

Improving your Healthspan – Lifestyle Factors We Can Control

A Doctor of Physical Therapy's Perspective

Darcy Higgins, PT, DPT

Doctor of Physical Therapy
Human Movement Specialist

MOVE for HEALTH
PHYSICAL THERAPY

moveforhealth.com

Paradigm Shift: Healthy Lifestyle is Key (not treating disease once it occurs...)

US spends the most money on healthcare

Yet has among the lowest life expectancies of developed nations

\$9,400 per capita, 79 years

Healthy lifestyle: 5 keys to a longer life - Harvard Health
(March 2020)

SUPER

NEW YORK TIMES BESTSELLER

An Evidence-Based
Approach to Longevity

ERIC TOPOL, MD

AGERS

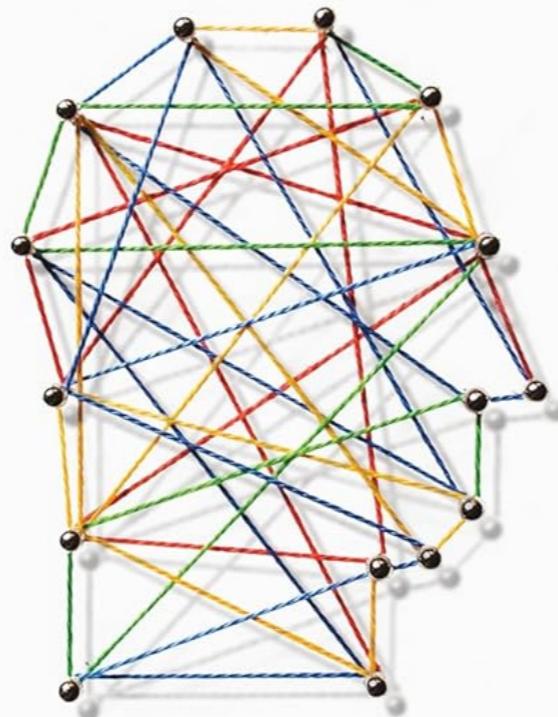
May, 2025

NEW YORK TIMES BESTSELLER

THE AGELESS BRAIN

How to Sharpen and Protect
Your Mind for a Lifetime

March, 2025



DALE E. BREDESEN, MD

Author of the New York Times bestseller *The End of Alzheimer's*

OUTLIVE

THE SCIENCE & ART OF LONGEVITY

March, 2023

DR PETER ATTIA

WITH BILL GIFFORD

RETHINKING MEDICINE TO LIVE BETTER LONGER



NEW YORK TIMES BESTSELLER

"A MONUMENTAL WORK."

—DAVID PERLMUTTER, MD

author of the #1 New York Times bestsellers *Grain Brain* and *Brain Maker*

The End of
Alzheimer's



July, 2020

The First Program to
Prevent and Reverse
Cognitive Decline



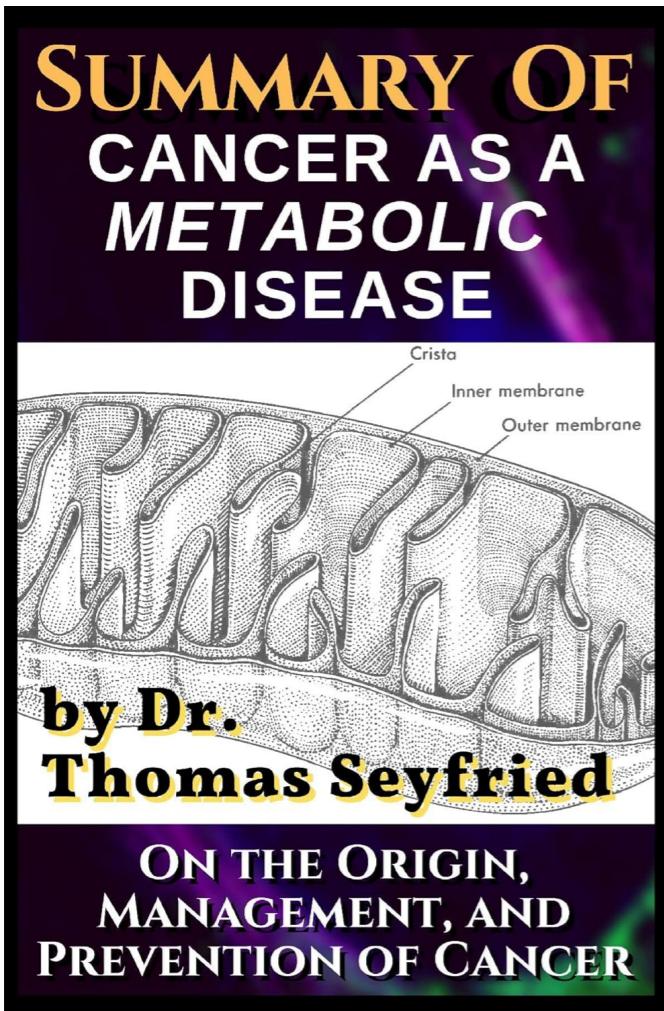
DALE E. BREDESEN, MD

Professor and Founding President, Buck Institute; Professor, UCLA

CANCER *as a* METABOLIC DISEASE

*On the Origin, Management,
and Prevention of Cancer*

THOMAS N. SEYFRIED



June, 2012
&
December, 2025

November, 2022



CANCER SECRETS

SECOND EDITION

*An Integrative Oncologist Reveals
How to Fight Cancer Using the Best of
Modern Medicine and Natural Therapies*

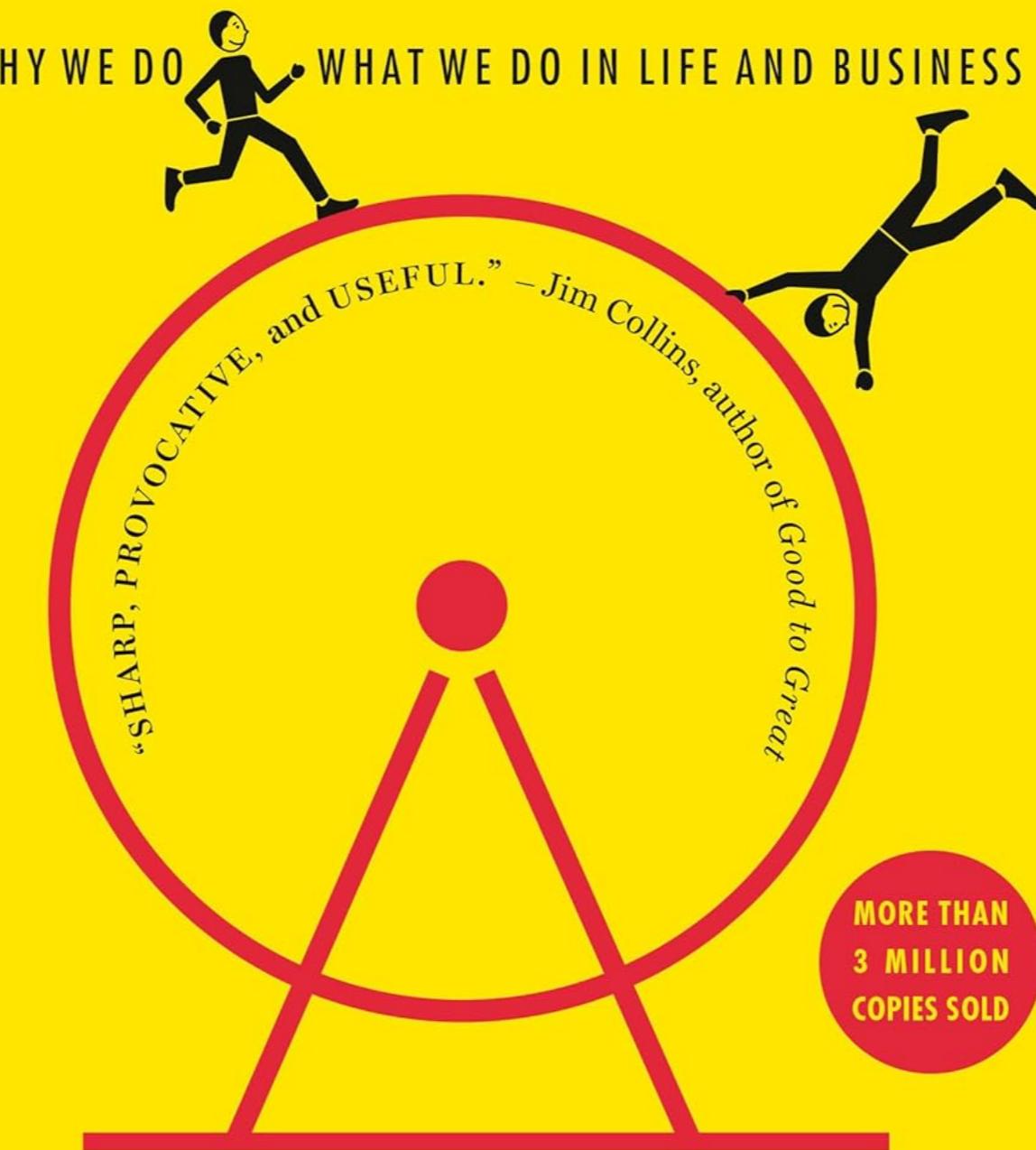
JONATHAN STEGALL, MD

July, 2023

10TH ANNIVERSARY EDITION

THE POWER OF
HABIT

WHY WE DO WHAT WE DO IN LIFE AND BUSINESS



Charles Duhigg

WITH A NEW AFTERWORD BY THE AUTHOR

Jan, 2014

NEW YORK TIMES BESTSELLER

Tiny Changes, Remarkable Results



An Easy & Proven Way
to Build Good Habits
& Break Bad Ones



James Clear

October, 2018

Keystone Lifespan Habits

Activity/ Exercise (>150 min/ week = Cardio + Strength)

Nutrition & Hydration (Protein + Fat + Plant-Rich Carbs = Whole Foods)

Body Composition (BMI 18.5-24.9; M 14-24% & W 21-31% Fat; 7% less for fitness)

Sleep (~7.5 hours) & **Stress Management** (Deep Breathing, Mindfulness, Optimism)

Minimize Toxin Exposures

(Avoid Smoking, Alcohol, Opioids, Added Sugars, Chemicals, Plastics & Heavy Metals in our food/ water/ air/ environment)

Social Connectivity (Family, Friends)

Sense of Purpose (Meaning, Motivation)

Daily Sun Exposure (>15 min: Visible/CR + UV/Vit D + IR/Mitochondria)

Oral Hygiene (Flossing)

Routine Medical Screening (Cancer, Biomarkers, Risk for Falls, Strength, Mobility)

= Optimal Physical, Metabolic & Mental Health
+ 12-14 years to your Lifespan!

Healthspan & Ancestry

Members of long-lived families have a delayed onset of medication use and multi-morbidity, and in mid-life have healthier metabolic profiles.

Lifespan and **Healthspan** are quantitatively linked to ancestral longevity, making family data invaluable to identify protective mechanisms of multi-morbidity.

5 Healthy Habits to Live 10 Years Longer & Better (120,000 participants, 34 year study)

1. Exercising Regularly (moderate, 30 min/day)

- 1-hour/day = 5-6 years longer healthspan

2. Healthy Eating

- (+) Veggies, Fruit, Whole Grains, Nuts, Beans, Seafood
- (-) Sugar, Fruit Juice, Red/processed meat

3. Keeping a Healthy Weight (BMI – not over, not under)

4. Not Drinking too much Alcohol (<1/2-1 or 2 drinks/day)

5. Not Smoking (the most important risk factor)

Healthy lifestyle: 5 keys to a longer life - Harvard Health

March, 2020

Activity & Exercise

- **Healthspan is the period of our life without major debilitating diseases.**
- **Unhealthy lifestyle choices and chronic diseases taper the healthspan.**
- **Activity & Exercise - one of humanity's most ancient and effective lifestyle interventions – can both treat and prevent the occurrence of many chronic diseases.**
- **Exercise enhances the functionality of our cellular & organ systems and prevents diseases.**

Cells, Vol 11, Iss 5, p 872 (2022)

<https://doaj.org/article/9e8e63fc7f594a68a6484dbae6c648b5>

STRENGTH Increases Healthspan:

Reduces the risk of premature death

Improves cardiovascular health

Controls blood sugar

Strengthens bones

Preserves independence

Combats age-related muscle loss (sarcopenia)

Predicts a longer life

[https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2797402#:~:text=2022%3B5%3B\(10\)%3Ae2236778.-,doi%3A10.1001/jamanetworkopen.2022.36778,-related%20icon](https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2797402#:~:text=2022%3B5%3B(10)%3Ae2236778.-,doi%3A10.1001/jamanetworkopen.2022.36778,-related%20icon) (115,000 participants, ages 65-74, 2022)

Grip Strength (Physical Activity + Nutrition + Health)

Overall Strength & Function: Total muscle mass & body strength; critical for daily activities and independence.

Metabolic Health: Muscle as a glucose reservoir; weak grip can signal issues like insulin resistance, diabetes, and poor bone density.

Immune Function: Stronger grips are linked to slower immune decline (immunosenescence) & better ability to fight infections.

Predicts Mortality: Weaker grip is strongly linked to higher risk of death from all causes (even more than blood pressure)

Frailty & Falls: Weak grip increases fall risk & the severity of injuries; leading to longer recovery times.

[https://www.thelancet.com/action/showCitFormats?
doi=10.1016%2FS0140-6736%2814%2962000-6&pii=S0140-6736%2814%2962000-6#:~:text=Prognostic%20value%20of,9990%2C%20266%20%2D%20273](https://www.thelancet.com/action/showCitFormats?doi=10.1016%2FS0140-6736%2814%2962000-6&pii=S0140-6736%2814%2962000-6#:~:text=Prognostic%20value%20of,9990%2C%20266%20%2D%20273)

(140,000 adults, multiple Countries, 2015)

How much activity & exercise?*

Aerobic, Resistance, Endurance & Mobility

Standing, Walking, Running, Swimming, Biking, Dancing, Weight-Lifting, Recreational & Group Activities

>1 (one!) min Vigorous Activity (Level 2, Short Bursts)
= 4-10 min Mild/Moderate Activity

>1 minute intervals for 150(+) min/week
Vigorous Intermittent Lifestyle Physical Activity - VILPA

Vigorous Activity Has a 4-10X More Potent Effect
On Mortality, Cardiovascular, Type 2 DM, Cancer

A Cumulative Effect...It All Counts

*Consult with your MD or Physical Therapist before you participate in physical activity

MOVE for HEALTH
PHYSICAL THERAPY

A Healthy Mind & Body

Activity, Exercise, Habits & Support

Have an exercise/ activity buddy for accountability

Join a fitness or wellness class

Participate with friends, family or coworkers

Do a 10-20 minute walk with a friend or coworker during a break; have a “walking meeting”

Take family walks after dinner

Incorporate >1 min intervals of increased activity

HYDRATION!

(Typically ~20% food, ~80% drinks; Humans ~70% Water!)

Elevated Serum Sodium >142 mmol/l

Increased Risk (11,000 adults)* for

**Chronic Diseases (Diabetes, Cardiovascular,
Cancer, Neurodegeneration/ Dementia)**

Premature Mortality/ Accelerated Aging

*Pro-inflammatory and pro-coagulation changes within vascular endothelial cells; DNA Damage; Protein Oxidation; Increased energy expenditure due to metabolic remodeling towards metabolic water production; Cellular Senescence

Total Water Requirements: W = 91 & M = 125 oz/day

Fluid Intake: W = ~73 & M = ~100 oz/day

pale yellow urine

Nutrition

Reduce the risk for Diabetes, Cardiovascular, Cancer & Dementia:

- **Calorie restriction (~25% per day)**
- **Intermittent fasting (Circadian Autophagy)**
- **Protein restriction (turkey, fish, pork, tofu, milk, cheese, nuts, beans, quinoa)**

**Lower Cholesterol & BP
Improved Insulin Sensitivity
Decreased Free Radicals, Less DNA damage**

Frontiers in Nutrition, Vol 8 (2021)

<https://doaj.org/article/10ecc948bb8d4a5c9038dd23ddcfaa2e>

www.ncbi.nlm.nih.gov/pmc/articles/PMC7911310/

Nutrition

Mediterranean, Finnish & Okinawan Diets:

Prevent Cognitive Impairment

Decrease Disability

Promote Healthspan

Frontiers in Nutrition, Vol 8 (2021)

<https://doaj.org/article/10ecc948bb8d4a5c9038dd23ddcfaa2e>

Intermittent Fasting

Extends lifespan
Revitalizes the immune system
Lowers the incidence of cancer
Improves learning and memory in older mice
Delays cognitive decline

eg. eating in 8-12 hour window

[Can fasting help you live longer? Here's what the science says.](#) | National Geographic

Gut Microbiome

- Habitual dietary patterns, nutrient structure and gut microbial profiles vary greatly with potential impact on the human Healthspan.
- Several gut microbial genera have been associated with healthy elderly populations - but are highly variable across geographical/ cultural & ethnic populations.
- The “optimal” microbiome appears to be conditional on the microbial functionality acting on regional- and ethnicity-specific trends driven by cultural food context.

Gut Biome

Gut biome is malleable

**Regionally adapted, personalized
food regimens**

**Targeted to prolong
human healthspan.**

Frontiers in Microbiology, Vol 12 (2021)

<https://doaj.org/article/6f3f39220cc64d3a820efb07deaa749b>

Lower Insulin Levels via diet/ exercise/ lifestyle

- **Decreased antioxidant catabolism**
- **Increased antioxidant synthesis**
- **Better oxidative stress management**
- **Better mitochondrial function**
- **Healthier cells**
- **Better tissue and organ health**
- **Better Healthspan**

Metformin (beneficial effects)

Aging & Healthspan

Cellular metabolism

Anti-hyperglycemic

Insulin sensitivity

Oxidative stress

Endothelium & Vascular function

Frontiers in Endocrinology, Vol 12 (2021)

<https://doaj.org/article/130acf649e1745ed915d56709d4bfaf1>

Rapamycin

Rapamycin (sirolimus) is an FDA-approved drug with immune-modulating and growth-inhibitory properties.

Preclinical studies have shown that rapamycin extends lifespan and healthspan metrics in yeast, invertebrates, and rodents.

Some physicians are now prescribing rapamycin off-label as a preventative therapy to maintain healthspan. There is limited data available on side effects or efficacy

GeroScience; October 2023, Vol. 45 Issue: 5 p2757-2768, 12p

Sleep/ Stress & Anxiety Management

- **Diaphragmatic Breathing**
 - Relax Neck/Shoulders
 - “Palms-Up” – 2 min cycle
 - Breathe In through Nose, Out through Mouth; 4/7/8 ratio
 - Engages **Parasympathetic Nervous System** – aids metabolism, digestion, creative thinking
 - Feelings of “Calm,” “Relaxation,” “Body Awareness”
 - **Reverses Sympathetic NS - Fight/Flight Responses** – cortisol & epinephrine; decreases HR & BP; stress/tension/muscle tightness in extremities; sympathetic nervous system responses
 - Feelings of “Fear, Anxiety, Stress”

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= **Optimal Metabolic & Mental Health**

+ **12-14 years to your Lifespan!**

Epigenetics > Genetics

Complementary Injury & Wellness Consults

@ The Center at Belvedere

1st & 3rd Tuesdays each month (9-10 AM)

Wellness B

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Core Stability, Body Awareness & Balance Training

Achieve Your Best Posture, Movement, Balance & Wellness

60-min ZOOM classes

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