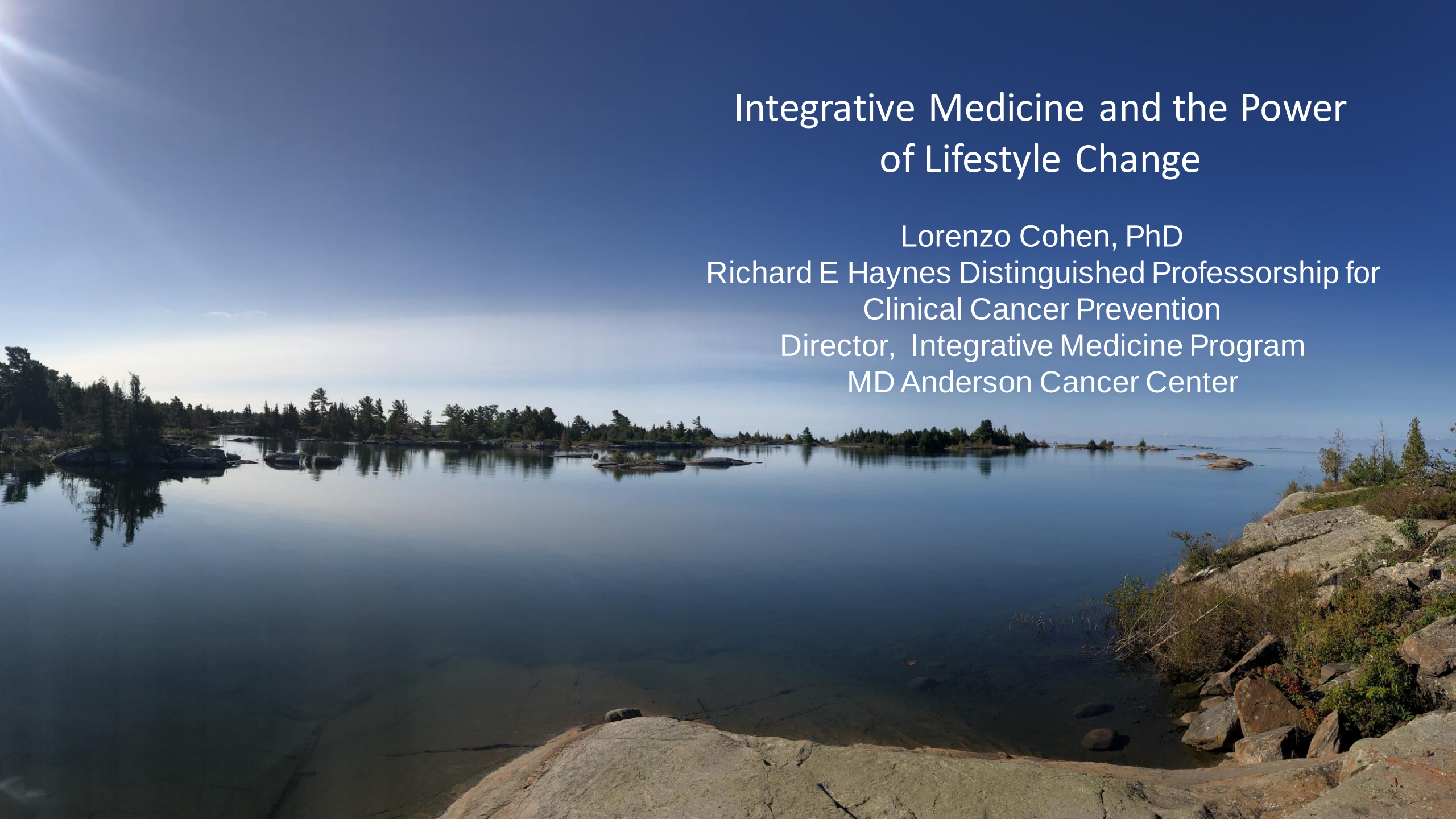
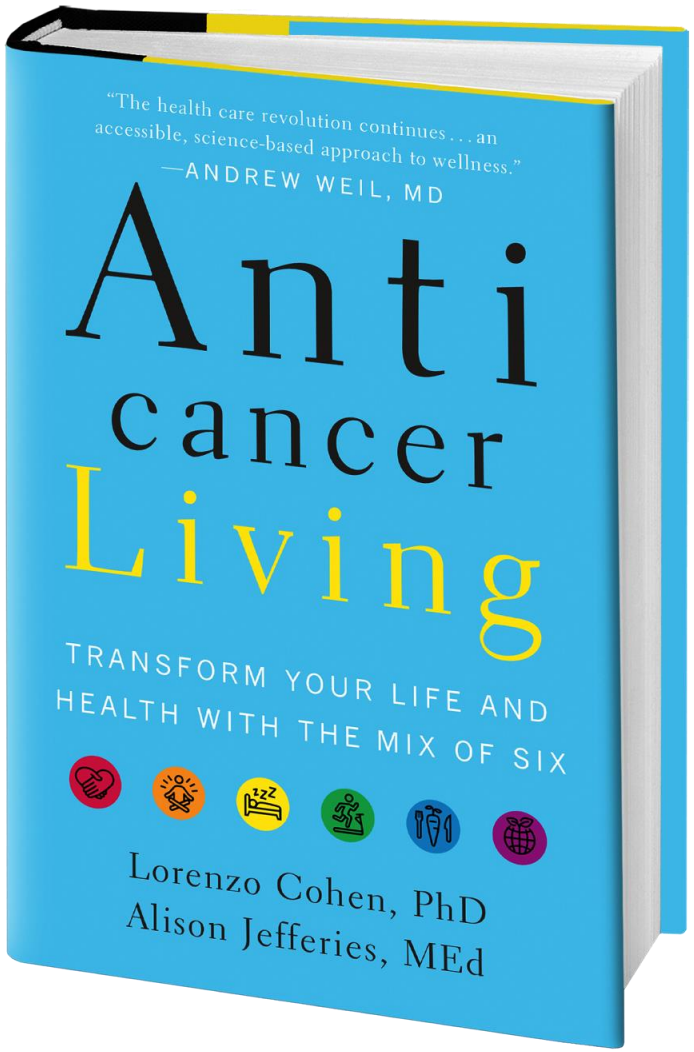
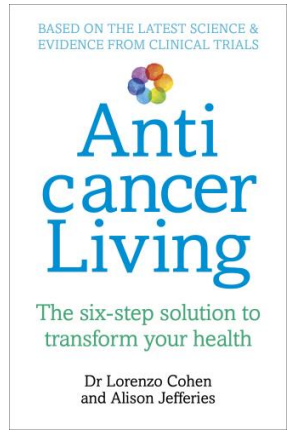


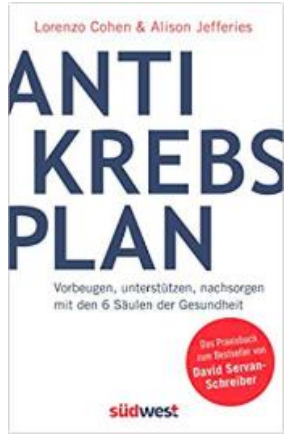
Integrative Medicine and the Power of Lifestyle Change

Lorenzo Cohen, PhD
Richard E Haynes Distinguished Professorship for Clinical Cancer Prevention
Director, Integrative Medicine Program
MD Anderson Cancer Center

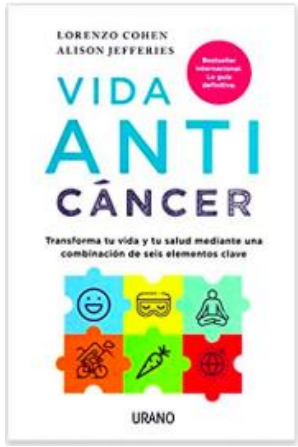

"The health care revolution continues . . . an accessible, science-based approach to wellness."
—ANDREW WEIL, MD
Anti cancer Living
TRANSFORM YOUR LIFE AND HEALTH WITH THE MIX OF SIX
Lorenzo Cohen, PhD
Alison Jefferies, MEd


BASED ON THE LATEST SCIENCE & EVIDENCE FROM CLINICAL TRIALS
Anti cancer Living
The six-step solution to transform your health
Dr Lorenzo Cohen and Alison Jefferies

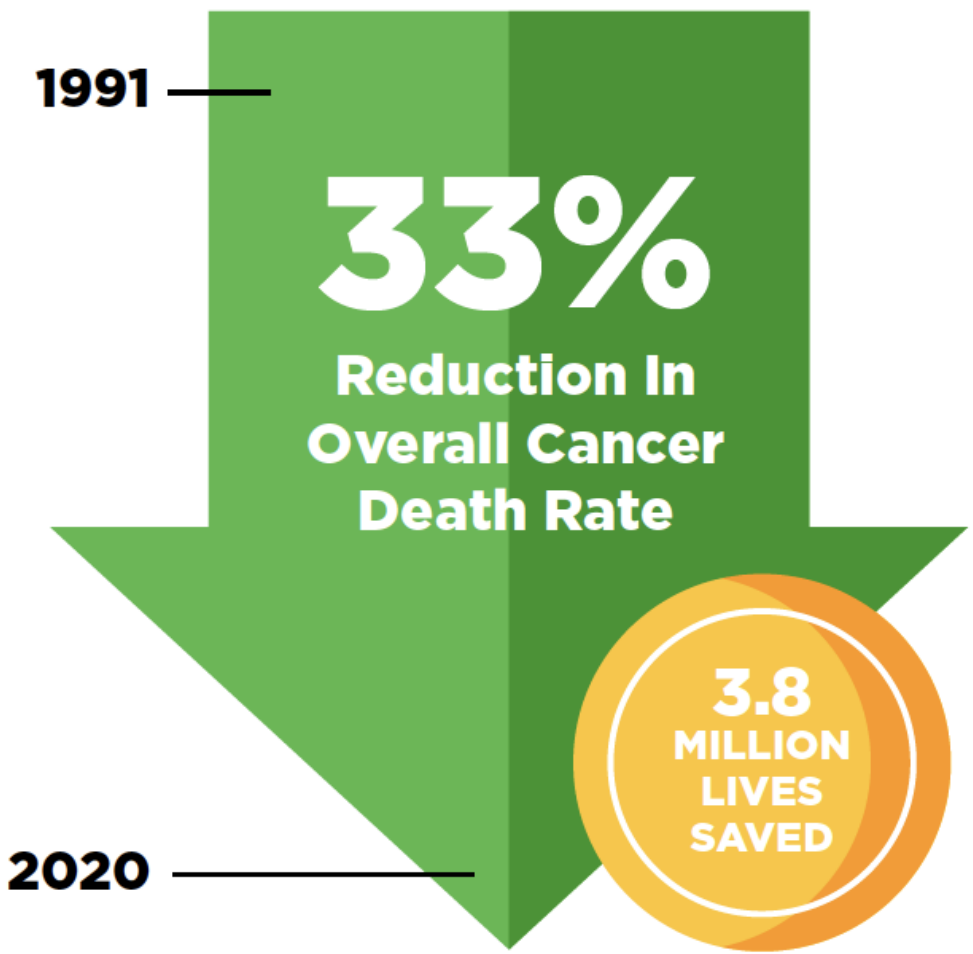

Dr LORENZO COHEN
ALISON JEFFERIES
VIVRE ANTICANCER
Les 6 piliers pour préserver votre bien-être et vous protéger contre la maladie
« Vivre anticancer actualise les recherches de David Servan-Schreiber et offre d'excellents conseils pratiques. »
Franklin Servan-Schreiber

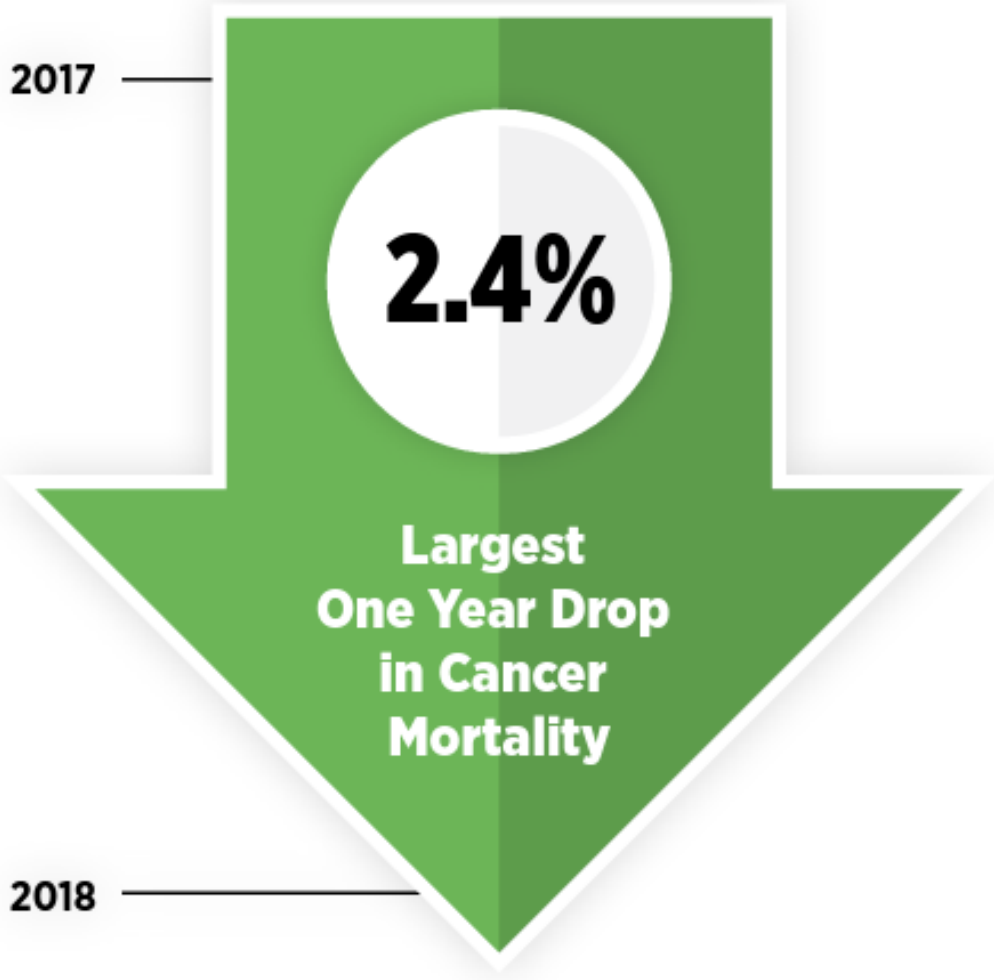

Lorenzo Cohen & Alison Jefferies
ANTI KREBS PLAN
Vorbeugen, unterstützen, nachsorgen mit den 6 Säulen der Gesundheit
Das Praxisbuch zum Bestseller von David Servan-Schreiber
südwest


Il metodo Anti cancro
TRASFORMA LA TUA SALUTE E LA TUA VITA CON 6 SEMPLICI MOSSE
Lorenzo Cohen
Alison Jefferies
Sperling & Kupfer


LORENZO COHEN
ALISON JEFFERIES
VIDA ANTI CÁNCER
Transforma tu vida y tu salud mediante una combinación de seis elementos clave
URANO


Baseado exclusivamente em estudos clínicos e nas mais recentes descobertas científicas
Vida anti cancro
O plano em seis passos para transformar a sua vida
Prof. Dr. Lorenzo Cohen com Dra. Alison Jefferies





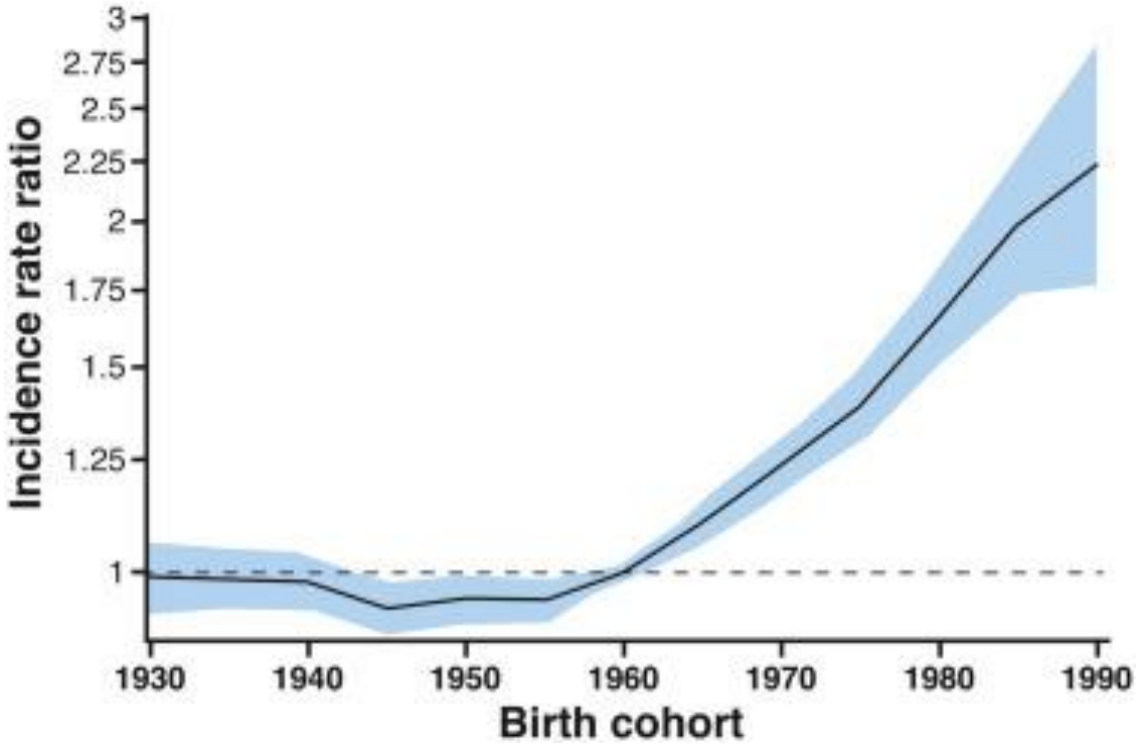
AACR Progress Report, 2022

- Since the mid-20th century, substantial multigenerational changes in the exposome have occurred.
- Changes in diet, lifestyle, obesity, environment, and the microbiome.
- All of this might interact with genomic and/or genetic susceptibilities.

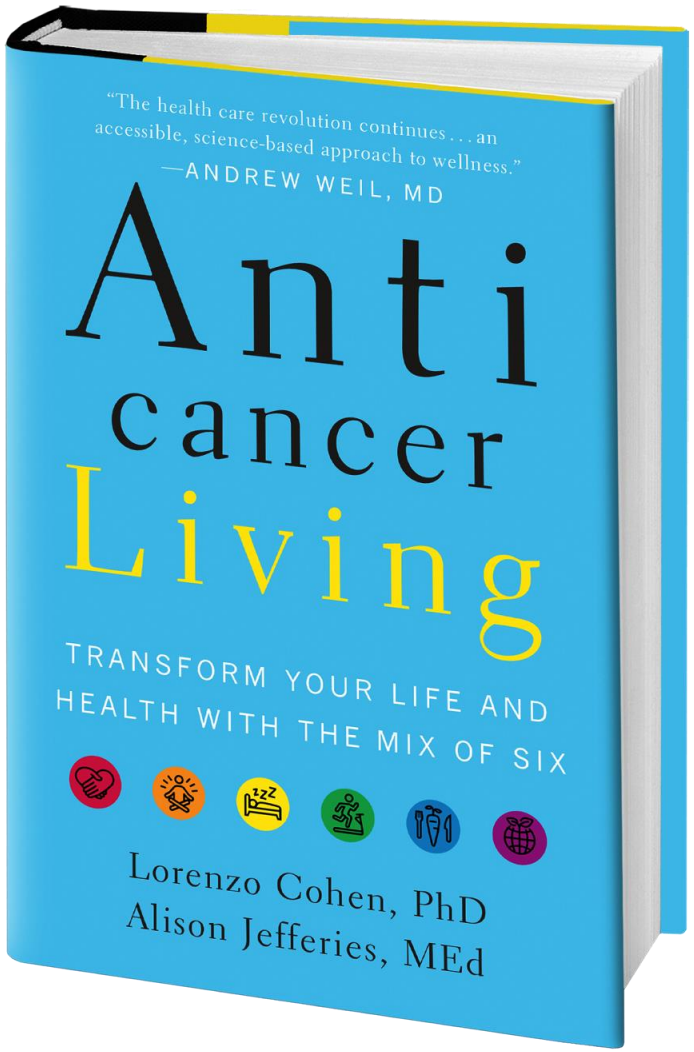
Ugai et al., Nature Reviews Clinical Oncology, 2022

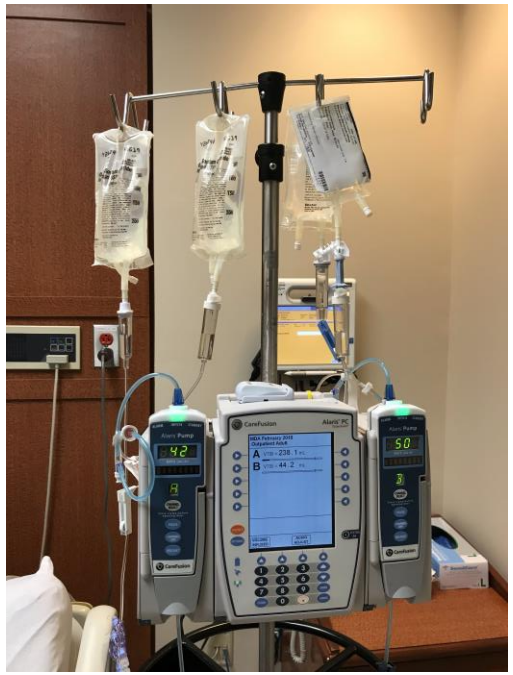
Is early-onset cancer an emerging global epidemic? Current evidence and future implications

Tomotaka Ugai[1,2,18]✉, Naoko Sasamoto[3,4,18], Hwa-Young Lee[5,6,18], Mariko Ando[7,18], Mingyang Song[2,8,9,10], Rulla M. Tamimi[11], Ichiro Kawachi[7], Peter T. Campbell[12,19], Edward L. Giovannucci[2,8,19], Elisabete Weiderpass[13,19], Timothy R. Rebbeck[2,14,15,19] and Shuji Ogino[1,2,16,17,19]✉



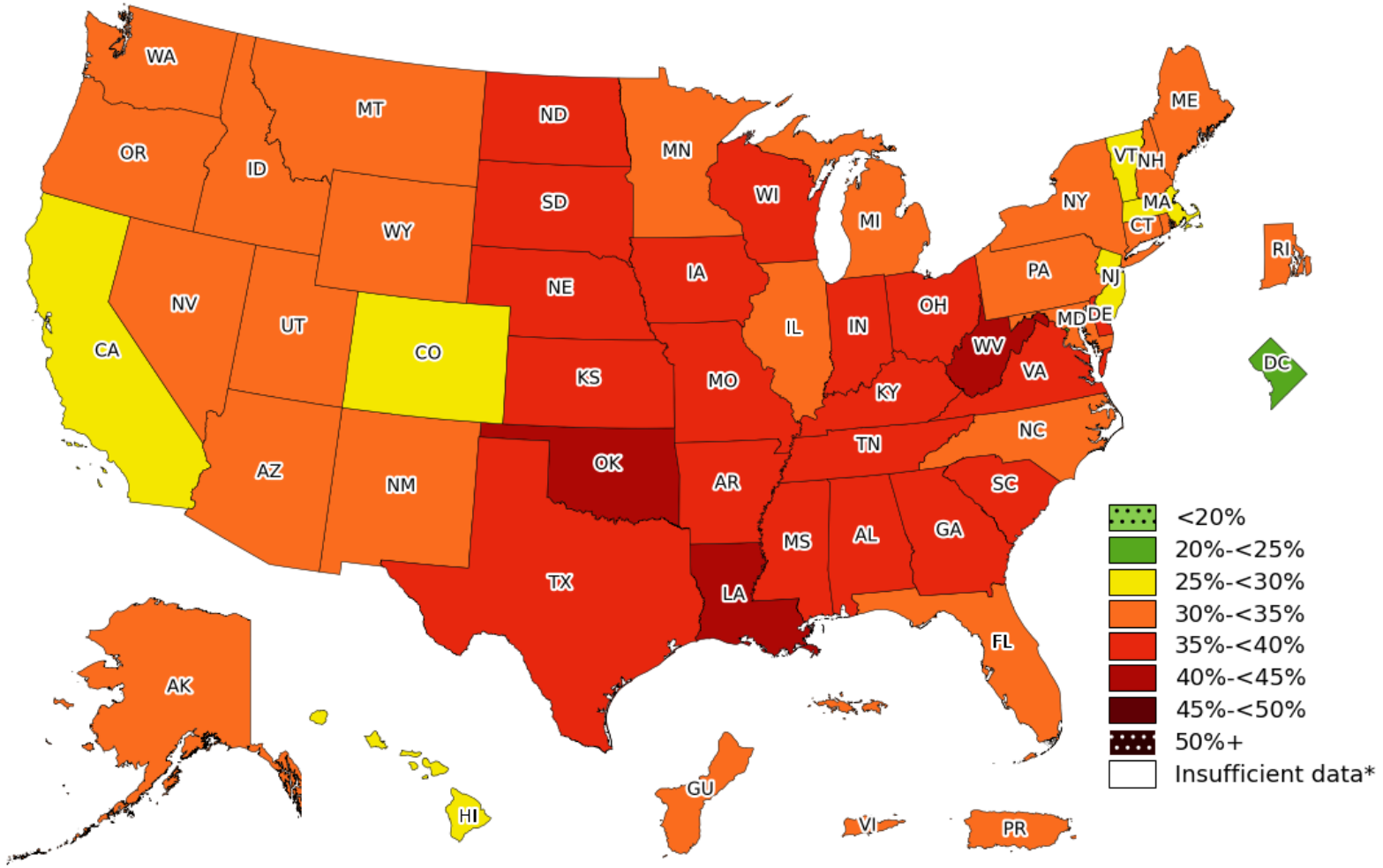
Stoffal & Murphy, Gastroenterology, 2020


"The health care revolution continues . . . an accessible, science-based approach to wellness."
—ANDREW WEIL, MD
Anti cancer Living
TRANSFORM YOUR LIFE AND HEALTH WITH THE MIX OF SIX
Lorenzo Cohen, PhD
Alison Jefferies, MEd



Prevalence¶ of Obesity Based on Self-Reported Weight and Height Among US Adults by State and Territory, BRFSS, 2022

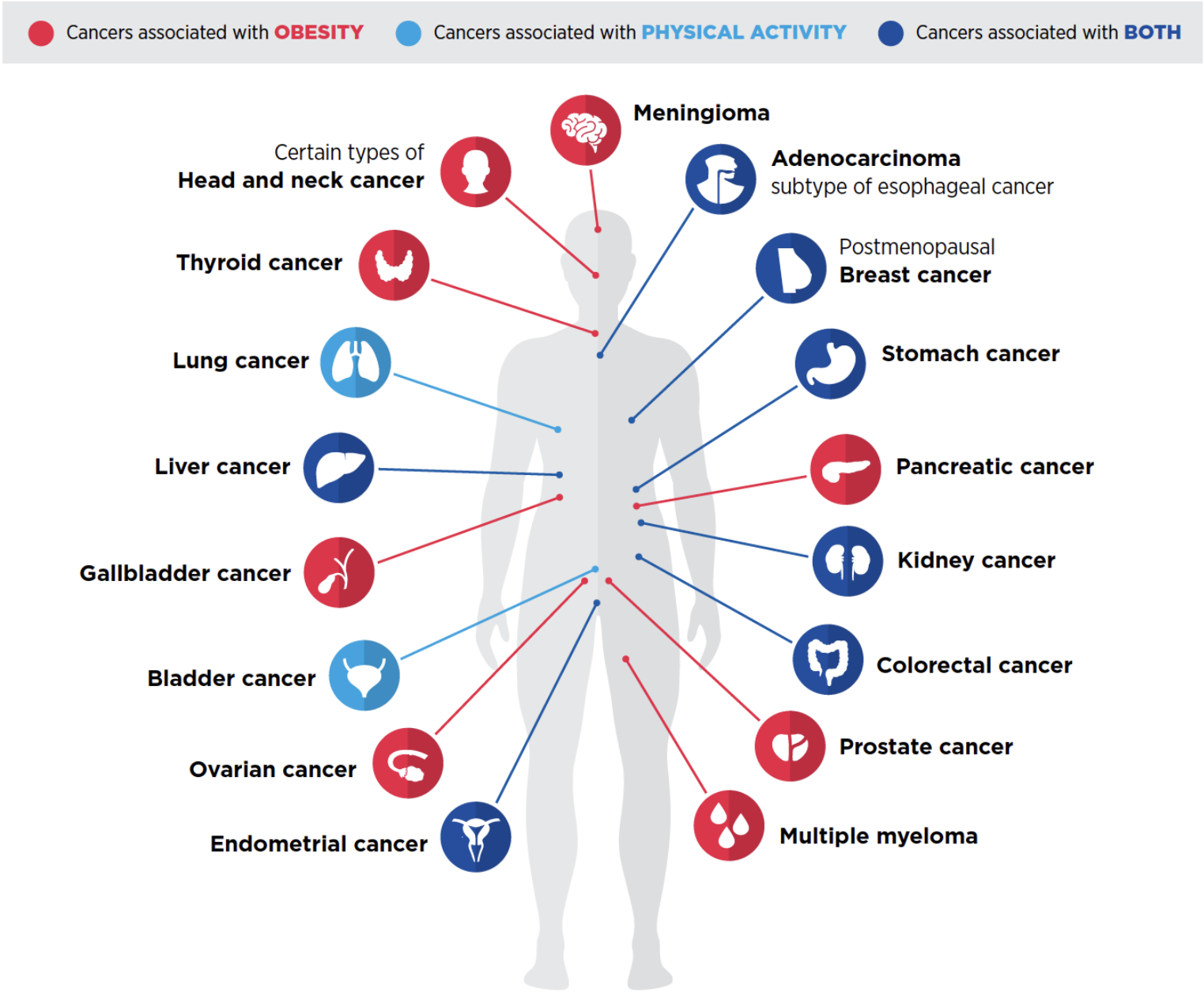
¶ Prevalence estimates reflect BRFSS methodological changes started in 2011. These estimates should not be compared to prevalence estimates before 2011.



***Sample size <50, the relative standard error (dividing the standard error by the prevalence) ≥30%, or no data in a specific year.**

- 22 states, Guam, Puerto Rico, and the Virgin Islands had an obesity prevalence between 30% to 35%.
- 19 states had an obesity prevalence between 35% to 40%.
- Louisiana, Oklahoma, and W
  - Percent of adults a
    o with obesity = **41.9%**;)%
    o Overweight and obesity = **73.6%**

Reasons to Maintain a Healthy Weight and Stay Active

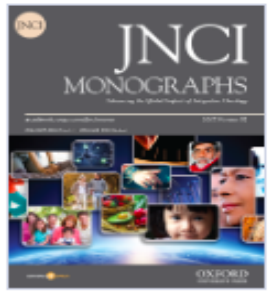


- Overweight or obesity are directly linked with 15 types of cancer.
- Being active lowers the risk of 9 cancers and likely more.

AACR Progress Report, 2023

JNCI MONOGRAPHS

Issues Submit Purchase Alerts About All JNCI Monographs Advanced Search



Volume 2017, Issue 52
November 2017

A Comprehensive Definition for Integrative Oncology FREE

Claudia M. Witt, Lynda G. Balneaves, Maria J. Cardoso, Lorenzo Cohen, Heather Greenlee, Peter Johnstone, Ömer Kücük, Josh Mailman, Jun J. Mao

JNCI Monographs, Volume 2017, Issue 52, 1 November 2017, lgx012, https://doi.org/10.1093/jncimonographs/lgx012
Published: 13 November 2017 **Article history**

"Integrative oncology is a patient-centered, evidence-informed field of cancer care that utilizes mind and body practices, natural products, and/or lifestyle modifications from different traditions alongside conventional cancer treatments. Integrative oncology aims to optimize health, quality of life, and clinical outcomes across the cancer care continuum and to empower people to prevent cancer and become active participants before, during, and beyond cancer treatment."

Complementary & Integrative Medicine Approaches

- Natural Products
  - Dietary supplements
- Mind and Body
  - Deep Breathing
  - Relaxation/Meditation
  - Yoga/Tai Chi
  - Therapeutic Massage
  - Acupuncture
- Other Complementary Health Approaches

SIO-ASCO Guideline Endorsement: Key recommendations

JOURNAL OF CLINICAL ONCOLOGY | ASCO SPECIAL ARTICLE

Integrative Therapies During and After Breast Cancer Treatment: ASCO Endorsement of the SIO Clinical Practice Guideline

Gary H. Lyman, Heather Greenlee, Kari Bohlke, Ting Bao, Angela M. DeMichele, Gary E. Deng, Judith M. Fouladbakhsh, Brigitte Gil, Dawn L. Hershman, Sami Mansfield, Dawn M. Mussallem, Karen M. Mustian, Erin Price, Susan Rafte, and Lorenzo Cohen

In Breast Cancer: Grade A, B (moderate to substantial benefit)

- Music therapy, meditation, stress management, and yoga are recommended for **anxiety/stress reduction**.
- Meditation, relaxation, yoga, massage, and music therapy are recommended for **depression/mood disorders**.
- Meditation and yoga are recommended to improve **quality of life**.
- Acupressure and acupuncture are recommended for reducing **chemotherapy-induced nausea and vomiting**.

SIO Society for Integrative Oncology

ASCO Guidelines

INTEGRATIVE MEDICINE FOR PAIN MANAGEMENT IN ONCOLOGY

AT-A-GLANCE GUIDELINE RECOMMENDED INTERVENTIONS

Symptom Setting	Integrative Therapy	Type of Recommendation	Evidence Quality	Strength of Rec.
Aromatase inhibitor-related joint pain	• Acupuncture	• Evidence-based	• Intermediate	• Moderate
	• Yoga	• Evidence-based	• Low	• Weak
General cancer pain	• Acupuncture	• Evidence-based	• Intermediate	• Moderate
	• Reflexology or acupressure	• Evidence-based	• Intermediate	• Moderate
	• Massage	• Evidence-based	• Low	• Moderate
	• Hatha yoga	• Evidence-based	• Low	• Weak
	• Guided imagery with PMR	• Evidence-based	• Low	• Weak
CIPN	• Acupuncture	• Evidence-based/Informal consensus	• Low	• Weak
	• Reflexology or acupressure	• Evidence-based	• Low	• Weak
Procedural pain	• Hypnosis	• Evidence-based	• Intermediate	• Moderate
Surgical pain	• Acupuncture or acupressure	• Evidence-based/Informal consensus	• Low	• Weak
	• Music therapy	• Evidence-based	• Low	• Weak
Pain during palliative care	• Massage	• Evidence-based	• Intermediate	• Moderate

Mao et al *J Clin Oncol* **2022**

asco.org/survivorship-guidelines

Abbreviations. CIPN, chemotherapy-induced peripheral neuropathy; PMR, progressive muscle relaxation; Rec, recommendation

SIO Society for Integrative Oncology

ASCO® Guidelines

INTEGRATIVE ONCOLOGY CARE OF SYMPTOMS OF ANXIETY AND DEPRESSION IN ADULT PATIENTS WITH CANCER

GUIDELINE AT-A-GLANCE RECOMMENDED INTERVENTIONS

Anxiety

During Active Treatment

- Mindfulness-based interventions
- Yoga
- Hypnosis
- Relaxation therapy
- Music therapy or music-based interventions
- Reflexology
- Lavender essential oil inhalation

Post-Treatment

- Mindfulness-based interventions
- Yoga
- Acupuncture
- Tai chi and/or qigong
- Reflexology

Depression

During Active Treatment

- Mindfulness-based interventions
- Yoga
- Relaxation therapy
- Music therapy or music-based interventions
- Reflexology

Post-Treatment

- Mindfulness-based interventions
- Yoga
- Tai chi and/or qigong

Carlson et al *J Clin Oncol* **2023**
asco.org/survivorship-guidelines

Note. Evidence quality and strength of recommendations are available in the guideline publication.

CA:
A Cancer Journal for Clinicians

Integrative oncology: Addressing the global challenges of cancer prevention and treatment

Jun J. Mao MD, et al 2021

TABLE 1. National Comprehensive Cancer Network Clinical Practice Guidelines for the Use of Integrative Medicine for Supportive Cancer Care[a]

SYMPTOMS	ACUPUNCTURE	MASSAGE	MEDITATION/MBSR	YOGA	MUSIC THERAPY	EXERCISE	NUTRITION
Adult cancer pain	X	X	X	X		X	
Cancer-related fatigue	X	X	X	X		X	X
Sleep disorders			X	X			
Distress (anxiety/depression)			X	X	X	X	X
Cancer-associated cognitive dysfunction			X	X			
Hot flashes/night sweats	X			X		X	
Sexual dysfunction			X	X			
Nausea/vomiting	X			X	X		
Anorexia						X	X

Abbreviation: MBSR, mindfulness-based stress reduction.
[a]Derived from the National Comprehensive Cancer Network (NCCN) clinical practice guidelines for supportive cancer care (NCCN 2021,[130] Denlinger 2021,[131] Swarm 2021,[132] Berger 2021,[133] Ettinger 2021,[134] Riba 2021,[135] Dans 2021[136]).

Healthy Lifestyle Recommendations Before, During, and After Cancer Treatment

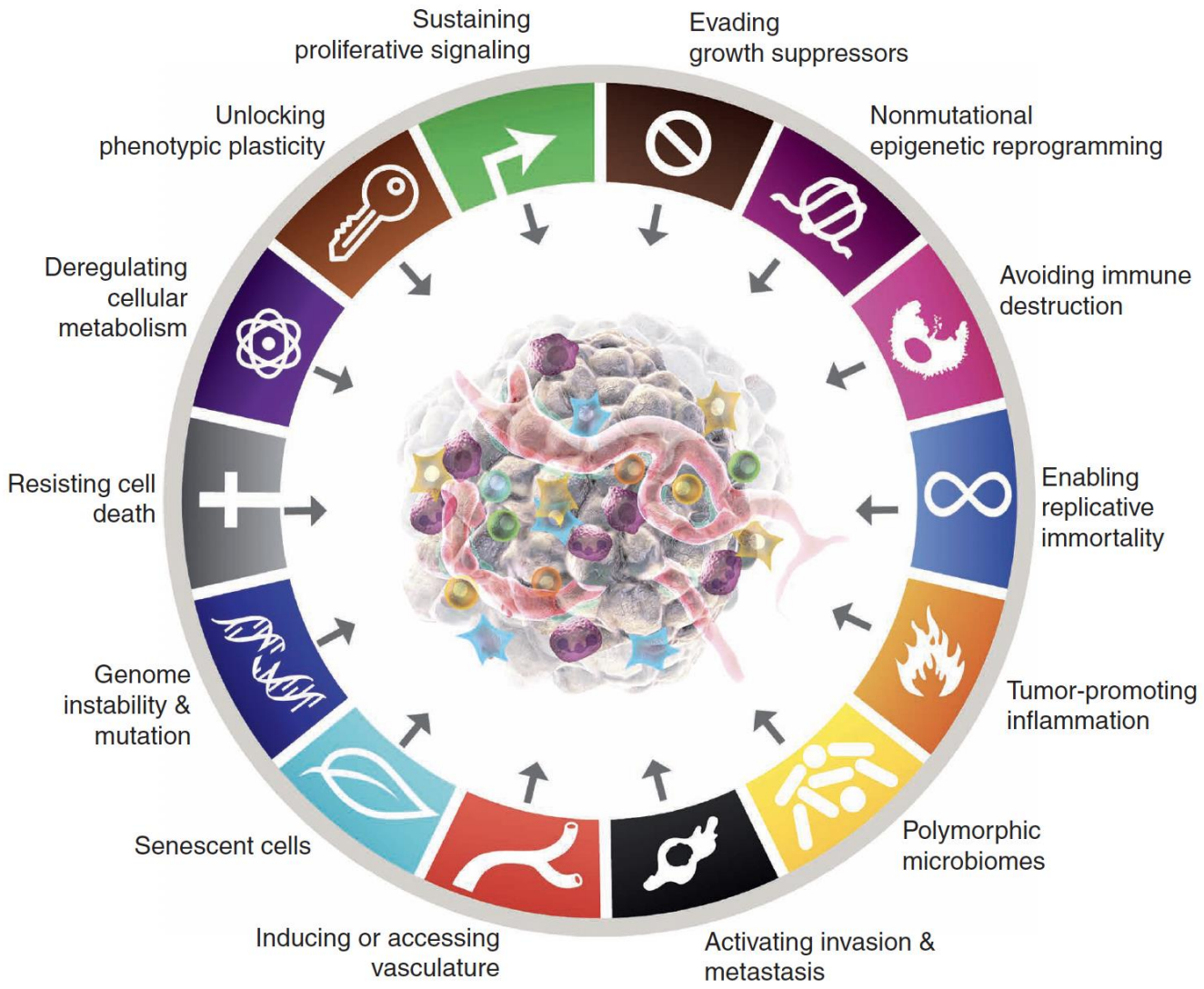
Institution	Recommendation
American Society for Clinical Oncology (ASCO)	ASCO Guidelines for physical activity, diet, and weight management during and after cancer treatment (2022)
American Cancer Society (ACS)	ACS Guidelines for nutrition and physical activity during and after cancer treatment (2022)
American Institute for Cancer Research (AICR)	AICR recommendations for cancer prevention and survival include plant-based nutrition, healthy weight, and physical activity (2022)
Society for Integrative Oncology (SIO)	SIO Clinical Practice Guidelines on the evidence-based use of integrative therapies during and after breast cancer (2017)
National Institutes of Health – National Cancer Institute (NIH-NCI)	NIH-NCI Guidelines on physical activity, diet, and weight management for cancer patients (2020)
U.S. Centers for Disease Control and Prevention (CDC)	CDC's Division of Nutrition, Physical Activity and Obesity recommends healthy behaviors before and after cancer treatment (2022)

Cancer Prevention and Control:

The Mix of Six

- Social Support
- Stress Management
- Sleep
- Physical Activity
- Diet
- Environmental Toxins

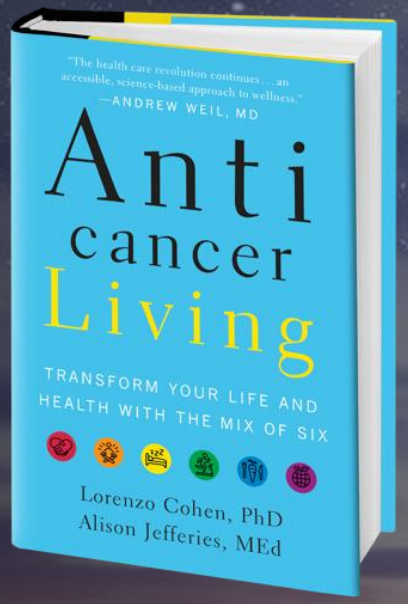
Cancer Hallmarks



Hannahan, Cancer Discover, 2022

Synergy

A phenomena where the whole is more than the sum of the parts



Social Support

“SUPPORT IS THE BACKBONE ON WHICH ALL OTHER LIFESTYLE CHANGES WILL EITHER SUCCEED OR FAIL”

Anticancer Living

VEGF and Social Support

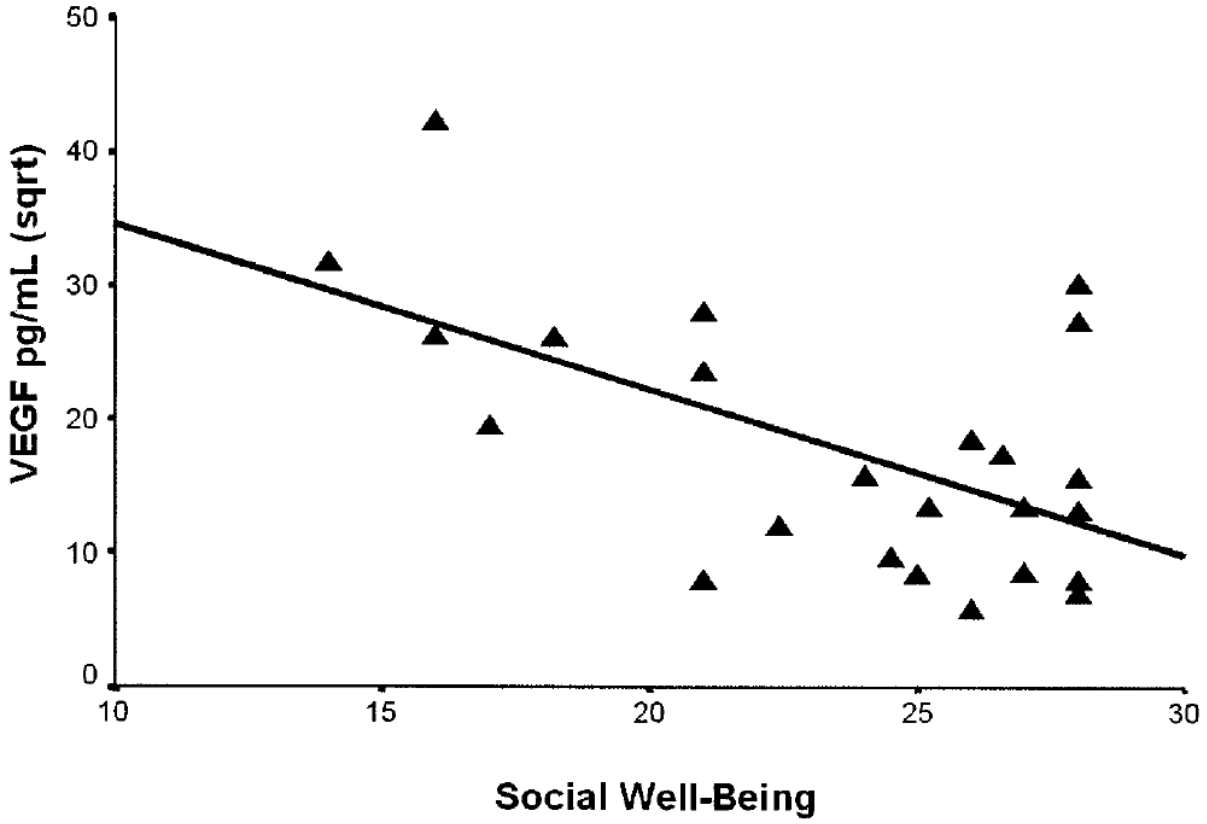
Women with ovarian carcinoma who reported higher levels of social well being had lower levels of VEGF.

- Lutgendorf et al., *Cancer, 2002*

Vascular Endothelial Growth Factor and Social Support in Patients with Ovarian Carcinoma

Susan K. Lutgendorf, Ph.D.[1]
Erica L. Johnsen, M.A.[1]
Brian Cooper, M.D.[2]
Barrie Anderson, M.D.[2]
Joel I. Sorosky, M.D.[2]
Richard E. Buller, M.D., Ph.D.[2]
Anil K. Sood, M.D.[2]

BACKGROUND. The modulation of immunologic activities relevant to cancer by behavioral factors, such as stress, depression, and social support, is well documented. However, associations of behavioral factors with cytokines involved in tumor angiogenesis have not been studied. Vascular endothelial growth factor (VEGF) is a key cytokine that is capable of stimulating tumor angiogenesis, and it has been associated with poorer survival in patients with ovarian carcinoma. VEGF is modulated by a variety of behaviorally sensitive factors, including sympathetic activation. This study examined relationships of social support and depressive



It Takes a Team

Your Team

Sleep

Sleep and Health

- Too little or too much unhealthy (less than 6 and more than 8)
- Key time for psychological, physical, and biological restoration
- Critical for brain health
- Sleep loss is listed as a “probable” carcinogen

Sleep and Genes

- Insufficient sleep and circadian rhythm disruption are associated with negative health outcomes.
- 1 wk of insufficient sleep alters gene expression in human blood cells, reduces the amplitude of circadian rhythms in gene expression, and intensifies the effects of subsequent acute sleep loss on gene expression.
- Changes in regulation of gene expression and immune and stress responses.

Moller-Vevet et al., *PNAS*, 2013

PNAS PLUS

Effects of insufficient sleep on circadian rhythmicity and expression amplitude of the human blood transcriptome

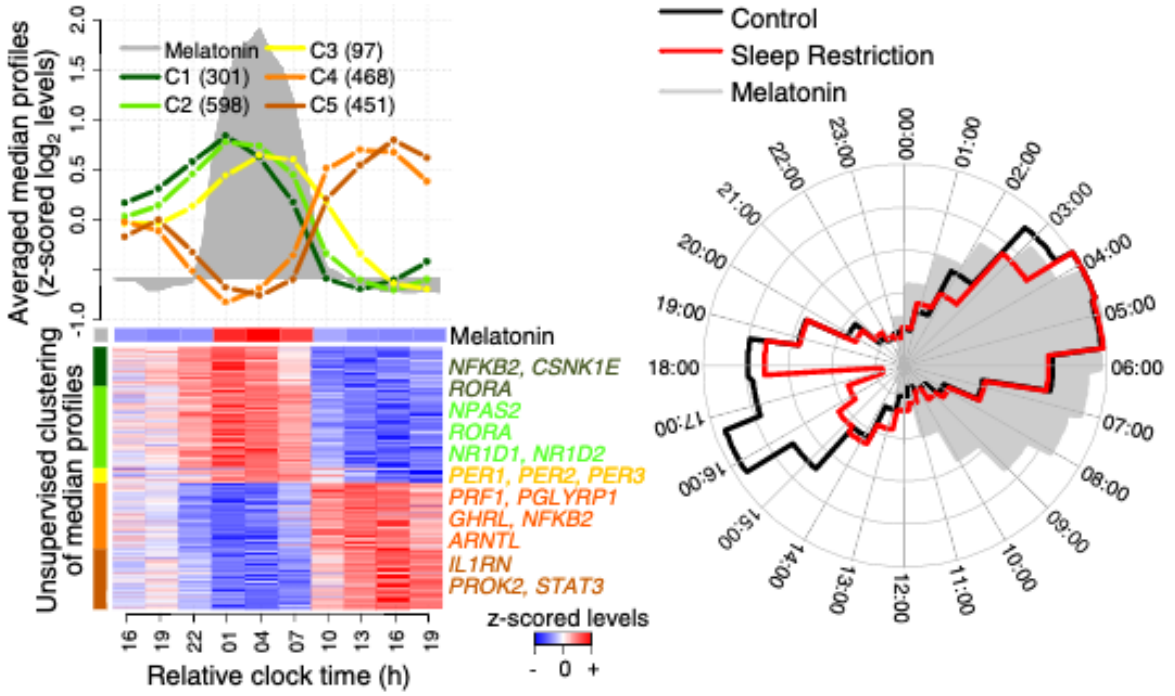
Carla S. Möller-Levet[1], Simon N. Archer[1], Giselda Bucca[1], Emma E. Laing, Ana Slak, Renata Kabiljo, June C. Y. Lo, Nayantara Santhi, Malcolm von Schantz, Colin P. Smith[1], and Derk-Jan Dijk[1,2]

Faculty of Health and Medical Sciences, University of Surrey, Guildford GU2 7XH, United Kingdom

Edited by Joseph S. Takahashi, Howard Hughes Medical Institute, University of Texas Southwestern Medical Center, Dallas, TX, and approved January 23, 2013 (received for review October 3, 2012)

Insufficient sleep and circadian rhythm disruption are associated with negative health outcomes, including obesity, cardiovascular disease, and cognitive impairment, but the mechanisms involved remain largely unexplored. Twenty-six participants were exposed to 1 wk of insufficient sleep (sleep-restriction condition 5.70 h, SEM = 0.03 sleep per 24 h) and 1 wk of sufficient sleep (control condition

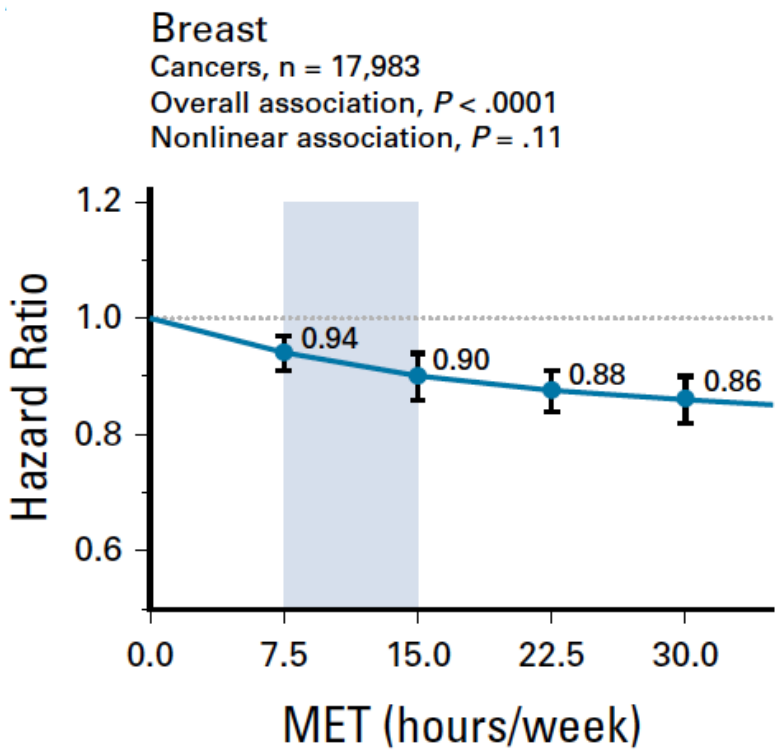
transcriptome has been reported to be expressed in a circadian manner (i.e., with an ~24-h periodicity), whereas during acute sleep loss, the number of rhythmically expressed transcripts is reduced to ~1.5%, implying a prominent acute effect of the sleep-wake cycle on transcription (9). Although the sleep-wake cycle is generated by the brain, the effects of acute sleep deprivation are not limited to the brain. In fact, the liver transcriptome is affected

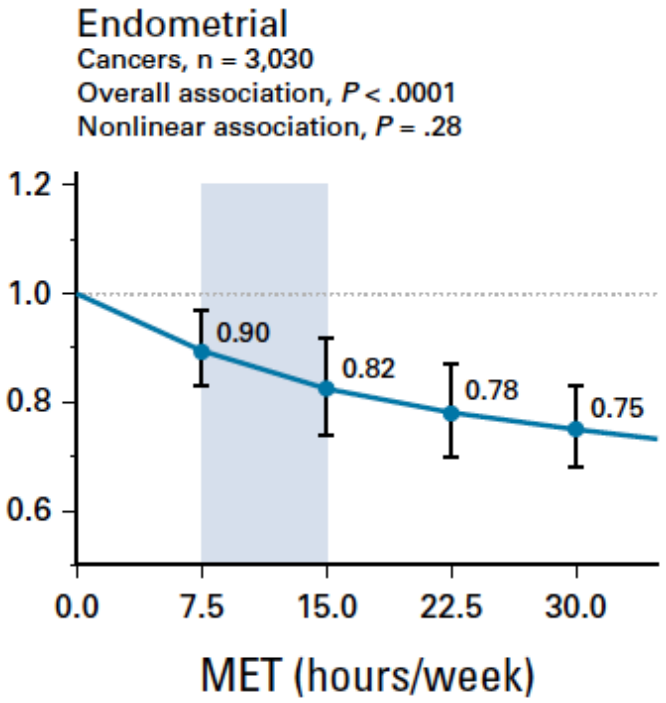


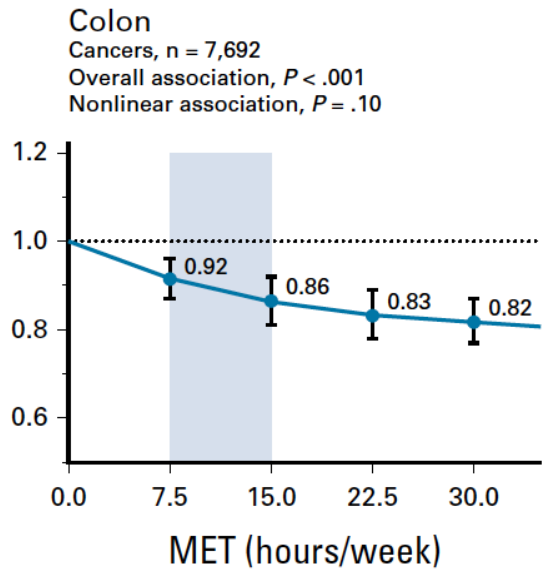
Physical Activity

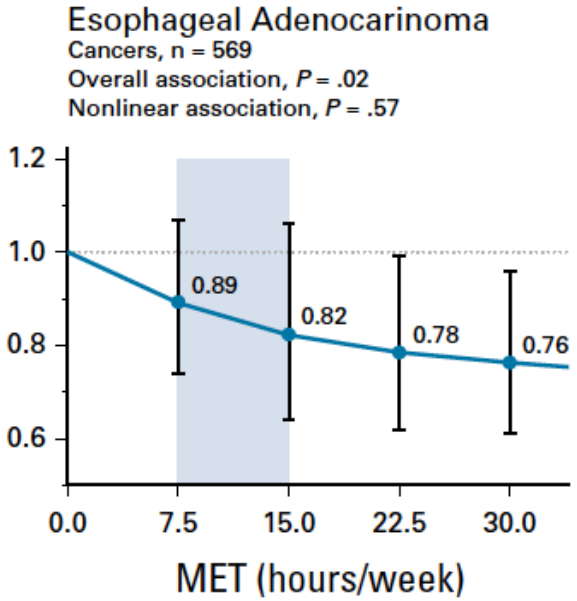
Amount and Intensity of Leisure-Time Physical Activity and Lower Cancer Risk

Charles E. Matthews, PhD[1]; Steven C. Moore, PhD[1]; Hannah Arem, PhD[2]; Michael B. Cook, PhD[1]; Britton Trabert, PhD[1]; Niclas Håkansson, PhD[3]; Susanna C. Larsson, PhD[3,4]; Alicja Wolk, DrMedSci[3,4]; Susan M. Gapstur, PhD[5]; Brigid M. Lynch, PhD[6,7]; Roger L. Milne, PhD[6,8]; Neal D. Freedman, PhD[1]; Wen-Yi Huang, PhD[1]; Amy Berrington de Gonzalez, DPhil[9]; Cari M. Kitahara, PhD[9]; Martha S. Linet, MD[9]; Eric J. Shiroma, ScD[10]; Sven Sandin, PhD[11,12]; Alpa V. Patel, PhD[5]; and I-Min Lee, ScD[13]









Mathew et al., JCO, 2020

Joint Prevalence of Daily Sitting Time and Leisure-Time Physical Activity Among US Cancer Survivors Age 40 Years or Older, 2007 to 2015

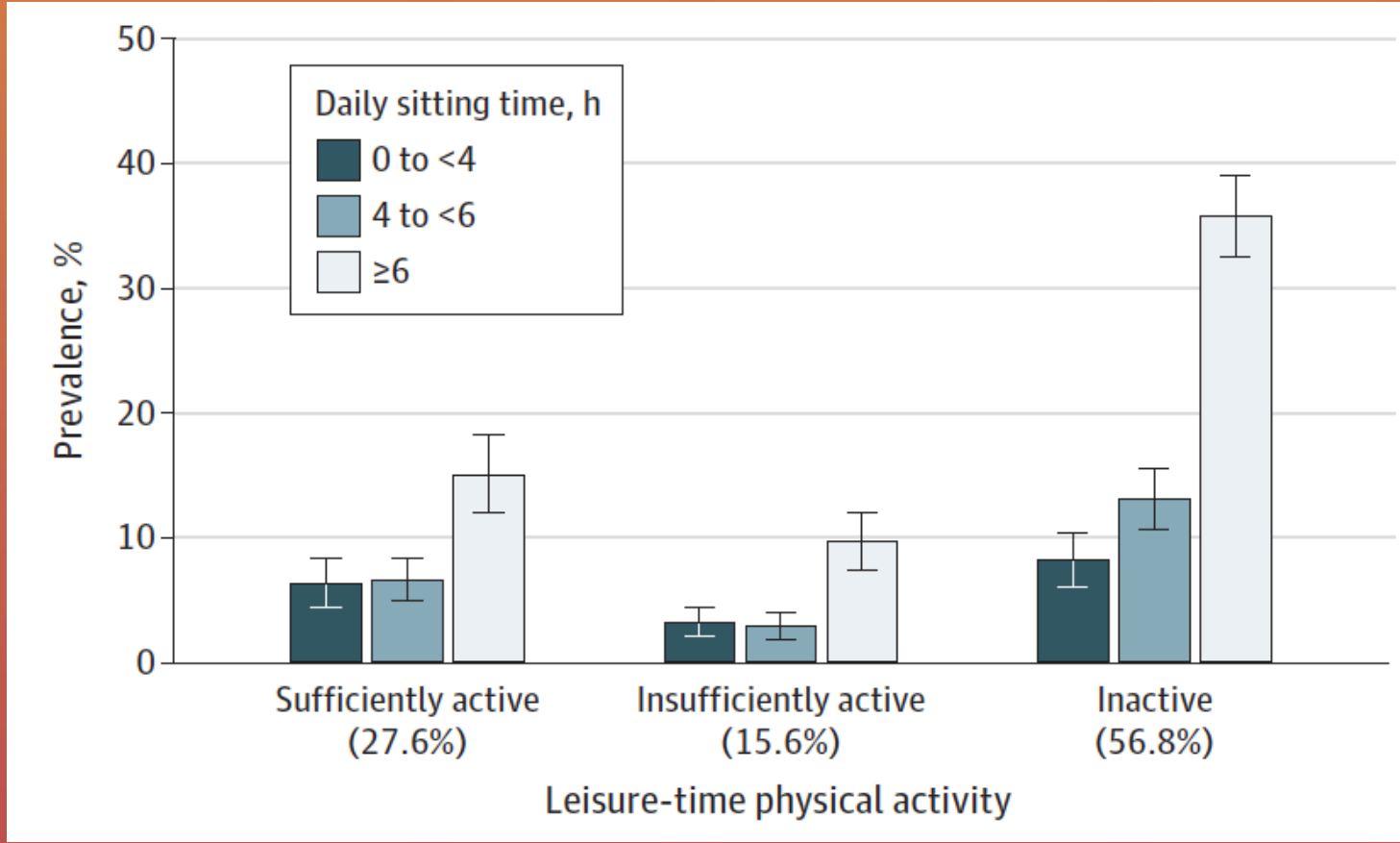
Research

JAMA Oncology | Original Investigation

Association of Daily Sitting Time and Leisure-Time Physical Activity With Survival Among US Cancer Survivors

Chao Cao, MPH; Christine M. Friedenreich, PhD; Lin Yang, PhD

Even if you are inactive, you can decrease risk of death if you sit less



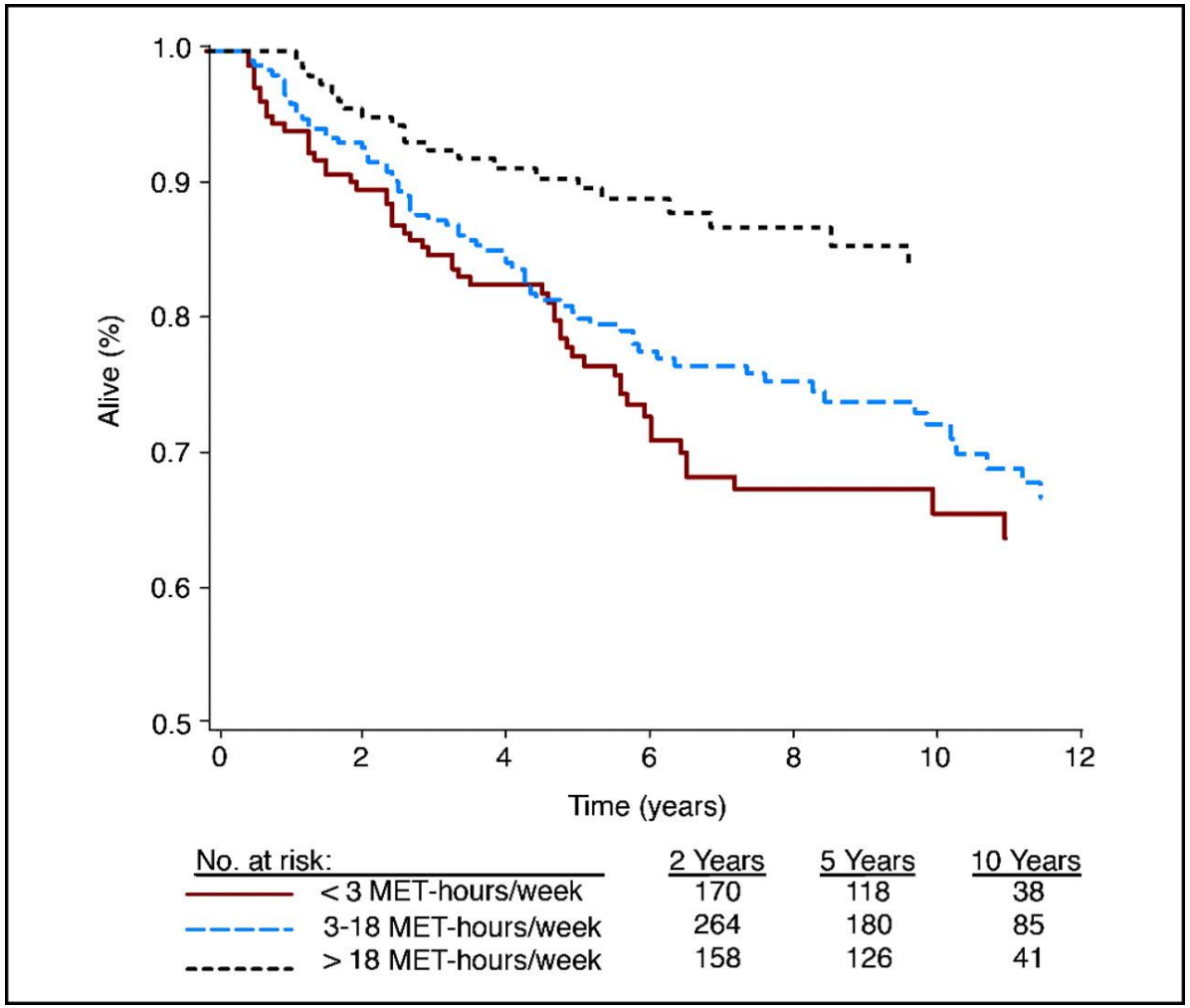
Cao et al., JAMA Oncol. Published online January 6, 2022

VOLUME 24 · NUMBER 22 · AUGUST 1 2006

JOURNAL OF CLINICAL ONCOLOGY ORIGINAL REPORT

Physical Activity and Survival After Colorectal Cancer Diagnosis

Jeffrey A. Meyerhardt, Edward L. Giovannucci, Michelle D. Holmes, Andrew T. Chan, Jennifer A. Chan, Graham A. Colditz, and Charles S. Fuchs



- Women who engaged in at least 18 MET-hours per week had a reduced chance colorectal cancer–specific mortality 61% and reduced overall mortality of 57% compared with those who exercised the least.

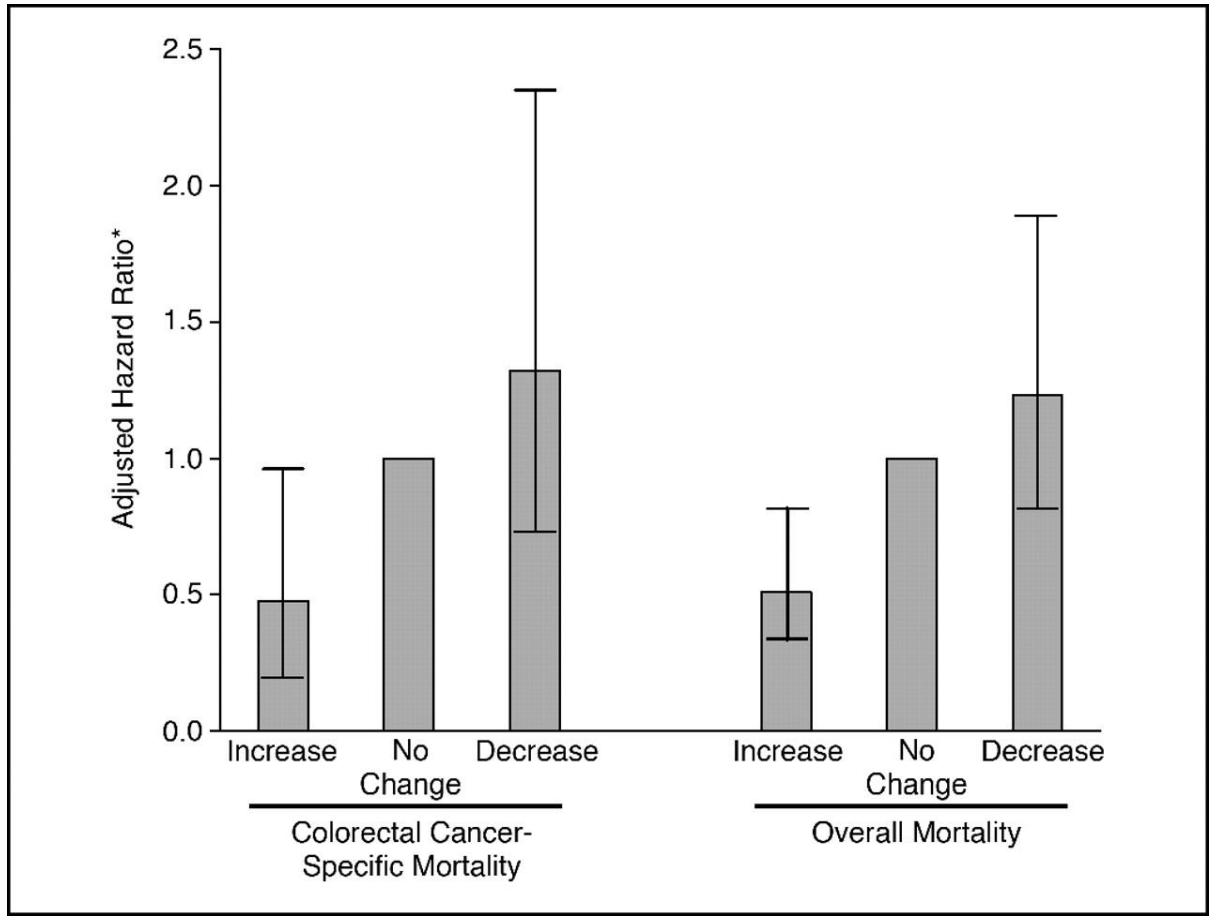
Meyerhardt et al., JCO, 2006

VOLUME 24 · NUMBER 22 · AUGUST 1 2006

JOURNAL OF CLINICAL ONCOLOGY ORIGINAL REPORT

Physical Activity and Survival After Colorectal Cancer Diagnosis

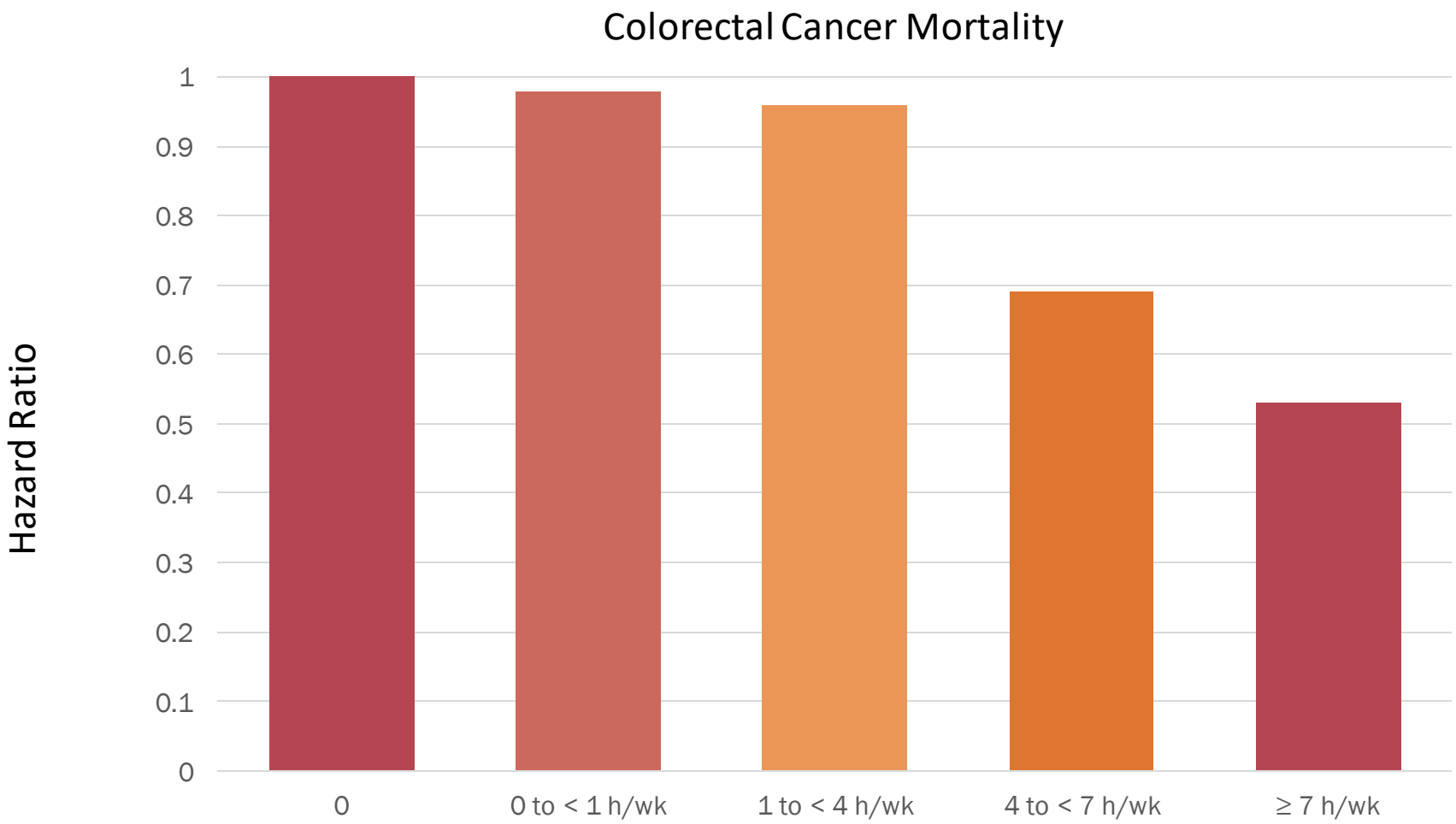
Jeffrey A. Meyerhardt, Edward L. Giovannucci, Michelle D. Holmes, Andrew T. Chan, Jennifer A. Chan, Graham A. Colditz, and Charles S. Fuchs



- Women who increased their physical activity (compared to pre levels) had a 52% lower risk of colorectal cancer–specific mortality 61% and reduced overall mortality of 49% compared with those with no change in activity.
- Recreational physical activity after the diagnosis of stages I to III colorectal cancer may reduce the risk of colorectal cancer–specific and overall mortality.

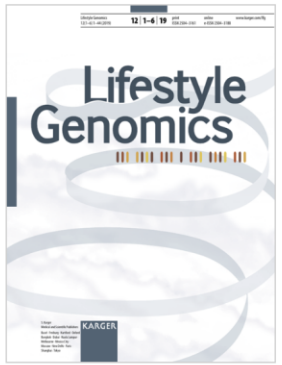
Meyerhardt et al., JCO, 2006

Post-Diagnosis Leisure Time Physical Activity



Arem H, et al. J Clin Onc. 2015

Volume 12, Issue 1-6
October 2019



SYSTEMATIC REVIEW | SEPTEMBER 23 2019

Epigenetic Modifications as Outcomes of Exercise Interventions Related to Specific Metabolic Alterations: A Systematic Review

Subject Area: Genetics , Nutrition and Dietetics , Public Health

Elisa Barrón-Cabrera; Omar Ramos-Lopez; Karina González-Becerra; Jose Ignacio Riezu-Boj; Fermin I. Milagro; Erika Martínez-López; Jose Alfredo Martínez

Lifestyle Genomics (2019) 12 (1-6): 25–44.

Both resistance and endurance exercise are necessary to obtain a better physiological adaptation and a combination of both seems to be needed to properly tackle the increasing prevalence of non-communicable pathologies.

- Resistance exercise induced epigenetic changes in pathways associated with energy metabolism and insulin sensitivity, contributing to healthy skeletal muscle.
- Endurance exercise caused modifications in biomarkers associated to metabolic alterations through changes in DNA methylation and the expression of specific miRNAs.

Barron-Cabrera et al., Lifestyle Genomics, 2019

American Cancer Society Physical Activity Guidelines

150-300 minutes of moderate-intensity physical activity per week

75-150 minutes of vigorous-intensity physical activity, or a combination

Getting 300 minutes or even more will give you the most health benefits

Movement Goals

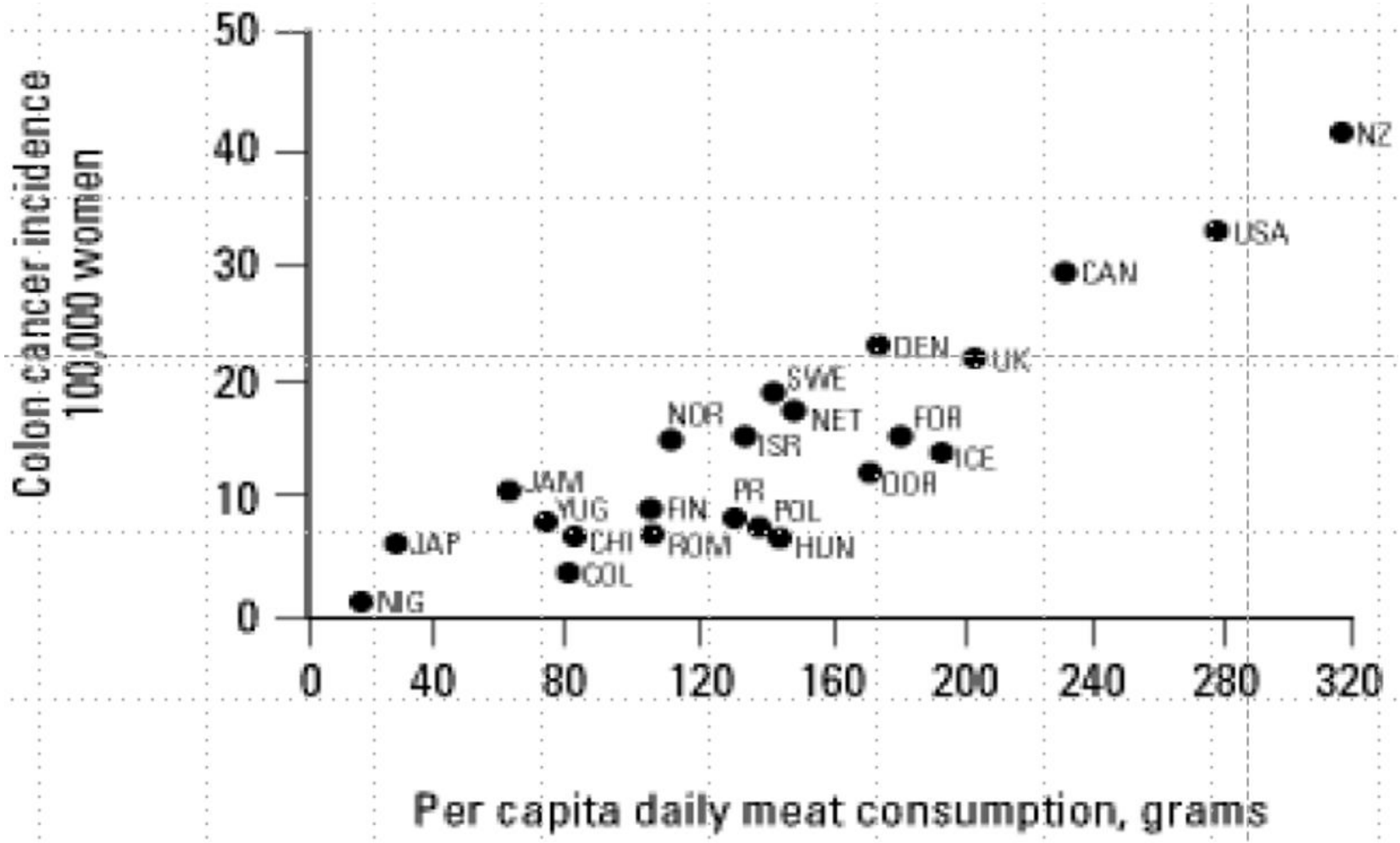
- Walk
- Dance
- Elliptical
- Stairs
- Hiking
- Bike
- Swimming
- Pickleball

- Weights
- Resistance Bands
- Yoga
- Body Weight Resistance
- Sit to Stand

- Stand up
- Stand up
- Stand up
- Stand up
- Stand up
- Stand up
- Stand up

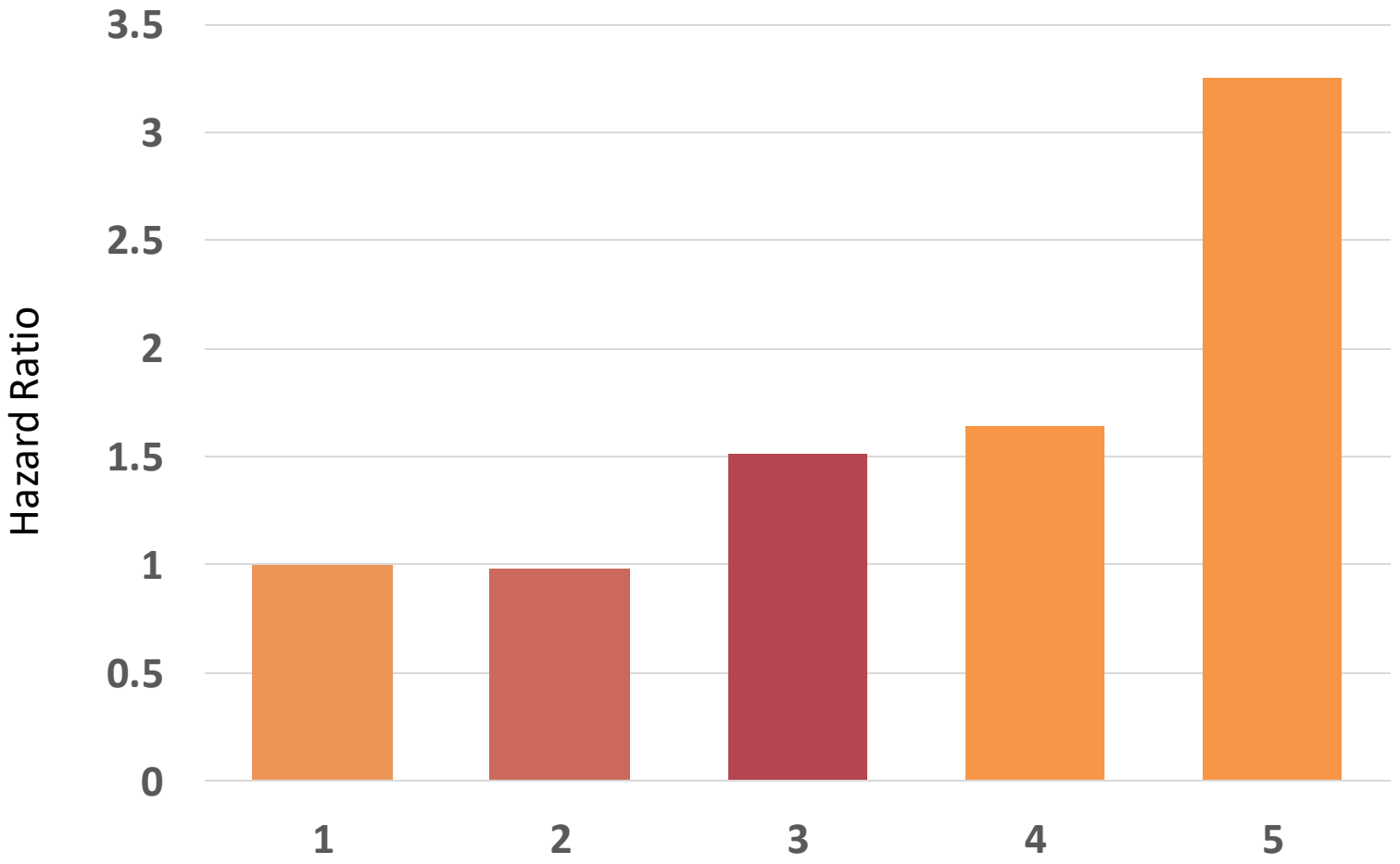
Diet

Red Meat



Armstrong and Doll, 1975, in Willett, 1995

Colorectal Cancer Recurrence or Death and the Western Diet



Meyerhardt et al., JAMA, 2007

Your Body is Mostly Microbes

SCIENCE

VOLUME 374 | ISSUE 6575 | 24 DEC 2021

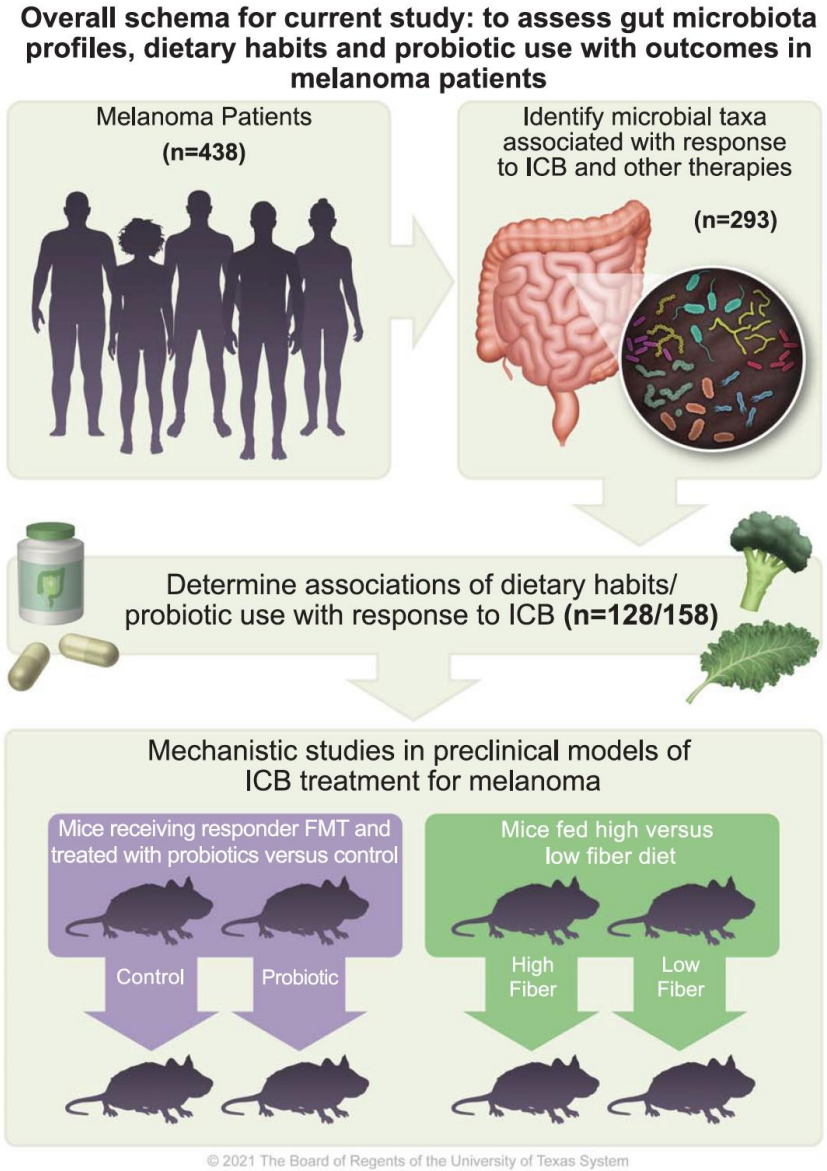
IMMUNOTHERAPY

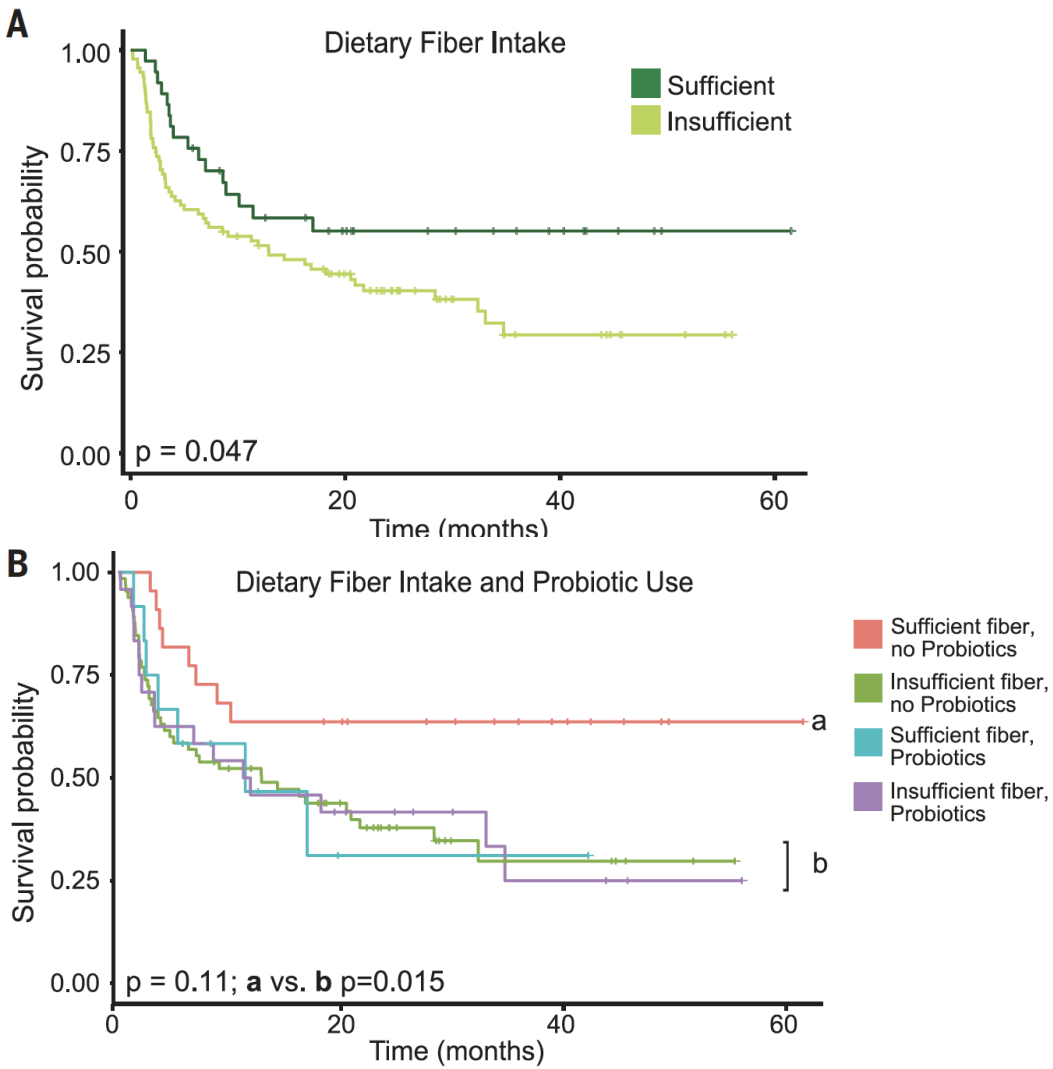
Dietary fiber and probiotics influence the gut microbiome and melanoma immunotherapy response

Christine N. Spencer[1]†‡, Jennifer L. McQuade[2]†, Vancheswaran Gopalakrishnan[1]†§, John A. McCulloch[3]†, Marie Vetizou[3]†, Alexandria P. Cogdill[1,4]†¶, Md A. Wadud Khan[1], Xiaotao Zhang[5], Michael G. White[1], Christine B. Peterson[6], Matthew C. Wong[1], Golnaz Morad[1], Theresa Rodgers[2], Jonathan H. Badger[3], Beth A. Helmink[1]#, Miles C. Andrews[1,7], Richard R. Rodrigues[8], Andrey Morgun[9], Young S. Kim[10], Jason Roszik[2], Kristi L. Hoffman[11], Jiali Zheng[5]**, Yifan Zhou[4], Yusra B. Medik[4], Laura M. Kahn[4,12], Sarah Johnson[1], Courtney W. Hudgens[13], Khalida Wani[13], Pierre-Olivier Gaudreau[14], Angela L. Harris[15], Mohamed A. Jamal[16], Erez N. Baruch[17], Eva Perez-Guijarro[18], Chi-Ping Day[18], Glenn Merlino[18], Barbara Pazdrak[2], Brooke S. Lochmann[2], Robert A. Szczepaniak-Sloane[1], Reetakshi Arora[1], Jaime Anderson[2], Chrystia M. Zobniw[2], Eliza Posada[2], Elizabeth Sirmans[2], Julie Simon[1], Lauren E. Haydu[1], Elizabeth M. Burton[1], Linghua Wang[16], Minghao Dang[16], Karen Clise-Dwyer[19,20], Sarah Schneider[19], Thomas Chapman[1], Nana-Ama A. S. Anang[4], Sheila Duncan[1], Joseph Toker[21,22], Jared C. Malke[1], Isabella C. Glitza[2], Rodabe N. Amaria[2], Hussein A. Tawbi[2], Adi Diab[2], Michael K. Wong[2], Sapna P. Patel[2], Scott E. Woodman[2], Michael A. Davies[2], Merrick I. Ross[1], Jeffrey E. Gershenwald[1], Jeffrey E. Lee[1], Patrick Hwu[2]††, Vanessa Jensen[23], Yardena Samuels[24], Ravid Straussman[24], Nadim J. Ajami[16], Kelly C. Nelson[25], Luigi Nezi[26], Joseph F. Petrosino[11], P. Andrew Futreal[16], Alexander J. Lazar[12,16,27], Jianhua Hu[28], Robert R. Jenq[16,29], Michael T. Tetzlaff[30], Yan Yan[31], Wendy S. Garrett[32], Curtis Huttenhower[31,33,34,35], Padmanee Sharma[4,36,37], Stephanie S. Watowich[4], James P. Allison[4,37], Lorenzo Cohen[38]‡‡, Giorgio Trinchieri[3]*‡‡, Carrie R. Daniel[5]*‡‡, Jennifer A. Wargo[1,16]*‡‡

A tale of team science

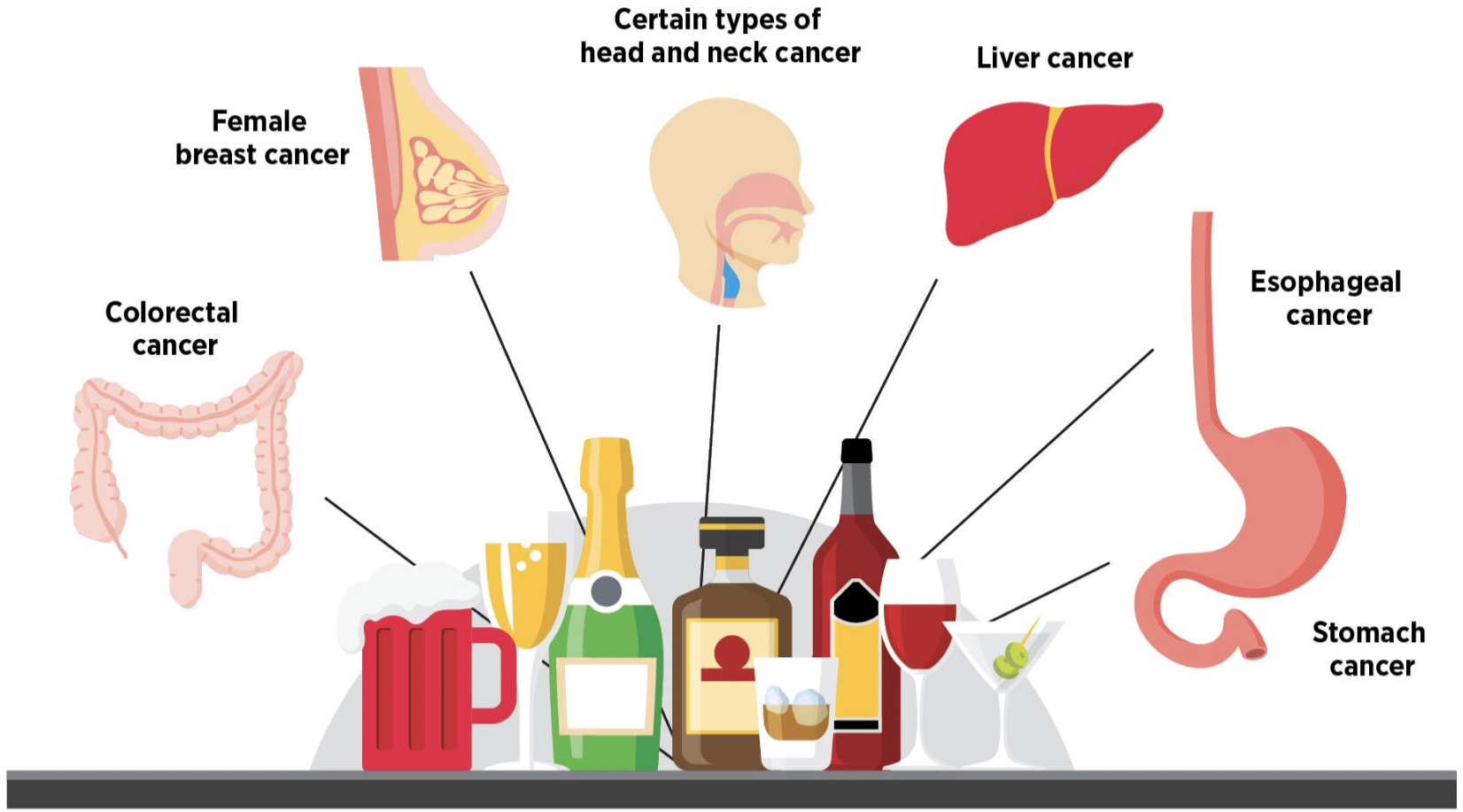
Photo credit: Khriszha Quema-Yee, PICI





A: Kaplan-Meier plot comparing progression free survival intervals by dietary fiber intake among patients who received ICB. **B:** Kaplan-Meier plot comparing progression-free survival intervals by combined dietary fiber and probiotic status among patients who received ICB.

Alcohol and Cancer Risk



Consumption of alcohol increases an individual's risk of developing six types of cancer—certain types of head and neck cancer, esophageal squamous cell carcinoma, and breast, colorectal, liver, and stomach cancers.

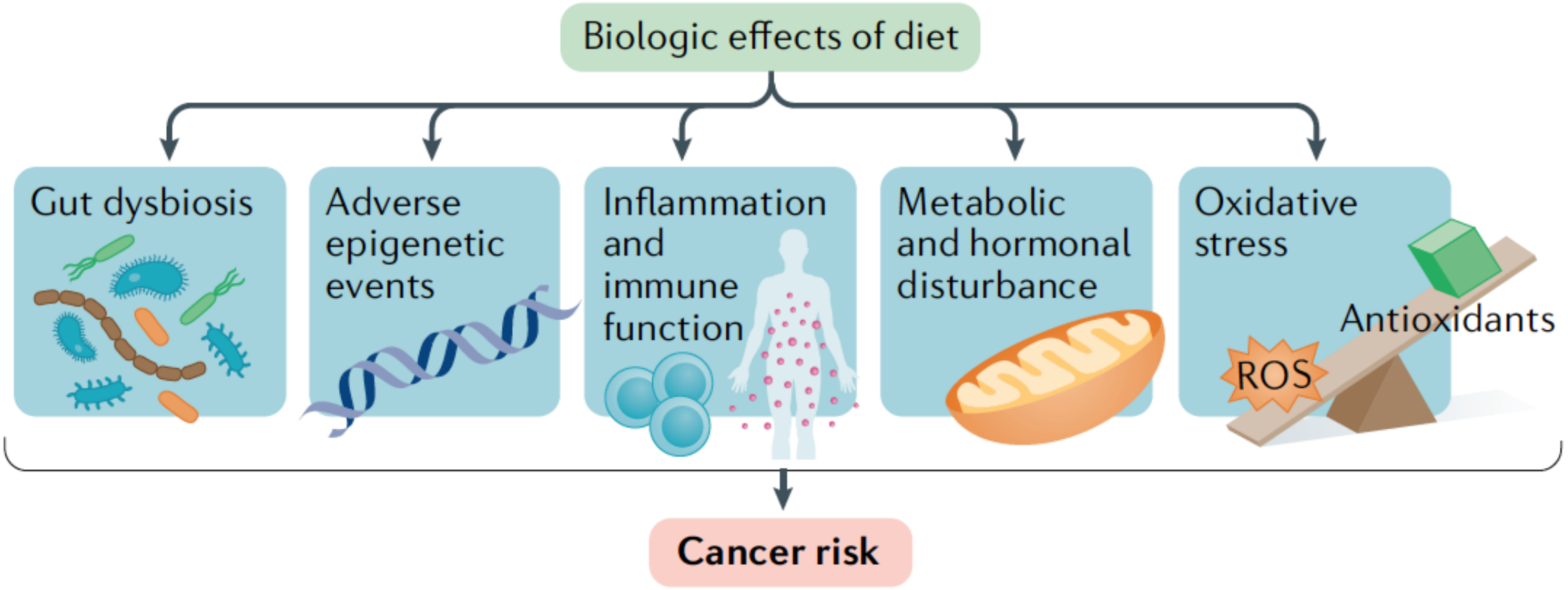
AACR Progress Report, 2022

A 40-year-old could **add a decade to his or her life expectancy** by switching from a typical Western diet to one that includes **more legumes, whole grains, and nuts, and less red and processed meat**.

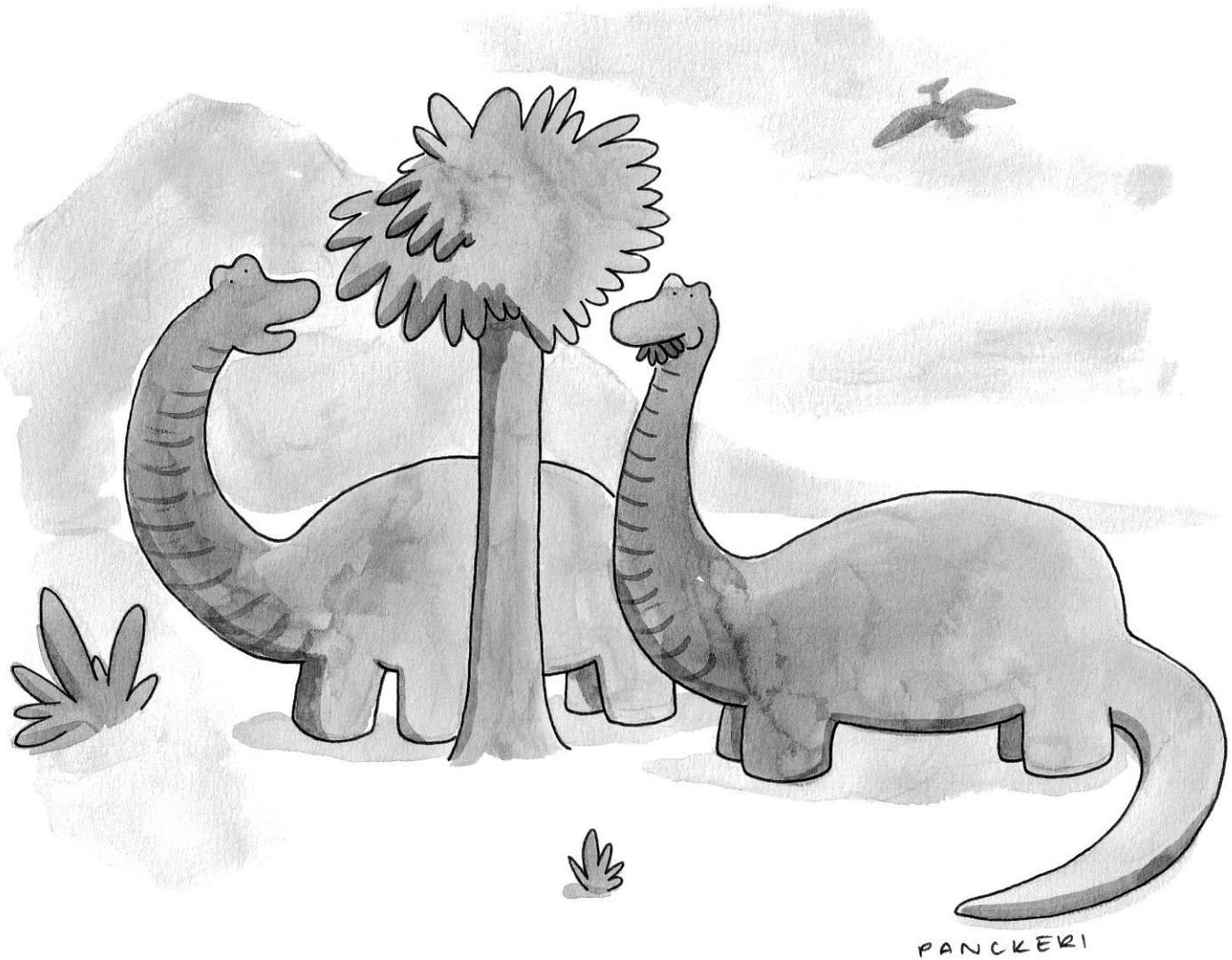
AACR Progress Report, 2022

GBD 2017 Diet Collaborators, The Lancet, Published online April 3, 2019

Diet and the Cancer Hallmarks



Steck & Murphy, *Nature Reviews Cancer, 2020*



"Sometimes I cheat and I'll have a lizard or two."

Health-Supporting Dietary Pattern

- Vegetables
- Fruits
- Grains
- Beans and legumes
- Nuts and seeds
- Lean clean animal protein

Eating by Food Groups

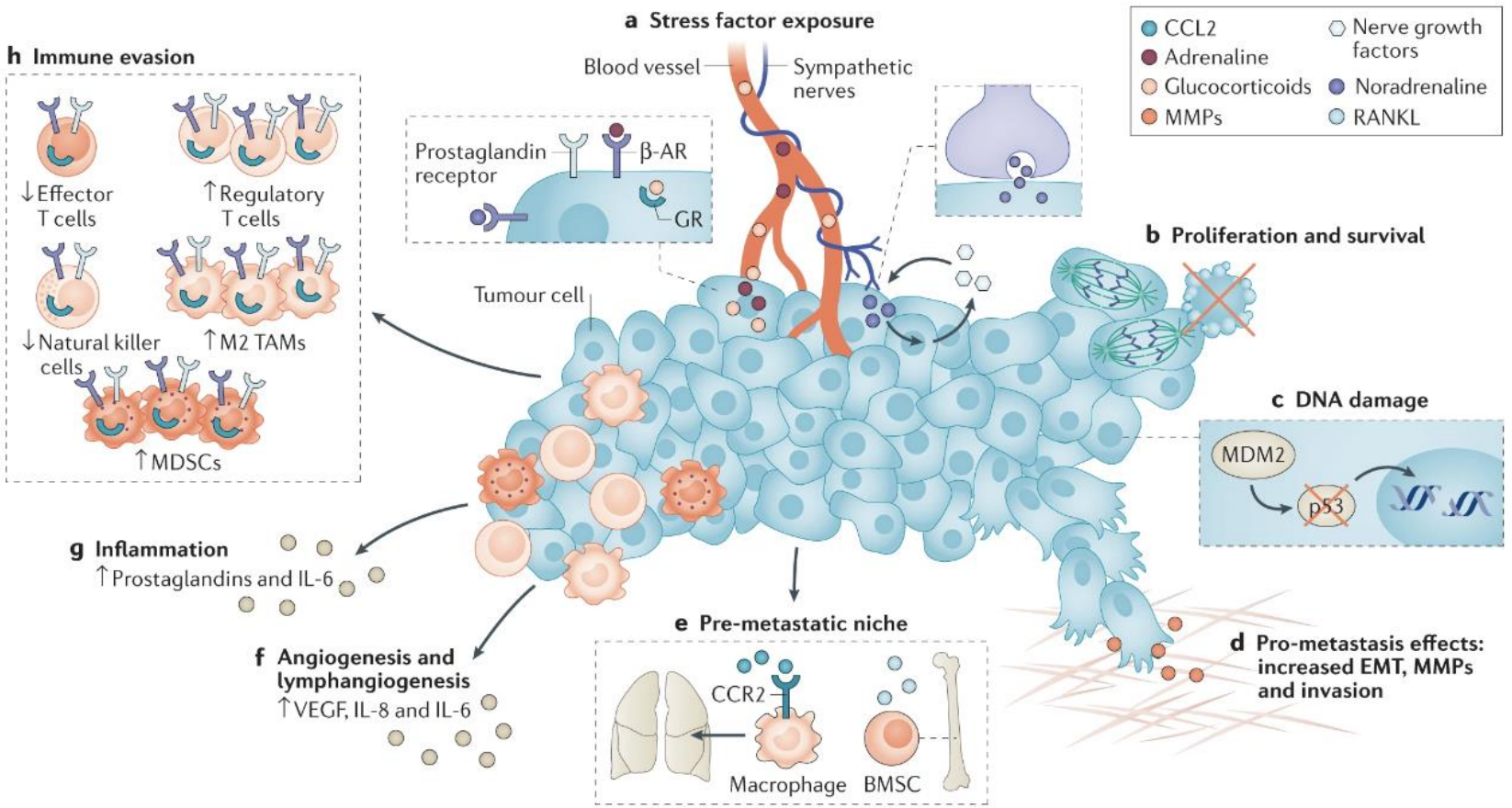
- Alliums
- Cruciferous vegetables
- Low-glycemic root vegetables
- Fruit (limited)

Stress and Stress Management

The Stress Response and Regulation of the Tumor Microenvironment

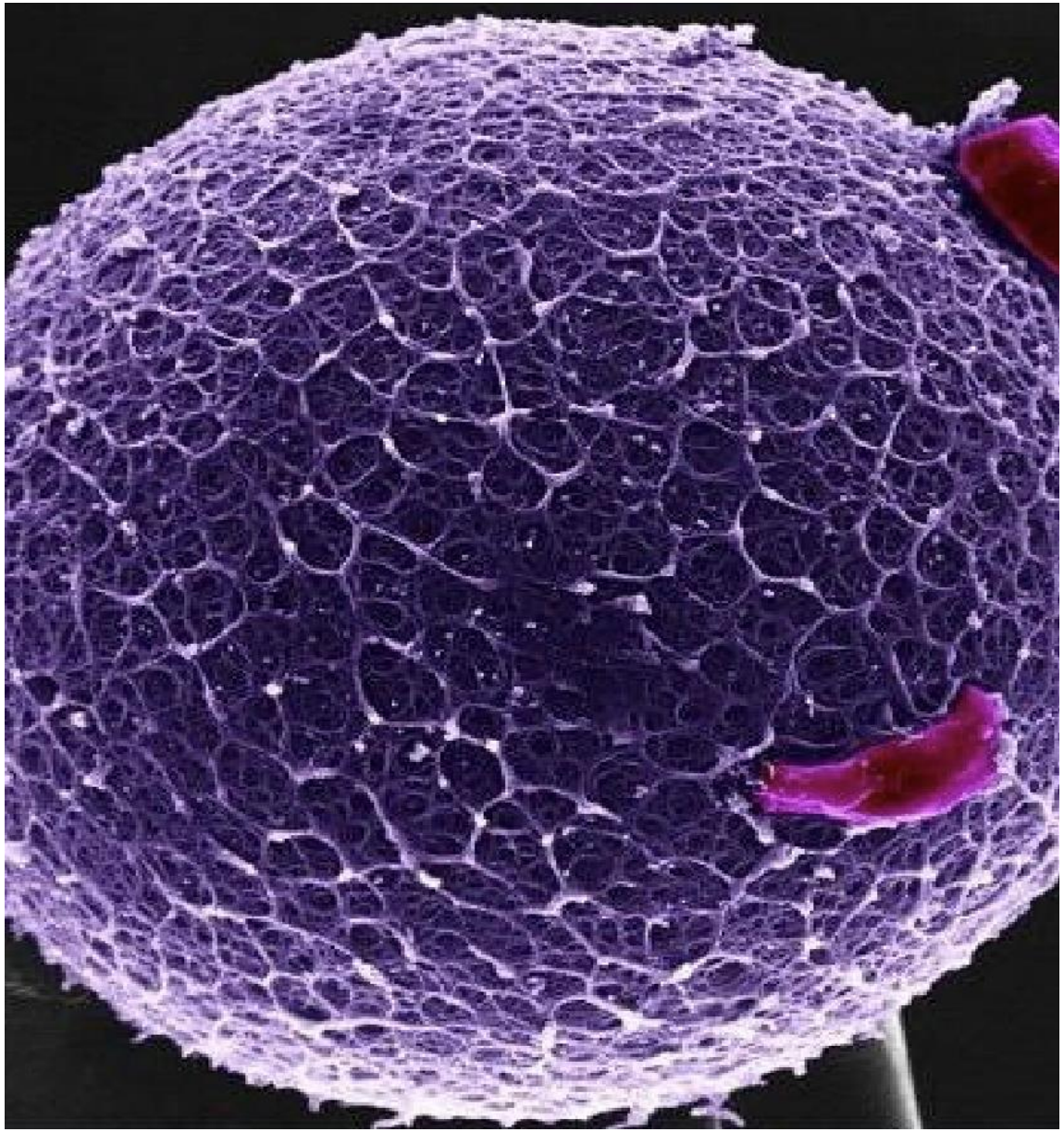
Stress and cancer: mechanisms, significance and future directions

Anabel Eckerling, Itay Ricon-Becker, Liat Sorski, Elad Sandbank and Shamgar Ben-Eliyahu ✉

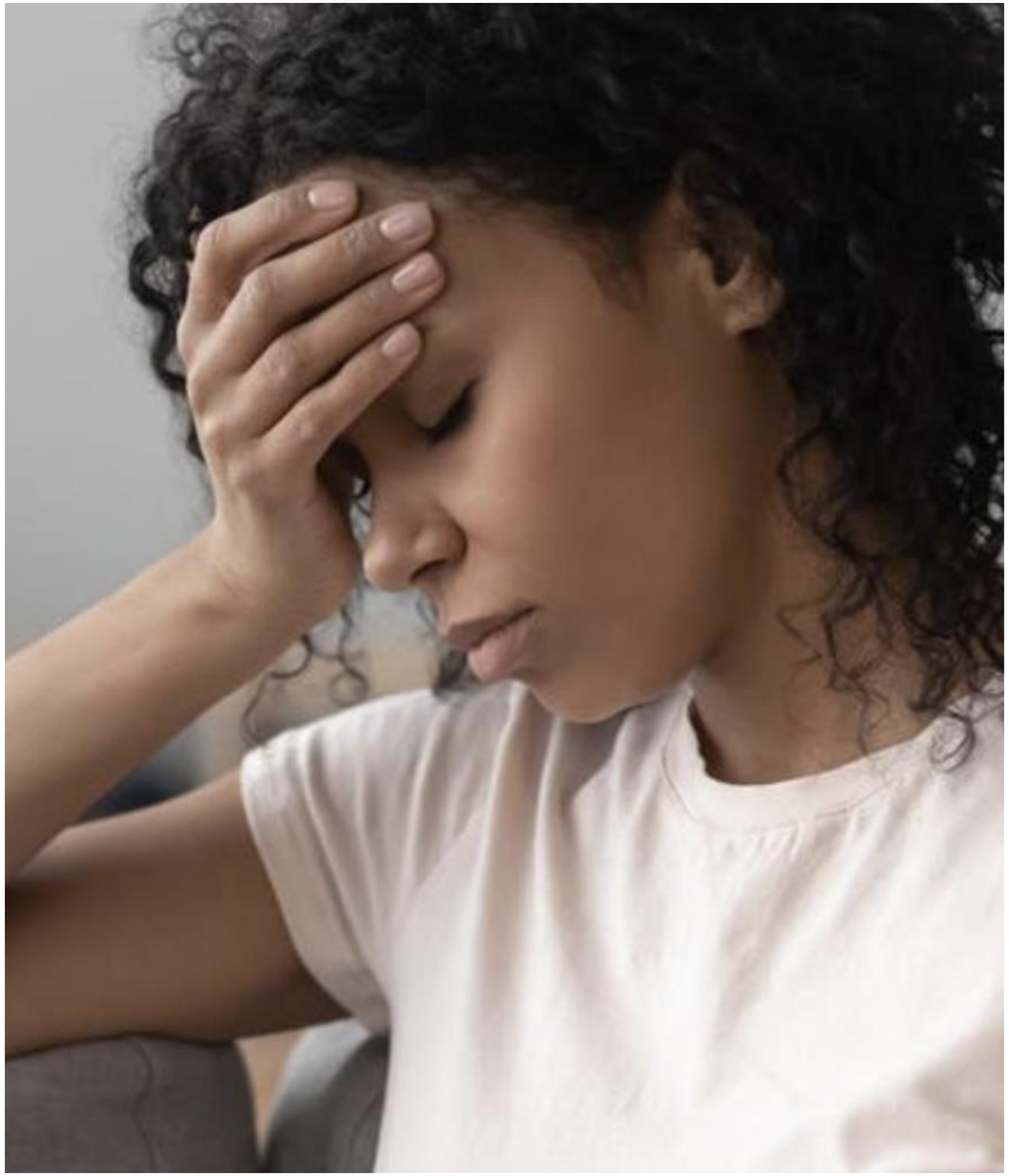


Cancer Hallmarks

- Sustaining proliferative signaling
- Evading growth suppressors
- Resisting cell death
- Enabling replicative immortality
- Inducing or accessing vasculature
- Avoiding immune destruction
- Activating invasion and metastasis
- Senescent cells
- Deregulating cellular metabolism
- Genome instability and mutation
- Tumor-promoting inflammation
- Unlocking phenotypic plasticity
- Nonmutational epigenetic reprogramming
- Polymorphic microbes



Hannahan, Cancer Discover, 2022

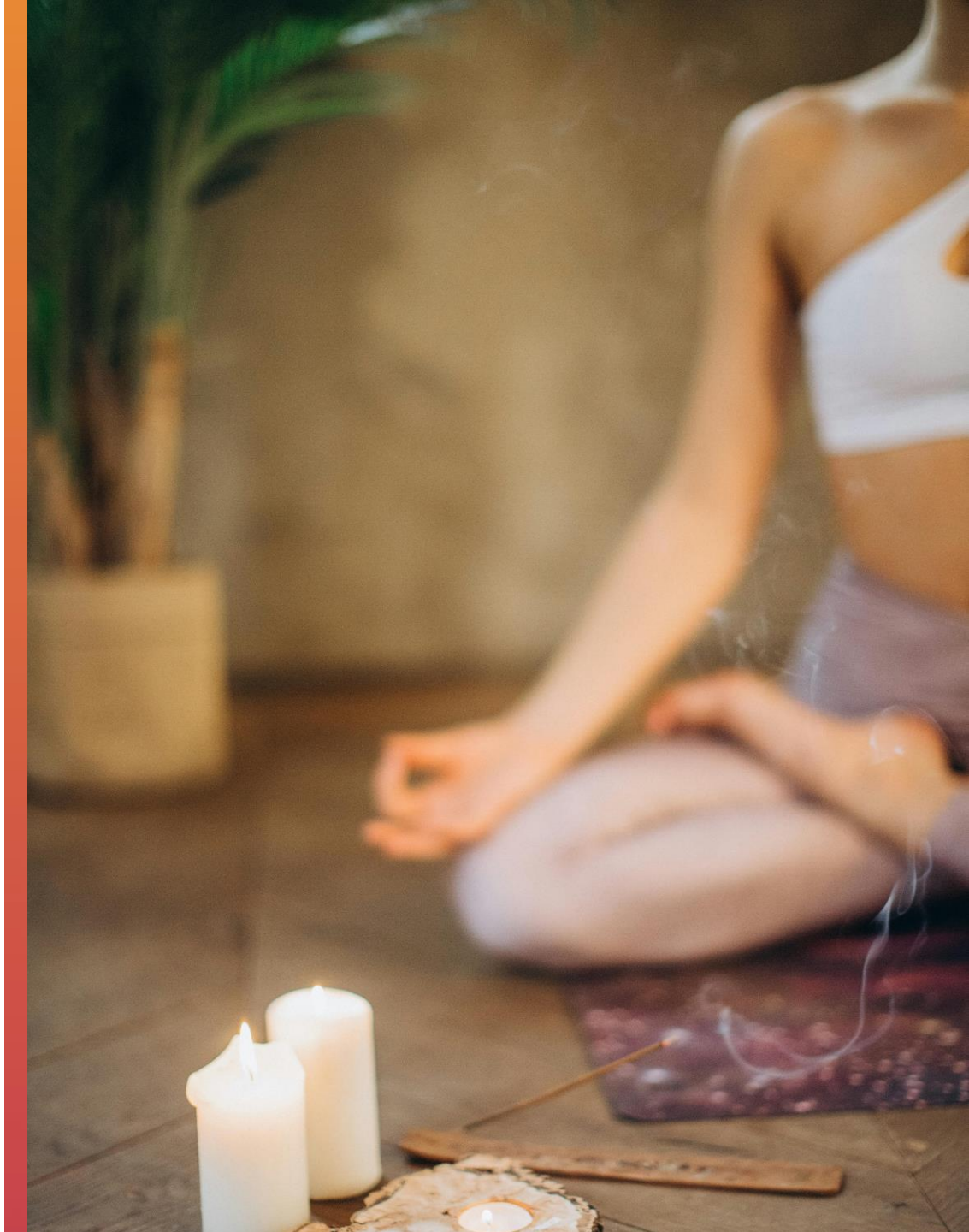


Stress Management

"Your mother and I are feeling overwhelmed, so you'll have to bring yourselves up."

Mind-body Programs

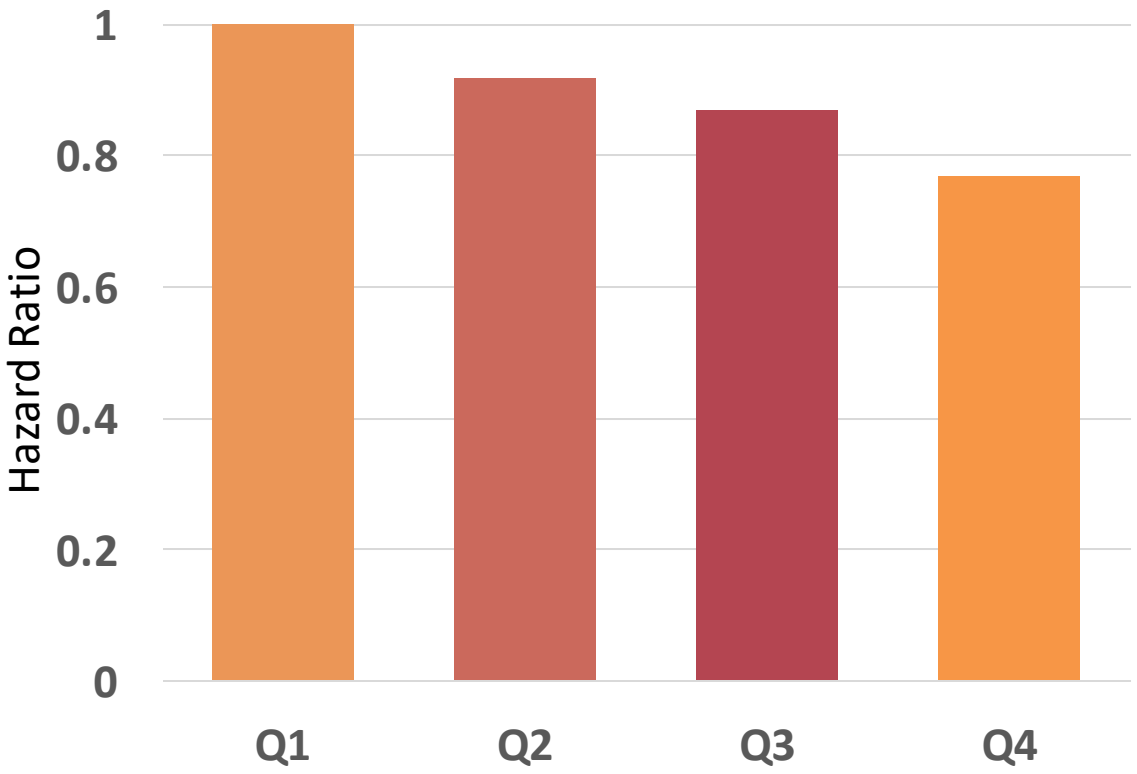
- Cognitive Behavioral Therapy
- Support Groups
- Journaling
- Gratitude
- Yoga
- Tai Chi/Qigong
- Meditation
- Breathing
- Emotional Expression
- Expressive Arts



MAYO CLINIC
MAYO CLINIC PROCEEDINGS
ORIGINAL ARTICLE

Association of a Mediterranean Lifestyle With All-Cause and Cause-Specific Mortality: A Prospective Study from the UK Biobank

Javier Maroto-Rodriguez, MSc; Mario Delgado-Velandia, MSc; Rosario Ortolá, MD; Aurora Perez-Cornago, PhD; Stefanos N. Kales, MD; Fernando Rodríguez-Artalejo, MD; and Mercedes Sotos-Prieto, PhD



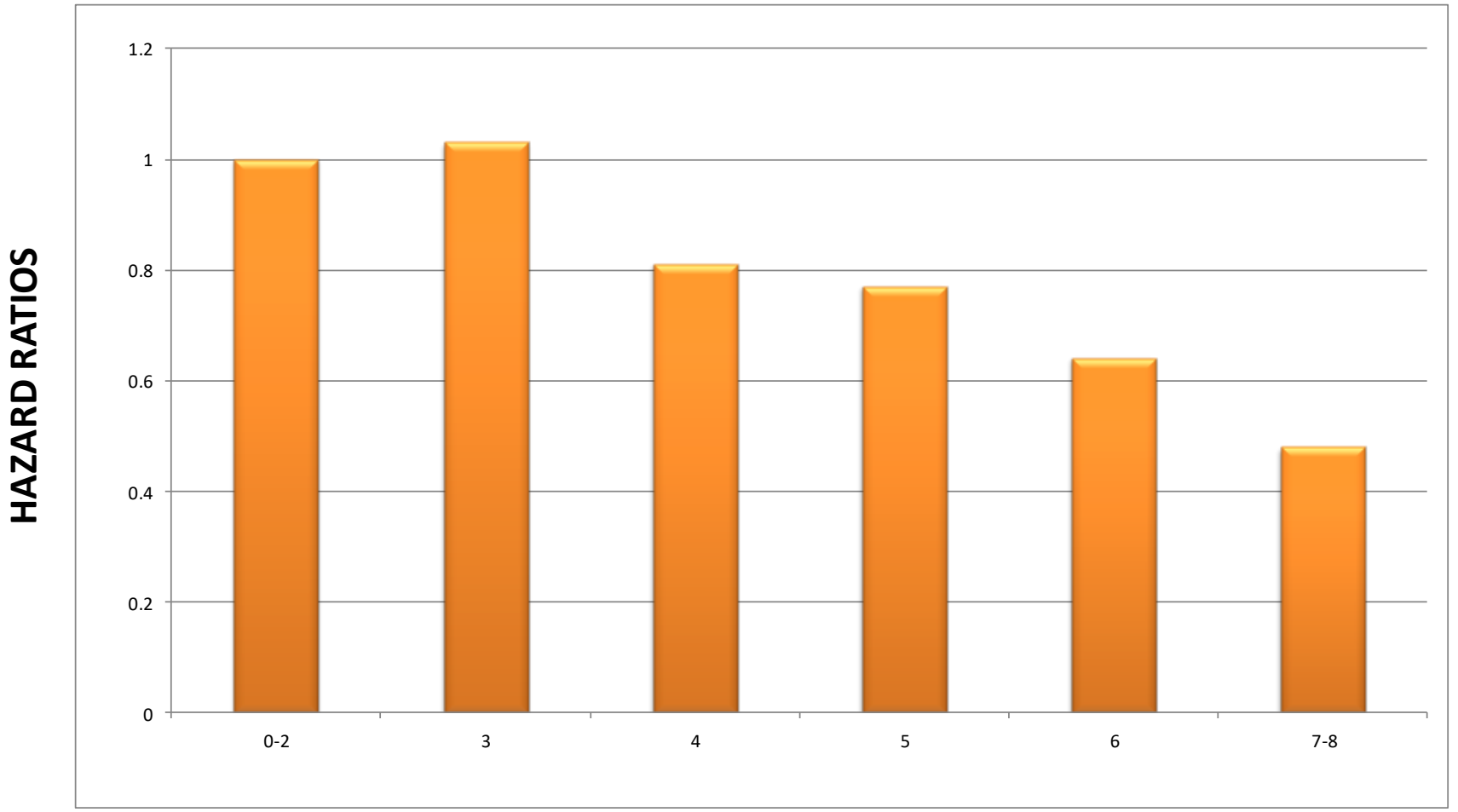
(1) "Mediterranean food consumption," items on food intake (eg, sweets, legumes, red meat, fruits, and nuts)

(2) "Mediterranean dietary habits," with items about habits and practices around meals (e.g., limiting salt at meals and consumption of healthy beverages)

(3) "physical activity, rest, social habits and conviviality," with items on resting and collective activities (eg, regular naps, sedentary habits, collective sports, and socializing with friends)

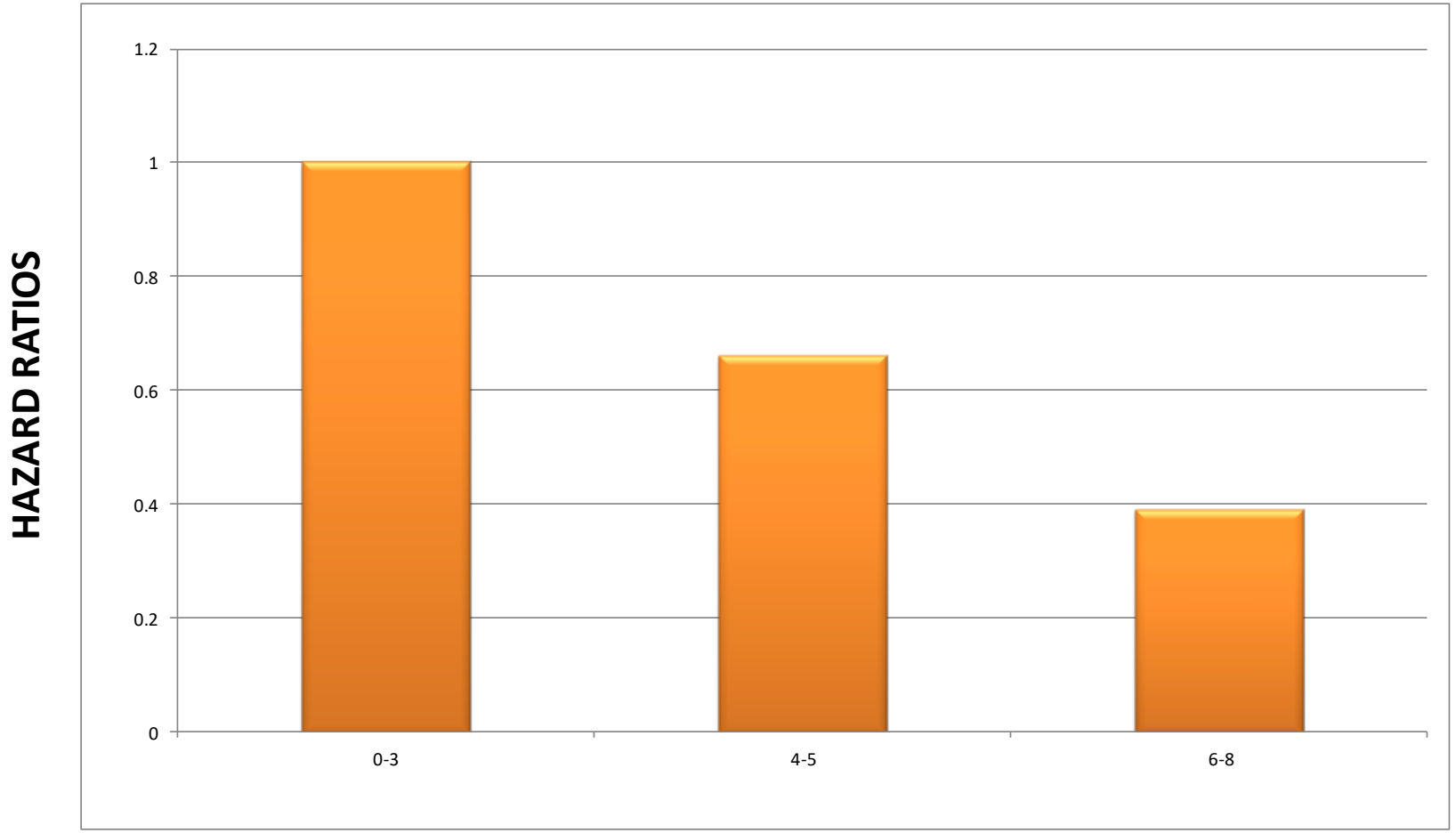
Maroto-Rodriguez et al., Mayor Clinic Proceedings, *2023*

ACS Guidelines Score and *Colorectal* Cancer Incidence



Thomson et al., *Cancer Prev Res, 2014*

ACS Guidelines Score and Colorectal Cancer Mortality



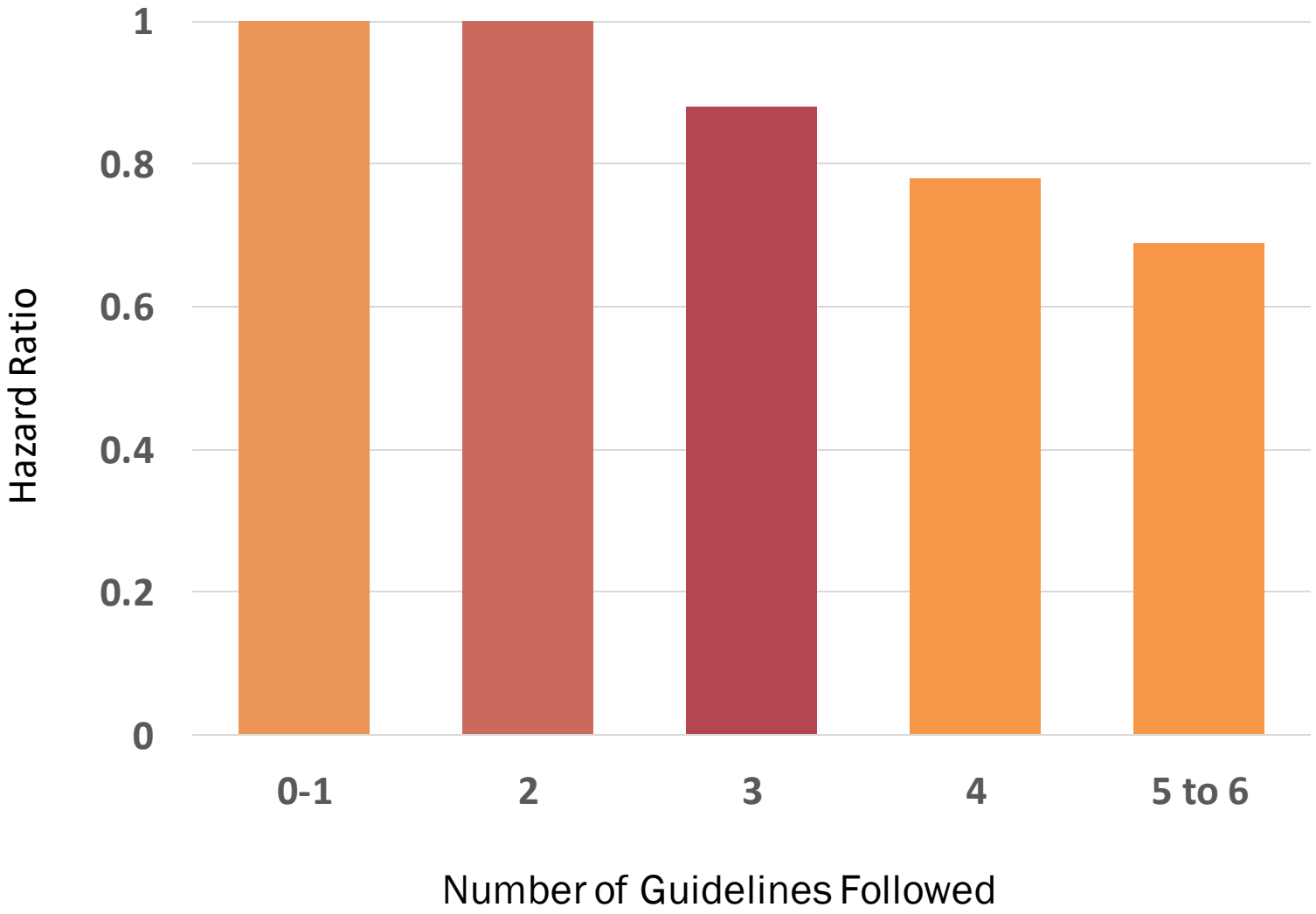
Thomson et al., *Cancer Prev Res, 2014*

Colorectal Cancer Recurrence or Death Based on ACS Guidelines

Adherence to the ACS guidelines (score of 5-6) was associated with a 9.0% absolute reduction in the risk of death at 5 years compared with a score of 0 to 4

Van Blarigan et al., JAMA Oncology, 2018

The more guidelines followed, the lower the risk

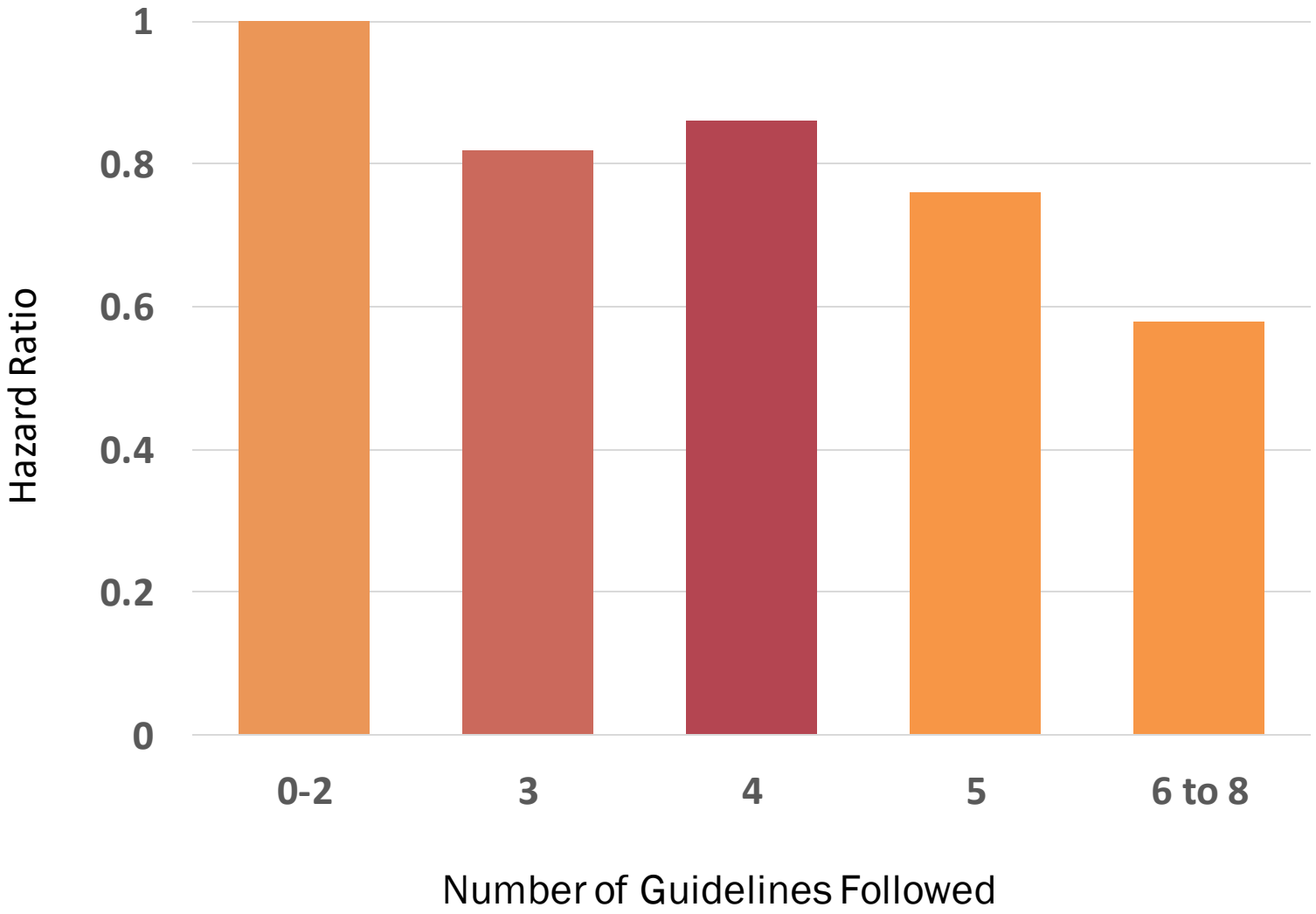


Colorectal Cancer Recurrence or Death Based on ACS Guidelines

(Including alcohol)

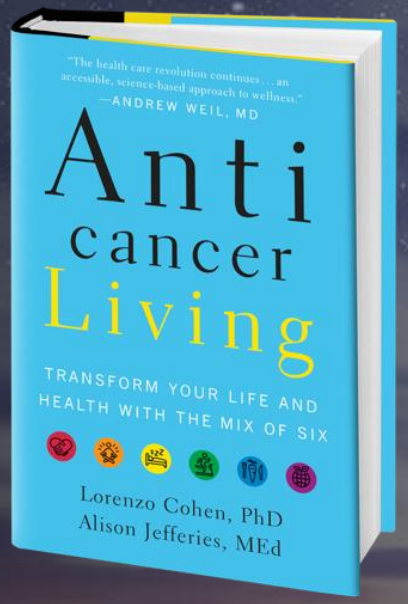
Van Blarigan et al., JAMA Oncology, 2018

The more guidelines followed, the lower the risk



Synergy

A phenomena where the whole is more than the sum of the parts

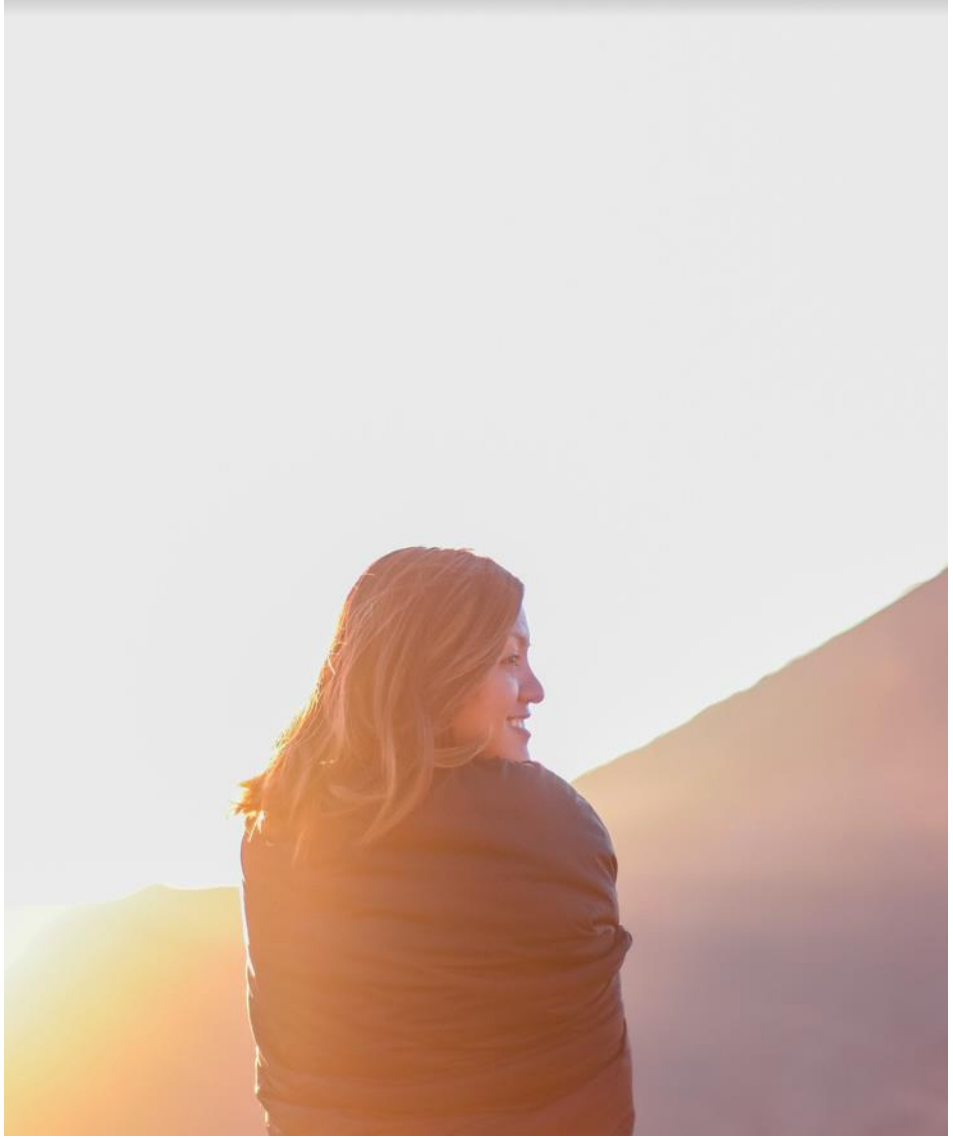


What to Strive For!

- Harness your team: make groups or join groups to help make change happen
- Meditation – at least 10 minutes/day
- Sleep 7-9 hours; establish and keep a routine
- Exercise – 6 days a week – 30-60 minutes; limit sitting; keep moving
- Food 90/10
- Watch your environmental exposures

It is a practice...

The more you practice the better you get....



Start Anticancer Living Today!

What is your next step?