



# Lifestyle Medicine

Prisma Health / Clemson School of Nursing

## Up-To-Date APP

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BMW Associate Family Health Center

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## **ACLM Vision:**

A world wherein Lifestyle Medicine is the foundation of a transformed, sustainable system of health care.

## **ACLM Mission:**

Advancing evidenced-based Lifestyle Medicine as a value-based specialty that transforms, redefines and sustains health and health care by treating, reversing and preventing noncommunicable, chronic disease.

# Disclosures

- No current or previous financial relationships with any commercial interests

# Background / Practice Experience

- Board Certified in Family Medicine (since 1994)
- Fellow – American Academy of Family Physicians (AAFP)
- Member- American College of Lifestyle Medicine (ACLM)
- Practice Experience:
  - Family Med Residency – US Army (EAMC, Ft Gordon GA)
  - Military Troop Med Clinic Commander + Fam Med Faculty (3 years)- Ft Gordon GA
  - Solo Private Practice (3 years) – Richmond, KY
  - Small Group Private Practice- 7 providers (18 yrs) – Augusta, GA
  - Veteran’s Administration- VAMC Primary Care (15 months)
  - Premise Health (3 years) - BMW = employer-sponsored direct primary care



# Premise Health

- The world's leading direct healthcare provider (50 year history)
- Largest direct access (onsite) care network in the US
- Mainly Fortune 1000 companies (BMW, GE, Lockheed; Disney, Lowes, USAA)
- Onsite, nearsite and 24/7 virtual care
- Multiple lines of service: Primary Care, Dental, Vision, Behav Health, PT/OT, Condition Mgmt / Wellness Coaching, Pharmacy, Occup Health, Fitness, Nutrition, Lab / Radiology, Travel Med, Biometric Screening
- Top 5% (95<sup>th</sup> percentile) HEDIS ranking of all healthcare providers nationwide

# Objectives

- Define 'Lifestyle Medicine'
- Review the 6 core principals that lead to good health
- Identify why Lifestyle Medicine is relevant today
- Recognize the impact of lifestyle behaviors & attributable disease states
- Examine scientific research supporting the use of Lifestyle Medicine to prevent, treat, and reverse disease
- Explore ways to impact patients in making lifestyle changes
- Discuss resources to help you on your journey as a medical provider



# Lifestyle Medicine Defined

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# Lifestyle Medicine

Lifestyle Medicine is the use of evidence-based lifestyle therapeutic approaches, such as a whole-food, plant-predominant dietary lifestyle, regular physical activity, adequate sleep, stress management, avoiding use of risky substances and pursuing other non-drug modalities, to treat, reverse, and prevent chronic disease.

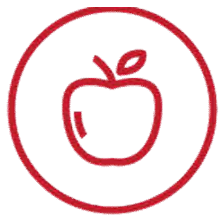
- Validated as highly effective
- Addresses the root-cause of disease
- Better outcomes and lower cost ... value-based care
- Engaging / affordable / patient-centered / healing





# Simple, Powerful Therapy

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## NUTRITION

Choose predominantly whole, plant-based foods that are fiber-filled, nutrient dense, health-promoting and disease-fighting



## SLEEP

Lack of, or poor quality sleep can lead to a strained immune system. Identify and alter dietary or environmental habits that may hinder healthy sleep



## EXERCISE

Regular and consistent physical activity is an essential piece of an optimal health equation



## SUBSTANCE ABUSE

The well-documented dangers of any addictive substance use can increase risk for many cancers and heart disease



## STRESS MANAGEMENT

Identify both positive and negative stress responses with coping mechanisms and reduction techniques for improved wellbeing

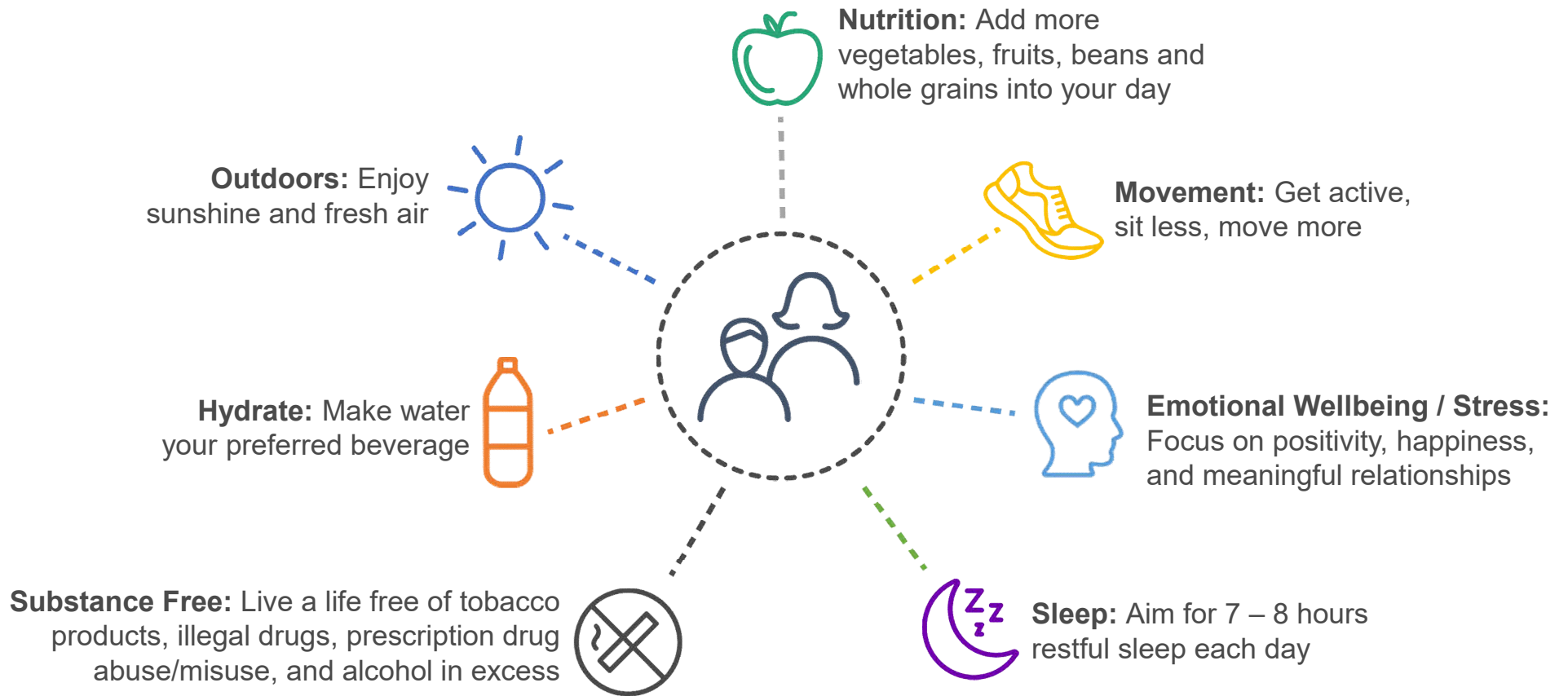


## HEALTHY RELATIONSHIPS

Social connectedness is essential to emotional resiliency and overall health



# Lifestyle Medicine



## Different Disciplines

“One of the most powerful aspects of Lifestyle Medicine is that patients become more engaged, active participants in their own self-care, disease prevention and management, and overall well-being.”

- Cindy Geyer, MD

| Medical Discipline    | Key Care Approach  |
|-----------------------|--|
| Lifestyle Medicine    | 6 to 9 key lifestyle modalities to treat/reverse/prevent disease;<br>Promotes a whole-food, plant-predominant diet |
| Preventive Medicine   | Early detection/Screening;<br>Environmental safety/public health   |
| Functional Medicine   | Emerging diagnostics; Gut health;<br>Nutraceuticals/Supplements  |
| Naturopathic Medicine | Manipulation; Herbal remedies  |
| Integrative Medicine  | Combined use of complementary & conventional medicine approaches to care & treatment                               |

# #RealHealthcareReform

- Team-Based Care
- Group Visits & Support Groups
- Value-Based Care
- Proven Outcomes
- Improved Patient Satisfaction
- Renewed Physician Passion

“We have long known what behaviors promote health and prevent disease. Lifestyle medicine embodies this idea of true 'health' care. Rather than pills and procedures, the focus is on the lifestyle choices we make every day.”

- Jonathan Bonnet, MD



# Systems of Change

Clinical guidelines state that diet changes are a critical first line treatment for many chronic conditions (e.g., diabetes, obesity, hypertension), often before any medication is prescribed.

This is reinforced by leading national and international organizations, and based on innumerable evidence-based studies showing dietary change has an “A” rating on patient impact.



The National Academies of  
SCIENCES • ENGINEERING • MEDICINE



Harvard T.H. Chan School of Public Health  
The Nutrition Source  
[www.hsph.harvard.edu/nutritionsource](http://www.hsph.harvard.edu/nutritionsource)



Scientific Report of the  
2015 Dietary Guidelines Advisory Committee  
Advisory Report to the Secretary of Health and Human Services  
and the Secretary of Agriculture



**DIABETES UK**  
KNOW DIABETES. FIGHT DIABETES.



FOOD  
PLANET  
HEALTH

Lancet Commission



# WHY NOW Unsustainable Economics

- US Healthcare Spend = \$3.3 trillion (\$10,739 per person)  
18% of US Gross Domestic Product
- **90% of this spend is on chronic disease** - Nearly half of all Americans live with one or more chronic disease
- Lifestyle Medicine is the cost- and life-saving foundation of all healthcare - in clinical practice, as well as in worksite health promotion
- Launched in Nov 2018, LMERC Advisory Board Members: economists, research physicians, health care consultants, actuaries, data analysts and public health professionals

Source: <https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/NationalHealthExpendData/NationalHealthAccountsHistorical.html>



# WHY NOW Chronic Disease Epidemic:

- Healthcare in US costs \$3.3 trillion annually
- 90% of these costs are attributed to the treatment of chronic conditions
- Lifestyle Medicine addresses the **root cause** to both improve health & reduce costs

Six in ten adults in the US have a chronic disease and **four in ten adults** have two or more.



HEART DISEASE



CANCER



CHRONIC LUNG DISEASE



STROKE



ALZHEIMER'S DISEASE



DIABETES



CHRONIC KIDNEY DISEASE

Source: <https://www.cdc.gov/chronicdisease/about/costs/index.htm>





# Impact of Lifestyle Behaviors

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The World Health Organization estimates that by 2020, 2/3 of all diseases will be a result of lifestyle factors.



# Did you know?



9 out of 10 people need to significantly improve their diet.

Did you know?



1 in 6 people smoke tobacco.

# Did you know?



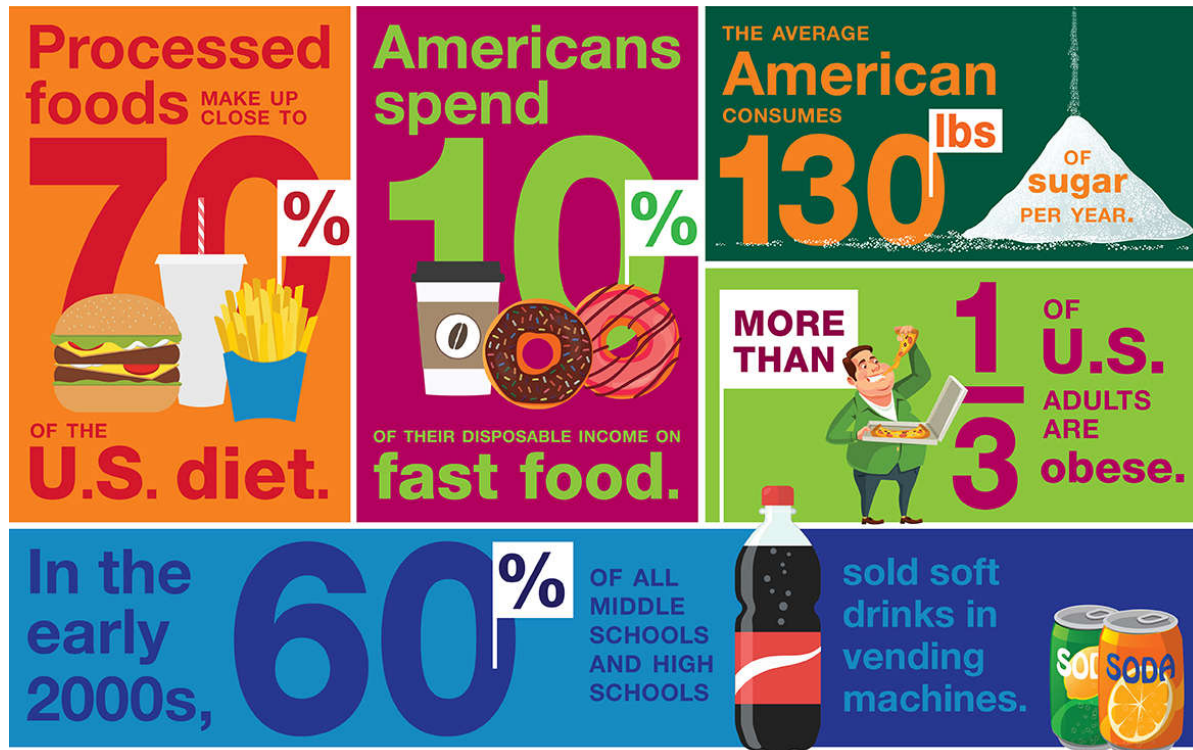
3 out of 4 people do not get enough physical activity.



## Did you know?



90% of Americans do not consume adequate amounts of fruits/vegetables in a day.



Only 3% of the U.S. Population meet the guidelines for healthy living.



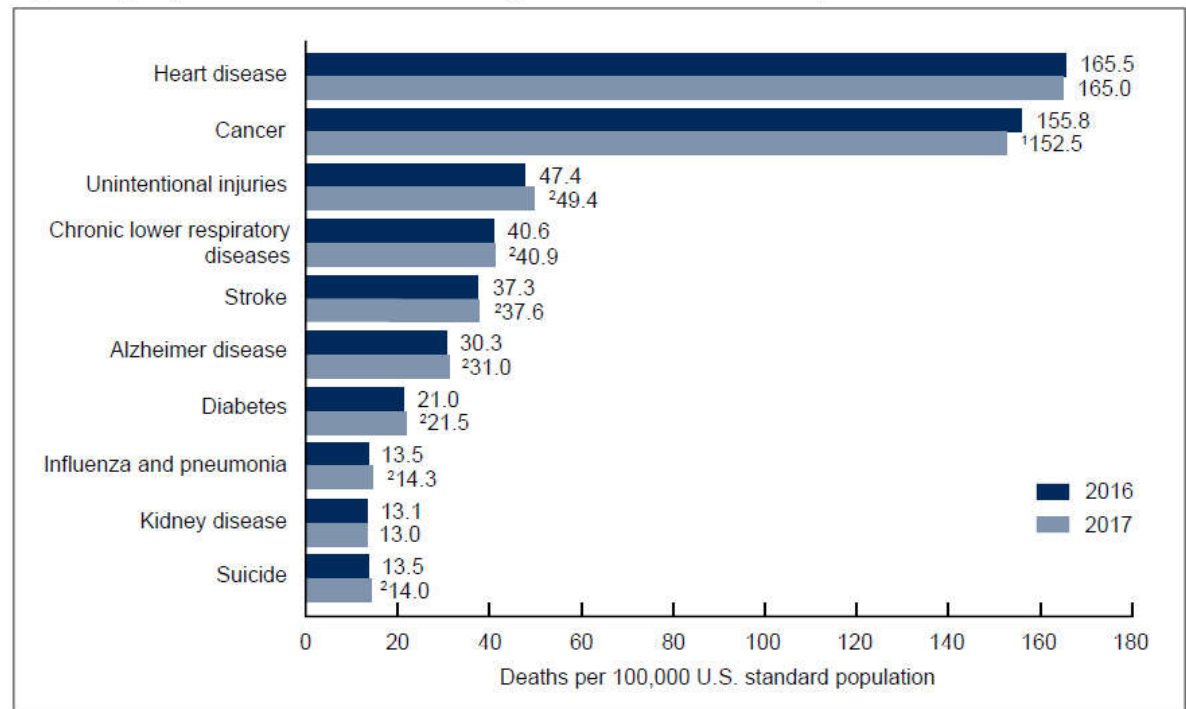
# Attributable Diseases to Lifestyle Behaviors



# Lifestyle Related Diseases

- Heart Disease
  - Hyperlipidemia
  - Hypertension
- Cancer
  - Breast cancer
  - Prostate cancer
  - Colon cancer
- Type 2 Diabetes
- Obesity
- Alzheimer's Disease

Figure 4. Age-adjusted death rates for the 10 leading causes of death: United States, 2016 and 2017



<sup>1</sup>Statistically significant decrease in age-adjusted death rate from 2016 to 2017 ( $p < 0.05$ ).

<sup>2</sup>Statistically significant increase in age-adjusted death rate from 2016 to 2017 ( $p < 0.05$ ).

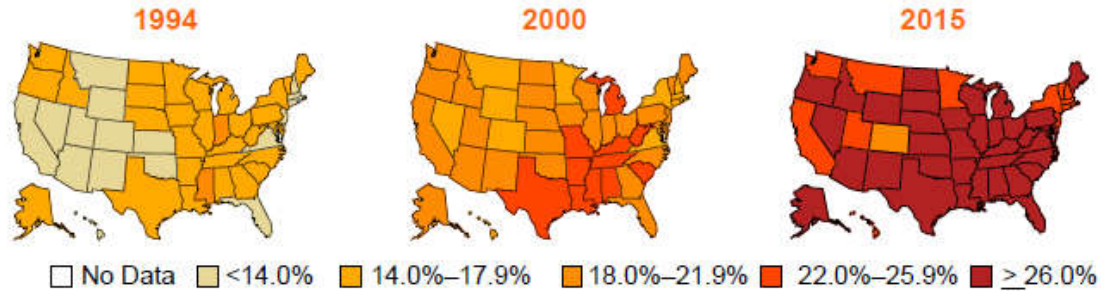
NOTES: A total of 2,813,503 resident deaths were registered in the United States in 2017. The 10 leading causes accounted for 74.0% of all deaths in the United States in 2017. Causes of death are ranked according to number of deaths. Rankings for 2016 data are not shown. Data table for Figure 4 includes the number of deaths for leading causes. Access data table for Figure 4 at: [https://www.cdc.gov/nchs/data/databriefs/db328\\_tables-508.pdf#4](https://www.cdc.gov/nchs/data/databriefs/db328_tables-508.pdf#4).

SOURCE: NCHS, National Vital Statistics System, Mortality.

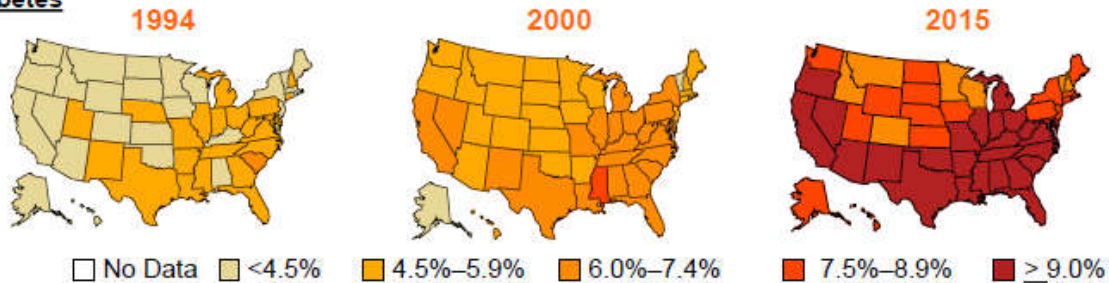


## Age-Adjusted Prevalence of Obesity and Diagnosed Diabetes Among US Adults

### Obesity (BMI $\geq 30$ kg/m<sup>2</sup>)



### Diabetes



CDC's Division of Diabetes Translation. United States Diabetes Surveillance System available at <http://www.cdc.gov/diabetes/data>

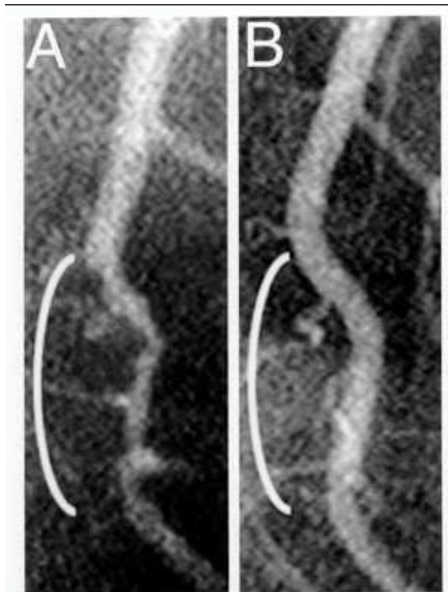




# Research Supporting Lifestyle Medicine



# Dr. Dean Ornish's Lifestyle Heart Trial Results



**Figure 1** -- Coronary angiograms of the distal left anterior descending artery before (left) and after (right) 32 months of a plant-based diet without cholesterol-lowering medication, showing profound improvement.

## Dean Ornish, MD

- showed that a lifestyle regimen featuring meditation, a low-fat vegetarian diet, smoking cessation, and regular exercise could not only stop the progression of CAD, but could actually reverse it.



Lifestyle Heart Trial, Lancet 1990

# Heart Disease Treatment – Coronary Artery Disease

VOL 336

THE LANCET

129

## Can lifestyle changes reverse coronary heart disease?

### The Lifestyle Heart Trial

DEAN ORNISH   SHIRLEY E. BROWN   LARRY W. SCHERWITZ  
JAMES H. BILLINGS   WILLIAM T. ARMSTRONG   THOMAS A. PORTS  
SANDRA M. MCLANAHAN   RICHARD L. KIRKKEIDE  
RICHARD J. BRAND   K. LANCE GOULD

In a prospective, randomised, controlled trial to determine whether comprehensive lifestyle changes affect coronary atherosclerosis after 1 year, 28 patients were assigned to an experimental group (low-fat vegetarian diet, stopping smoking, stress management training, and moderate exercise) and 20 to a usual-care control group. 195 coronary artery lesions were analysed by quantitative coronary angiography. The average percentage diameter stenosis regressed from 40.0 (SD 16.9)% to 37.8 (16.5)% in the experimental group yet progressed from 42.7 (15.5)% to 46.1

We carried out trials in 1977 and 1980 to assess the short-term effects of lifestyle changes on coronary heart disease with non-invasive endpoint measures (improvements in cardiac risk factors, functional status, myocardial perfusion,<sup>2</sup> and left ventricular function<sup>3</sup>). However, the subjects of those studies were not living in the community during the trial, and we did not use angiography to assess changes in coronary atherosclerosis.

### Patients and methods

Patients with angiographically documented coronary artery disease

v.1

## Lifestyle Heart Trial:

Proved that switching to a WFPB diet can actually open arteries!



# Heart Disease Treatment – Coronary Artery Disease

THE JOURNAL OF  
**FAMILY PRACTICE**

Caldwell B. Esselstyn Jr, MD; Gina Gendy, MD; Jonathan Doyle, MCS; Mladen Golubic, MD, PhD; Michael F. Roizen, MD  
The Wellness Institute of the Cleveland Clinic, Lyndhurst, Ohio  
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*The authors reported no potential conflict of interest relevant to this article.*

**ORIGINAL RESEARCH**  
**A way to reverse CAD?**

Though current medical and surgical treatments manage coronary artery disease, they do little to prevent or stop it. Nutritional intervention, as shown in our study and others, has halted and even reversed CAD.

**ABSTRACT**  
**Purpose** ▶ Plant-based nutrition achieved coronary artery disease (CAD) arrest and reversal in a small study. However, there was skepticism that this approach could succeed in a larger group of patients. The purpose of our follow-up study was to define the degree of adherence and outcomes of 198 consecutive patient volunteers who received counseling to convert from a usual diet to plant-based nutrition.

test to see if adherence can be sustained in broader populations. Plant-based nutrition has the potential for a large effect on the CVD epidemic.

**I**n a 1985 program initiated at the Cleveland Clinic, we examined whether plant-based nutrition could arrest or reverse advanced coronary artery disease (CAD) in 22 patients.<sup>1</sup> One patient with restricted myocardial blood flow documented by positron

| Treating the Cause – 3.75 Year Follow-Up |            |
|--|------------|
| Lost to Follow up (1%)                   | 2          |
| Adherent (89%)                           | 177        |
| Non-Adherent (10%)                       | 21         |
| <b>TOTAL</b>                             | <b>200</b> |

| RECURRENT EVENTS (%)  |       |
|-----------------------|-------|
| Adherent Patients     | 0.6 % |
| Non-Adherent Patients | 62 %  |

No mortality from the diet. No morbidity from the diet. Benefits improve over time!

# Heart Disease - Hypertension

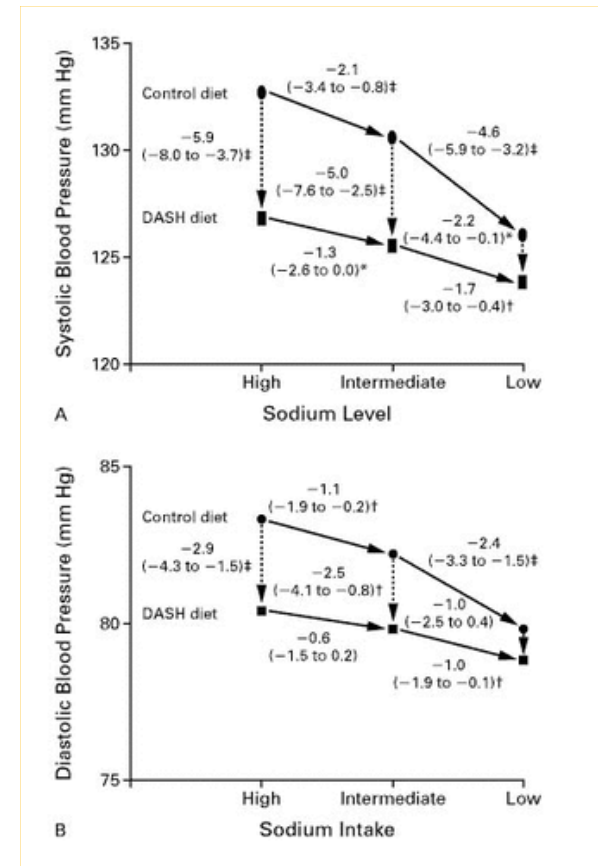
1940's – Dr. Walter Kempner recognized the following:

- Low salt diet helped with blood pressure
- Low protein diet helped with kidney function
- Low fat/cholesterol diet helped the heart

Kempner Rice Diet was born – diet completely made up of rice and fruit, which he used to treat those dying from malignant hypertension or end stage renal disease, hoping to halt the progression of disease.

Instead, two thirds of the disease REVERSED!

Flash Forward D.A.S.H. Diet  
Dietary Approaches to Stop Hypertension - 2001



# Heart Disease - Hypertension

Journal of the American College of Nutrition, Vol. 14, No. 5, 491-496

John McDougall, MD, Karin Litzau, MS, Ed Haver, MA, Vicki Saunders, RD, and Gene A. Spiller, PhD

Blood pressure for all patients fell in 11 days from 128/75 to 119/71 mm Hg on the average, representing a 9/4 mm Hg decrease. This is a 7% fall in systolic and a 5% fall in diastolic pressure over eleven days. Participants with higher blood pressures on entry (greater than 140/90 mm Hg) had a greater reduction in blood pressure (17/13 mm Hg average).

LDL cholesterol, high-density lipoprotein cholesterol measured on 60 subjects decreased by 15%.

# Heart Disease - Hypertension

## Pizza: The biggest single contributor of sodium to the American diet?

By Elaine WATSON

16-Jun-2013 - Last updated on 17-Jun-2013 at 13:07 GMT

[f](#) [t](#) [in](#) [e](#) 3 COMMENTS

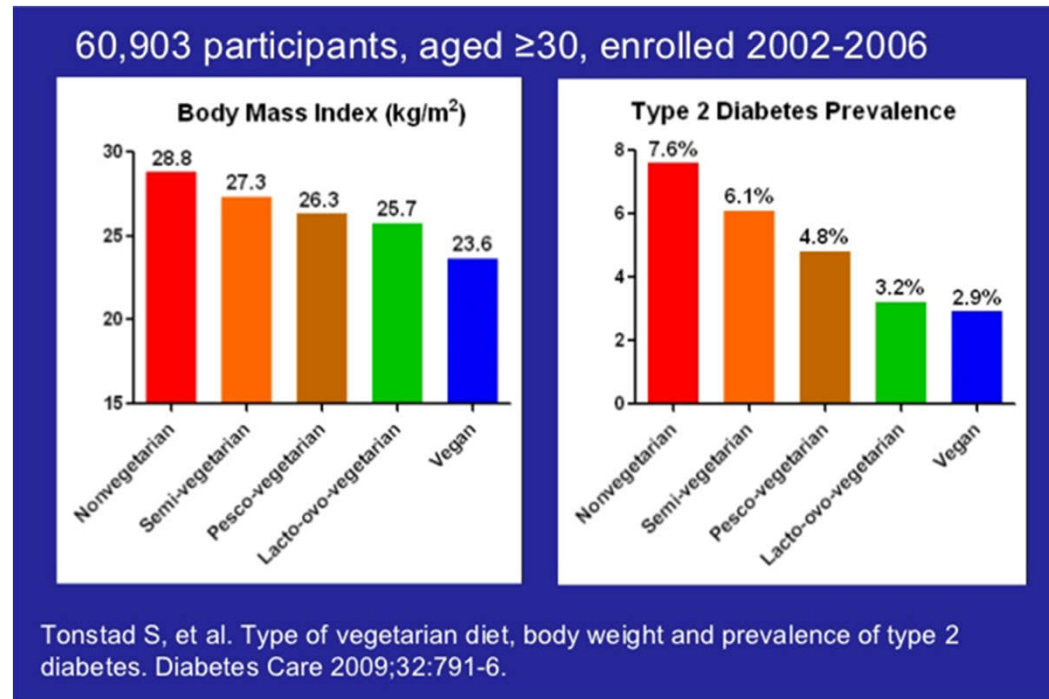


RELATED TAGS: Restaurant Bread

**Pizza was the single biggest contributor of sodium to the diet of young Americans in the period 2003-2008 according to a new analysis of dietary intake data from the government's National Health and Nutrition Examination Survey (NHANES).**

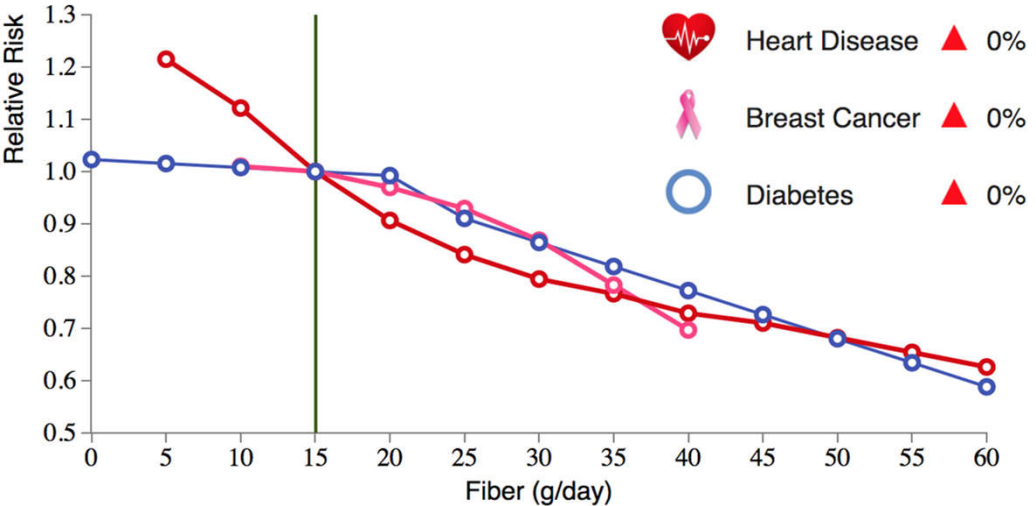


# Adventist 2 Study



Nonvegetarian = higher BMI  
Nonvegetarian = higher prevalence Diabetes

# Dietary Fiber Affects



<https://www.ncbi.nlm.nih.gov/pubmed/12963562>  
<https://www.ncbi.nlm.nih.gov/pubmed/26269366>  
<https://www.ncbi.nlm.nih.gov/pubmed/24389767>

| Food                           | Grams of Fiber |
|--------------------------------|----------------|
| 1 cup of cooked white beans    | 19             |
| 1 cup of raw raspberries       | 8              |
| 1 cup of cooked quinoa         | 5              |
| 1 cup of cooked collard greens | 5              |
| 1 cup of cooked broccoli       | 5              |
| 1 pear                         | 6              |
| Meat                           | 0              |

# Type 2 Diabetes

Diabetes is almost 100% preventable!

N Engl J Med, Vol. 346, No. 6

## REDUCTION IN THE INCIDENCE OF TYPE 2 DIABETES WITH LIFESTYLE INTERVENTION OR METFORMIN

### ABSTRACT

**Background** Type 2 diabetes mellitus, formerly called noninsulin-dependent diabetes mellitus, is a chronic disease affecting approximately 25 percent of adults in the United States. It is associated with some of its devastating complications, but usually restores normoglycemia and prevents adverse consequences. Until recently, the standard method of treating diabetes was insulin, but this is not preferable. The hypothesis that type 2 diabetes is preventable<sup>5,6</sup> is supported by epidemiologic studies and two clinical trials in persons at high risk for diabetes. The results of previous

**Methods** We randomly assigned 3226 persons with elevated fasting glucose concentrations (100 to 125 mg twice daily), or a lifestyle intervention with the goals of at least 150 minutes of moderate-intensity exercise per week. The mean age of the pa-

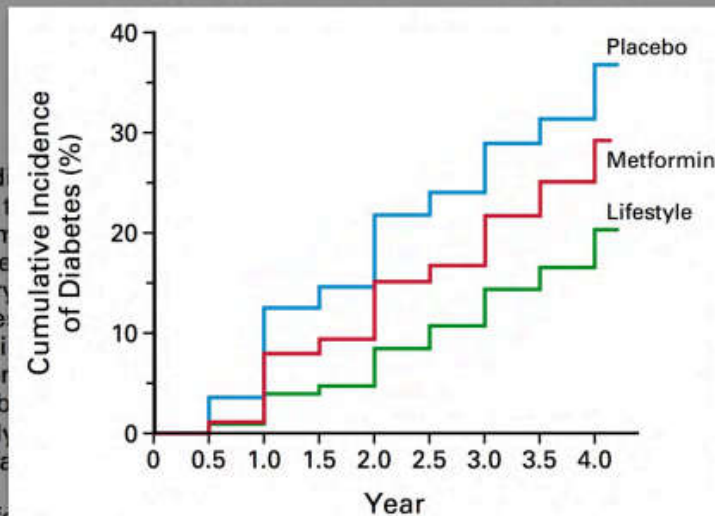


Figure 2. Cumulative Incidence of Diabetes According to Study Group.

diabetes mellitus, formerly called noninsulin-dependent diabetes mellitus, is a chronic disease affecting approximately 25 percent of adults in the United States. It is associated with some of its devastating complications, but usually restores normoglycemia and prevents adverse consequences. Until recently, the standard method of treating diabetes was insulin, but this is not preferable. The hypothesis that type 2 diabetes is preventable<sup>5,6</sup> is supported by epidemiologic studies and two clinical trials in persons at high risk for diabetes. The results of previous

# Type 2 Diabetes - Prevention

| DPP Study                                    | Placebo (control) | Metformin | Lifestyle Intervention |
|--|-------------------|-----------|------------------------|
| Incidence of Diabetes (per 100 person-years) | 11.0              | 7.8       | 4.8                    |
| Reduction in incidence compared to placebo   |                   | -31%      | -58%                   |

**Conclusions** Lifestyle changes and treatment with metformin both reduced the incidence of diabetes in persons at high risk. The lifestyle intervention was more effective than metformin. (N Engl J Med 2002; 346:393-403.)



# Type 2 Diabetes - Treatment/Cure

## A Low-Fat Vegan Diet Improves Glycemic Control and Cardiovascular Risk Factors in a Randomized Clinical Trial in Individuals With Type 2 Diabetes

NEAL D. BARNARD, MD<sup>1,2</sup>  
JOSHUA COHEN, MD<sup>1</sup>  
DAVID J.A. JENKINS, MD, PHD<sup>3</sup>  
GABRIELLE TURNER-McGRIEVEY, MS, RD<sup>4</sup>  
LISE GLOEDE, RD, CDE<sup>5</sup>

BRENT JASTER, MD<sup>2</sup>  
KIM SEIDL, MS, RD<sup>2</sup>  
AMBER A. GREEN, RD<sup>2</sup>  
STANLEY TALPERS, MD<sup>1</sup>

**OBJECTIVE** — We sought to investigate whether a low-fat vegan diet improves glycemic control and cardiovascular risk factors in individuals with type 2 diabetes.

**RESEARCH DESIGN AND METHODS** — Individuals with type 2 diabetes ( $n = 99$ ) were randomly assigned to a low-fat vegan diet ( $n = 49$ ) or a diet following the American Diabetes Association (ADA) guidelines ( $n = 50$ ). Participants were evaluated at baseline and 22 weeks.

**RESULTS** — Forty-three percent (21 of 49) of the vegan group and 26% (13 of 50) of the ADA group participants reduced diabetes medications. Including all participants, HbA<sub>1c</sub> (A1C) decreased 0.96 percentage points in the vegan group and 0.56 points in the ADA group ( $P = 0.089$ ). Excluding those who changed medications, A1C fell 1.23 points in the vegan group compared with 0.38 points in the ADA group ( $P = 0.01$ ). Body weight decreased 6.5 kg in the vegan group and 3.1 kg in the ADA group ( $P < 0.001$ ). Body weight change correlated with A1C change ( $r = 0.51$ ,  $n = 57$ ,  $P < 0.0001$ ). Among those who did not change lipid-lowering medications, LDL cholesterol fell 21.2% in the vegan group and 10.7% in the ADA group ( $P = 0.02$ ). After adjustment for baseline values, urinary albumin reductions were greater in the vegan group (15.9 mg/24h) than in the ADA group (10.9 mg/24 h) ( $P = 0.013$ ).

**CONCLUSIONS** — Both a low-fat vegan diet and a diet based on ADA guidelines improved glycemic and lipid control in type 2 diabetic patients. These improvements were greater with a low-fat vegan diet.

*Diabetes Care* 29:1777–1783, 2006

used in the absence of exercise, was associated with increased insulin sensitivity and reduced body weight in nondiabetic overweight women (4).

We therefore conducted a randomized controlled trial of a vegan diet with exercise held constant to test the hypothesis that, in individuals with type 2 diabetes, a low-fat plant-based diet improves glycemic, plasma lipid, and weight control compared with a diet based on current ADA guidelines.

**RESEARCH DESIGN AND METHODS** — Individuals with type 2 diabetes, defined by a fasting plasma glucose concentration  $>6.9$  mmol/l on two occasions or a prior diagnosis of type 2 diabetes with the use of hypoglycemic medications for  $\geq 6$  months, were recruited through newspaper advertisements in the Washington, DC, area on two occasions (October 2003 through December 2003 and October 2004 through December 2004) to complete the study from January 2004 through June 2004 and January 2005 through June 2005, respectively. Exclusion criteria were an HbA<sub>1c</sub> (A1C)  $<6.5$  or  $>10.5\%$ .

# Type 2 Diabetes - Diet

99 people with Type 2 Diabetes assigned to two diets for 22 weeks

|                                   | Low Fat, Plant Based Diet | ADA Diet |
|-----------------------------------|---------------------------|----------|
| Reduction in Diabetic Medications | -43%                      | -26%     |
| Reduction in Body Weight (lbs)    | -14.3 lbs                 | -6.8 lbs |
| Reduction in LDL Cholesterol      | -21.2%                    | -10.7%   |
| HbA1c (% points)                  | -1.3                      | -0.4     |

Barnard, N.D. et al. A Low-Fat Vegan Diet Improves Glycemic Control and Cardiovascular Risk Factors in a Randomized Clinical Trial in Individuals with Type 2 Diabetes. Diabetes Care 2006.

# Does Processed Meat Cause Cancer?

- 22 experts from 10 countries reviewed more than 800 studies to reach the conclusion: “eating 50 grams of processed meat daily increased the risk of colorectal cancer by 18%.”
- 50 grams of processed meat is equal to 4 strips of bacon or 1 hot dog





NIH Public Access

Author Manuscript

*J Clin Oncol.* Author manuscript; available in PMC 2008 March 24.

Published in final edited form as:

*J Clin Oncol.* 2007 June 10; 25(17): 2345–2351.

## Greater Survival After Breast Cancer in Physically Active Women With High Vegetable-Fruit Intake Regardless of Obesity





# Breast Cancer

NUTRITION AND CANCER, 55(1), 28–34  
Copyright © 2006, Lawrence Erlbaum Associates, Inc.

## Effects of a Low-Fat, High-Fiber Diet and Exercise Program on Breast Cancer Risk Factors In Vivo and Tumor Cell Growth and Apoptosis In Vitro

R. James Barnard, Jenny Hong Gonzalez, Maud E. Liva, and Tung H. Ngo

*Abstract: The present study investigated the effects of a diet and exercise intervention on known breast cancer (BCa) risk factors, including estrogen, obesity, insulin, and insulin-like growth factor-I (IGF-I), in overweight/obese, postmenopausal women. In addition, using the subjects' pre- and postintervention serum in vitro, serum-stimulated growth and apoptosis of three estrogen receptor-positive BCa cell lines were studied. The women were placed on a low-fat*

*grate to countries such as the United States and adopt a Western lifestyle, the incidence of BCa becomes equal to that found in the host country (5). BCa is also on the rise in Asian countries as they adopt a Western lifestyle (6).*

Four lifestyle factors that have received much attention are obesity, diet, physical activity, and alcohol consumption. Obesity is a major risk factor for postmenopausal BCa as reviewed by Harvie et al. (7) and by Rose et al. (8). After menopause,

# Breast Cancer

- Researchers followed about 30,000 post-menopausal women without a history of breast cancer for 7 years and found that limiting alcohol, eating mostly plant foods and maintaining a normal BMI (<25) was associated with a 62 percent lower breast cancer risk.
- The Long Island Breast Cancer Study Project reported that women who eat more grilled, BBQed or smoked meats over their lifetimes may have as much as 47% higher risk of breast cancer.
- In women actively fighting breast cancer, consuming less meat and more fruits, vegetables and fiber, as well as flaxseed, soy foods, and cruciferous vegetables improve survival chances.

Be as lean as possible

Eat mostly foods of plant origin

Limit alcoholic drinks

# Early-Stage Prostate Cancer

| Group @ 2 year follow up                  | Control (n=49) | Experimental (n=43) |
|---|----------------|---------------------|
| # that required conventional intervention | 13 of 49 (27%) | 2 of 43 (5%)        |
| PSA >10                                   | 3 of 49 (6%)   | 0 of 43 (0%)        |

NCBI Resources How To

PubMed.gov  
US National Library of Medicine  
National Institutes of Health

PubMed [dropdown] [input] Advanced

Format: Abstract

[Urology, 2008 Dec;72\(6\):1319-23. doi: 10.1016/j.urology.2008.04.050. Epub 2008 Jul 7.](#)

**Clinical events in prostate cancer lifestyle trial: results from two years of follow-up.**

[Frattaroli J<sup>1</sup>, Weidner G, Dnistrian AM, Kemp C, Daubenmier JJ, Marlin RO, Crutchfield L, Yglecias L, Carroll PR, Omish D.](#)

Author information

**Abstract**

**OBJECTIVES:** Previous research has demonstrated that patients with prostate cancer participating in the Prostate Cancer Lifestyle Trial had a reduction in prostate-specific antigen (PSA) levels, inhibition of LNCaP cell growth, and fewer prostate cancer-related clinical events at the end of 1 year compared with controls. The aim of this study was to examine the clinical events in this trial during a 2-year period.

**METHODS:** The Prostate Cancer Lifestyle Trial was a 1-year randomized controlled clinical trial of 93 patients with early-stage prostate cancer (Gleason score <7, PSA 4-10 ng/mL) undergoing active surveillance. The patients in the experimental arm were encouraged to adopt a low-fat, plant-based diet, to exercise and practice stress management, and to attend group support sessions. The control patients received the usual care.

**RESULTS:** By 2 years of follow-up, 13 of 49 (27%) control patients and 2 of 43 (5%) experimental patients had undergone conventional prostate cancer treatment (radical prostatectomy, radiotherapy, or androgen deprivation,  $P < .05$ ). No differences were found between the groups in other clinical events (eg, cardiac), and no deaths occurred. Three of the treated control patients but none of the treated experimental patients had a PSA level of  $\geq 10$  ng/mL, and 1 treated control patient but no treated experimental patients had a PSA velocity of  $>2$  ng/mL/y before treatment. No significant differences were found between the untreated experimental and untreated control patients in PSA change or velocity at the end of 2 years.

**CONCLUSIONS:** Patients with early-stage prostate cancer choosing active surveillance might be able to avoid or delay conventional treatment for at least 2 years by making changes in their diet and lifestyle.

**Conclusion:**  
Patients with early-stage prostate cancer choosing active surveillance might be able to avoid or delay conventional treatment for at least 2 years by making changes in their diet and lifestyle!

# Does Physical Activity Increase Life Expectancy?

A Review of the Literature- [Journal of aging research](#) 2012(11):243958

- Physical activity reduces many major mortality risk factors including arterial hypertension, diabetes mellitus type 2, dyslipidemia, coronary heart disease, stroke, and cancer. All-cause mortality is decreased by about 30% to 35% in physically active as compared to inactive subjects
- Results of 13 studies describing eight different cohorts suggest that regular physical activity is associated with an increase of life expectancy by 0.4 to 6.9 years.



# Alzheimer's Disease

February 2003

## Dietary Fats and the Risk of Incident Alzheimer Disease

Martha Clare Morris, SoD; Denis A. Evans, MD; Julia L. Bienias, SoD; et al

[Author Affiliations](#) | [Article Information](#)

*Arch Neurol.* 2003;60(2):194-200. doi:10.1001/archneur.60.2.194

Related  
Articles

### Abstract

**Background** Few studies have investigated the effects of dietary fats on the development of Alzheimer disease. We examined the associations between intake of specific types of fat and incident Alzheimer disease in a biracial community study.

**Methods** We performed clinical evaluations on a stratified random sample of 815 community residents aged 65 years and older who were unaffected by Alzheimer disease at baseline and who completed a food-frequency questionnaire a mean of 2.3 years before clinical evaluation.

**Results** After a mean follow-up of 3.9 years, 131 persons developed Alzheimer disease. Intakes of saturated fat and *trans*-unsaturated fat were positively associated with risk of Alzheimer disease, whereas intakes of  $\omega$ -6 polyunsaturated fat and monounsaturated fat were inversely associated. Persons in the upper fifth of saturated-fat intake had 2.2 times the risk of incident Alzheimer disease compared with persons in the lowest fifth in a multivariable model adjusted for age, sex, race, education, and apolipoprotein E  $\epsilon$ 4 allele status (95% confidence interval, 1.1-4.7). Risk also increased with consumption of *trans*-unsaturated fats, beginning with the second fifth of intake (relative risk, 2.4 compared with the lowest fifth; 95% confidence interval, 1.1-5.3). We observed linear inverse associations between Alzheimer disease and vegetable fat ( $P = .002$ ), and, after further adjustment for other types of fat, marginally significant associations with intake of  $\omega$ -6 polyunsaturated fat ( $P = .10$  for trend) and monounsaturated fat ( $P = .10$  for trend). Intakes of total fat, animal fat, and dietary cholesterol were not associated with Alzheimer disease.

Dementia  
and Geriatric  
Cognitive Disorders

Dement Geriatr Cogn Disord 2009;28:75-80  
DOI: 10.1159/000231980

Accepted: April 27, 2009  
Published online: August 4, 2009

## Midlife Serum Cholesterol and Increased Risk of Alzheimer's and Vascular Dementia Three Decades Later

Alina Solomon<sup>a,b</sup> Miia Kivipelto<sup>a,b</sup> Benjamin Wolozin<sup>c</sup> Jufen Zhou<sup>d</sup>  
Rachel A. Whitmer<sup>d</sup>

<sup>a</sup>Department of Neurology, University of Kuopio, Kuopio, Finland; <sup>b</sup>Aging Research Center, Karolinska Institutet, Stockholm, Sweden; <sup>c</sup>Department of Pharmacology, Boston University School of Medicine, Boston, Mass., and <sup>d</sup>Division of Research, Kaiser Permanente, Oakland, Calif., USA

quartile, 249–500 mg/dl). **Conclusion:** Midlife serum total cholesterol was associated with an increased risk of AD and VaD. Even moderately elevated cholesterol increased dementia risk. Dementia risk factors need to be addressed as early as midlife, before underlying disease(s) or symptoms appear.

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# Beginning the Journey



Making these 6 changes can reduce a person's risk of heart disease by as much as 90-95%

| Lifestyle Change                               | % Reduction in risk of Heart Disease |
|--|--------------------------------------|
| 1. 50% decrease in total cholesterol           | 50%                                  |
| 2. 6mm/Hg decrease in diastolic blood pressure | 16% (42% reduction in stroke risk)   |
| 3. Stop smoking                                | 50% risk of sudden heart attack      |
| 4. Maintain ideal body weight and waist size   | 35 to 55%                            |
| 5. ≥150 minutes per week of moderate exercise  | 35 to 55%                            |
| 6. ≥5 servings of fruits and vegetables a day  | 20 to 25%                            |

John, K., & Shull, J. (2018). *Lifestyle Medicine Board Review Manual* (2nd ed., p.22 ). ACLM.



# Nutrition



# Ensure Good Nutrition



**Have plenty of  
vegetables and fruits**

**Eat protein foods**

**Make water  
your drink  
of choice**

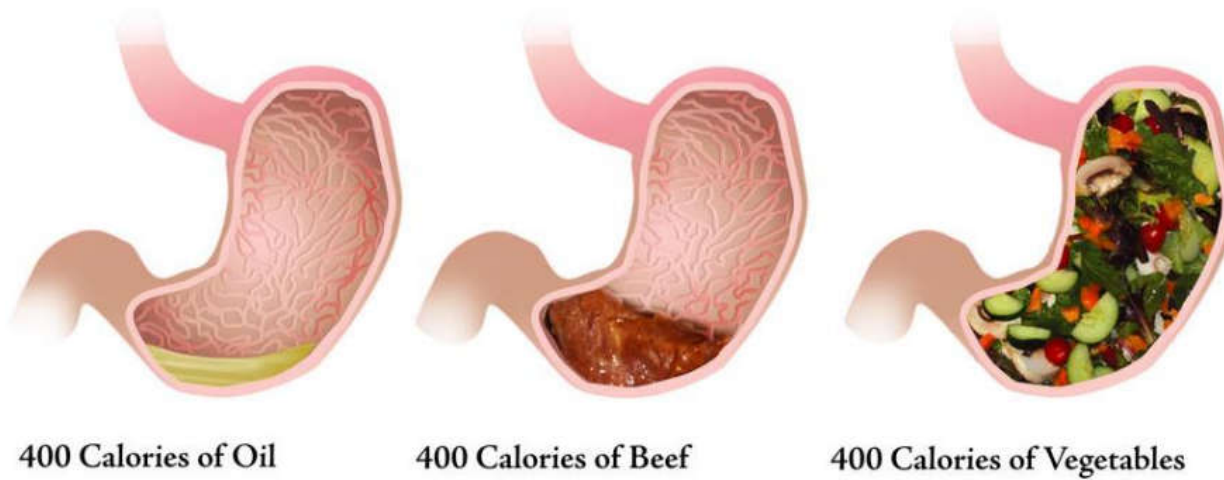


**Choose  
whole grain  
foods**





# Energy density





## Color Counts!



- **Green**
  - Antioxidant potential to help promote healthy vision and reduce cancer risks.
- **Orange/Yellow**
  - Contain nutrients that promote healthy vision, immunity, and reduce the risk of some cancers.
- **Purple/Blue**
  - Antioxidant and anti-aging benefits any may help with memory, urinary tract health and reduced cancer risks.
- **Red**
  - May help maintain a healthy heart, vision, immunity and may reduce cancer risks.



## Incorporate More Whole Food/Plant Based Meals:



- Try new recipes!
- Add fruits to cereal, yogurt, salad, oatmeal.
- Have a supply on hand of frozen vegetables.
- Plan meals around dishes that contain vegetables and then build the rest of the meal from there.
- Look for ways to add more herbs/spices to the recipes you already prepare.





# Movement

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# Definition & Benefits

Any bodily movement by skeletal muscles that results in energy expenditure above resting levels. Encompasses: exercise, sports, and physical activities done as part of daily living, occupation, and leisure.

Physical activity health benefits:

- Control weight
- Reduce risk of cardiovascular disease
- Reduce risk for type 2 diabetes or metabolic disorder
- Reduce risk for some cancers
- Strengthen bones and muscles
- Improve mental health and mood
- Improve activities of daily living and prevent falls
- Increase chances of living longer





# Frequency & Type



## Types of Physical Activity

- Cardiovascular (aerobic)
- Resistance (strengthening)
- Flexibility (stretching)

Physical activity guidelines recommend that adults participate in at least:

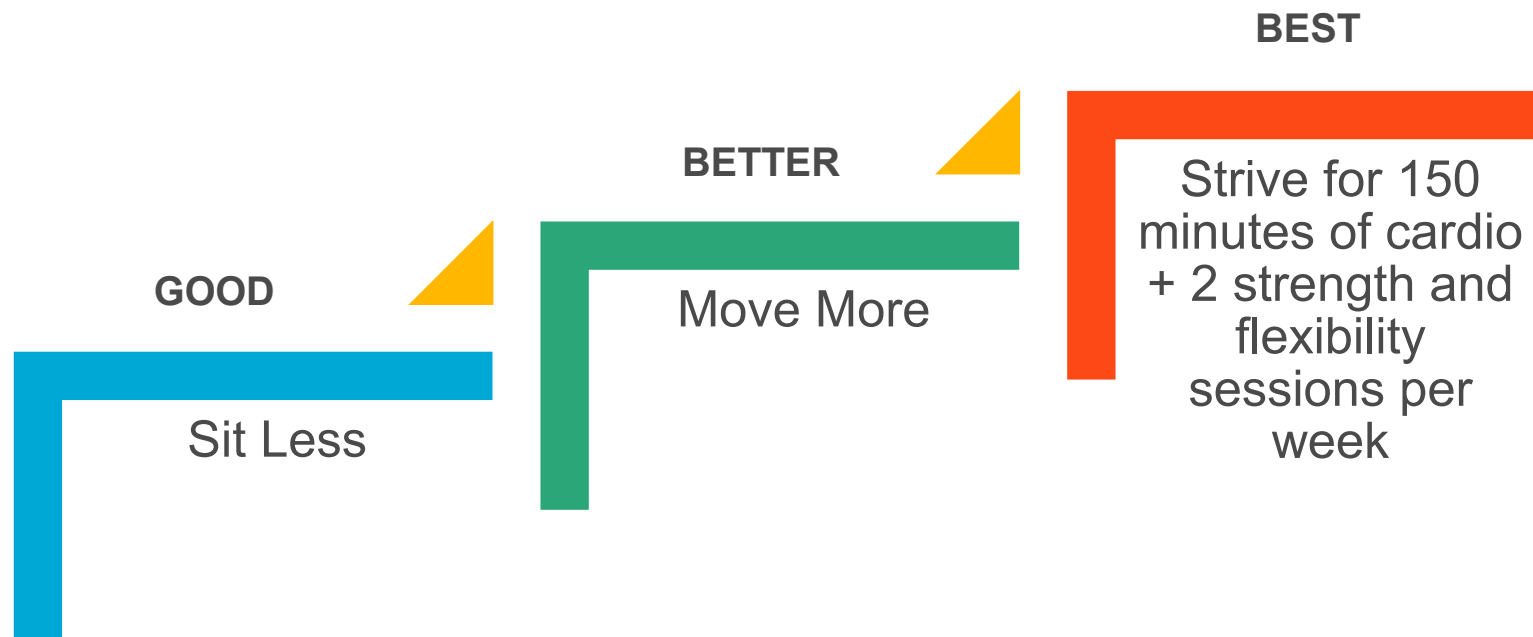
- 150 minutes per week of moderate-intensity aerobic physical activity
- Two or more sessions per week of muscle-strengthening exercises and activities to increase flexibility

# Sit Less, Move More

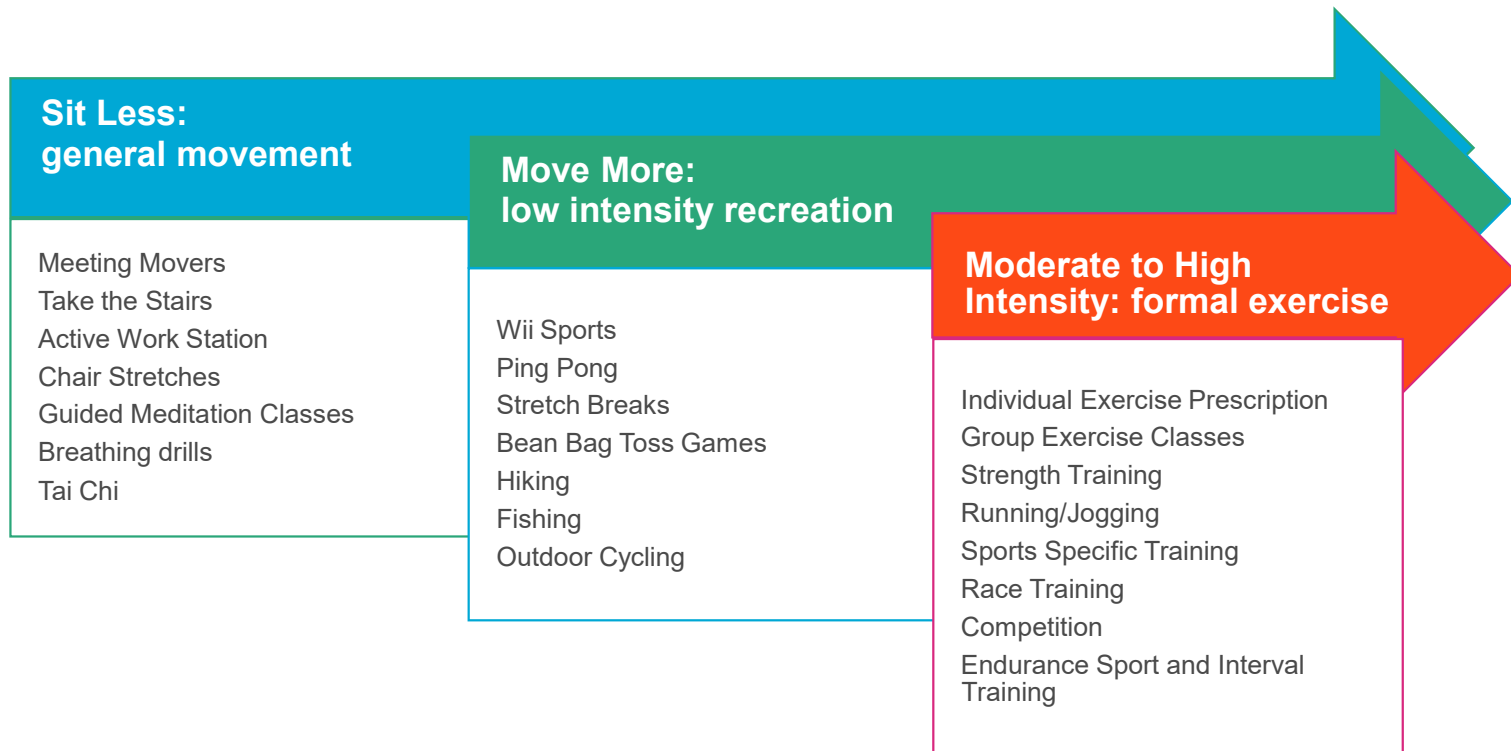
- With hectic schedules and the modern conveniences of daily life, many of us spend a great deal of time in front of a computer, smart phone, behind the wheel of a car or in front of the TV.
- Take a break from sitting every 30 minutes
- 20:8:2 Rule
  - 20 minutes sitting
  - 8 minutes standing
  - 2 minutes moving around



# Stepping Stones



# Physical Activity Examples





## Personalizing Your Plan

- Do what you love
- Variety of activities
- Fitness wearable tracker or app
- Accountability partner



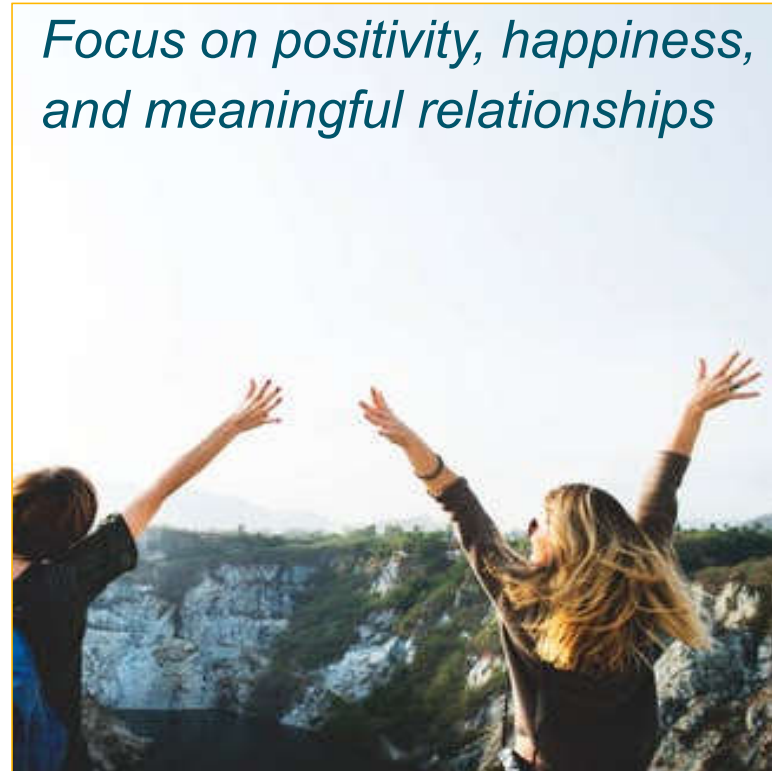


# Emotional Wellbeing

# Emotional Wellbeing

- Essential to our overall health
- Allows us to realize our full potential
- Helps us cope with the stresses of life
- Encourages us to work productively
- Supports us in making meaningful contributions to our communities
- Is not the absence of emotions, but it is our ability to understand the value of our emotions and use them to move forward in a positive direction

*Focus on positivity, happiness, and meaningful relationships*

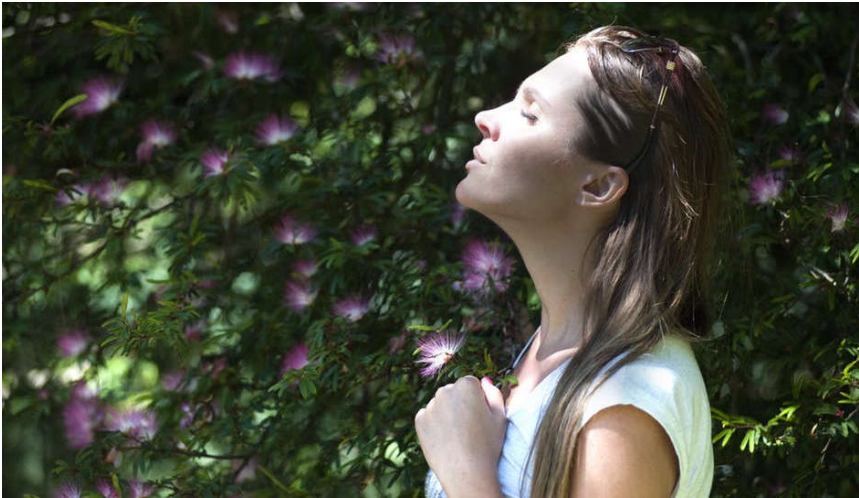








# Deep Breathing



# Positive Psychology



# Gratitude

- Appreciating life's gifts, including the challenges.
- Finding gratitude in your everyday life can increase your happiness and overall joy.





## Form and maintain healthy relationships





## Self-Compassion and Self Talk

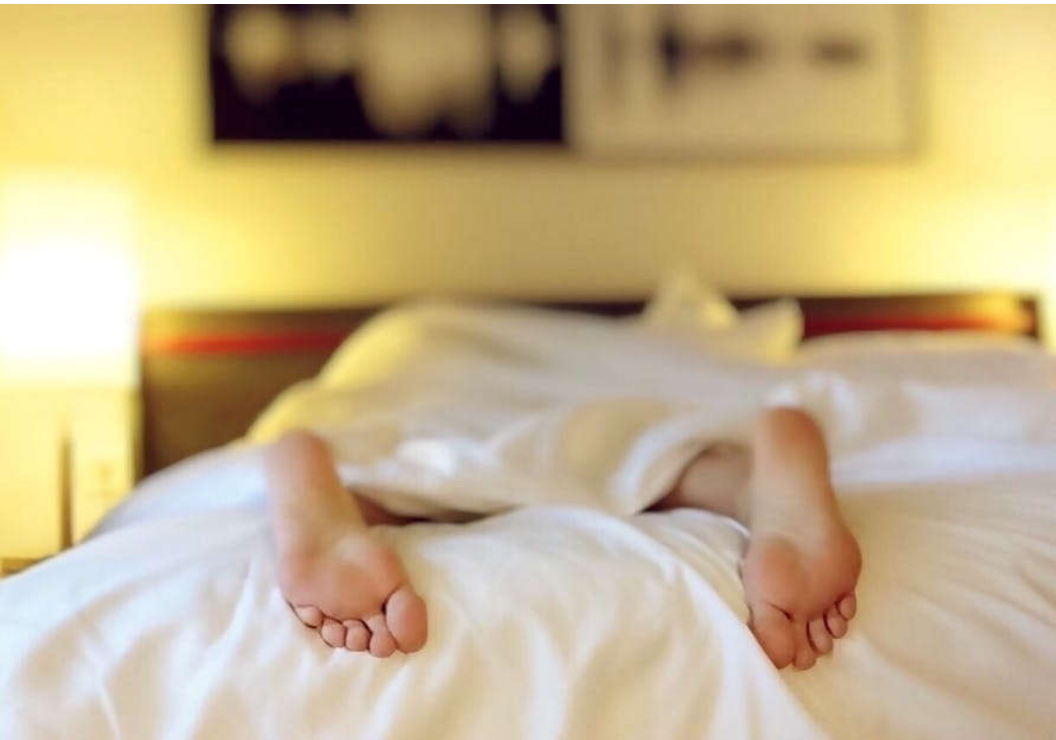


# Sleep

# What Does Sleep Do?

- Cleanses our brain
- Encode memories and improves learning
- Promotes heart health
- Manages stress and improves mood
- Growth repair
- Regulates appetite, energy use and weight control
- Keeps you from getting sick

Sleep: Aim for 7 – 8 hours restful sleep each day



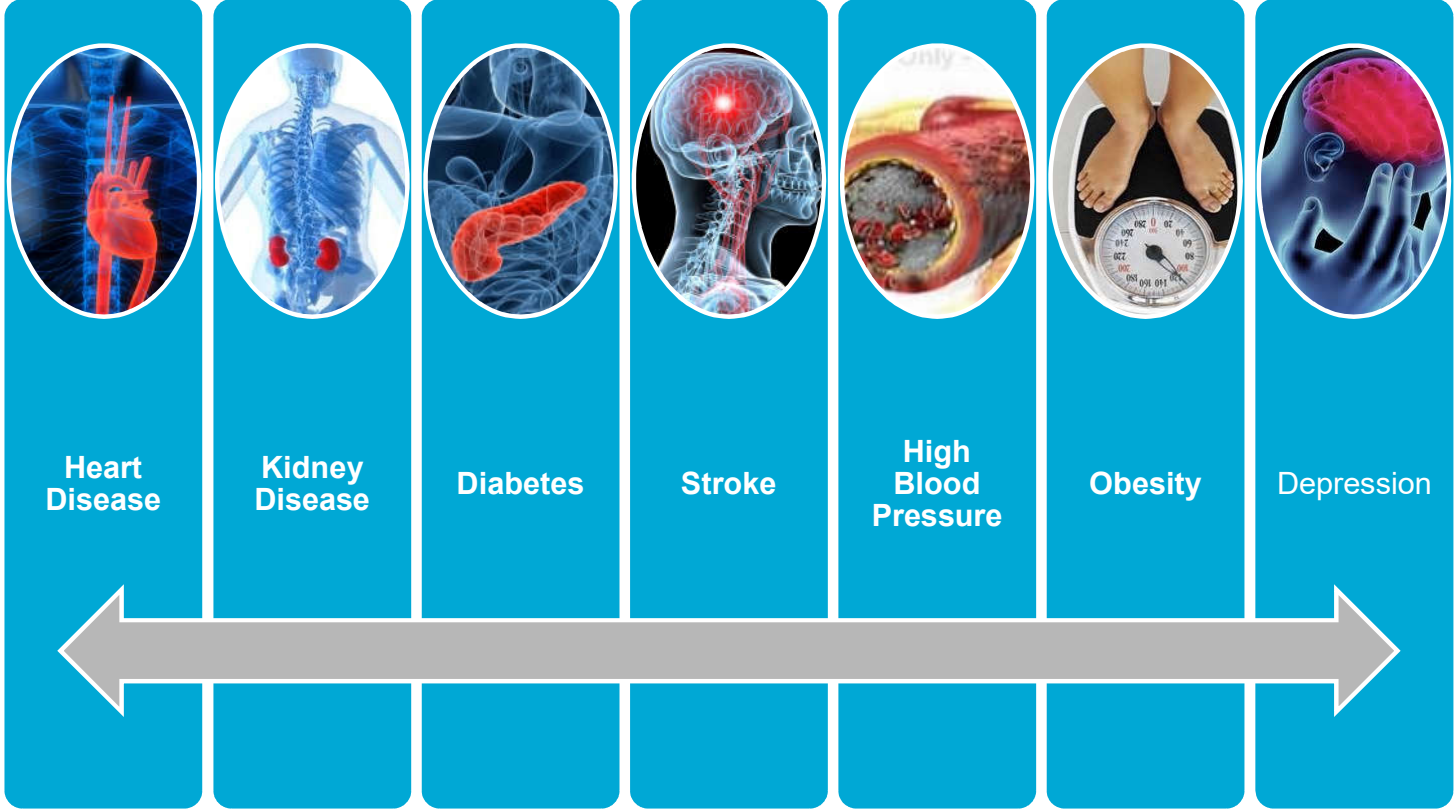


# Disruptions to Our Sleep

- **Blue light** increases nighttime heart rate, blood pressure and core body temperature
- Decreases sleepiness
- Suppresses melatonin
- Increase cortisol, increase body fat over time?
- May even alter our mood



# Effects of Chronic Sleep Deficiency



# Tips for a Good Night Sleep

- Review medications with your provider
  - Cold medication and some blood pressure medications can interrupt sleep
- Relax before bedtime
  - Unwind by reading or listening to relaxing music
  - Guided meditations
  - Restorative Yoga poses
- Take a warm bath or shower
  - Lavender aromatherapy oil
- Bedroom setting- Tech free- No Cellphones
  - Warm amber lighting to dark
  - Cool lower temperature in bedroom by 5 degrees
  - Quiet- Earbuds or white noise



# Food Tips to Help You Sleep

- Pistachios are a great source of melatonin, eat a few (5-7) per day
- Dark cherries, bananas, pineapples, oranges also contain melatonin
- A cup of chamomile tea or “sleepytime” tea can help you relax before bed
- Avoid sweets or processed foods before bed, avoid alcohol and caffeine too







# Hydration, Getting Outdoors & Living Substance Free

Hydrate, enjoy the outdoors, and live substance free!





# Hydrate With Water

- Healthy skin
- Lubricates our joints (helps to reduce pain)
- Keeps blood flowing, delivers oxygen
- Avoid constipation, flush toxins
- Maintain blood pressure
- Prevent kidney issues and urinary tract infections
- Help to feel full and improve digestion

# Be Substance Free

Live a life free of tobacco products, illegal drugs, prescription drug abuse/misuse, and alcohol in excess



[www.healthycures.org](http://www.healthycures.org)





# Resources

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[https://www.lifestylemedicine.org/ACLM/Tools\\_and\\_Resources/Web\\_Based\\_Resources\\_.aspx](https://www.lifestylemedicine.org/ACLM/Tools_and_Resources/Web_Based_Resources_.aspx)

Resources to assist you and your patients on your lifestyle medicine journey.



HEALTH TOOLS



DIET &  
NUTRITION



SMOKING  
CESSATION



CLINICAL  
PRACTICE HELP



EXERCISE &  
FITNESS



ALCOHOL  
ABUSE



ENVIRONMENT  
& PESTICIDES



TOOLS FOR  
CHILDREN & TEENS



HEART  
DISEASE



ARTHRITIS



# Dr. Michael Greger – NutritionFacts.org











The screenshot shows the NutritionFacts.org website. At the top left is the logo. A search bar with a magnifying glass icon and the word "SEARCH" is in the top center. To the right of the search bar are links for "EN", "REGISTER", and "SIGN IN". Below the search bar is a navigation menu with buttons for "VIDEO LIBRARY", "HOW NOT TO DIE", "RESOURCES", "SUBSCRIBE", "DONATE" (with a heart icon), and "ABOUT". The main content area has a green background. On the left, it asks "What is the healthiest diet?" and provides a brief description. Below this are two buttons: "Find Out More" and "Start Watching". A link "or go straight to our latest video" is also present. On the right, there is a portrait of Dr. Michael Greger. Below his portrait is his name and title: "Michael Greger, M.D. FACLM Founder, NutritionFacts.org". To the right of the main content area, there are two book covers for "How Not to Die" by Michael Greger, M.D. The top cover is the red one, and the bottom one is the green one. Below the books is the text "The New York Times A New York Times Best Seller!".

Let's get started!

There's an app too!

## Dr. Greger's Daily Dozen

American College of Lifestyle Medicine

|   | Recommendation  | Serving Size   |
|---|---|--|
|    | Beans <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>        | Serving = ¼ cup hummus or bean dip<br>½ cup cooked beans, split peas, lentils, edamame, tofu, or tempeh<br>1 cup fresh peas or sprouted lentils  |
|    | Berries <input type="checkbox"/>  | Serving = ½ cup fresh or frozen or ¼ cup dried   |
|    | Other Fruit <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>  | Serving = 1 medium fruit or 1 cup cut up fruit or ¼ cup dried  |
|    | Cruciferous Vegetables <input type="checkbox"/>   | Serving = 1 cup raw or ½ cup cooked broccoli, cauliflower, cabbage, brussel sprouts, kale, collards, etc.<br>1 tablespoon horseradish  |
|    | Greens <input type="checkbox"/> <input type="checkbox"/>                                | Serving = 1 cup raw or ½ cup cooked (kale, collards, romaine, leaf lettuce, etc.)  |
|    | Other Vegetables <input type="checkbox"/> <input type="checkbox"/>                      | Serving = 1 cup raw leafy veg<br>½ cup raw/cooked nonleafy<br>½ cup vegetable juice<br>¼ cup dried mushrooms   |
|    | Flaxseeds <input type="checkbox"/>  | Serving = 1 tablespoon ground  |
|   | Nuts <input type="checkbox"/>   | Serving = ¼ cup nuts/seeds<br>2 tablespoons nut butter (raw unsalted)  |
|  | Spices <input type="checkbox"/>   | ¼ teaspoon turmeric along with other salt free herbs and spices  |
|  | Whole Grains <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> | Serving = ½ cup hot cereal, cooked grains, pasta, or corn kernels<br>1 cup cold cereal<br>3 cups popped popcorn<br>1 tortilla or slice of bread or ½ bagel/English muffin (100% whole wheat or 100% whole grain) |



Film: *Forks Over Knives*

Websites:

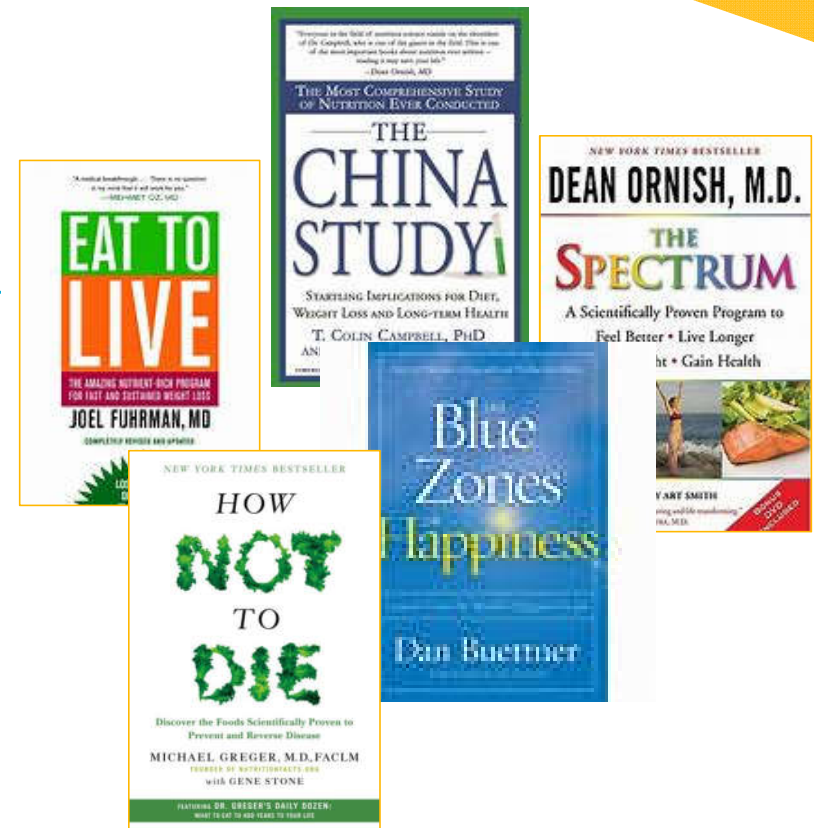
- [www.lifestylemedicine.org/Web-Based-Resources](http://www.lifestylemedicine.org/Web-Based-Resources)
- [www.plantricianproject.org/quickstartguide](http://www.plantricianproject.org/quickstartguide)
- [www.nutritionfacts.org](http://www.nutritionfacts.org)

American Journal of Lifestyle Medicine:

- [www.journals.sagepub.com/home/ajl](http://www.journals.sagepub.com/home/ajl)

Podcast: Dr. Michael Greger

Recipes: [www.bluezones.com/recipes/](http://www.bluezones.com/recipes/)



## Relax Melodies

Android: Free

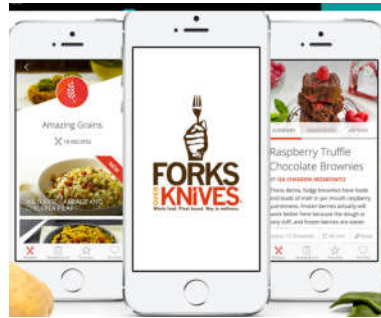
iPhone: Free



Relax Melodies is designed to help you, along with their community of 35 million other users, say goodbye to *insomnia* and get a full night of sleep. If you are having trouble relaxing into a restful sleep, then this is the app for you.

Select some relaxing sounds, add a dash of nature, combine with a melody, and hey presto: your sleep-inducing melody is complete. A choice of mindfulness meditations can be laid over the top of the mix to lure you soundly to sleep.

In addition to creating your own mixes, melodies shared by the Relax Melodies community can be accessed to discover new sound combinations. Integrating your favorite songs from your music library into the sound layers amplifies the soothing experience even further.



## Meet Calm



**Meditate**

Learn the life-changing skill of meditation



**Sleep**

Get more restful sleep and wake up feeling refreshed



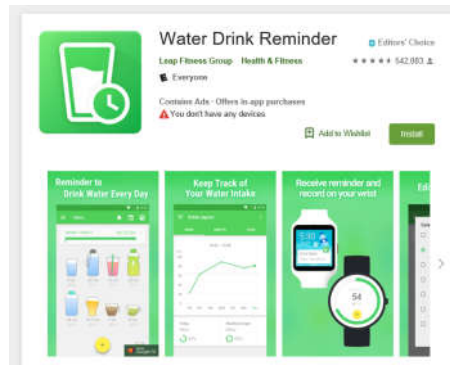
**Body**

Video lessons on mindful movement and gentle stretching



**Music**

Exclusive music to help you focus, relax, and sleep





## INGREDIENTS

- 2 cups old fashioned oats
- 1 teaspoon baking soda
- 1 teaspoon cinnamon
- 1 ½ teaspoon unsweetened cocoa powder
- ¼ teaspoon nutmeg
- ¼ teaspoon ground ginger
- 4 medium sized ripe bananas
- ½ cup chopped walnuts

## DIRECTIONS

1. Preheat oven to 350°. Line a baking sheet with parchment or spray with non-stick spray.
2. Use a high power blender to process oats to the consistency of flour. Pour into mixing bowl and add baking soda and spices.
3. Blend bananas until completely smooth. Add to oatmeal mixture along with the nuts (or other dried fruit) and mix until combined.
4. Drop 2 tablespoon balls of dough onto cookies sheet, spacing well. Dip the scoop or spoon into water to keep the dough from sticking. Use lightly moistened fingers to flatten each cookie. Bake for 15 minutes.
5. Cool cookies on wire rack and store in an airtight container.



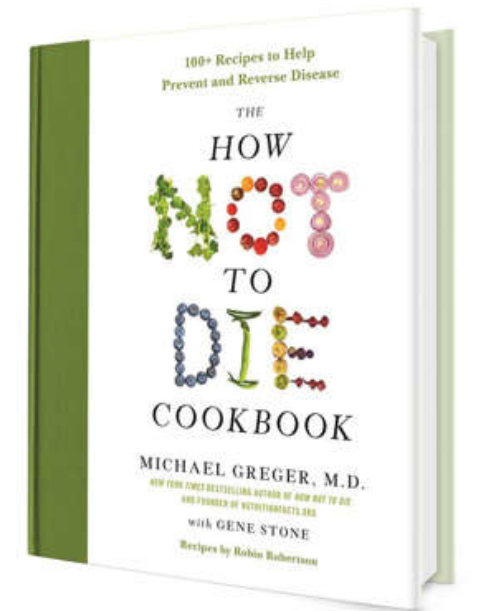
# Forks Over Knives: Cherry Chip “Ice cream”

## Ingredients

- 4 medium-sized bananas, cut into 1-inch pieces and frozen
- 1 cup frozen cherries
- 1/2 teaspoon vanilla extract
- 1 tablespoon to 1/4 cup unsweetened almond milk, as needed
- 2 tablespoons mini vegan chocolate chips

## Instructions

- 1 In a food processor, combine the frozen banana pieces, cherries, and vanilla extract.
- 2 Process until creamy, adding almond milk one tablespoon at a time as necessary.
- 3 Pulse in the chocolate chips. Serve immediately.





# Questions



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# Thank you !!

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