

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  **HEALTH**
PHYSICAL THERAPY

[**moveforhealth.com**](http://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

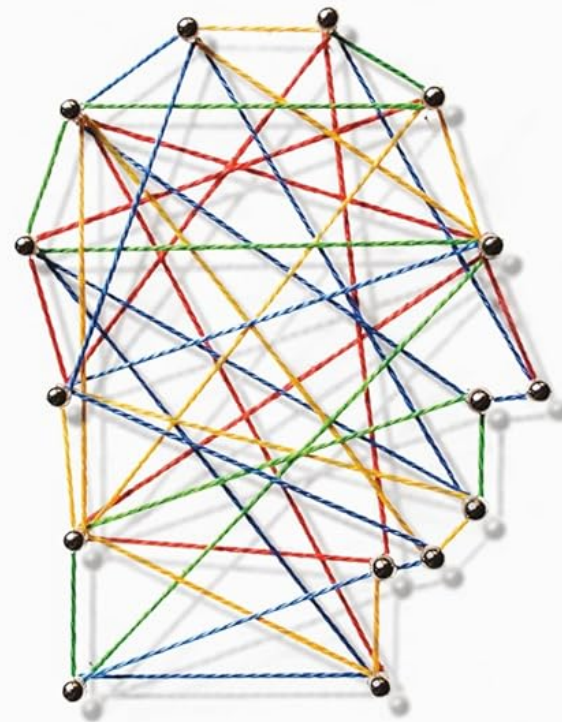
AGERS

May, 2025

NEW YORK TIMES BESTSELLER

THE AGELESS BRAIN

How to Sharpen and Protect
Your Mind for a Lifetime



DALE E. BREDESEN, MD

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

March, 2025

OUTLIVE

THE SCIENCE & ART
OF LONGEVITY

DR PETER ATTIA

WITH BILL GIFFORD

RETHINKING MEDICINE  TO LIVE BETTER LONGER

March, 2023

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



The First Program to
Prevent and Reverse
Cognitive Decline



DALE E. BREDESEN, MD

Professor and Founding President, Buck Institute; Professor, UCLA

July, 2020

CANCER *as a* METABOLIC DISEASE

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

THOMAS N. SEYFRIED

June, 2012
&
December, 2025



CANCER SECRETS

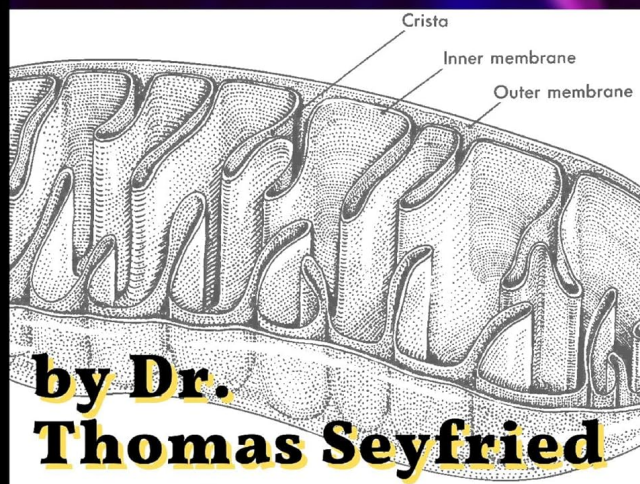
SECOND EDITION

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

JONATHAN STEGALL, MD

July, 2023

SUMMARY OF CANCER AS A METABOLIC DISEASE



by Dr.
Thomas Seyfried

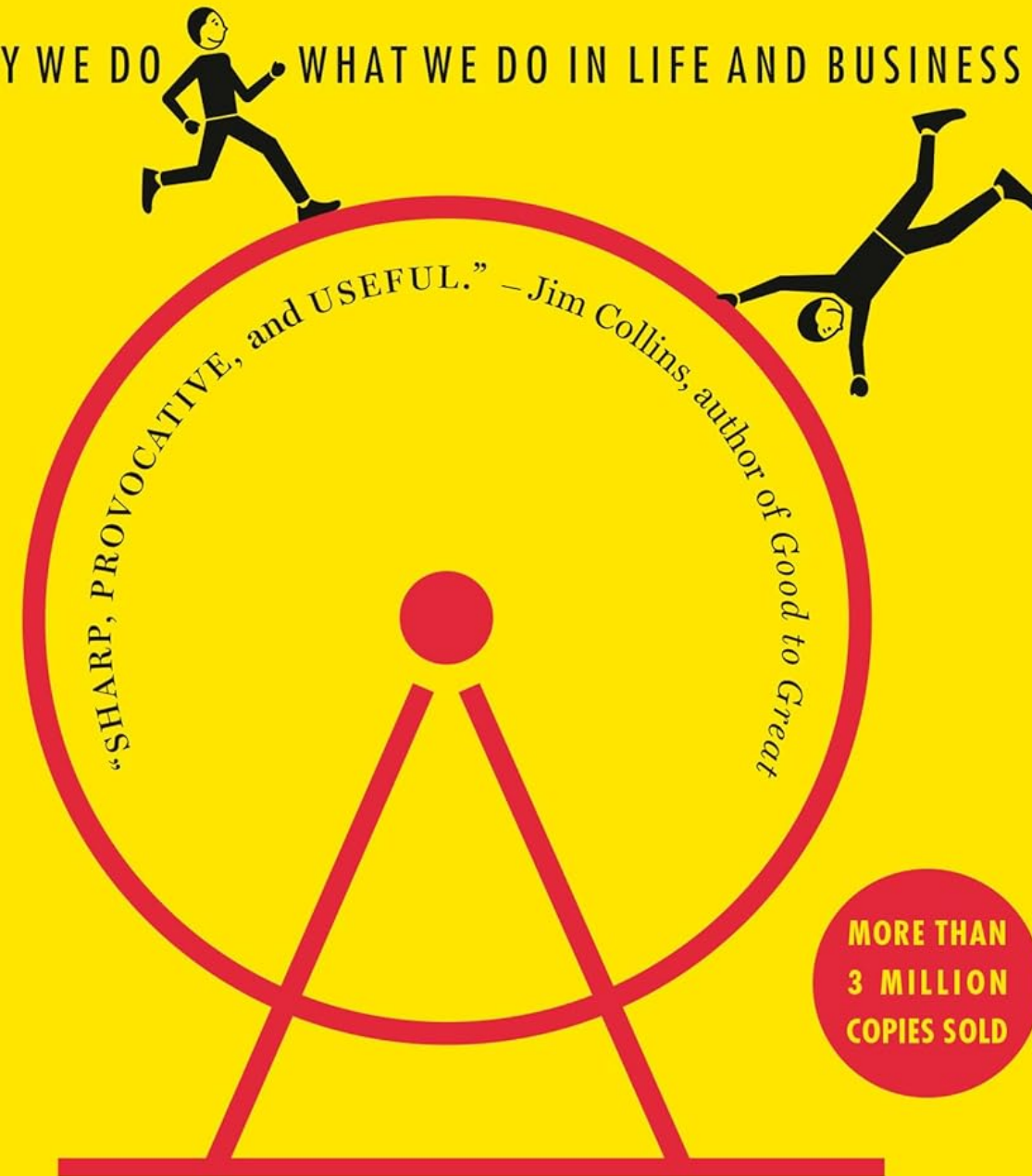
ON THE ORIGIN,
MANAGEMENT, AND
PREVENTION OF CANCER

November, 2022

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

Atomic Habits

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

OVER
25 MILLION
COPIES
SOLD

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 Health 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.**

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> (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  **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 = 9l & 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**

**Darcy Higgins, PT, DPT
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**434-939-8002 (cel)
dhigginspt@gmail.com**

Core Stability, Body Awareness & Balance Training

Achieve Your Best Posture, Movement, Balance & Wellness

60-min ZOOM classes

Thursdays: 9:30-10:30 AM & 7:30-8:30 PM

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PHYSICAL THERAPY**