiple factors, including *Sirtuins, mTOR and AMPK*
  - The *epigenome* uses the backup copy of digital genetic info for DNA repair and restoration of healthy genes

A. Information Theory of Aging [2]

Either Cellular reproduction or DNA repair

- Two processes take place within almost every cell, but not at same time:
  1 *cellular reproduction* and **2** *DNA repair*
- Genetic digital A/T/C/G info degrades over time as result of DNA breakages and "epigenetic noise", interfering with **1** *cellular reproduction*.
- As old cells become *senescent* and cannot reproduce, they cause inflammation that spreads to other cells, can become chronic, with potential for creating a wide variety of diseases
- Traditional medicine relies on early diagnosis to trigger treatment of *disease symptoms* after they have developed [using drugs, surgery, radiation]
- Authentic preventive health care based on anti-aging cellular research uses **2** *DNA repair* to delay the natural aging process [using exercise, diet, nutraceuticals and pharmaceuticals]
- Elimination of senescent cells and recycling of cellular material [***autophagy****]* is fundamental for DNA repair.

A. Information Theory of Aging [3]

Three Levels of Aging

- 3 Levels of Aging
  - ***Base Level***: DNA damage, telomere shortening, mitochondrial dysfunction
  - ***Regulator Level***: Sirtuins, mTOR, AMPK
  - ***Environment Level*** – adversity can kick lower levels into action
- The key to delaying degradation of genetic info is using epigenomic factors to improve the regulation of cellular *senescence* and *autophagy* for restoration of healthy genes

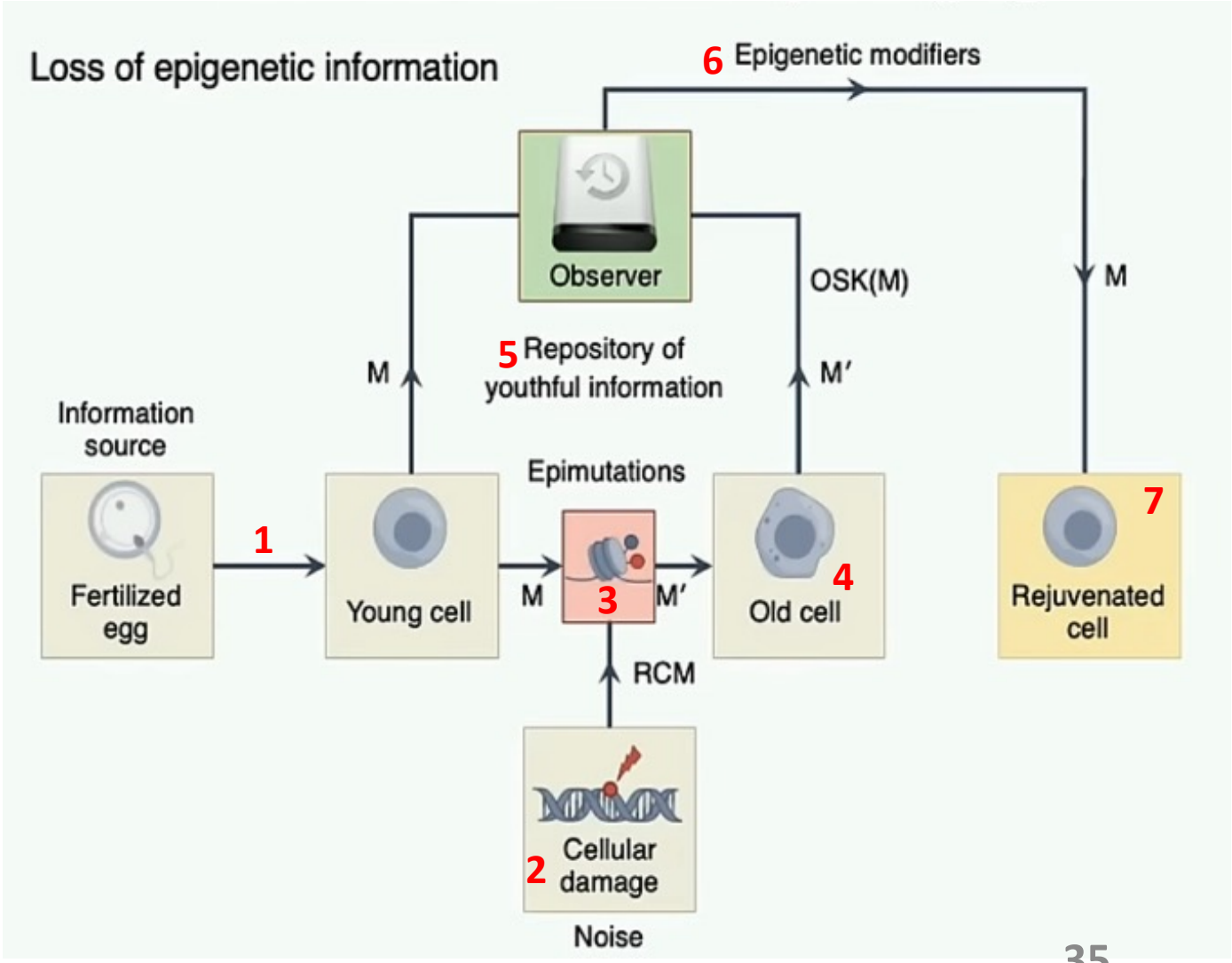
- 9 hallmarks of aging are worthy of focus for slowing [and halting/reversing] the aging process *See slide #3* ***New Paradigm***
- These hallmarks of aging are affected by multiple variables, including:
  - Stress
  - Pollution
  - Exercise [slides #13, 21-31]
  - Food [slides #19-20]
  - Nutraceuticals [slides #14-18]
  - Cellular biology research on longevity and healthspan continues…

A. Information Theory of Aging [4]

Backup copy of youthful cellular information can create a rejuvenated cell

1. Fertilization creates young cell
2. Noise/cellular damage…
3. …creates loss of genetic info in the epigenome that regulates genes.
4. This leads to cellular senescence & inflammation…
5. …unless a repository of youthful cellular info is accessed under **enabling conditions**.
6. Then, the epigenome can use a backup copy of genetic info…
7. …to create a rejuvenated cell

Controllable **enabling conditions** to support DNA repair include:
diet, nutraceuticals & exercise

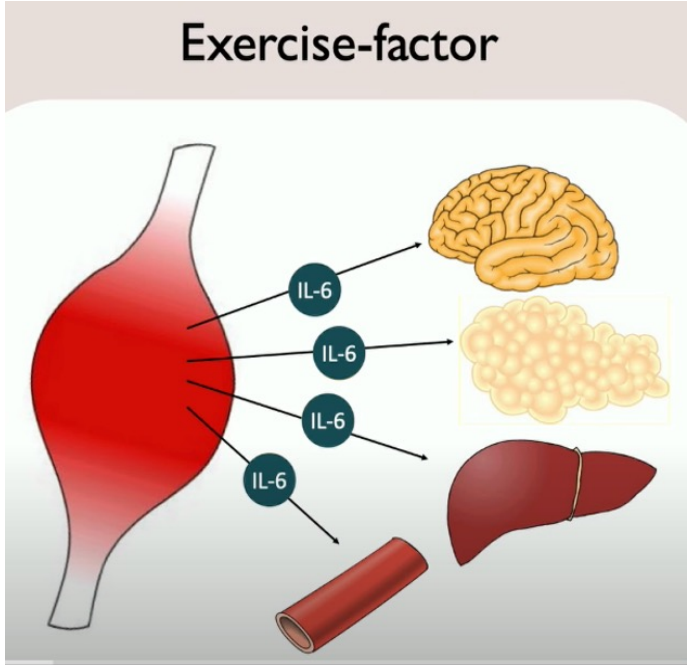


B. Why Exercise? [1]

Inflammation may contribute more than 50% to all deaths.

Q: What are the benefits of EXERCISE ?

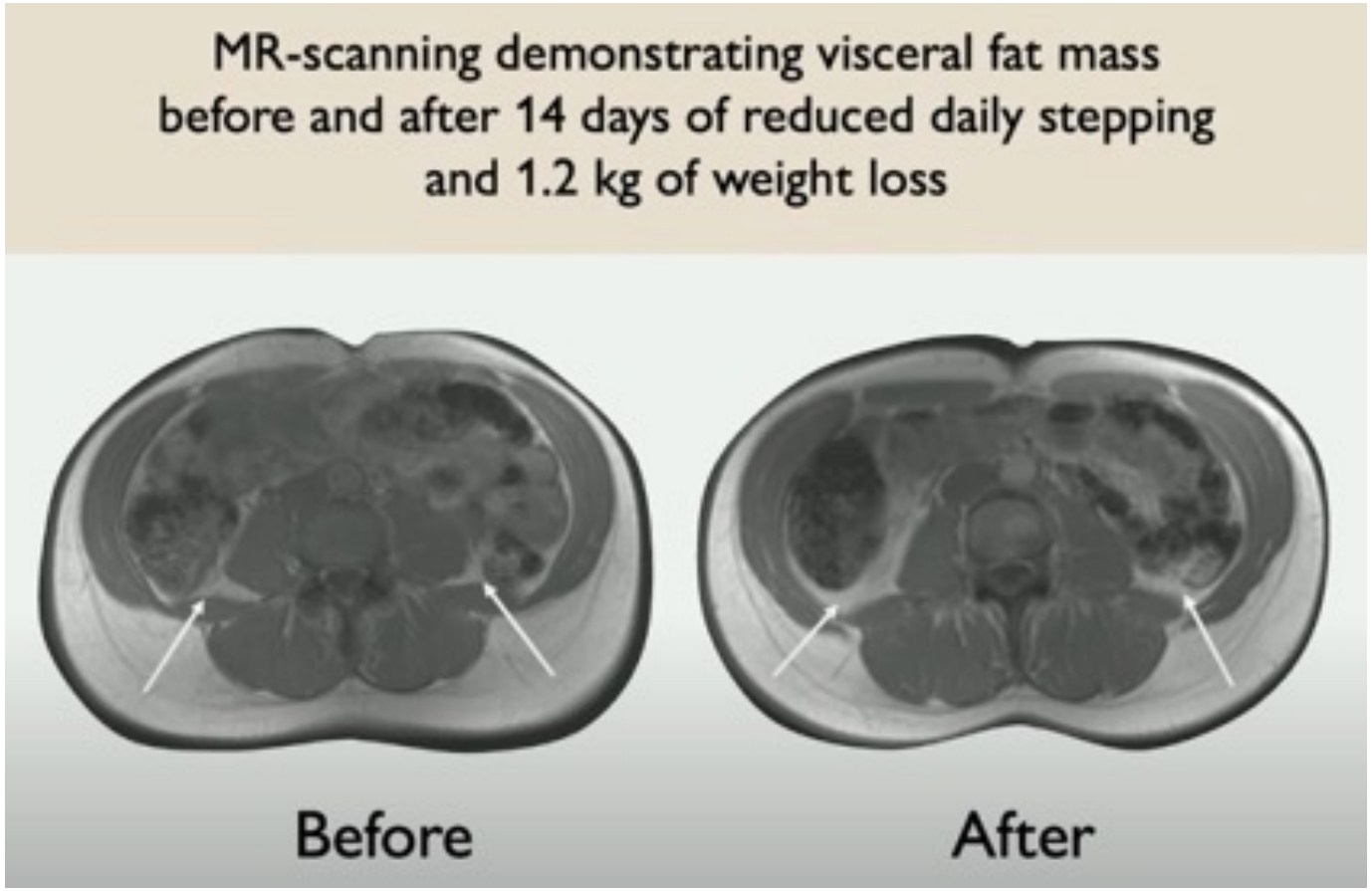
- It is an ***anti-inflammatory medicine*** for a variety of disease conditions
- Causes muscles to release IL-6 into blood stream which stimulates…
  - *Lipolysis* to break down stored fats into fatty acids which are used in
  - *Fat Oxidation* to convert fatty acids into energy by mitochondrial ATP
- This reduces insulin resistance, enhances glucose uptake by cells and has a wide variety of other beneficial endocrine-like effects.
- In contrast, high levels of <u>resting</u> IL-6 are associated with obesity and physical inactivity.
- <u>Exercise</u> can induce an <u>intense</u> exponential short term <u>increase</u> in IL-6 by as much 100x, which has an ***anti-inflammatory*** effect in the <u>short</u> term.
- <u>Long term exercise training</u> reduces chronic systemic inflammation while at rest, thereby enhancing longevity and healthspan.



B, Why Exercise? [2]

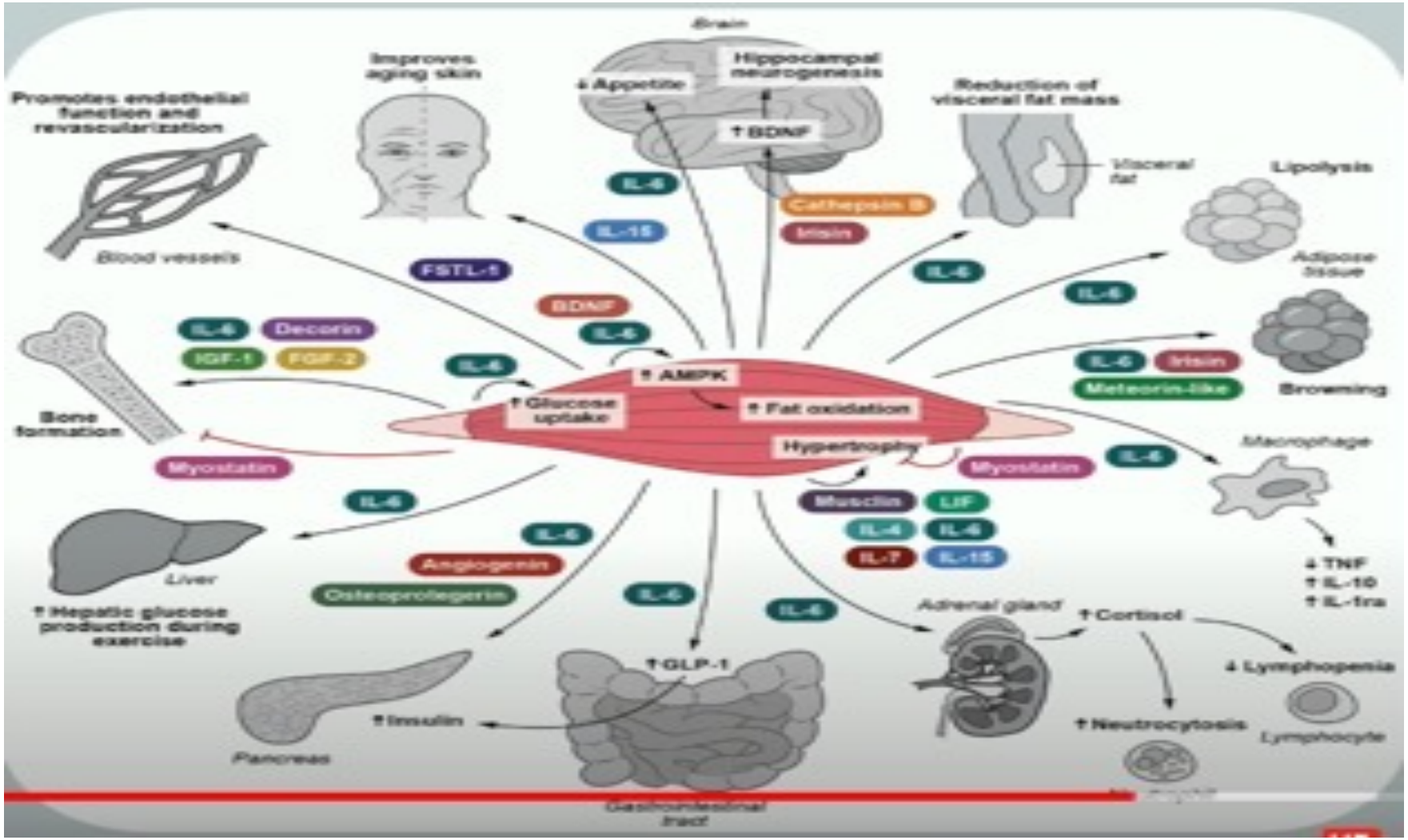
What happens when healthy active males reduce daily steps from 10,000 to 1,500 for 14 days?

- Glucose uptake and healthy insulin signaling is impaired [insulin resistance]
- Hyperlipidemia, plus measurable reduction in muscle mass and fitness as well as an increase of 7% in visceral fat in just 2 weeks!
- Visceral fat is the source of chronic inflammation, with harmful effects at cellular level throughout the body
- IB: The *takeaway* is that shifting from sedentary lifestyle to *regular* exercise has measurable benefits for longevity and healthspan



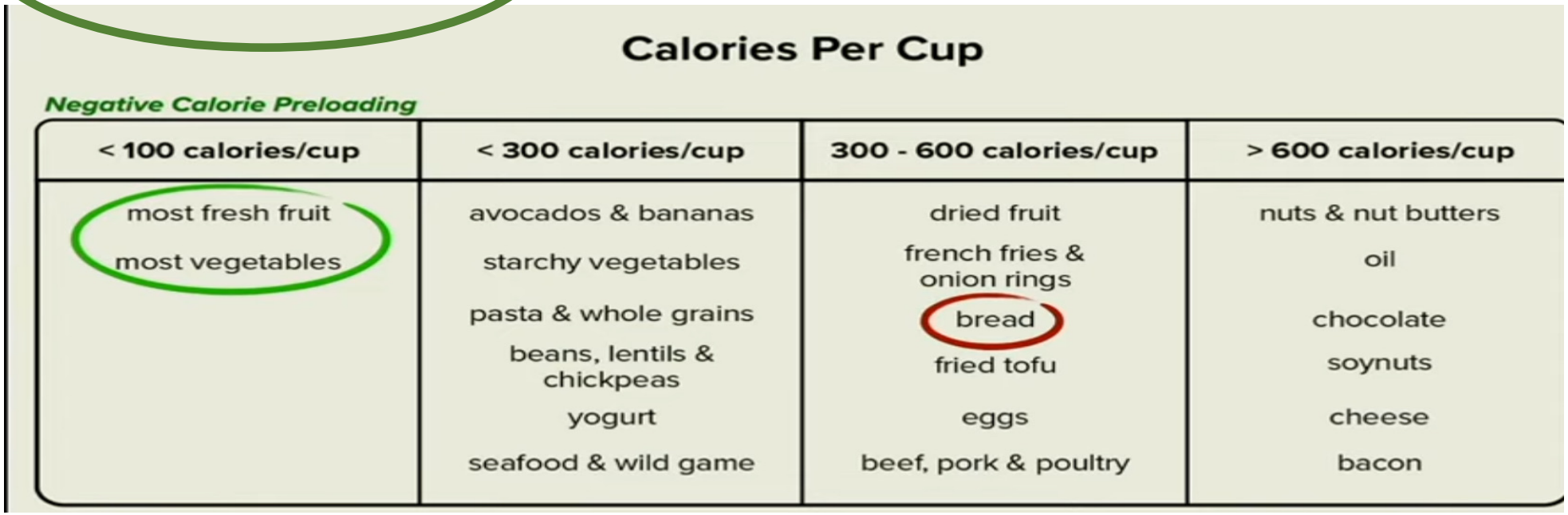
B. Why Exercise? [3]

Short and long term exercise has broad systemic benefits mediated by IL-6 and other myokines. It occurs in all major organ systems



This helps to explain why exercise is included as a primary factor in all comprehensive strategies for longevity and healthspan.

C. How Not To Diet [1]:
Preload a meal with low calorie fruit or veggies

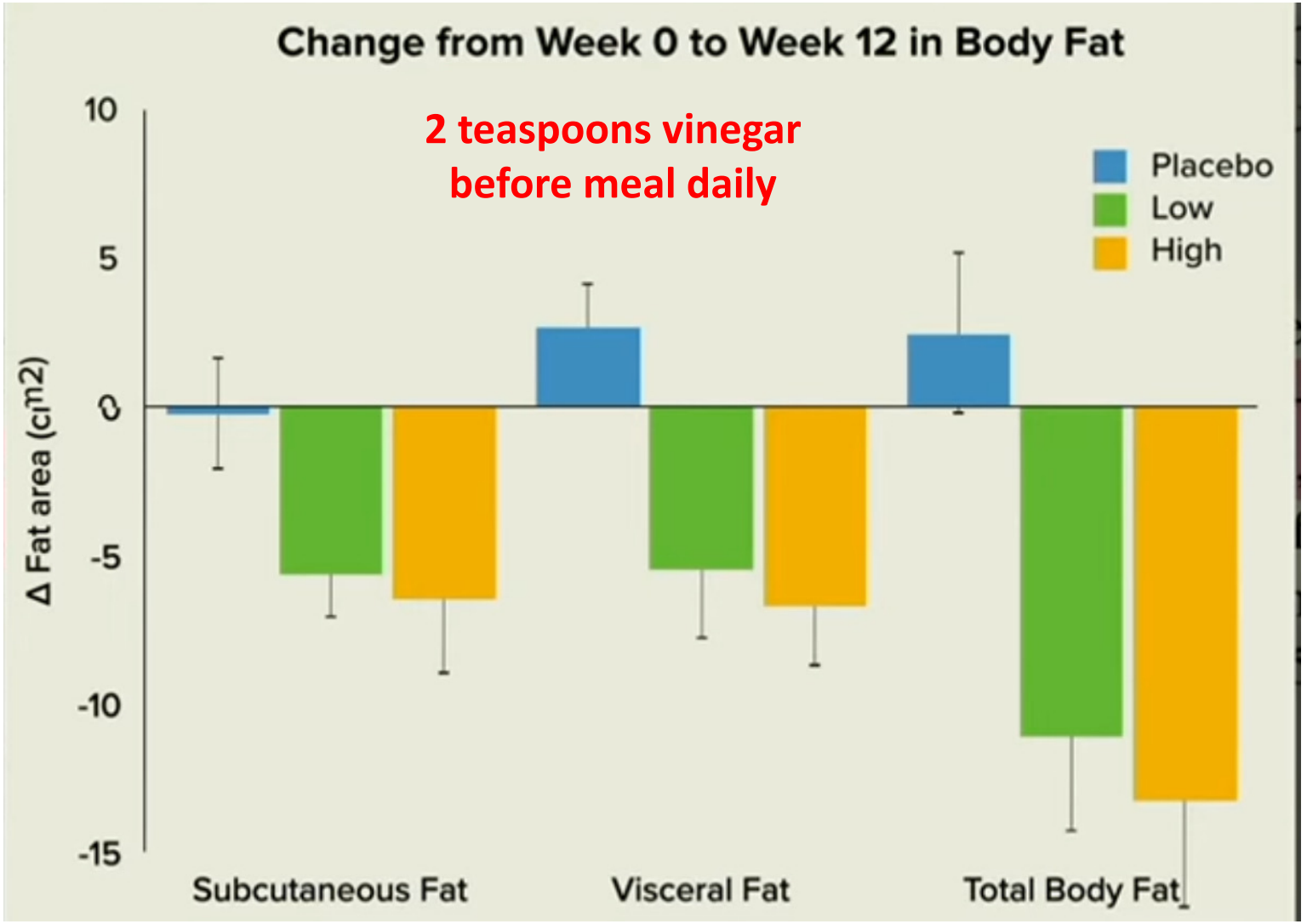


- **Preloading** a meal **with <100 calorie salad/veggies** reduces total calories of meal *[avoid fatty salad dressing, cheese and bread]*
- Using other foods before a meal can actually adds total calories to a meal and can increase body weight

- Fresh fruit and veggies have **lower calorie density** than foods in the other columns above
- Apple before meal has **negative 200 calorie effect**
- Research reported in book: ***How Not To Diet [2023]*** **by Dr. Michael Greger**

C. How Not To Diet [2]: **Increase AMPK**

- AMPK is a fat burning enzyme
- **Vinegar increases AMPK**
- 2 teaspoons Balsamic or Apple Cider Vinegar added to tea or salad before a meal have a beneficial effect on body fat.
- **NEVER TAKE IT STRAIGHT!**
  It can burn the esophagus
- ***EXERCISE*** also increases AMPK



C. How Not To Diet [3]

Use **SPICES** Daily

- Garlic Powder ¼-1 teaspoon
- Black Cumin seeds ¼ teaspoon [then ground]
- Regular Cumin
  appetite suppressant
  ½ teaspoon for lunch and dinner
- Cayenne pepper
- Ginger

Eat **THYLAKOIDS** Daily

- Green leafy veggies [2x/day] activate the *ileal brake*, suppress appetite, block fat digestion and decrease urge for sweets

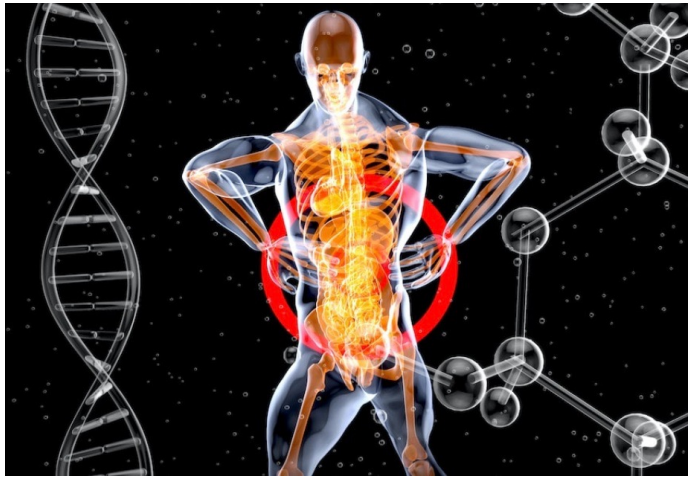
Eat Real **FIBER** Daily

- Fiber prebiotic short chain fatty acids [SCFAs] feed gut microbiome to suppress appetite, increase fat burn, boost metabolism
- Beans, legumes, whole grains,
  avoid psyllium seeds and metamucil

Meat protein may lead to fullness, but does not suppress appetite later

D. IB Reflections

For a deeper dive, copy/paste the links below into an internet browser



The Quest for Wellness, Well-Being and Longevity

mysteries, discoveries and evolving personal best practices

https://ibreflections.substack.com/p/the-quest-for-wellness-well-being

Taking Responsibility for Health and Longevity

scientific research into conventional versus alternative medicine

https://ibreflections.substack.com/p/taking-responsibility-for-health