Preventing and Reversing Disease With Plant-Based Nutrition

A2ZERO
EQUITABLE • SUSTAINABLE • TRANSFORMATIVE

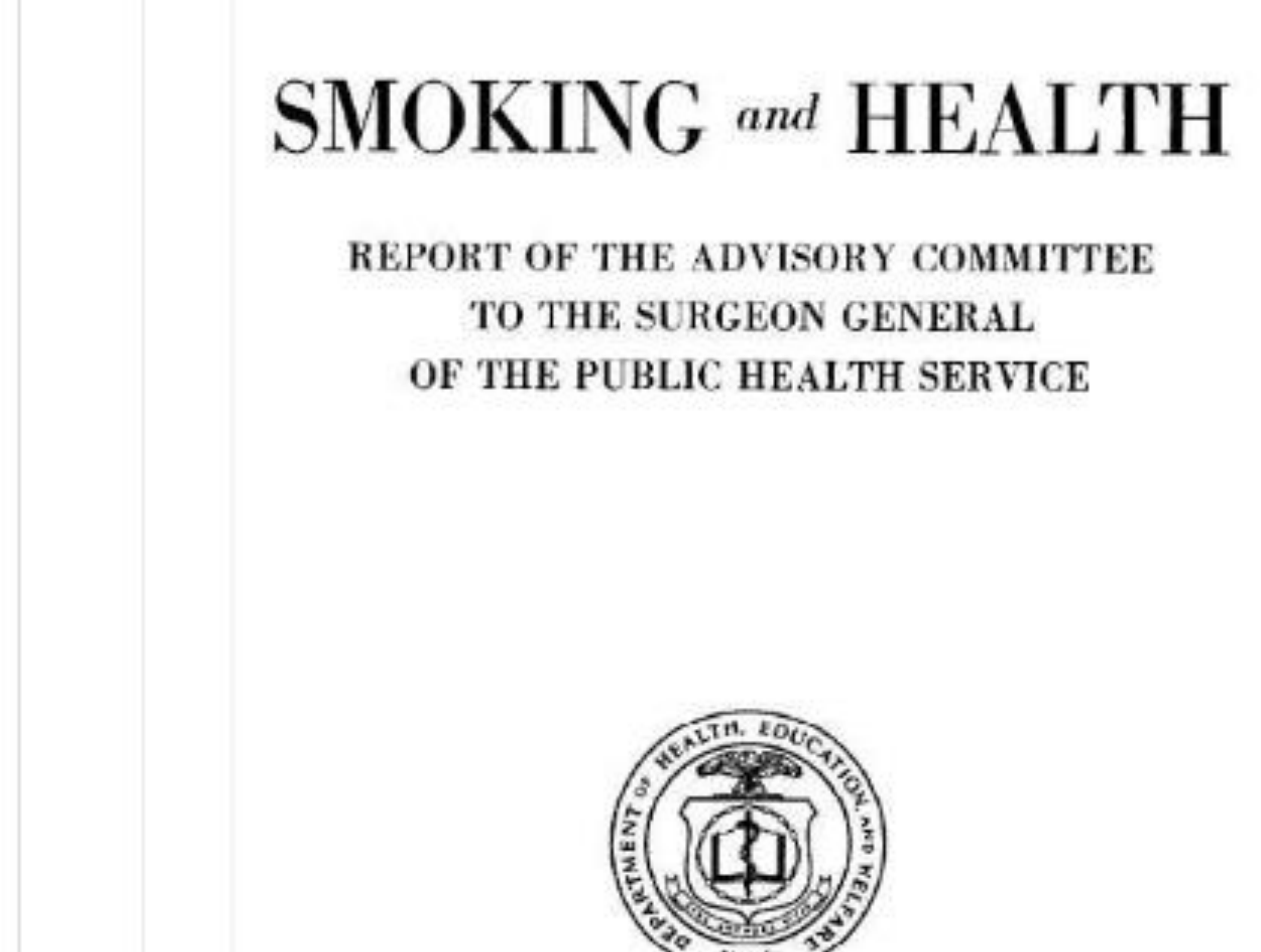
Ann Arbor Plant-Based Challenge

Robert Breakey, MD, DipABLM
Ann Arbor, MI
September 14, 2022

PEACE

1964

COPD and Lung Cancer are Largely Preventable



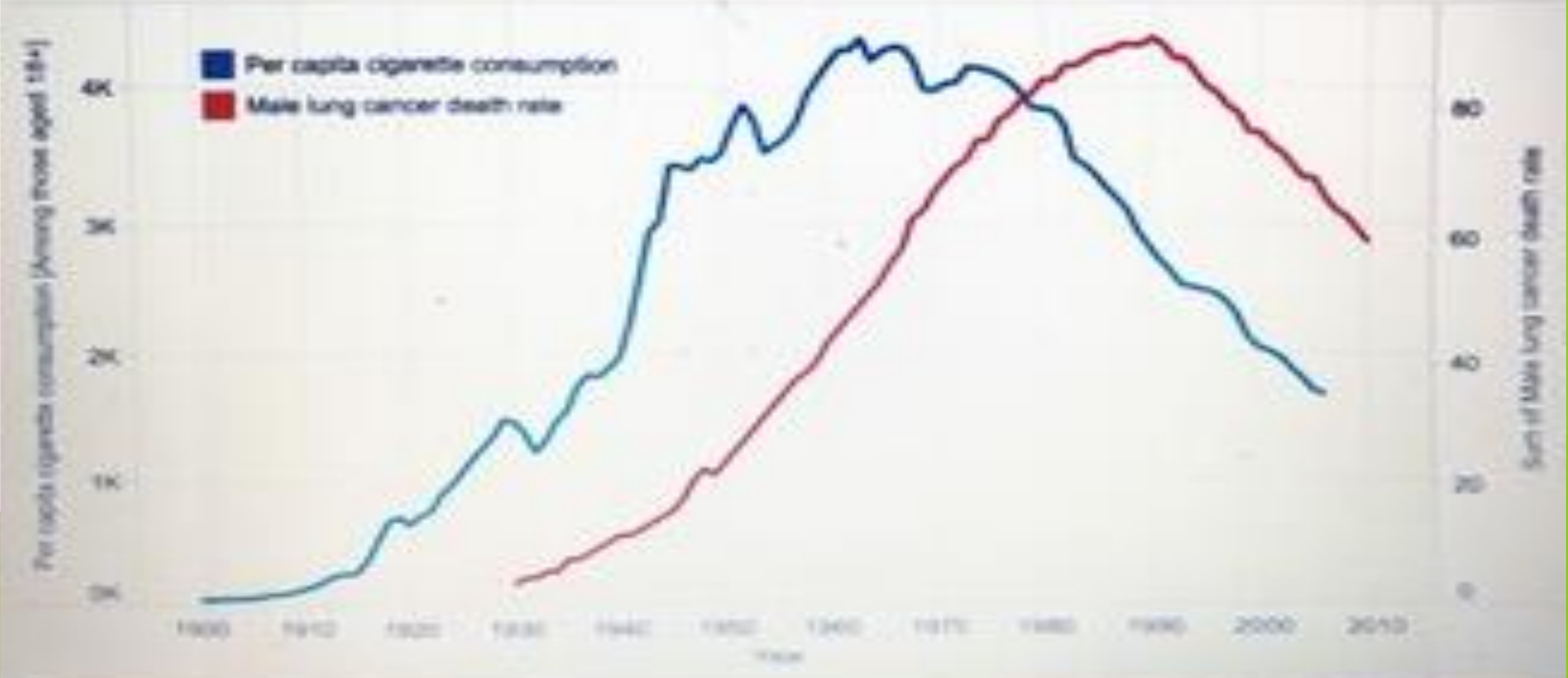
SMOKING *and* HEALTH

REPORT OF THE ADVISORY COMMITTEE
TO THE SURGEON GENERAL
OF THE PUBLIC HEALTH SERVICE

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE

Dr. Luther Terry

Trends in Tobacco Use and Lung Cancer Death Rates in the U.S.

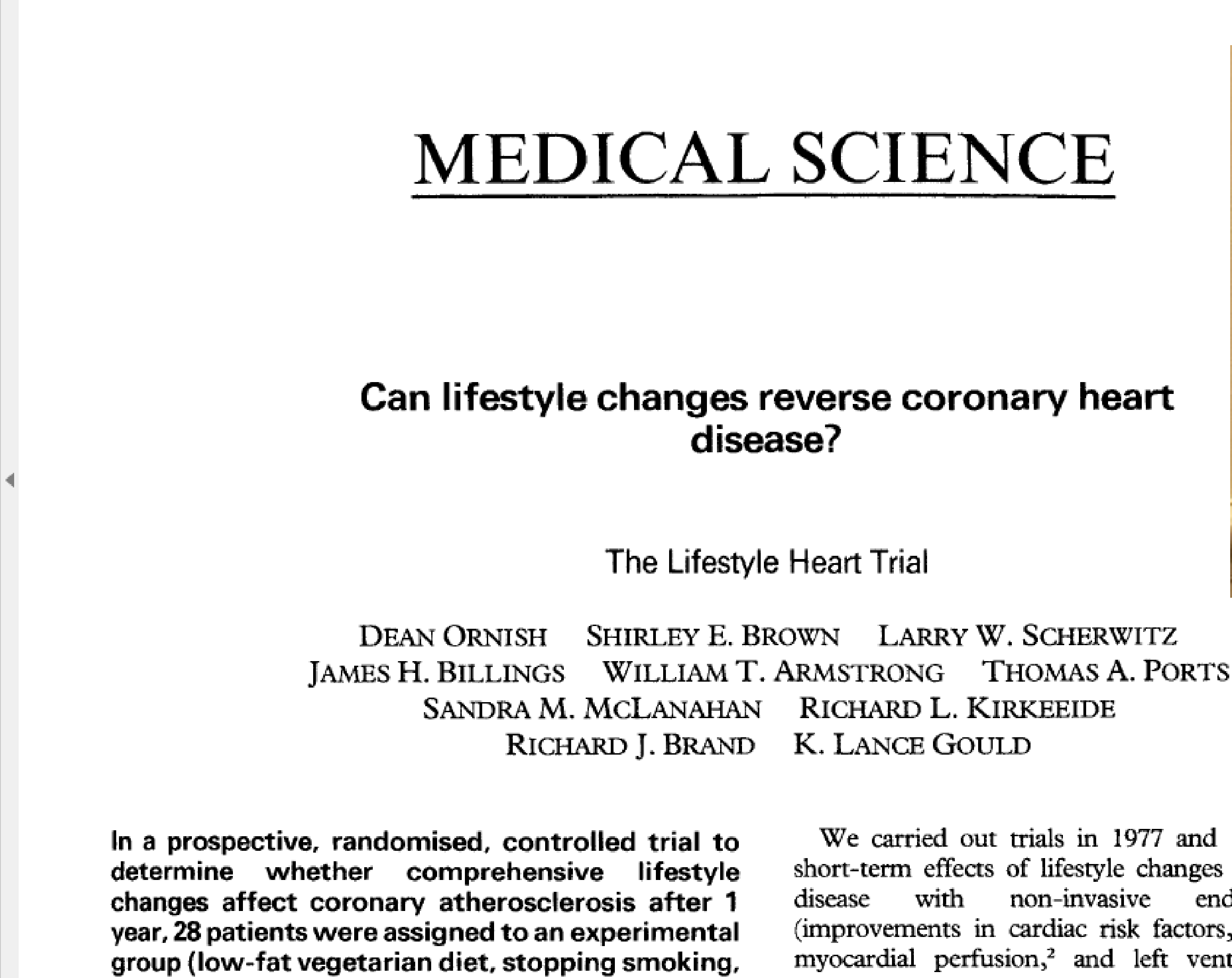


Death rates source: US Mortality Data, 1960-2010; US Mortality Volumes, 1930-1959, National Center for Health Statistics, Centers for Disease Control and Prevention

Cigarette consumption source: US Department of Agriculture, 1900-2007

1990

Coronary Artery Disease is Reversable



MEDICAL SCIENCE

Can lifestyle changes reverse coronary heart disease?

The Lifestyle Heart Trial

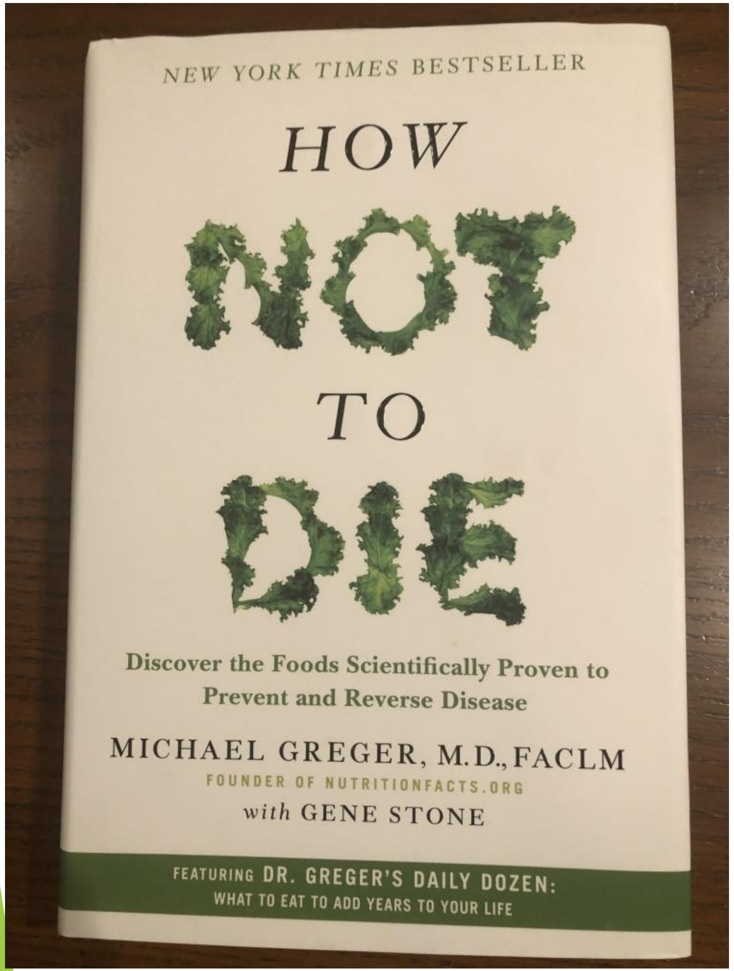
DEAN ORNISH SHIRLEY E. BROWN LARRY W. SCHERWITZ
JAMES H. BILLINGS WILLIAM T. ARMSTRONG THOMAS A. PORTS
SANDRA M. MCLANAHAN RICHARD L. KIRKEEIDE
RICHARD J. BRAND K. LANCE GOULD

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,

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,[2] and left ventricular function[3]).

2015

All 15 of our Leading Killers Are Preventable



NEW YORK TIMES BESTSELLER

HOW NOT TO DIE

Discover the Foods Scientifically Proven to Prevent and Reverse Disease

MICHAEL GREGER, M.D., FACLM

FOUNDER OF NUTRITIONFACTS.ORG

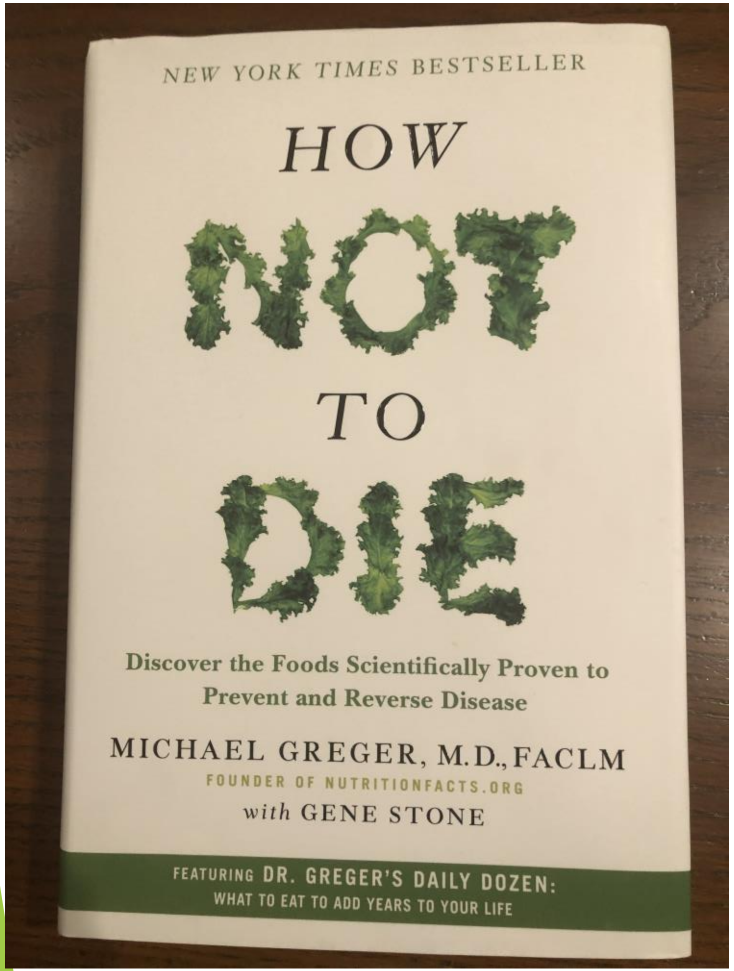
with GENE STONE

FEATURING DR. GREGER'S DAILY DOZEN:
WHAT TO EAT TO ADD YEARS TO YOUR LIFE

SEBASTIAN
ACLM
Eat Plants
Love People
Stay Calm

2015

All 15 of our Leading Killers Are Preventable



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FEATURING DR. GREGER'S DAILY DOZEN:

WHAT TO EAT TO ADD YEARS TO YOUR LIFE

- Coronary Artery Disease
- Alzheimer's
- Colon Cancer
- Diabetes
- Hypertension
- Leukemia / Lymphoma
- Chronic Kidney Disease
- Breast Cancer
- Depression
- Prostate Cancer
- Parkinson's

Shameful Stats…

US Health Care

We Spend $3.2 Trillion
On “Health Care”…
With at best mediocre
Results…

Shameful Stats…

US Health Care

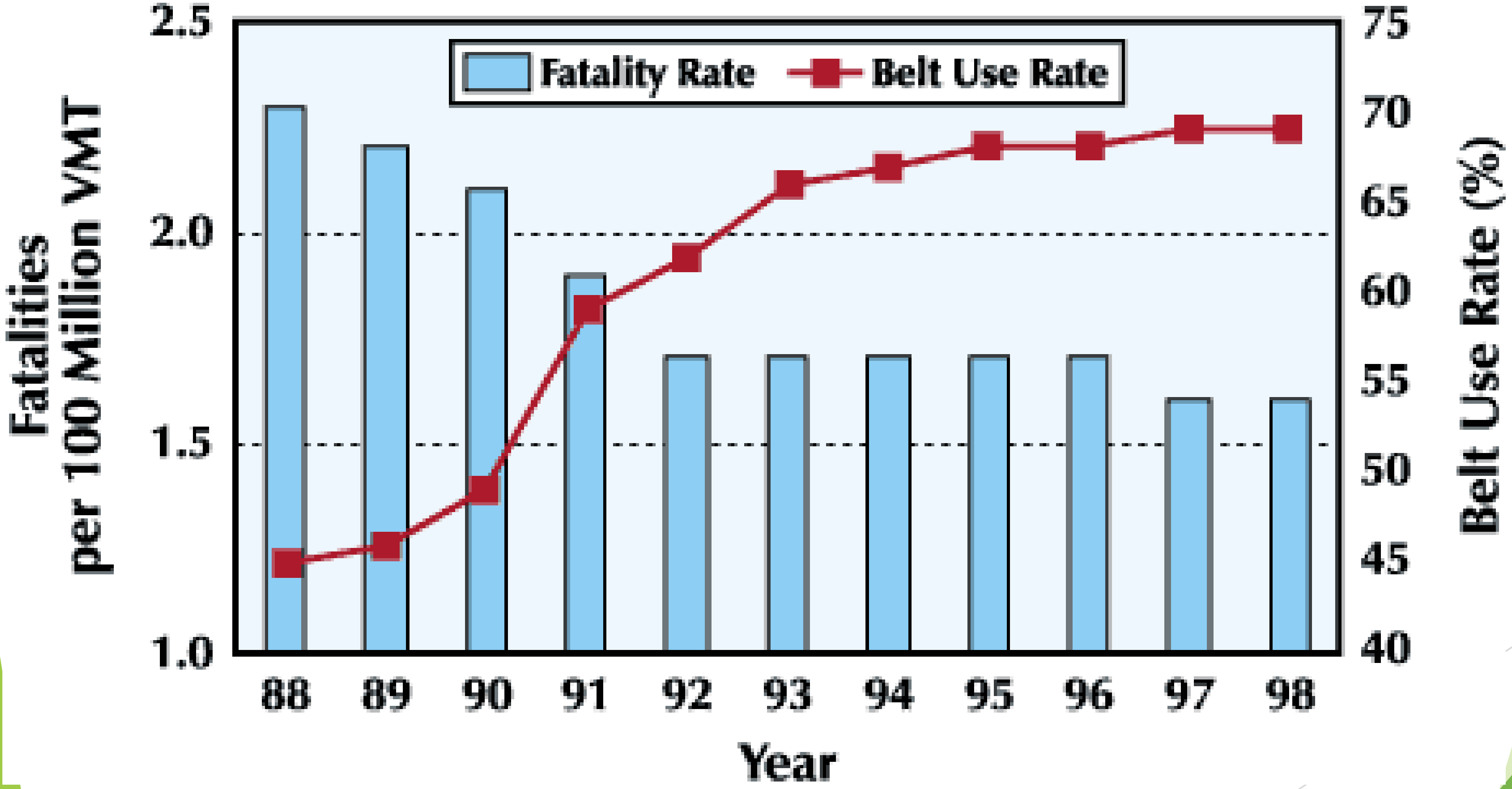
2017 Report from the Commonwealth Fund: US Ranked 11 of 11 Developed Countries…

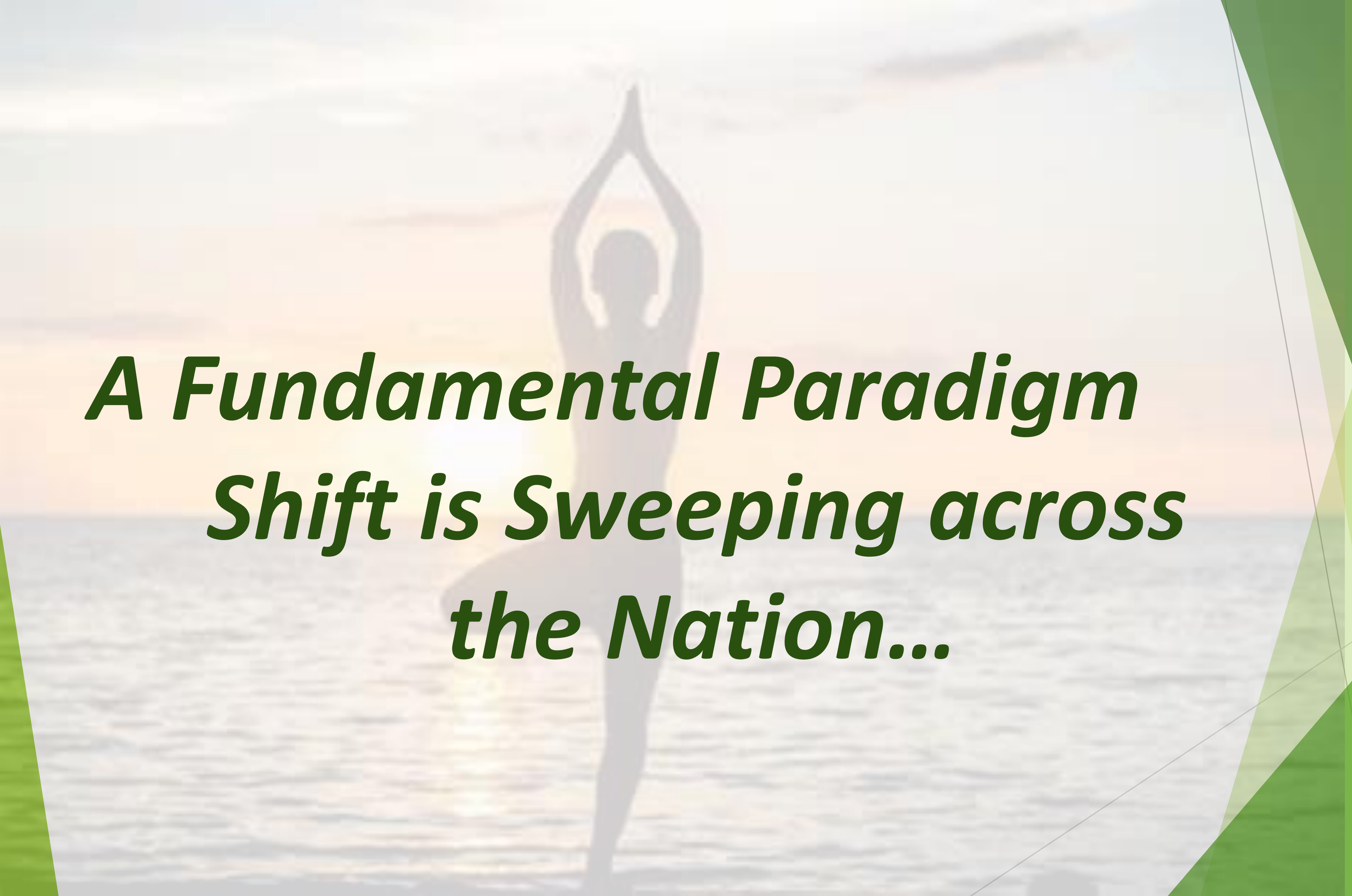
Shameful Stats…

US Health Care

80% is spent on Chronic Diseases that are largely Preventable,
and often reversible

Prevention Saves Lives: Seat Belts





A Fundamental Paradigm Shift is Sweeping across the Nation…

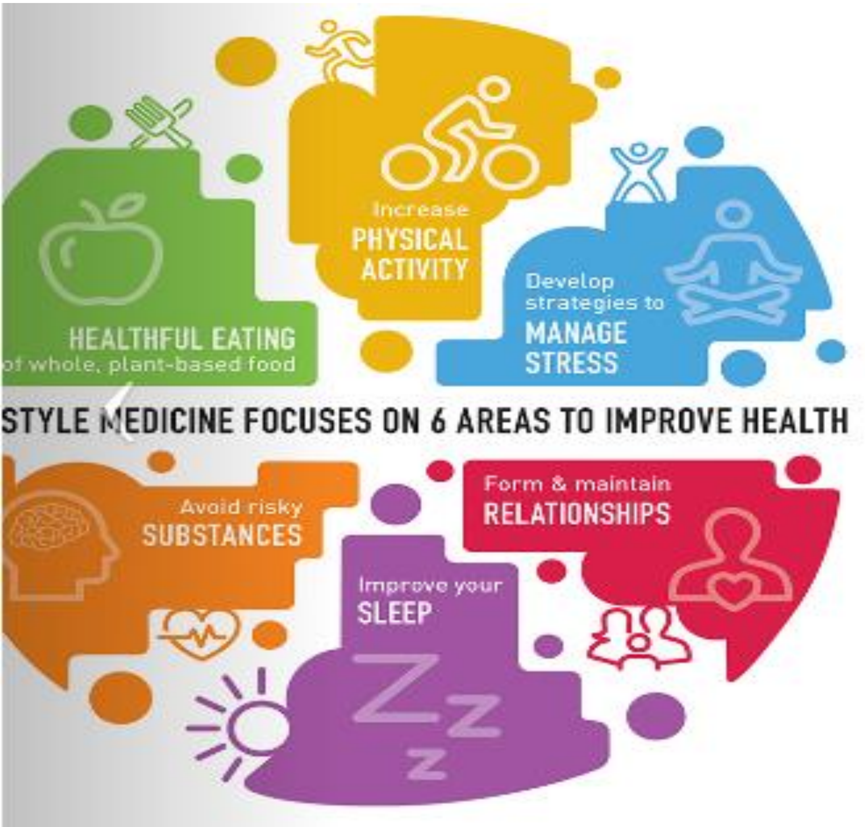
AMERICAN COLLEGE OF
Lifestyle Medicine

Six Pillars of Lifestyle Medicine

1)Healthful Eating
2)Physical Activity
3)Manage Stress
4)Sleep Well
5)Avoid Risky Substances Addictions
6)Social Connectedness

ACLM vision statement:

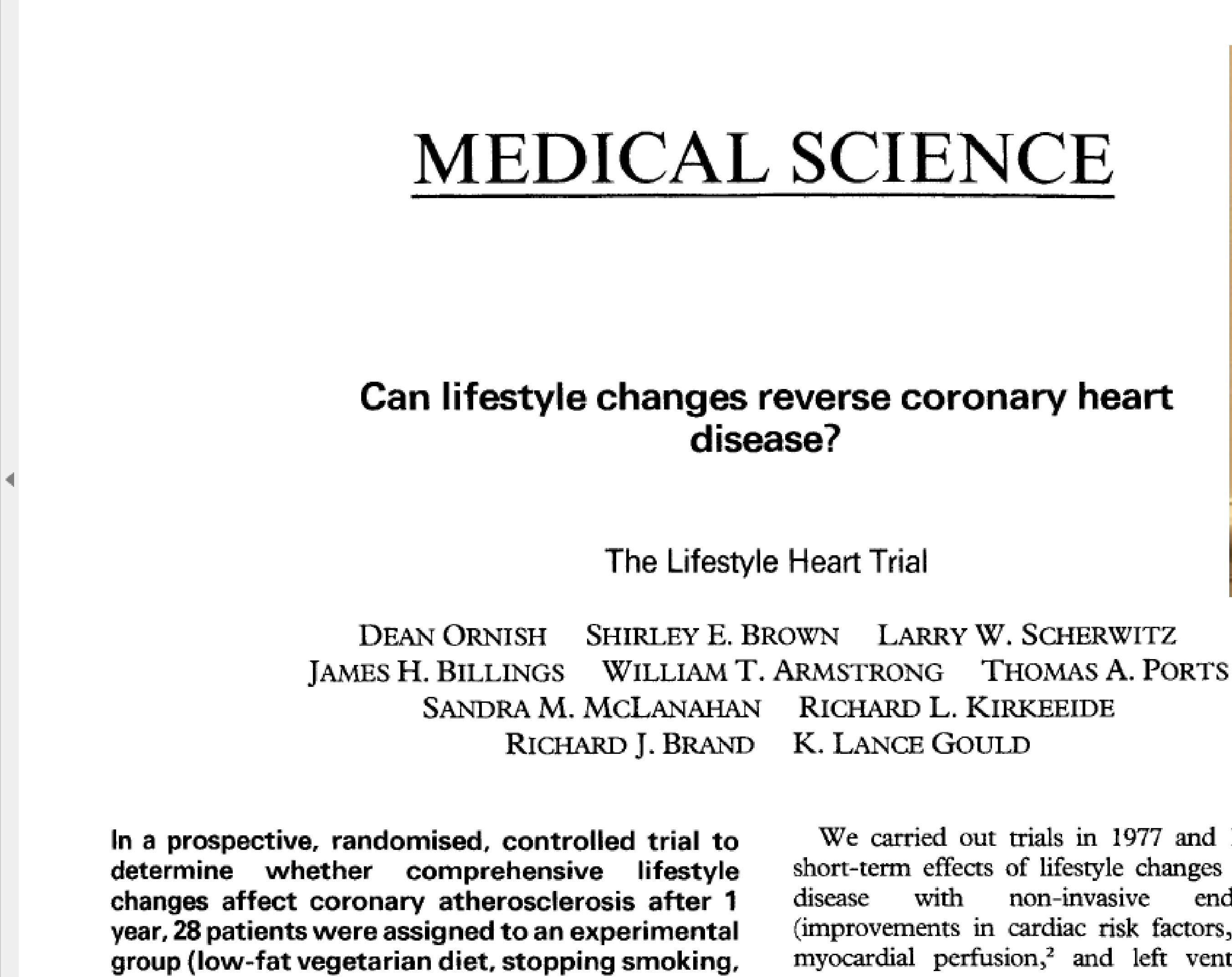
A world wherein Lifestyle Medicine is the foundation of a transformed, sustainable system of health care.


HEALTHFUL EATING
of whole, plant-based food
Increase
PHYSICAL ACTIVITY
Develop strategies to
MANAGE STRESS
STYLE MEDICINE FOCUSES ON 6 AREAS TO IMPROVE HEALTH
Avoid risky
SUBSTANCES
Improve your
SLEEP
Form & maintain
RELATIONSHIPS

AMERICAN COLLEGE OF
Lifestyle Medicine

1990

Coronary Artery Disease is Reversable



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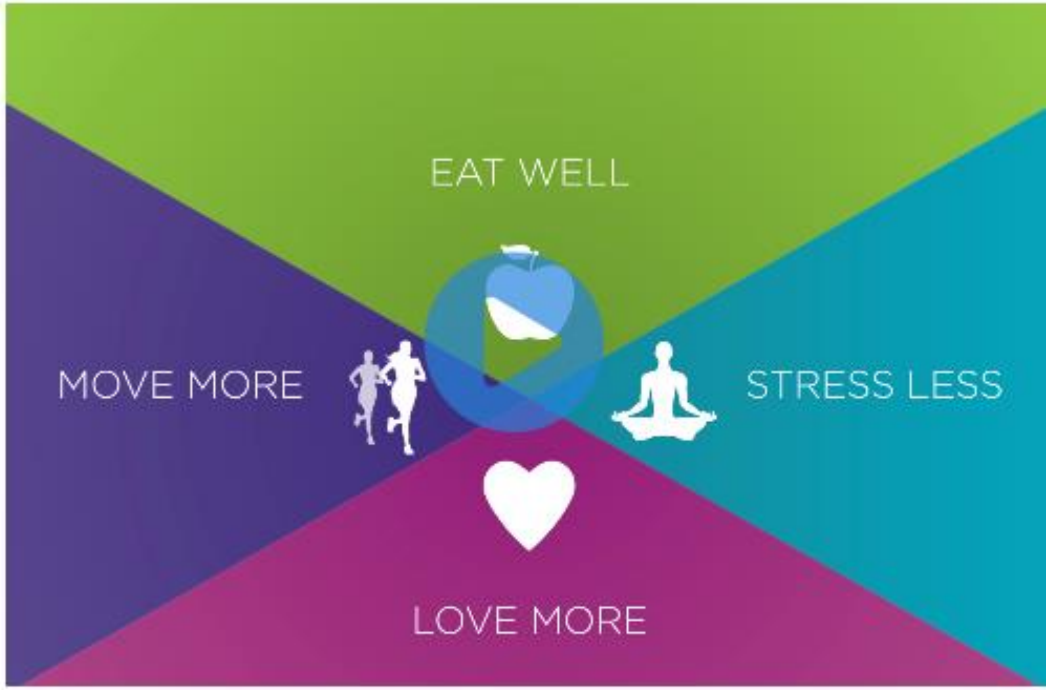
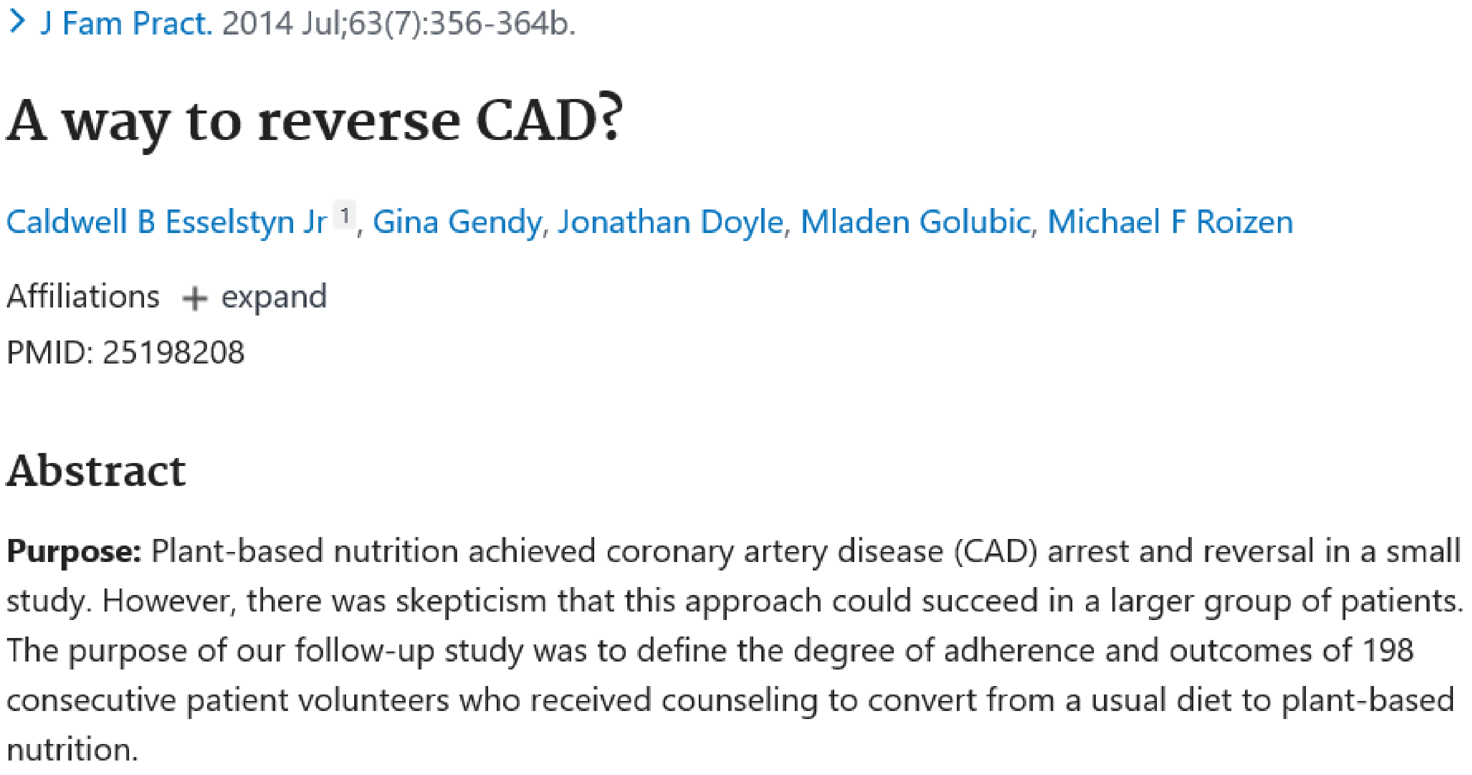
Stay Calm
Love
BERIA

The Ornish Program


EAT WELL
MOVE MORE
STRESS LESS
LOVE MORE

CAD Patients on the program noted a 91% decrease in their frequency of angina attacks in just a few weeks vs. a 186% *increase* in attacks for the control group.

JAMA. 1998; 280(23):2001-7



J Fam Pract. 2014 Jul;63(7):356-364b.

A way to reverse CAD?

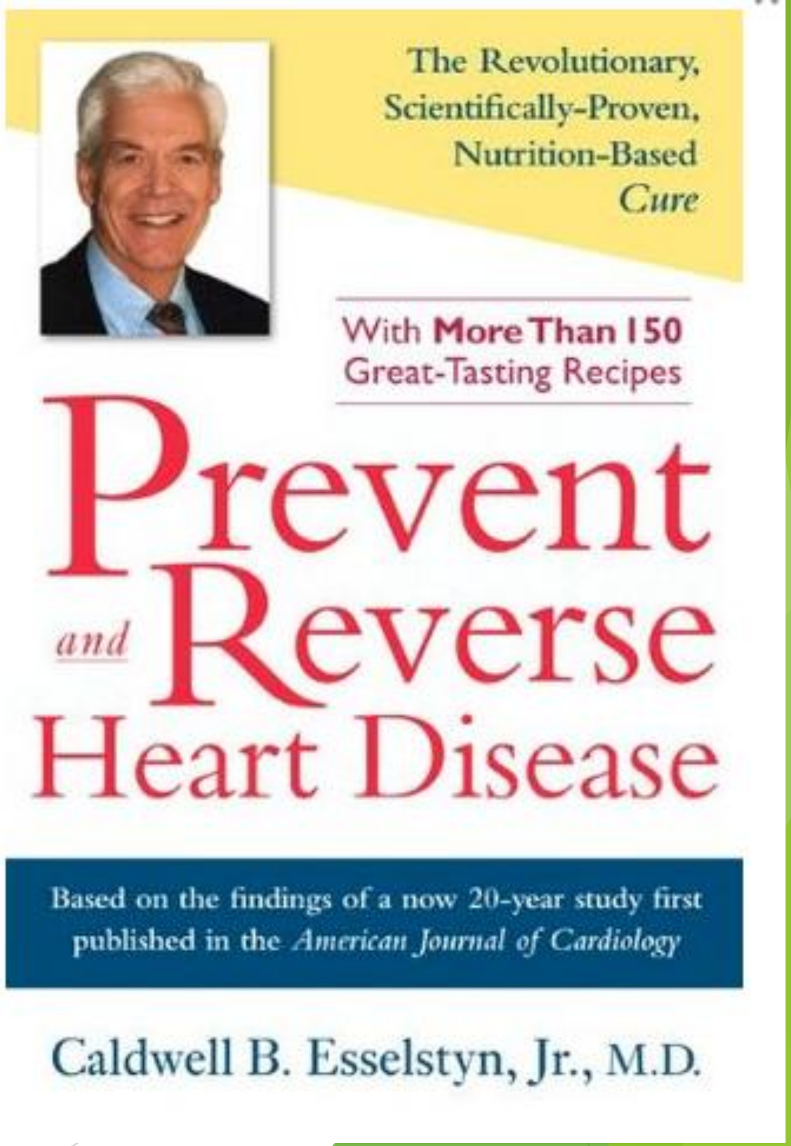
Caldwell B Esselstyn Jr [1], Gina Gendy, Jonathan Doyle, Mladen Golubic, Michael F Roizen

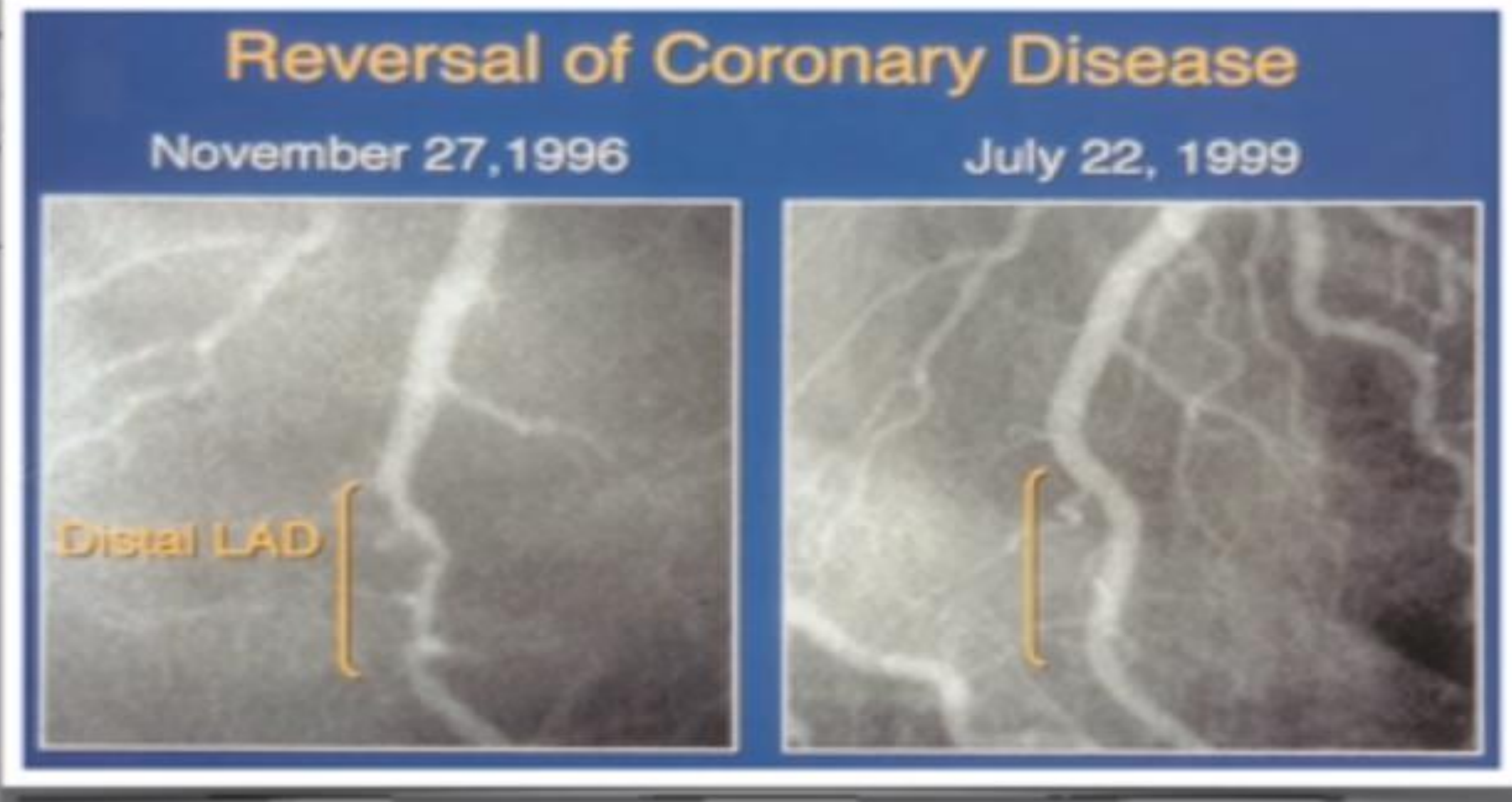
Affiliations + expand

PMID: 25198208

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.


The Revolutionary, Scientifically-Proven, Nutrition-Based Cure
With More Than 150 Great-Tasting Recipes
Prevent and Reverse Heart Disease
Based on the findings of a now 20-year study first published in the American Journal of Cardiology
Caldwell B. Esselstyn, Jr., M.D.



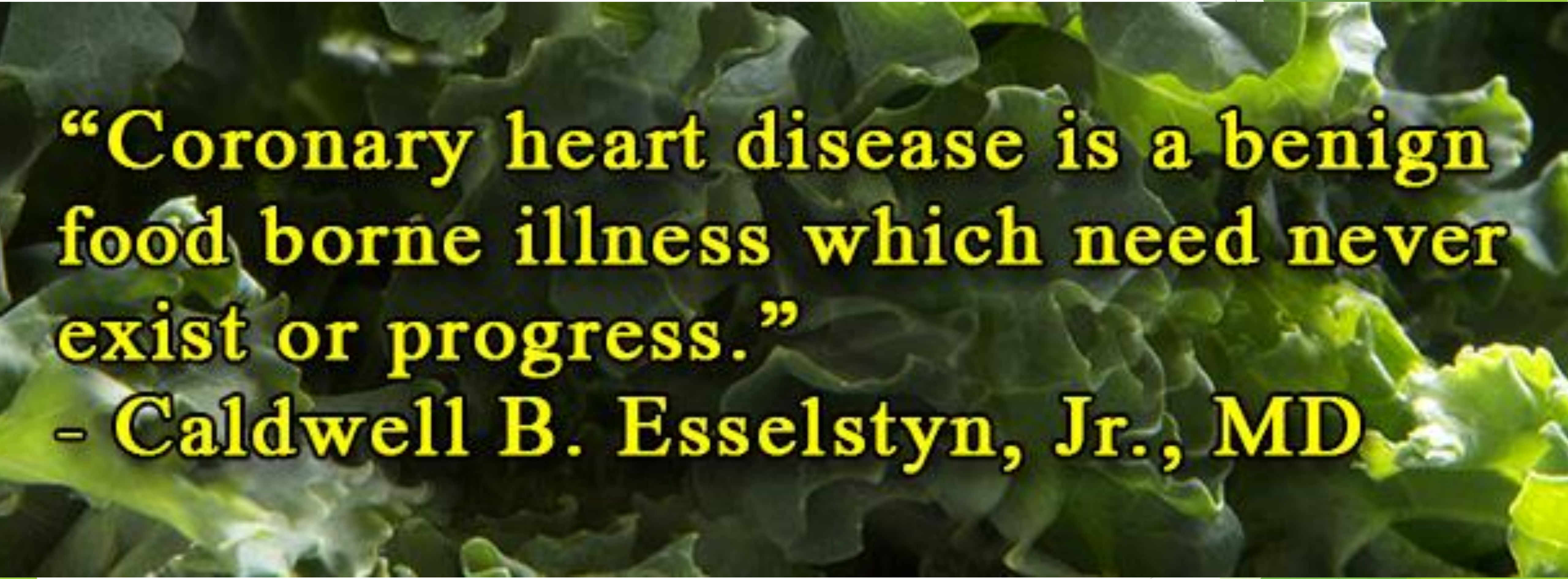
Reversal of Coronary Disease

November 27, 1996

July 22, 1999

J Fam Pract. 2014 Jul;63(7):356-364b

Reversing Heart Disease…



“Coronary heart disease is a benign food borne illness which need never exist or progress.”

- Caldwell B. Esselstyn, Jr., MD

Leading cause of death and disability in the US:

The Standard American Diet

1993:

1. Tobacco
2. Diet and Activity
3. Alcohol

JAMA. **1993**;270:2207-12

2018:

1. Dietary Risk
2. Tobacco
3. Chronic Diseases

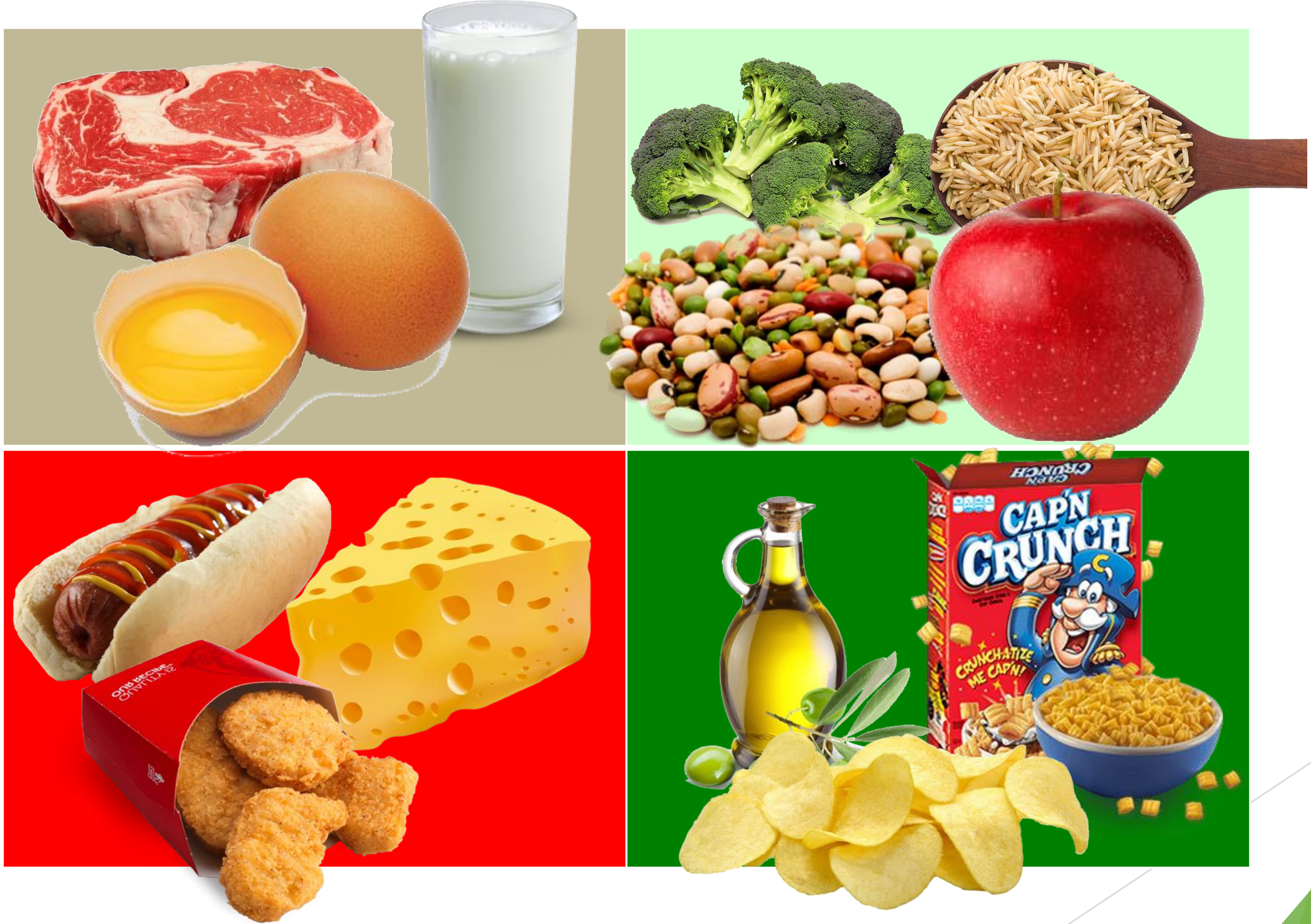
JAMA. **2018**;319(14):1444-1472

ANIMAL

PLANT

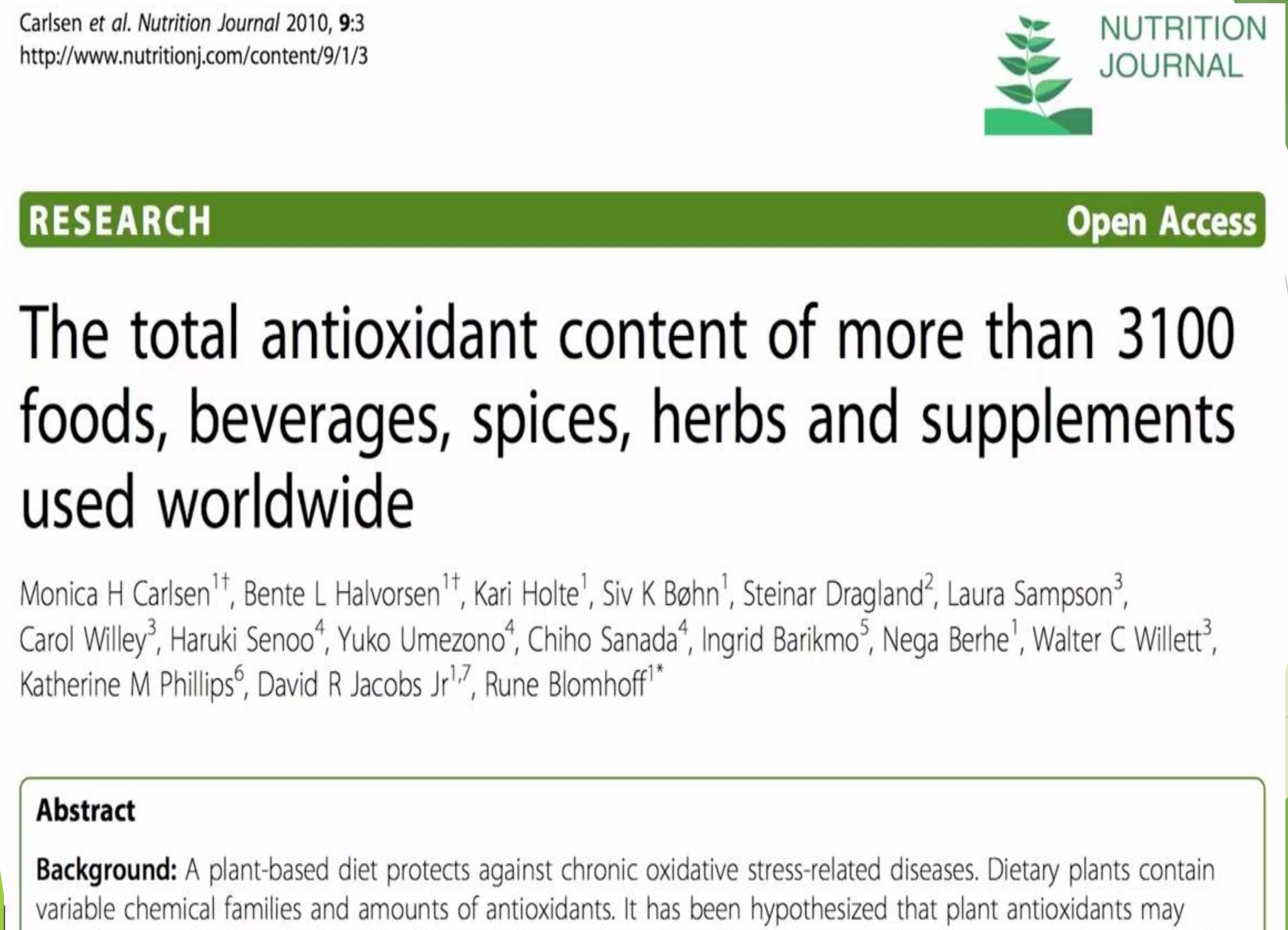
UNPROCESSED

PROCESSED


CAP'N CRUNCH
CRUNCHATIZE ME CAP'N!
OUR RECIPE QUALITY

What makes a food “Health Supporting”?

Desirable Characteristics:	Plant Foods	Animal Foods
Anti Oxidant Rich		
High Fiber		
Alkaline		
Cholesterol Free		
Anti Inflammatory		
Phytonutrient Rich		
Balanced /Healthy Macronutrients		



Carlsen *et al. Nutrition Journal* 2010, **9**:3
http://www.nutritionj.com/content/9/1/3

NUTRITION
JOURNAL

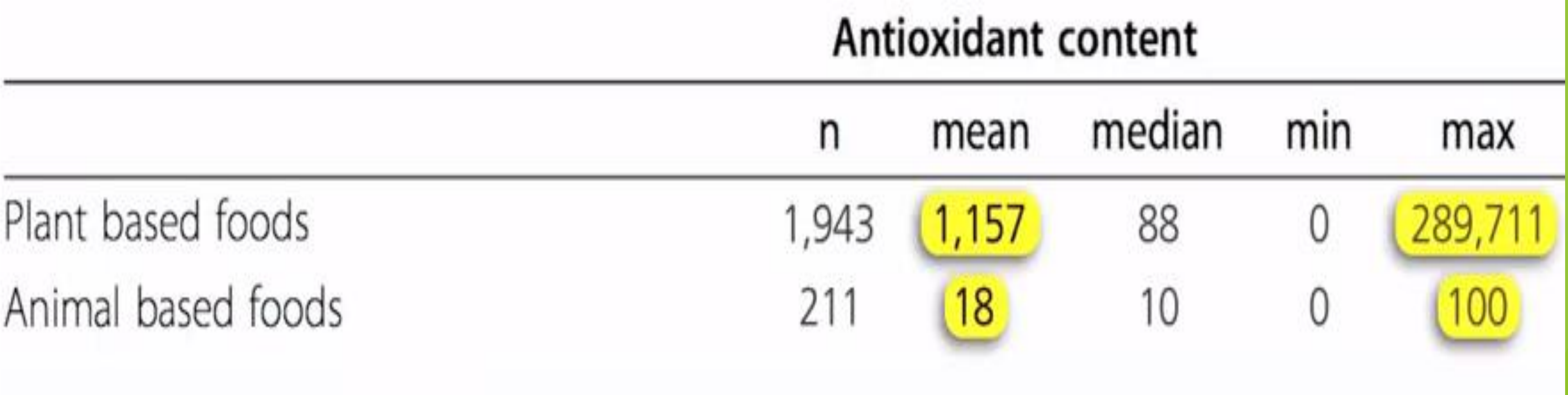
RESEARCH **Open Access**

The total antioxidant content of more than 3100 foods, beverages, spices, herbs and supplements used worldwide

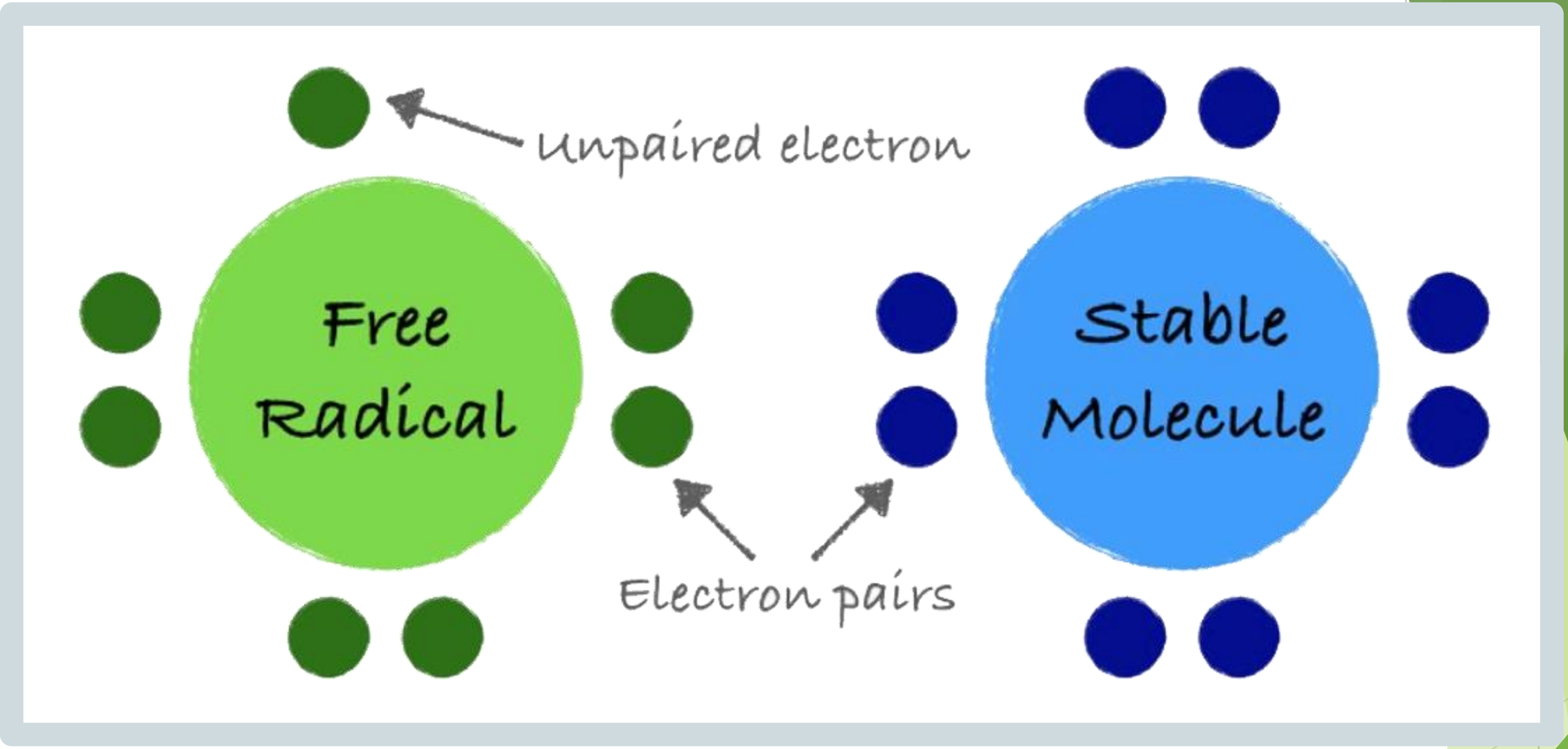
Monica H Carlsen[1†], Bente L Halvorsen[1†], Kari Holte[1], Siv K Bøhn[1], Steinar Dragland[2], Laura Sampson[3], Carol Willey[3], Haruki Senoo[4], Yuko Umezono[4], Chiho Sanada[4], Ingrid Barikmo[5], Nega Berhe[1], Walter C Willett[3], Katherine M Phillips[6], David R Jacobs Jr[1,7], Rune Blomhoff[1*]

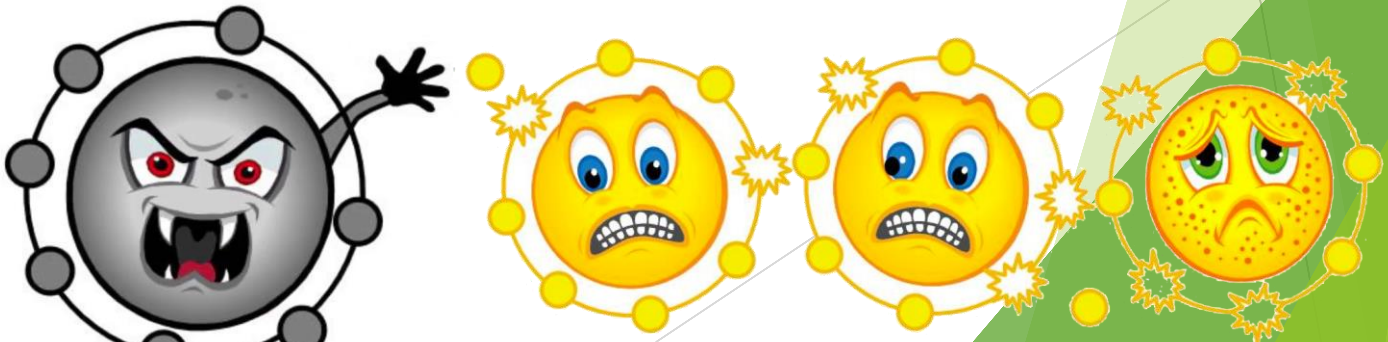
Abstract

Background: A plant-based diet protects against chronic oxidative stress-related diseases. Dietary plants contain variable chemical families and amounts of antioxidants. It has been hypothesized that plant antioxidants may

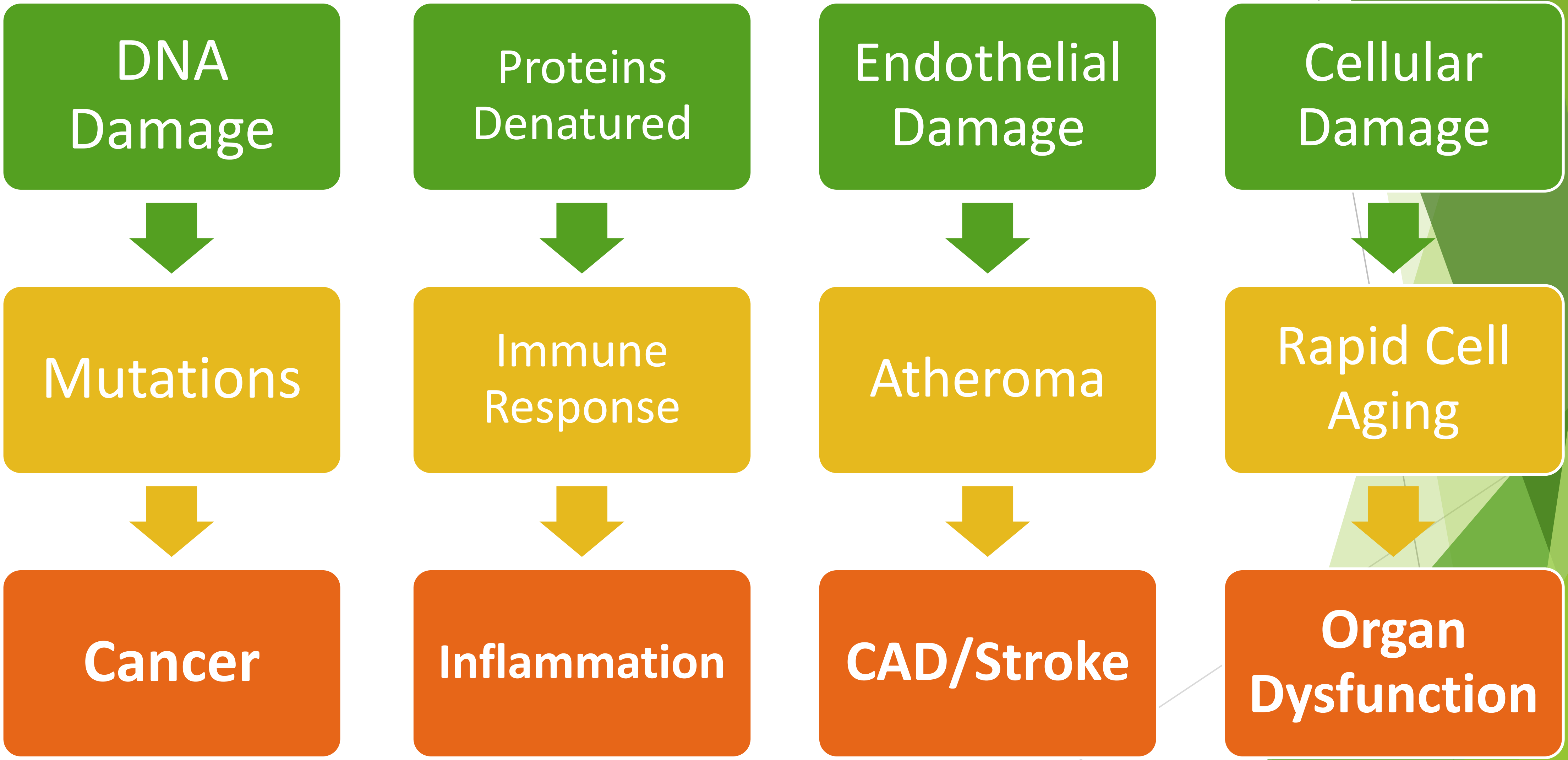


	Antioxidant content				
	n	mean	median	min	max
Plant based foods	1,943	1,157	88	0	289,711
Animal based foods	211	18	10	0	100


unpaired electron
Free Radical
Stable Molecule
Electron pairs



Free Radicals are highly reactive



DNA Damage
Mutations
Cancer

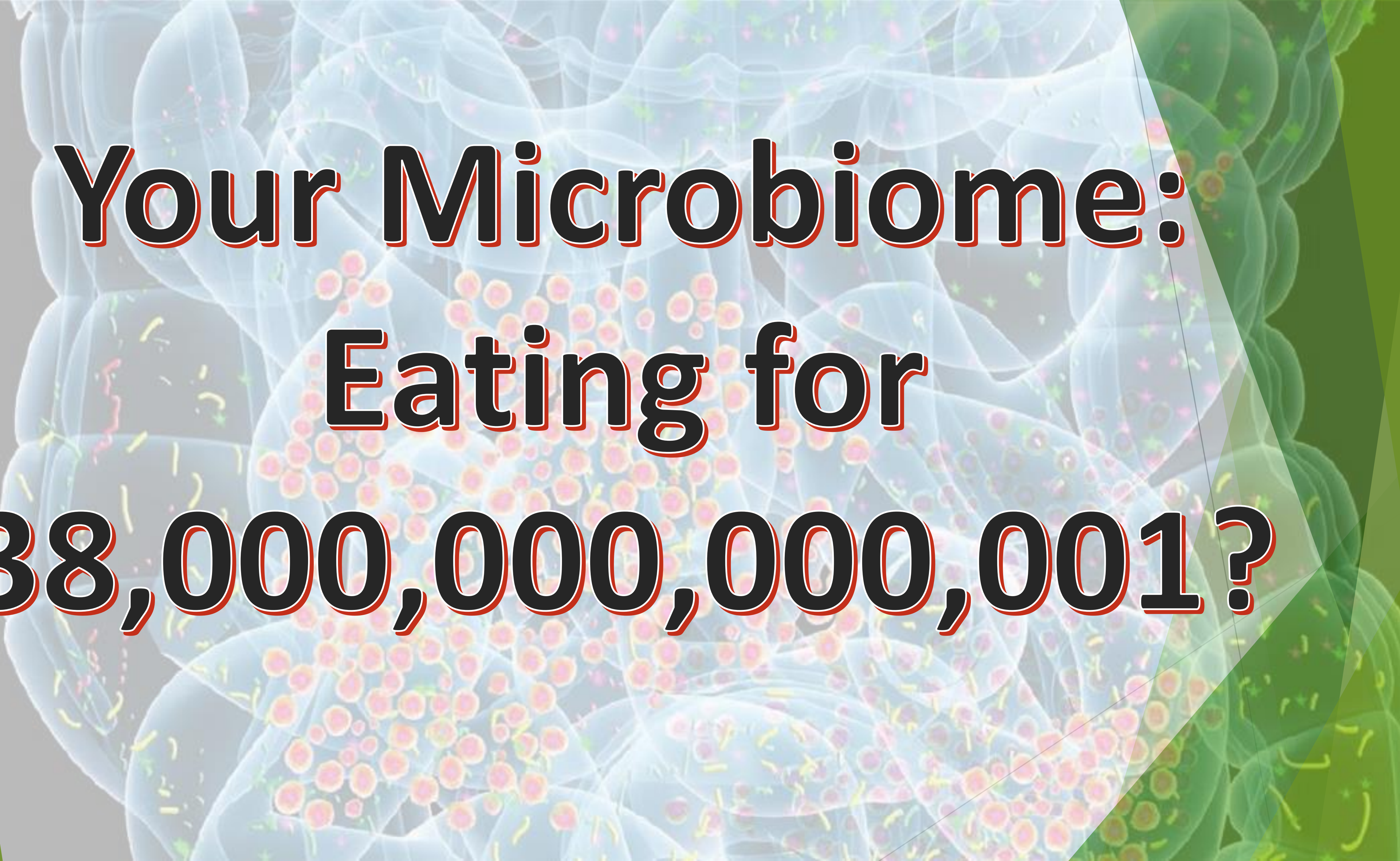
Proteins Denatured
Immune Response
Inflammation

Endothelial Damage
Atheroma
CAD/Stroke

Cellular Damage
Rapid Cell Aging
Organ Dysfunction

Desirable Characteristics:	Plant Foods	Animal Foods
Anti Oxidant Rich	★★★★★	❌
High Fiber		
Alkaline		
Cholesterol Free		
Anti Inflammatory		
Phytonutrient Rich		
Balanced /Healthy Macronutrients		

Your Microbiome: Eating for 38,000,000,000,001?



Feed them Well and they Will:

- Support Immune function
- Support Hormone Balance
- Manage Toxins
- Nourish Your Colon
- Lower Inflammation
- Produce Nutrients
- Signal Satiety
- Aid Nutrient Absorption

Starve them and they Will:

- Inflame Colon
- Produce Toxins
- Increase Estrogens
- Increase Serum Cholesterol
- Induce Inflammation
- Create "Leaky Gut"
- Increase Autoimmune Disease Risk

And what do they eat?

How much fiber do we need?

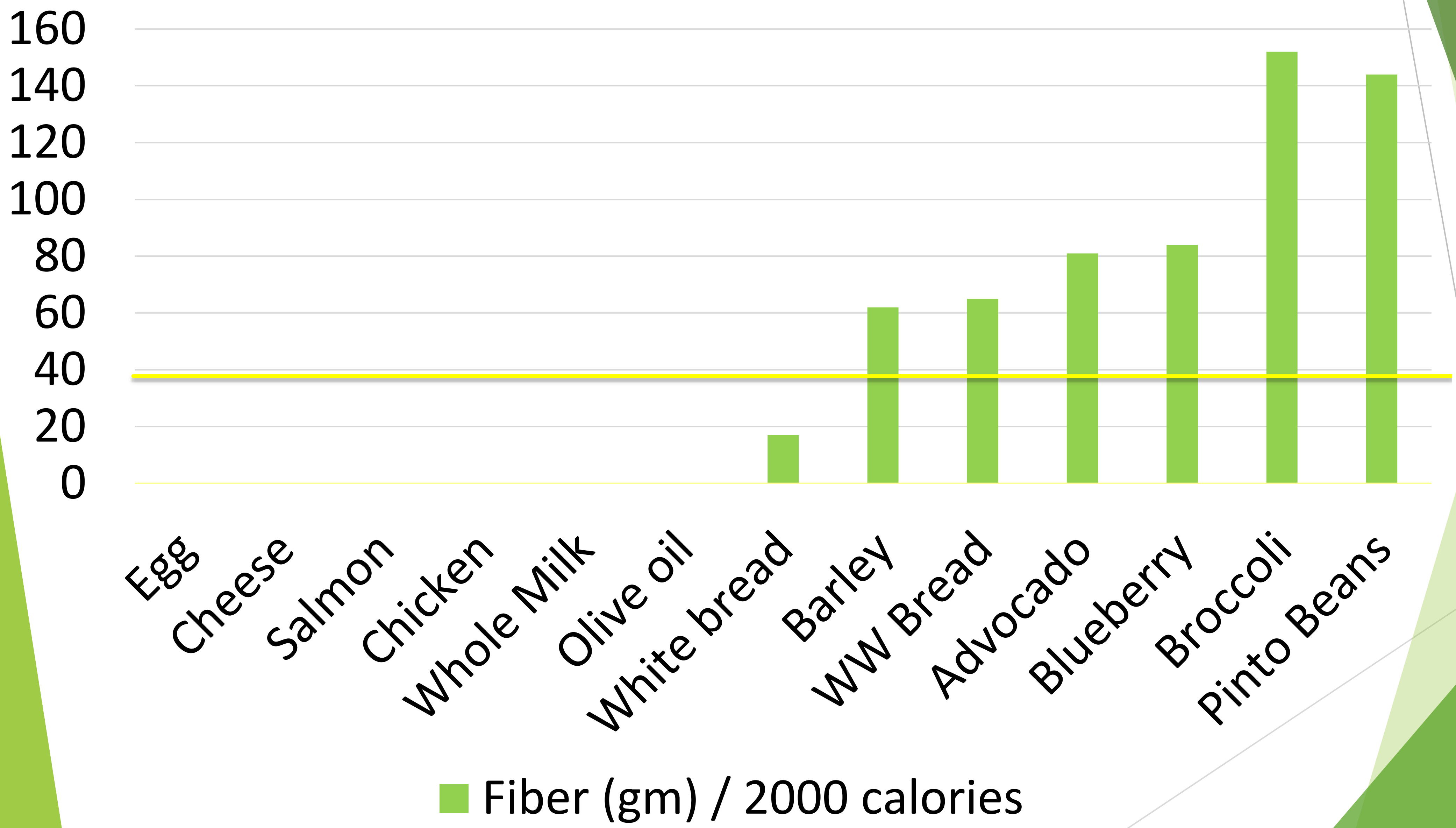
Average American intake = 15 gm

Dietary Guidelines = 30 gm

Minimum Goal = 60 gm

Optimal = 100+ gm/ day

Fiber (gm) / 2000 calories



Fiber (gm) / 2000 calories

- Egg = 0
- Cheese = 0
- Olive Oil = 0
- Chicken = 0
- White Bread = 17

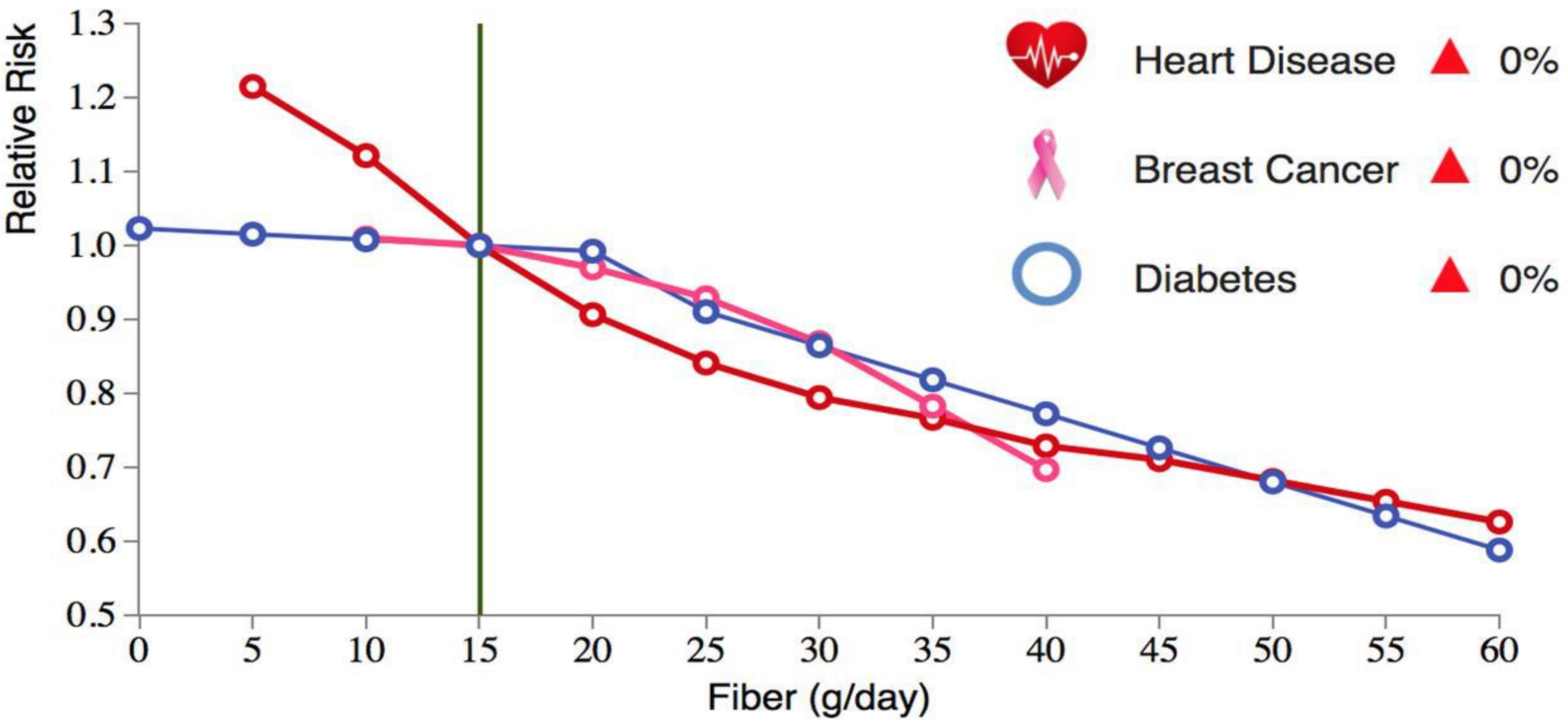
Starvation

- Walnut = 20
- **Minimum Goal = >30**
- Barley = 62
- Blueberry = 84
- Pinto Beans = 144
- Broccoli = 152
- Kale = 227

Nourishment

Dietary Fiber and Risk of Disease

David Donohue, MD



References

… (2013) Dietary fibre intake and risk of cardiovascular disease: systematic review and meta-analysis

… (2014) Dietary fiber intake and risk of type 2 diabetes: a dose–response analysis of prospective stu…

… (2012) Dietary fiber and breast cancer risk: a systematic review and meta-analysis of prospective s…

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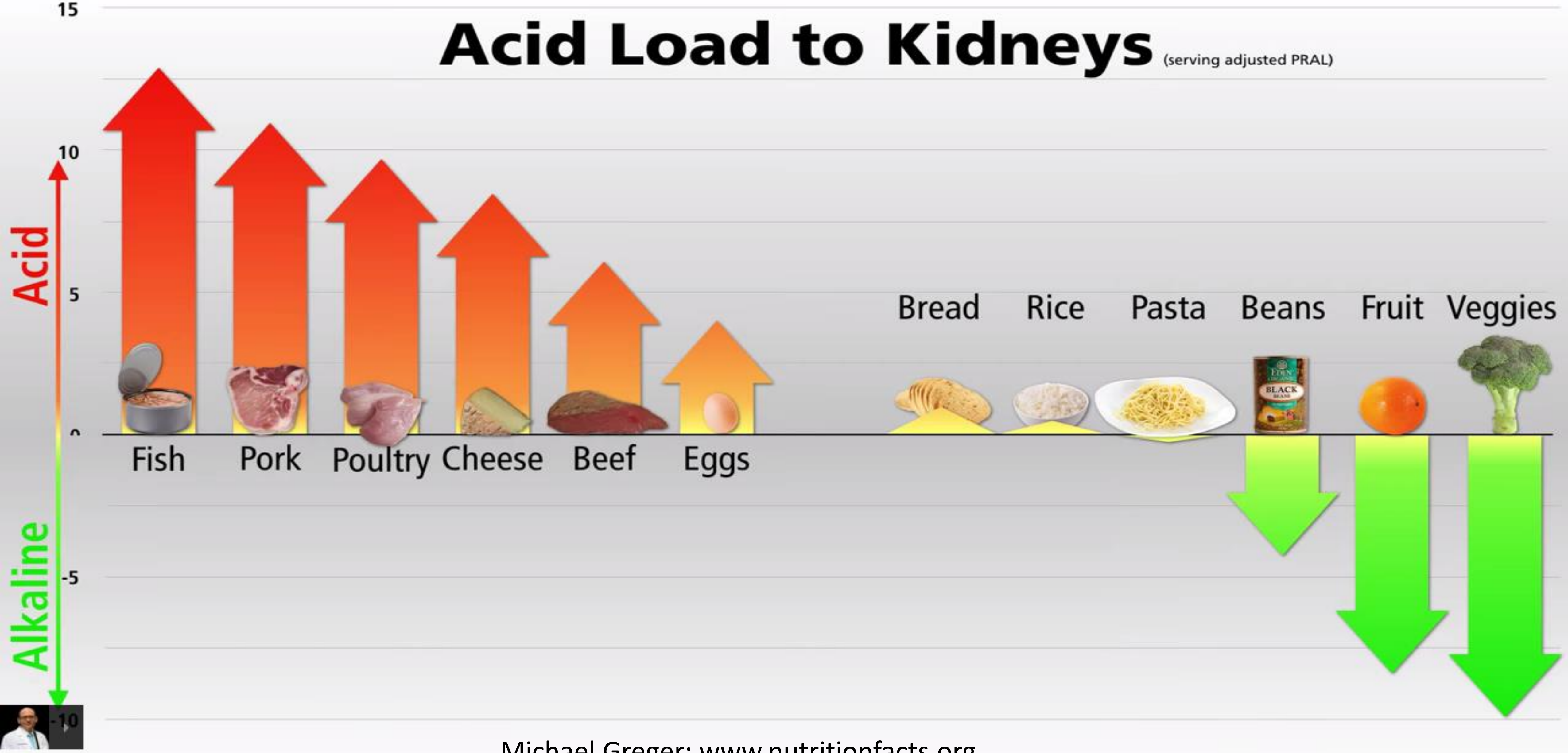
High Fiber	★★★★★	✗
Alkaline		
Cholesterol Free		
Anti Inflammatory		
Phytonutrient Rich		
Balanced /Healthy Macronutrients		

Acid Load to Kidneys (serving adjusted PRAL)



Michael Greger: www.nutritionfacts.org

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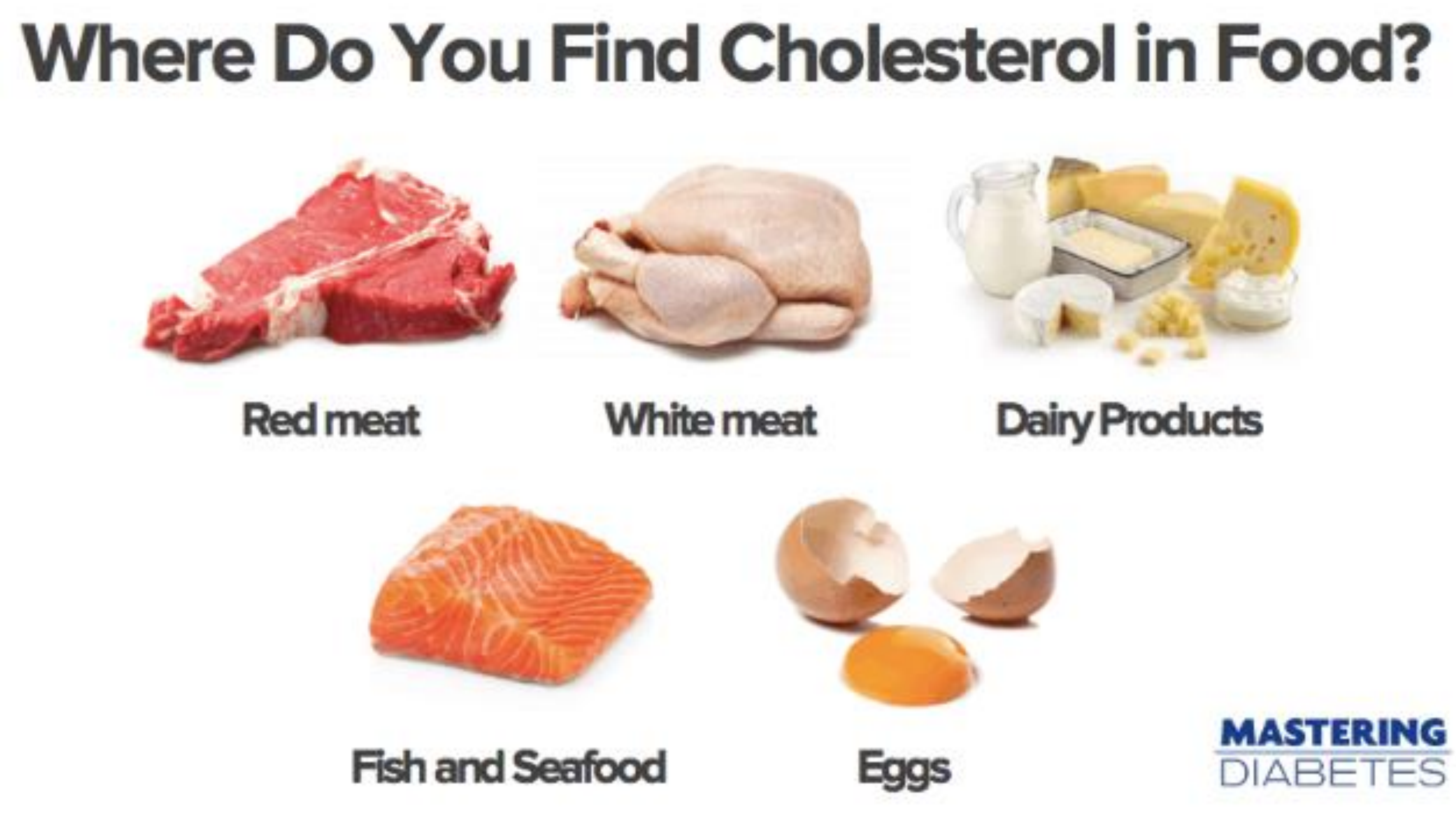
Phytonutrient Rich		
Balanced /Healthy Macronutrients		



Where Do You Find Cholesterol in Food?

Red meat

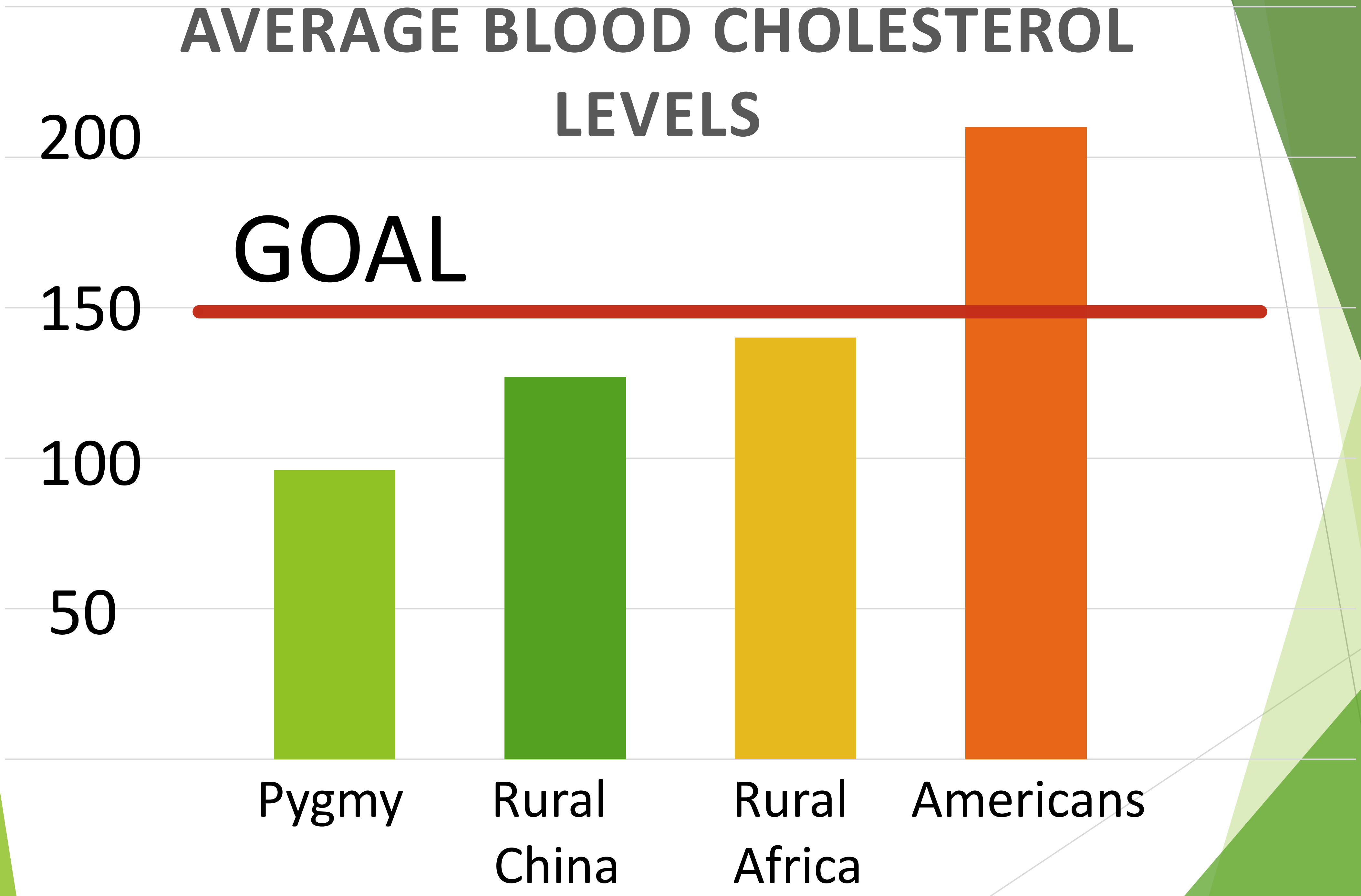
White meat

Dairy Products

Fish and Seafood

Eggs

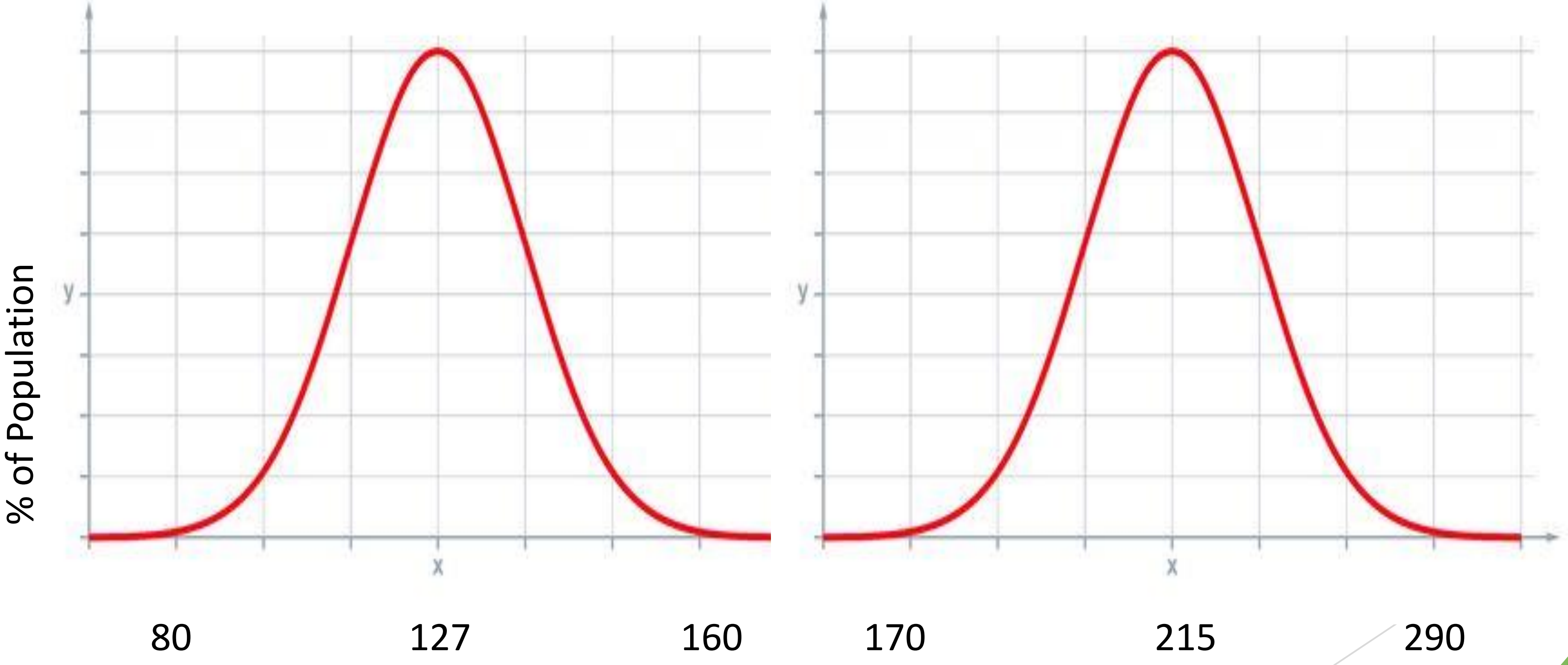
MASTERING DIABETES


AVERAGE BLOOD CHOLESTEROL LEVELS
200
150
100
50
GOAL
Pygmy
Rural China
Rural Africa
Americans

Total Serum Cholesterol Levels

Rural China

USA



T. Colin Campbell, “The China Study”, 2006, Pg. 78

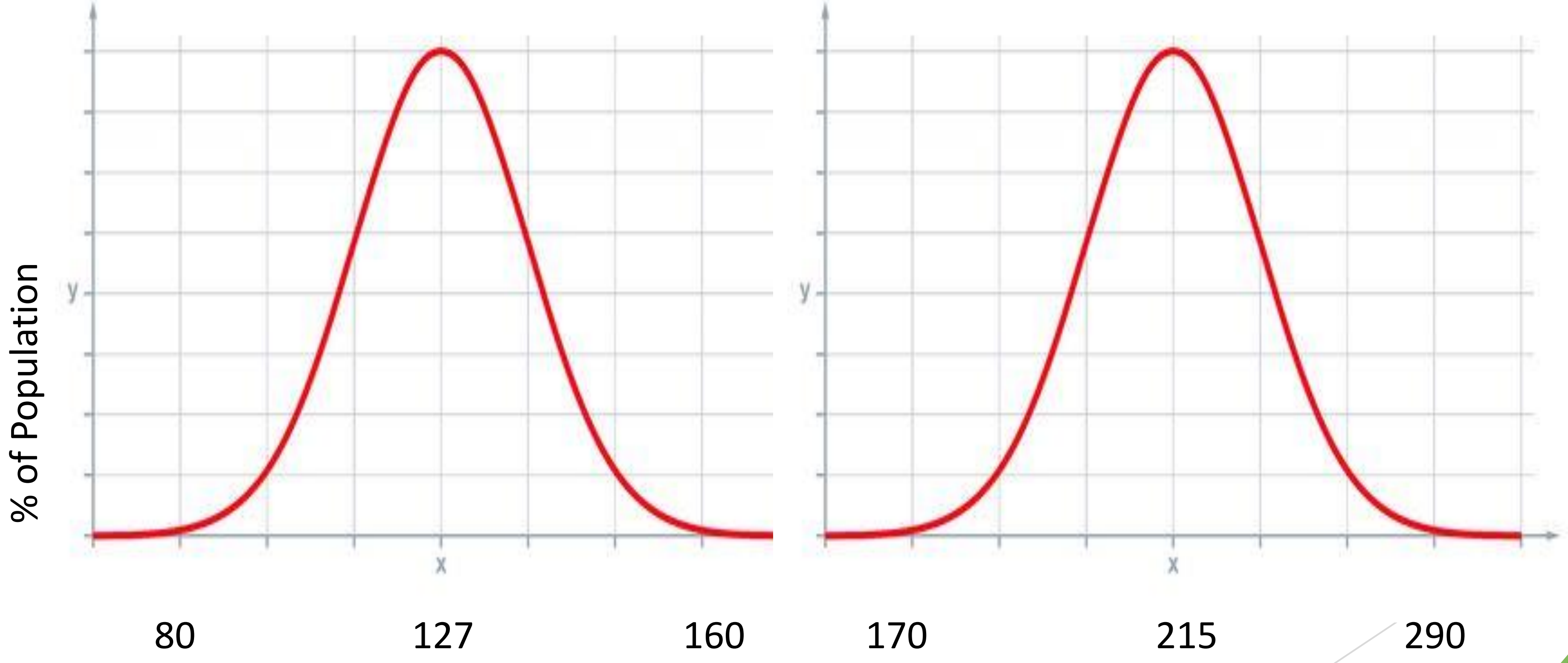
Total Serum Cholesterol Levels

Rural China

CAD Risk ~0

USA

CAD Risk ~100%



T. Colin Campbell, “The China Study”, 2006, Pg. 78

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Anti Oxidant Rich	★★★★★	❌
High Fiber	★★★★★	❌
Alkaline	★★★★★	❌
Cholesterol Free	★★★★★	❌
Anti Inflammatory		
Phytonutrient Rich		
Balanced /Healthy Macronutrients		

Plant Foods: Anti-Inflammatory

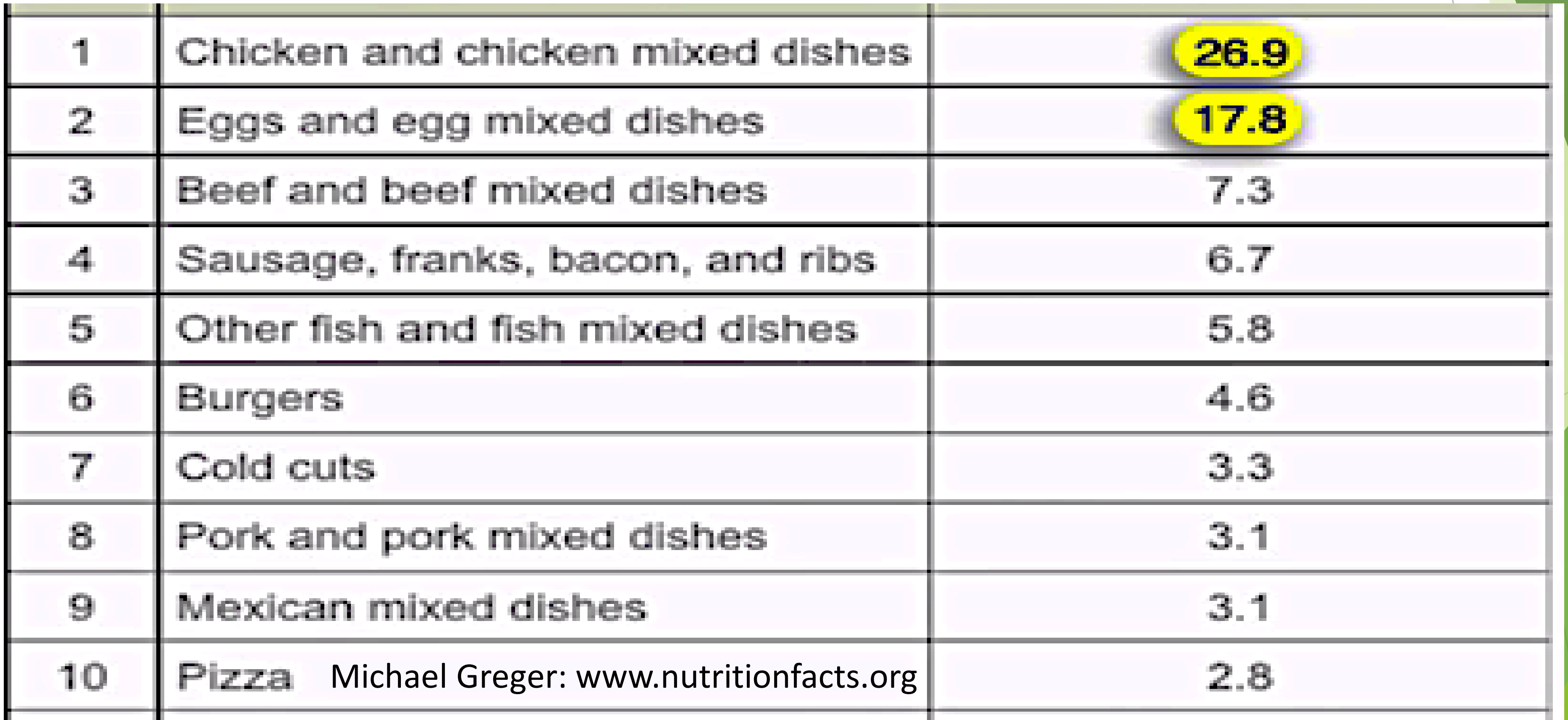
- Anti-Oxidant Rich
- Support Healthy Microbiome
- Phytonutrient Rich

Inflammation from Animal Foods

- Bacterial Endotoxins
  - Average of 100,000,000 Bacteria per ¼ Pounder
  - These form "Endotoxins"
  - Endotoxins survive cooking, stomach acid & digestive enzymes
  - Saturated Fats aid absorption
  - Accelerate Atherosclerosis and Insulin Resistance

Inflammation from Animal Foods

- **Aracidonic Acid**
- **Instigates Inflammatory Cascade**



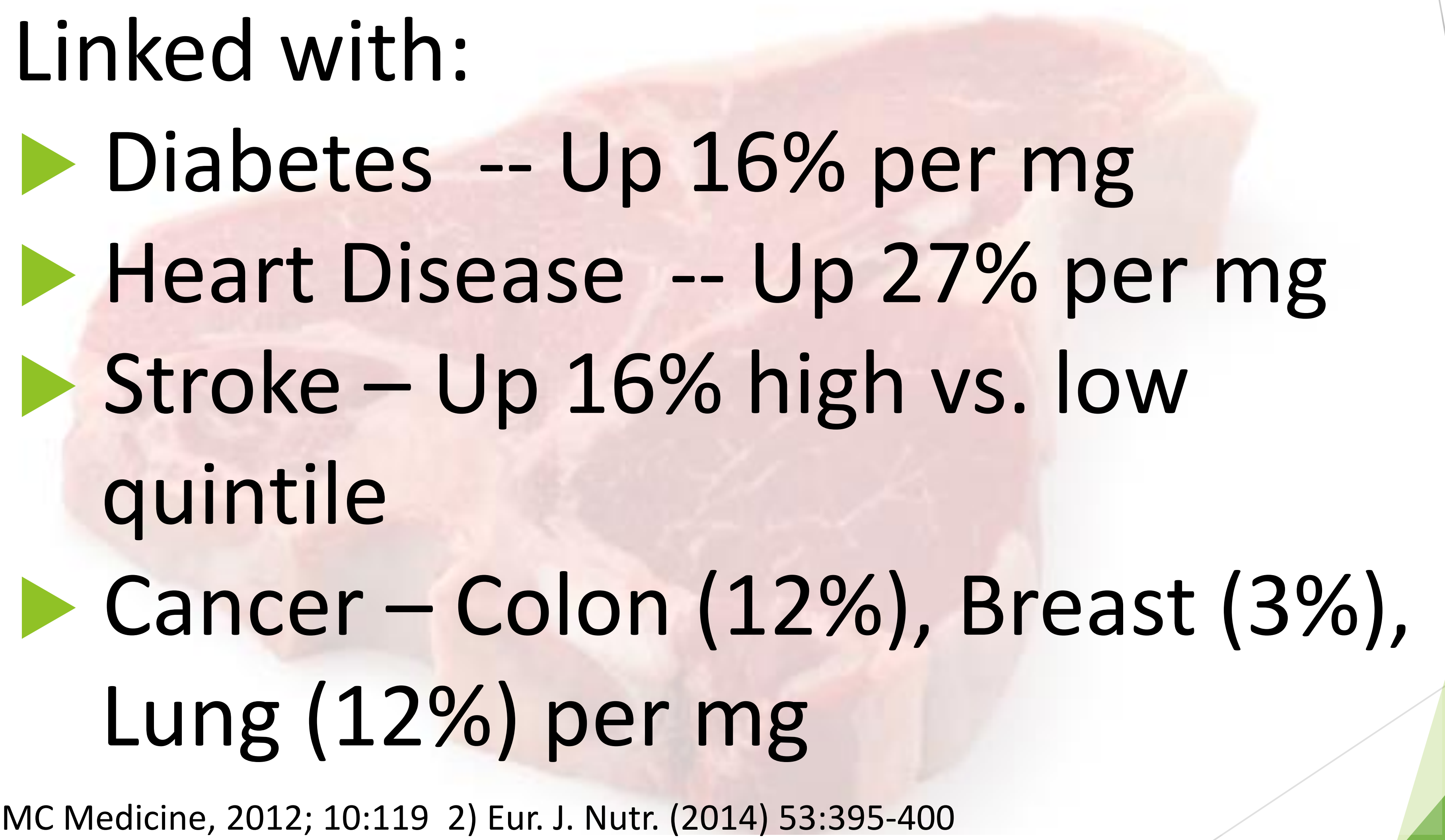
1	Chicken and chicken mixed dishes	26.9
2	Eggs and egg mixed dishes	17.8
3	Beef and beef mixed dishes	7.3
4	Sausage, franks, bacon, and ribs	6.7
5	Other fish and fish mixed dishes	5.8
6	Burgers	4.6
7	Cold cuts	3.3
8	Pork and pork mixed dishes	3.1
9	Mexican mixed dishes	3.1
10	Pizza	2.8

Michael Greger: www.nutritionfacts.org

Heme Iron

- From Animal Blood & Muscle
- Pro-Oxidant
- Pro-Inflammatory

Heme Iron



- Linked with:
  - Diabetes -- Up 16% per mg
  - Heart Disease -- Up 27% per mg
  - Stroke – Up 16% high vs. low quintile
  - Cancer – Colon (12%), Breast (3%), Lung (12%) per mg

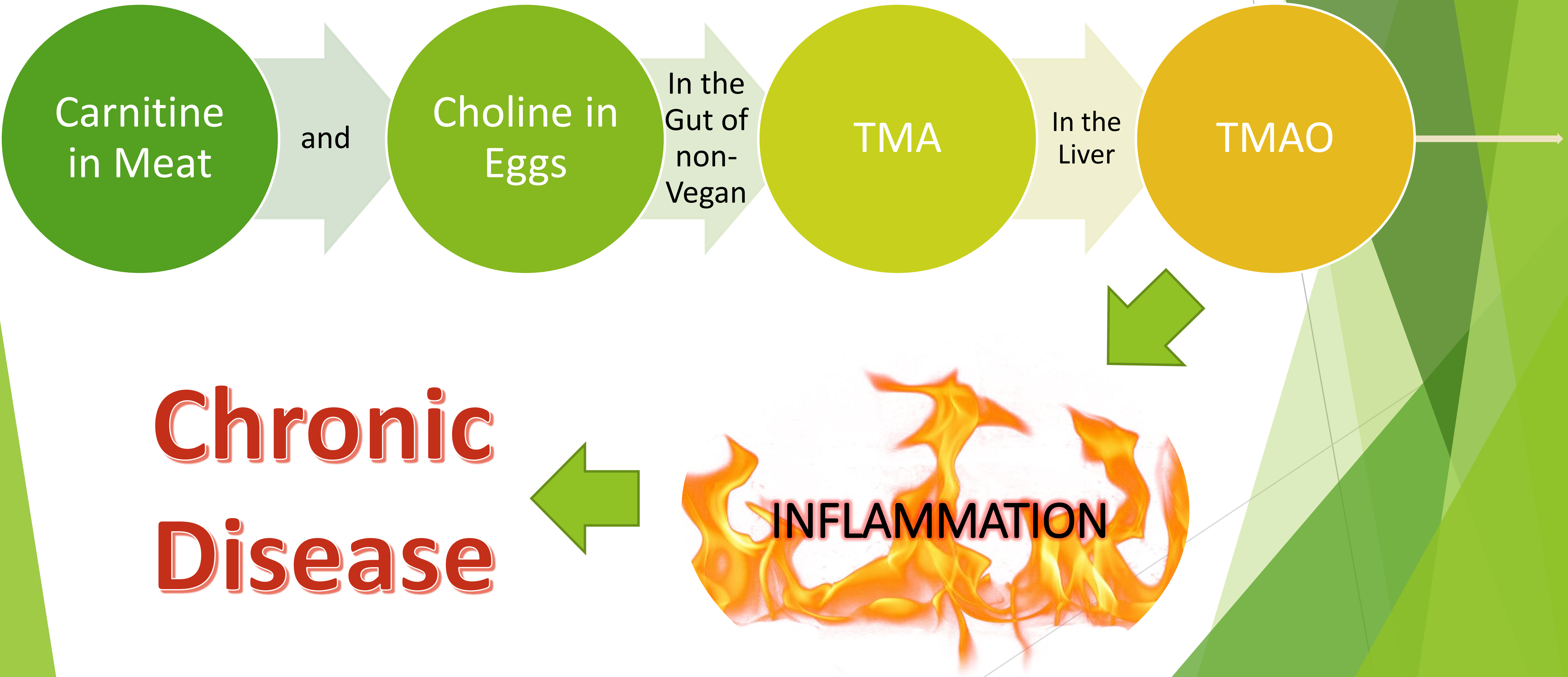
1) BMC Medicine, 2012; 10:119 2) Eur. J. Nutr. (2014) 53:395-400
3) Stroke, 2013; 44: 334-334 4) Cancer Eipidemiol Biomarkers Prev. 23(1) January, 2014

Heme Iron per 3 oz. Portion:

- Clams – 23.8
- Oysters – 7.8
- Muscles – 5.7
- Venison – 2.8
- Ground Beef – 2.5
- Lamb Chop -- 2.1

https://hemochromatosishelp.com/heme-iron-vs-non-heme-iron/

Inflammation from Meat and Eggs: Carnitine and Choline



Carnitine in Meat

and

Choline in Eggs

In the Gut of non-Vegan

TMA

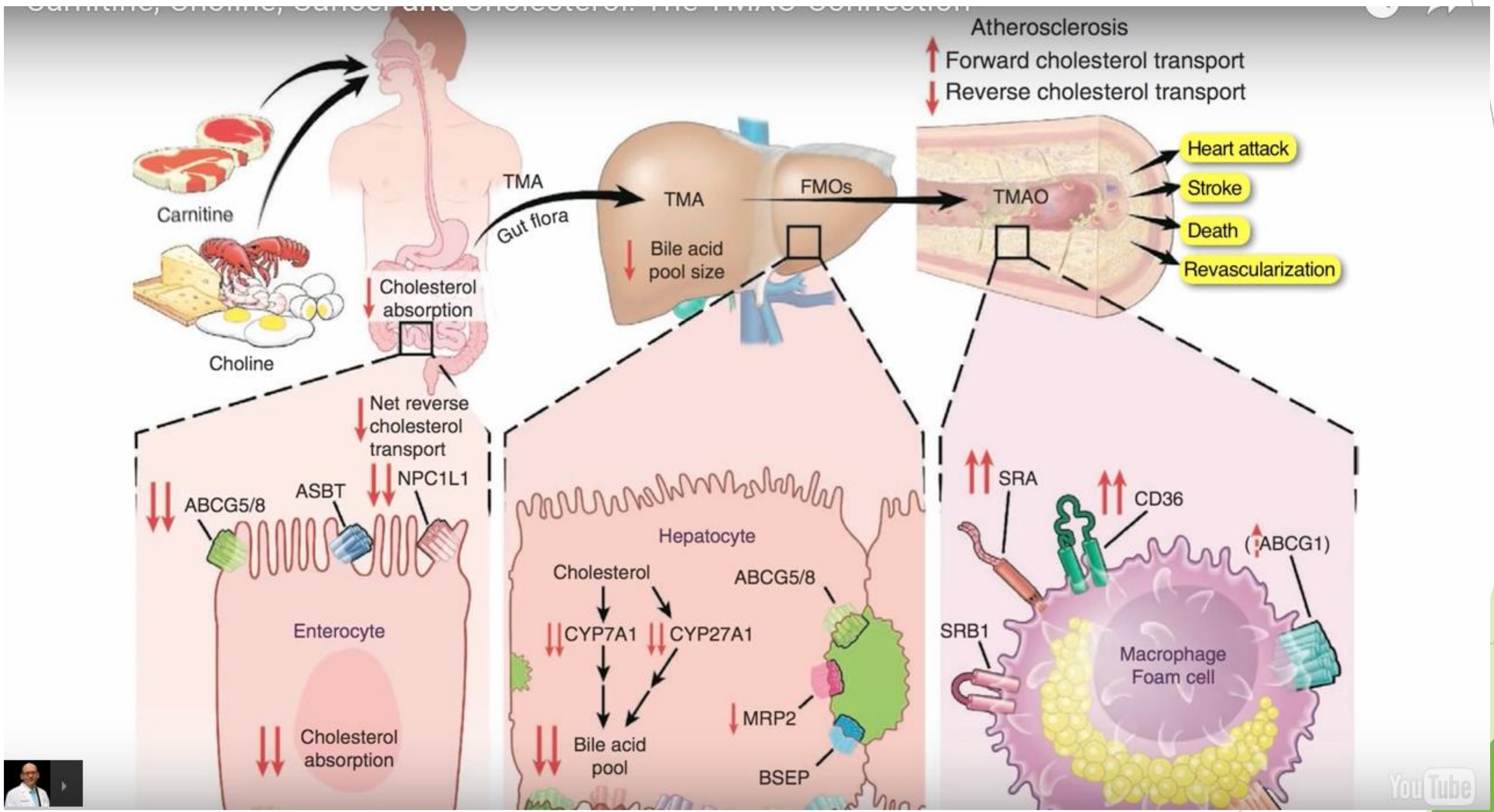
In the Liver

TMAO

INFLAMMATION

Chronic Disease

Carnitine + Choline – TMA -- TMAO


Atherosclerosis
↑ Forward cholesterol transport
↓ Reverse cholesterol transport
Carnitine
Choline
TMA
Gut flora
↓ Cholesterol absorption
TMA
FMOs
↓ Bile acid pool size
TMAO
Heart attack
Stroke
Death
Revascularization
↓ Net reverse cholesterol transport
↓↓ ABCG5/8
ASBT
↓↓ NPC1L1
Enterocyte
↓↓ Cholesterol absorption
Hepatocyte
Cholesterol
↓↓ CYP7A1
↓↓ CYP27A1
ABCG5/8
↓ MRP2
BSEP
↓↓ Bile acid pool
↑↑ SRA
↑↑ CD36
(↑ABCG1)
SRB1
Macrophage Foam cell
YouTube

Nutritionfacts.org: Carnitine, Choline, Cancer, & Cholesterol: The TMAO Connection
Michael Greger M.D. FACLM · April 26th, 2013 · Volume 13

“Food Borne Inflammation”

- Heart Disease
- Stroke
- Hypertension
- Arthritis
- Osteoporosis
- Chronic Kidney Disease
- Arthritis
- Alzheimer's
- Diverticulosis
- Appendicitis
- Food Borne infections
- Multiple Sclerosis
- Rheumatoid arthritis
- Crohn’s Disease
- Ulcerative Colitis
- Asthma
- Eczema

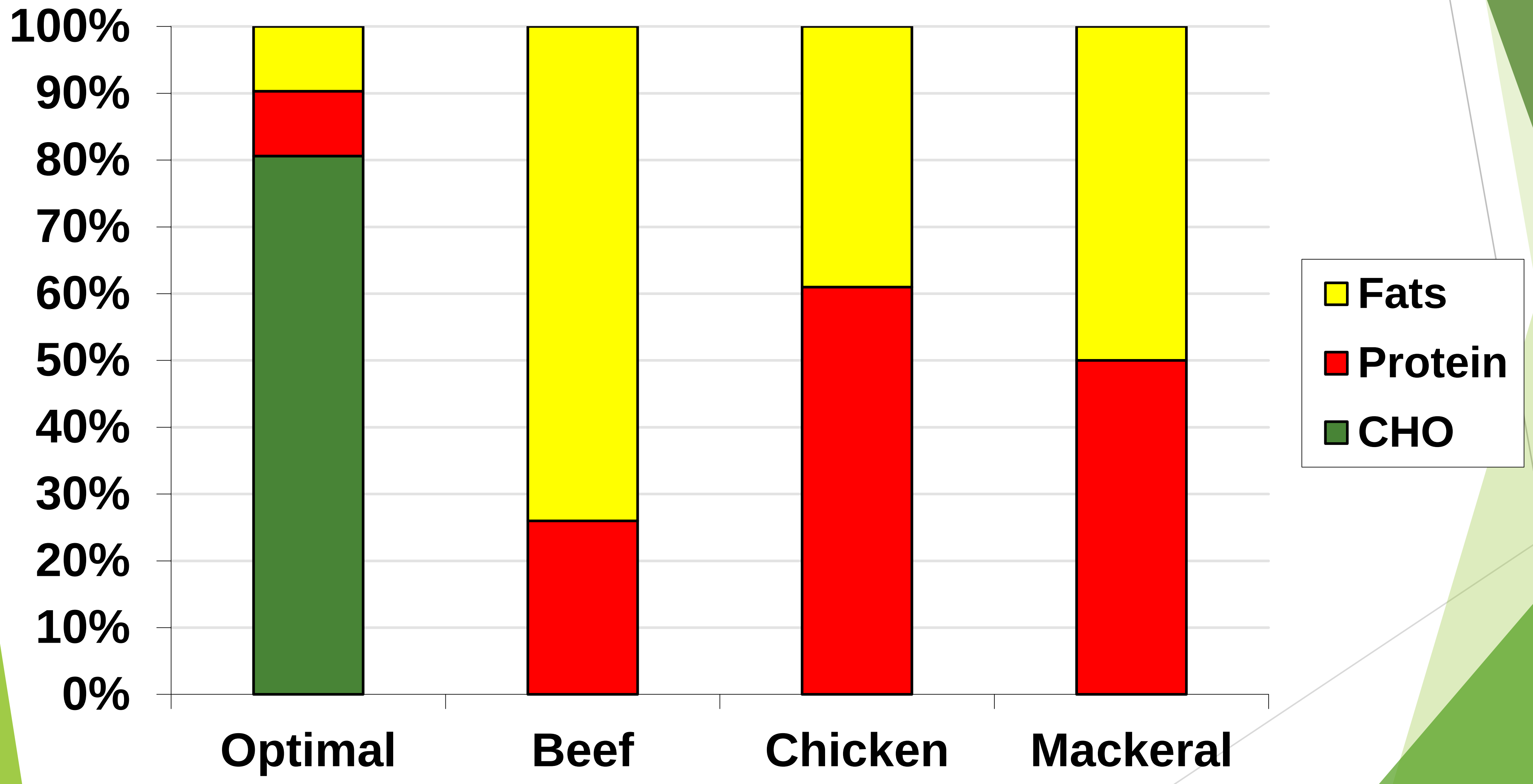
Desirable Characteristics:	Plant Foods	Animal Foods
Anti Oxidant Rich	★★★★★	❌
High Fiber	★★★★★	❌
Alkaline	★★★★★	❌
Cholesterol Free	★★★★★	❌
Anti Inflammatory	★★★★★	❌
Phytonutrient Rich		
Balanced /Healthy Macronutrients		

Plants Contain Over 30,000 Disease Preventing “Phytonutrients”

- Bioflavonoids
- Lycopene
- Polyphenols
- Phytates
- Isoflavones
- Carotenoids
- Retinols
- Genistein
- Sulphanes
- Etc.

Desirable Characteristics:	Plant Foods	Animal Foods
Anti Oxidant Rich	★★★★★	✗
High Fiber	★★★★★	✗
Alkaline	★★★★★	✗
Cholesterol Free	★★★★★	✗
Anti Inflammatory	★★★★★	✗
Phytonutrient Rich	★★★★★	✗
Balanced /Healthy Macronutrients		

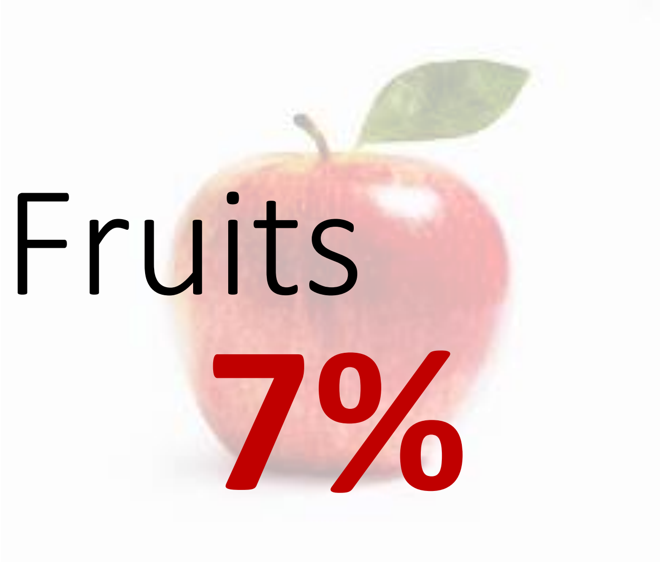
Animal Foods Unbalanced



“Where do you get your Protein??!”

Quiz: Which Have Protein?

Answer: ALL OF THEM!



Fruits

7%

Vegetables

20%

25%

Beans

Whole Grains

12%

Macronutrient Source: PROTEIN

- **Animal**
  - Acidic
  - Allergenic
  - Pro-Inflammatory:

    Interleukins, CRP, Inflammatory Cytokines
  - Stimulate IGF-1

- **Plant**
  - Alkaline
  - Less Allergy
  - Anti-Inflammatory
  - No IGF-1 Stimulation

KEMPS
FAT FREE SKIM MILK
VITAMIN A&D

97% FAT FREE
Dairy Farmers
Low Fat Cottage Cheese
500g

- Hypertension
- Obesity
- Diabetes
- Heart Disease
- Stroke

egg beaters
ORIGINAL
•LOW CALORIE •NO CHOLESTEROL
•NO FAT •MADE OF REAL EGGS

Ball Park
FAT FREE BEEF FRANKS
50 Calories
7g Total Carbs
0g Fat
NEW GREAT TASTE!
NET WT 14 OZ (396g)

'BRING OUT THE BEST'
HELLMANN'S
Low Fat
MAYONNAISE DRESSING
15 Calories
1g of Fat

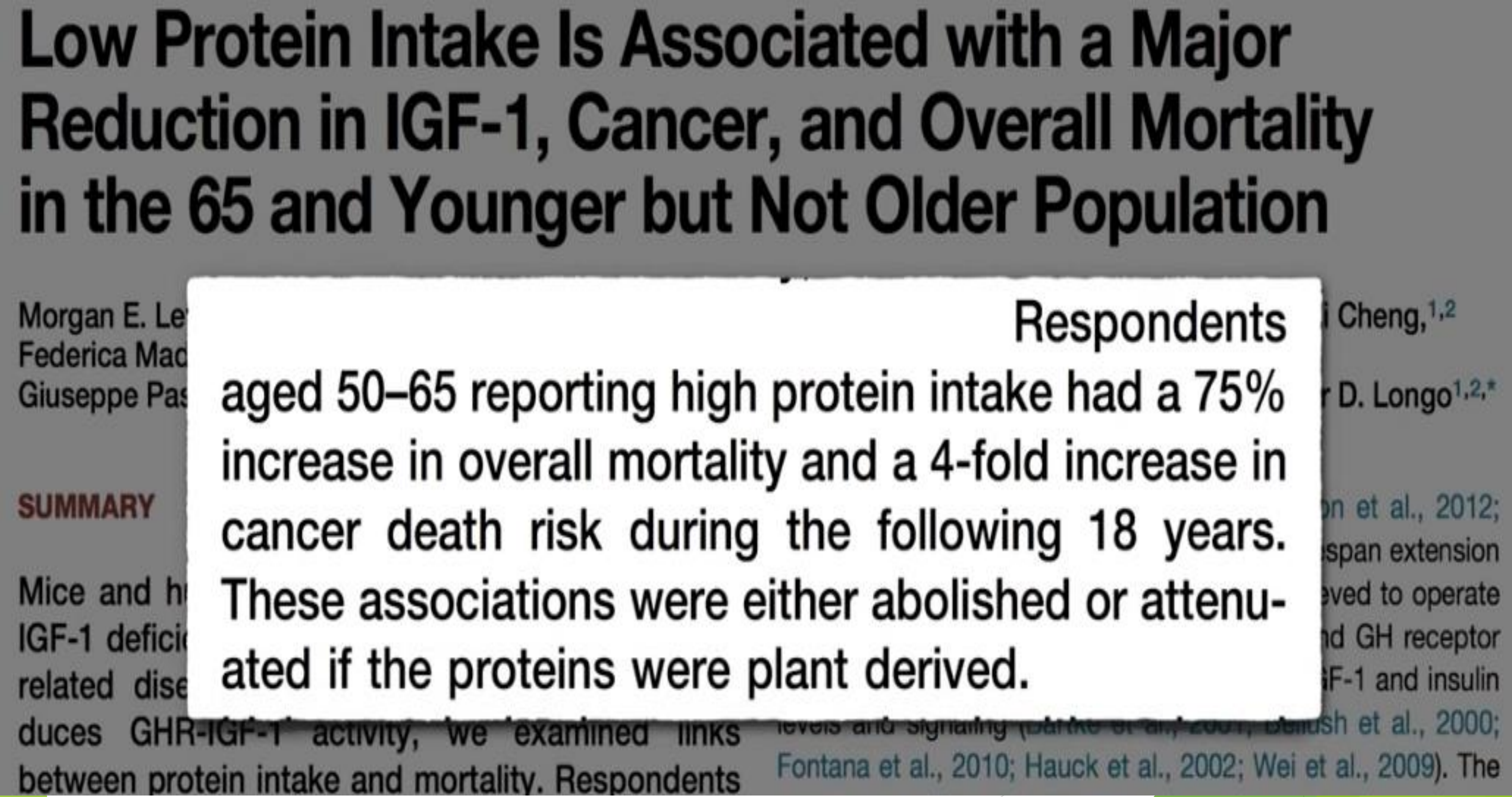
ANIMAL FAT

ANIMAL FAT

- Hypertension
- Obesity
- Diabetes
- Heart Disease
- Stroke

ANIMAL PROTEIN

- Colon Cancer
- Breast Cancer
- Prostate Cancer
- Osteoporosis
- Chronic Kidney Disease



Low Protein Intake Is Associated with a Major Reduction in IGF-1, Cancer, and Overall Mortality in the 65 and Younger but Not Older Population

Morgan E. Le … i Cheng,[1,2]
Federica Mad
Giuseppe Pas … r D. Longo[1,2,*]

Respondents aged 50–65 reporting high protein intake had a 75% increase in overall mortality and a 4-fold increase in cancer death risk during the following 18 years. These associations were either abolished or attenuated if the proteins were plant derived.

SUMMARY

Mice and h
IGF-1 defici
related dise
duces GHR-IGF-1 activity, we examined links between protein intake and mortality. Respondents

n et al., 2012;
span extension
eved to operate
nd GH receptor
GF-1 and insulin
ush et al., 2000;
Fontana et al., 2010; Hauck et al., 2002; Wei et al., 2009). The

Cell Metab. 2014 Mar 4;19(3):407-17. doi: 10.1016/j.cmet.2014.02.006

Macronutrient Source: FATS

Animal	**Plant**
Cholesterol	No Cholesterol
Saturated	Less Saturated
Trans Fats	None
Heavy Metals & Contaminants	Low Contaminants

Macronutrient Source: CARBS

- **Animal**
  - None or Sugar
  - No Fiber
  - Milk = Lactose / Galactose

- **Plant**
  - Rich in Complex
  - High in Fiber
  - No Lactose, small Galactose

Desirable Characteristics:	Plant Foods	Animal Foods
Anti Oxidant Rich	★★★★★	❌
High Fiber	★★★★★	❌
Alkaline	★★★★★	❌
Cholesterol Free	★★★★★	❌
Anti Inflammatory	★★★★★	❌
Phytonutrient Rich	★★★★★	❌
Balanced /Healthy Macronutrients	★★★★★	❌

WHOLE FOOD PLANT BASED

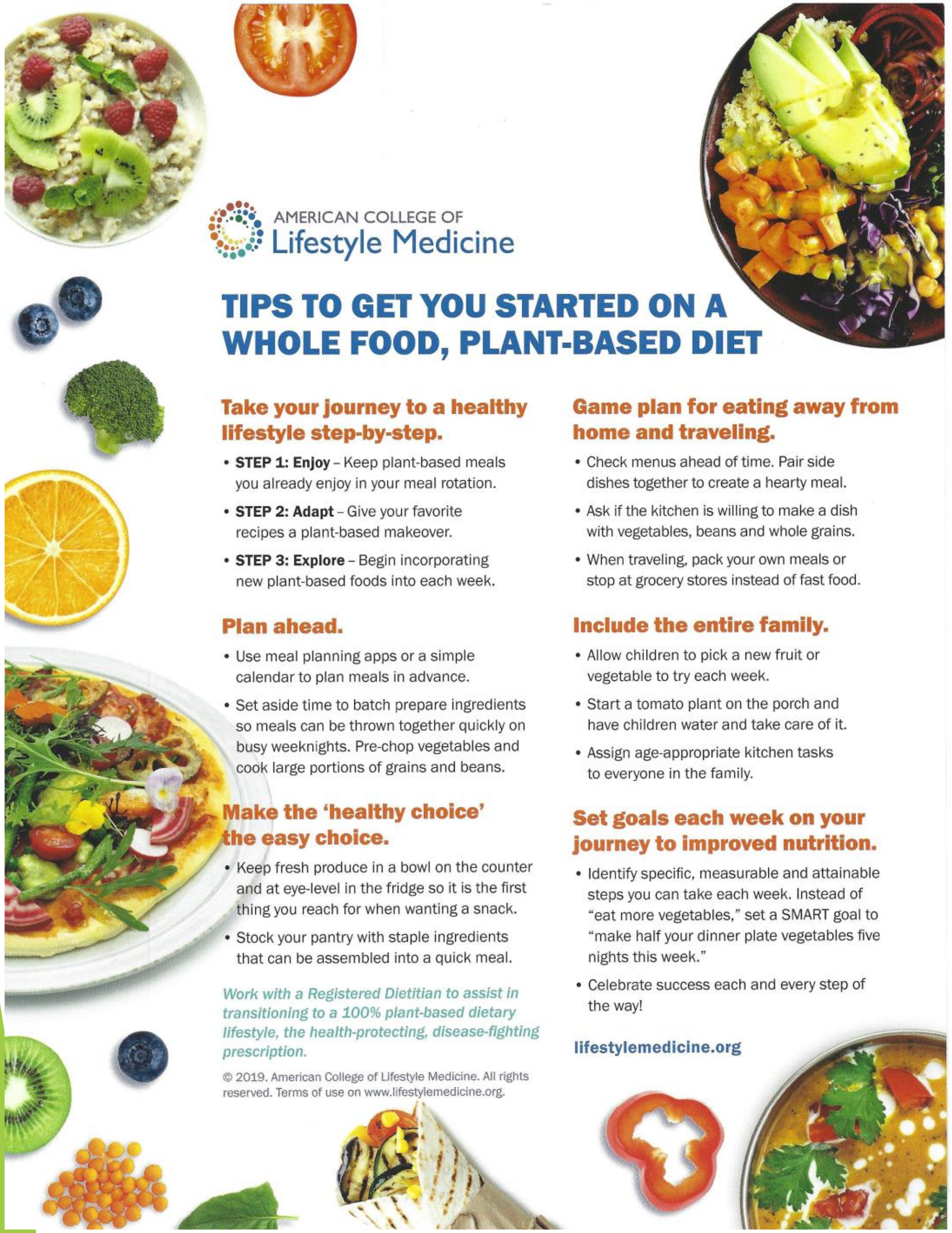
The "New 4 Food Groups"

- Vegetables

- Fruits

- Whole Grains

- Beans



AMERICAN COLLEGE OF
Lifestyle Medicine

TIPS TO GET YOU STARTED ON A WHOLE FOOD, PLANT-BASED DIET

Take your journey to a healthy lifestyle step-by-step.

- **STEP 1: Enjoy** – Keep plant-based meals you already enjoy in your meal rotation.
- **STEP 2: Adapt** – Give your favorite recipes a plant-based makeover.
- **STEP 3: Explore** – Begin incorporating new plant-based foods into each week.

Plan ahead.

- Use meal planning apps or a simple calendar to plan meals in advance.
- Set aside time to batch prepare ingredients so meals can be thrown together quickly on busy weeknights. Pre-chop vegetables and cook large portions of grains and beans.

Make the 'healthy choice' the easy choice.

- Keep fresh produce in a bowl on the counter and at eye-level in the fridge so it is the first thing you reach for when wanting a snack.
- Stock your pantry with staple ingredients that can be assembled into a quick meal.

Work with a Registered Dietitian to assist in transitioning to a 100% plant-based dietary lifestyle, the health-protecting, disease-fighting prescription.

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Game plan for eating away from home and traveling.

- Check menus ahead of time. Pair side dishes together to create a hearty meal.
- Ask if the kitchen is willing to make a dish with vegetables, beans and whole grains.
- When traveling, pack your own meals or stop at grocery stores instead of fast food.

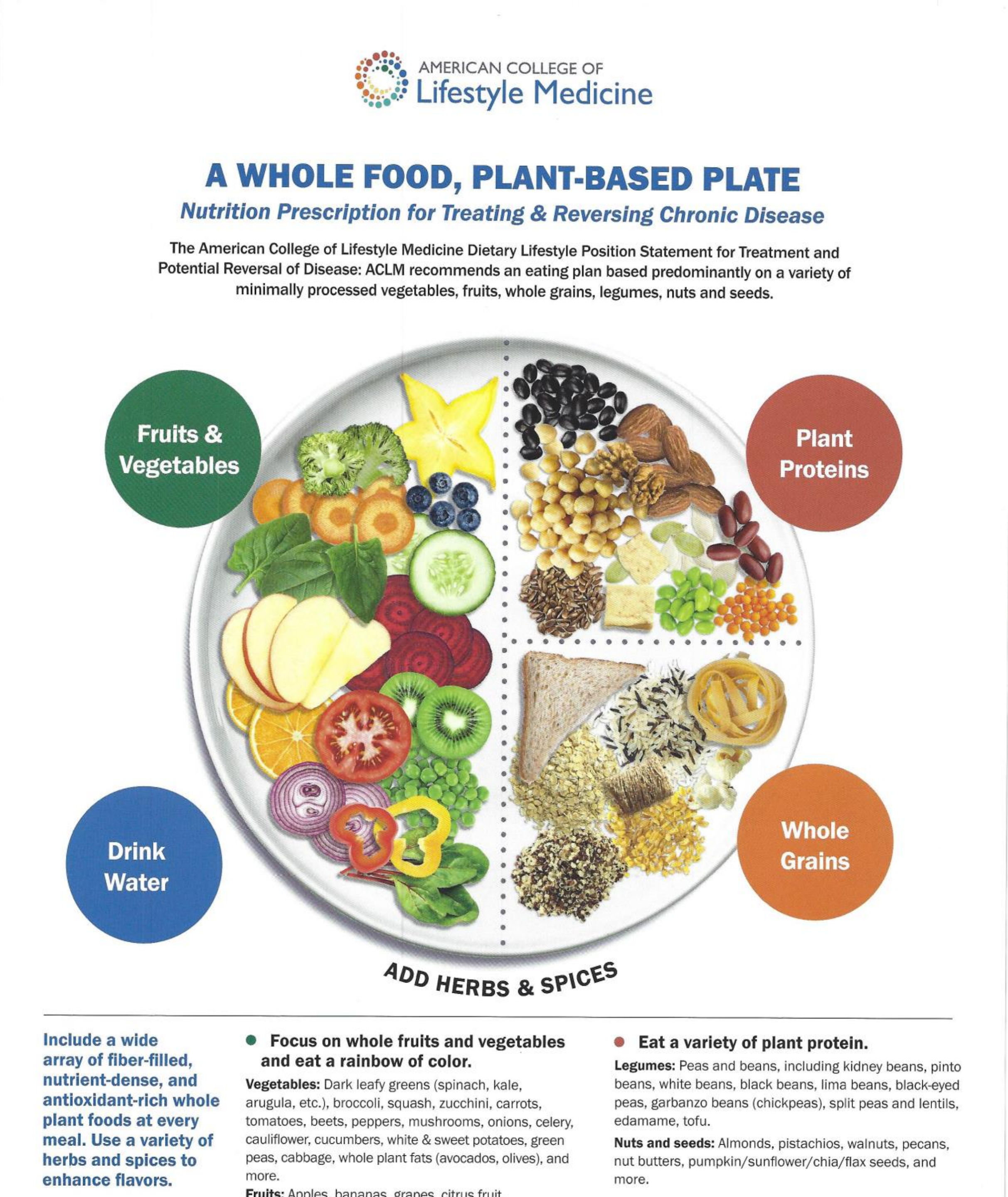
Include the entire family.

- Allow children to pick a new fruit or vegetable to try each week.
- Start a tomato plant on the porch and have children water and take care of it.
- Assign age-appropriate kitchen tasks to everyone in the family.

Set goals each week on your journey to improved nutrition.

- Identify specific, measurable and attainable steps you can take each week. Instead of "eat more vegetables," set a SMART goal to "make half your dinner plate vegetables five nights this week."
- Celebrate success each and every step of the way!

lifestylemedicine.org



AMERICAN COLLEGE OF
Lifestyle Medicine

A WHOLE FOOD, PLANT-BASED PLATE

Nutrition Prescription for Treating & Reversing Chronic Disease

The American College of Lifestyle Medicine Dietary Lifestyle Position Statement for Treatment and Potential Reversal of Disease: ACLM recommends an eating plan based predominantly on a variety of minimally processed vegetables, fruits, whole grains, legumes, nuts and seeds.

Include a wide array of fiber-filled, nutrient-dense, and antioxidant-rich whole plant foods at every meal. Use a variety of herbs and spices to enhance flavors.

● Focus on whole fruits and vegetables and eat a rainbow of color.

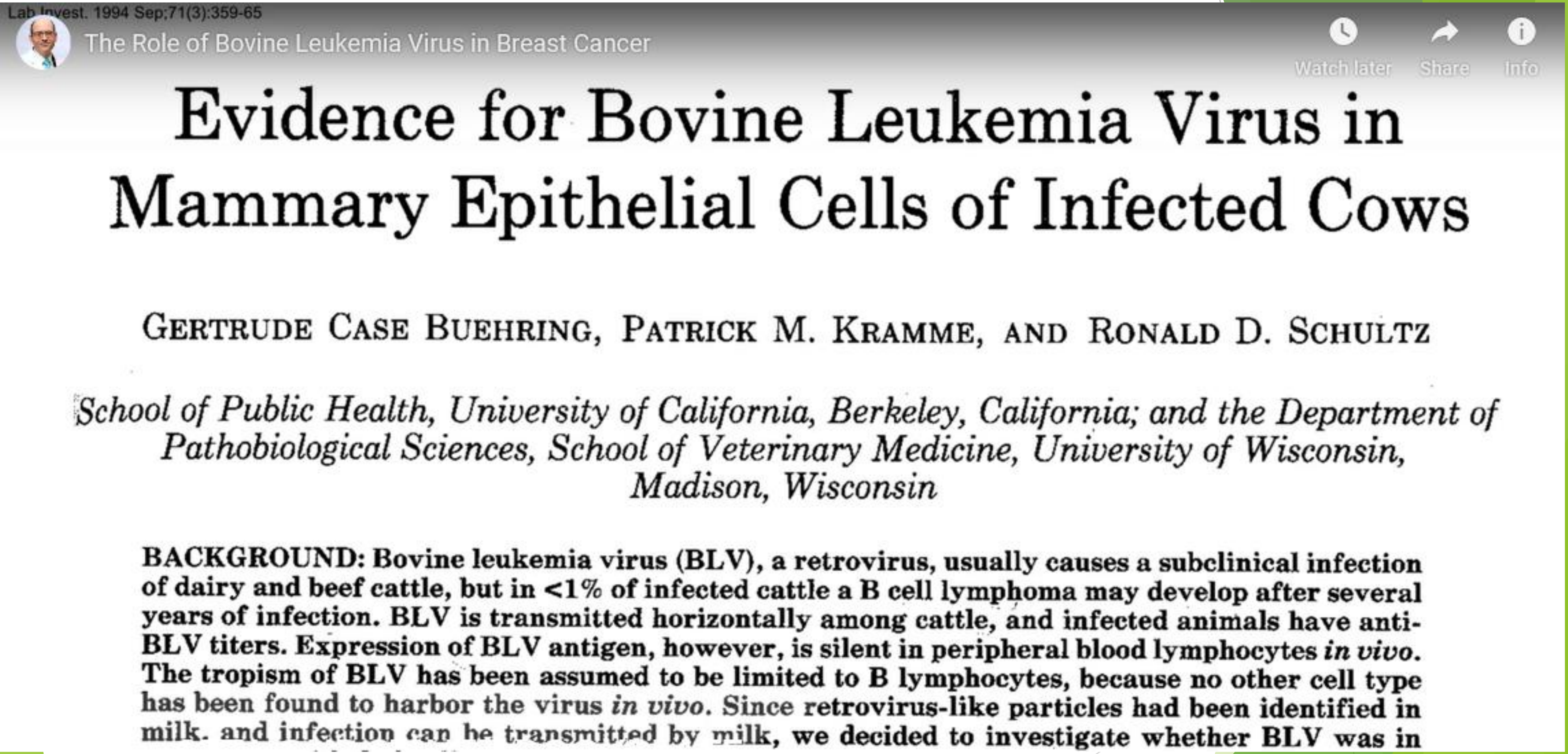
Vegetables: Dark leafy greens (spinach, kale, arugula, etc.), broccoli, squash, zucchini, carrots, tomatoes, beets, peppers, mushrooms, onions, celery, cauliflower, cucumbers, white & sweet potatoes, green peas, cabbage, whole plant fats (avocados, olives), and more.

Fruits: Apples, bananas, grapes, citrus fruit

● Eat a variety of plant protein.

Legumes: Peas and beans, including kidney beans, pinto beans, white beans, black beans, lima beans, black-eyed peas, garbanzo beans (chickpeas), split peas and lentils, edamame, tofu.

Nuts and seeds: Almonds, pistachios, walnuts, pecans, nut butters, pumpkin/sunflower/chia/flax seeds, and more.



Lab Invest. 1994 Sep;71(3):359-65

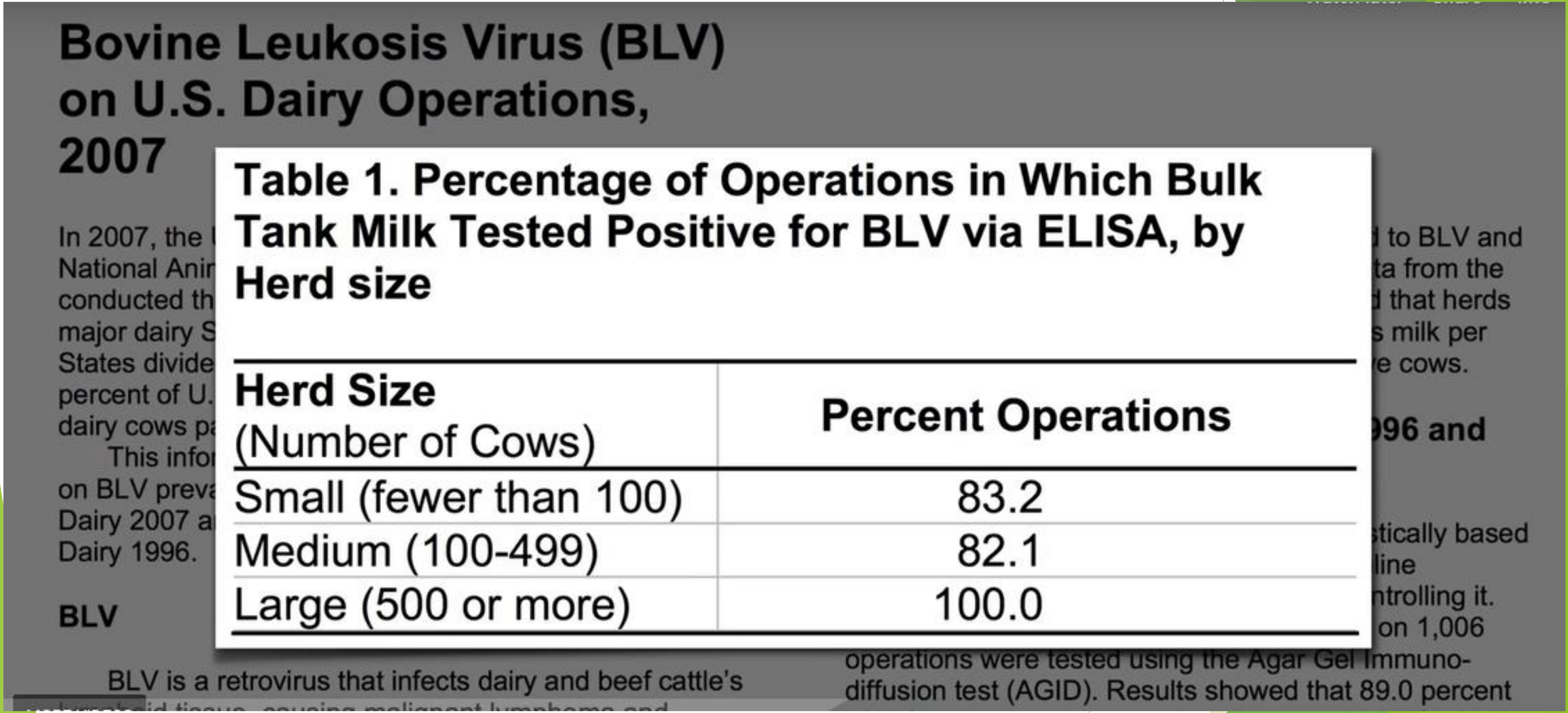
Evidence for Bovine Leukemia Virus in Mammary Epithelial Cells of Infected Cows

GERTRUDE CASE BUEHRING, PATRICK M. KRAMME, AND RONALD D. SCHULTZ

School of Public Health, University of California, Berkeley, California; and the Department of Pathobiological Sciences, School of Veterinary Medicine, University of Wisconsin, Madison, Wisconsin

BACKGROUND: Bovine leukemia virus (BLV), a retrovirus, usually causes a subclinical infection of dairy and beef cattle, but in <1% of infected cattle a B cell lymphoma may develop after several years of infection. BLV is transmitted horizontally among cattle, and infected animals have anti-BLV titers. Expression of BLV antigen, however, is silent in peripheral blood lymphocytes *in vivo*. The tropism of BLV has been assumed to be limited to B lymphocytes, because no other cell type has been found to harbor the virus *in vivo*. Since retrovirus-like particles had been identified in milk, and infection can be transmitted by milk, we decided to investigate whether BLV was in

Lab Invest. 1994 Sept;71(3):359-65



Bovine Leukosis Virus (BLV) on U.S. Dairy Operations, 2007

Table 1. Percentage of Operations in Which Bulk Tank Milk Tested Positive for BLV via ELISA, by Herd size

Herd Size (Number of Cows)	Percent Operations
Small (fewer than 100)	83.2
Medium (100-499)	82.1
Large (500 or more)	100.0

In 2007, the
National Anin
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percent of U.
dairy cows pa
This infor
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Dairy 2007 a
Dairy 1996.

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e cows.

996 and

BLV

BLV is a retrovirus that infects dairy and beef cattle's

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line
ntrolling it.
on 1,006
operations were tested using the Agar Gel Immuno-diffusion test (AGID). Results showed that 89.0 percent

BLV and Breast Cancer

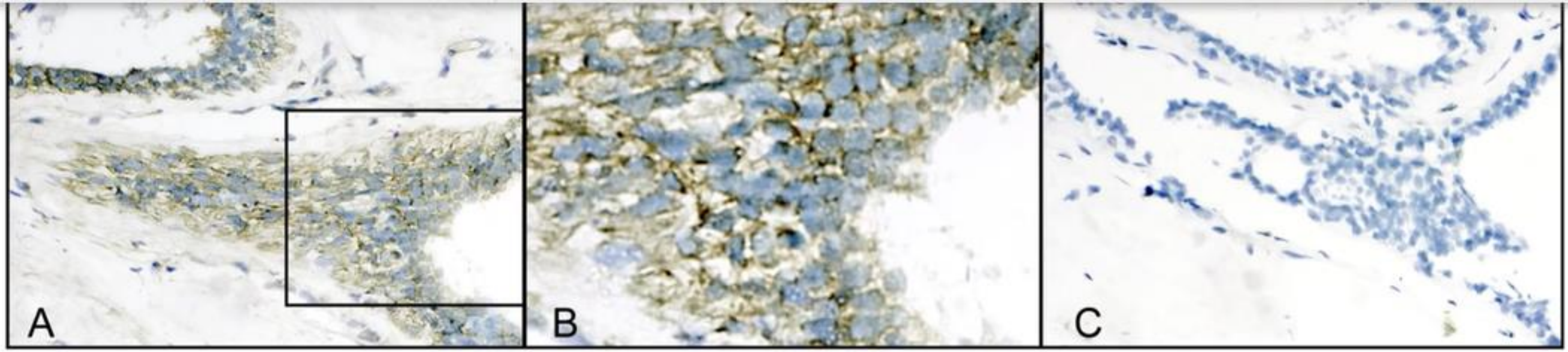
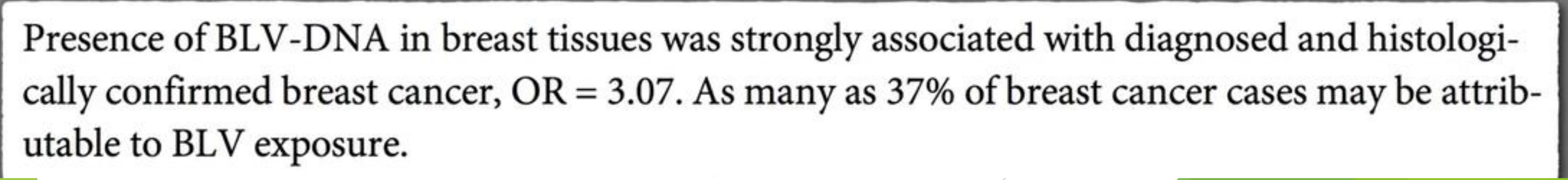


Fig 1. Bovine leukemia virus (BLV) in the mammary epithelium of a donor with breast cancer. (**A**) BLV DNA detected by in situ PCR (brown cells) (X40). Note presence of brown outcome reaction only in epithelium and not in surrounding connective tissue; (**B**) enlargement of boxed area in A, showing that the positive reaction is localized to the cytoplasm of mammary epithelial cells (X136). (**C**) background control, adjacent section reacted with PCR mix without primers to rule out non-specific false positive reactions (X40). Note absence of brown outcome reaction. Counterstain for A,B, and C is Difquick blue.

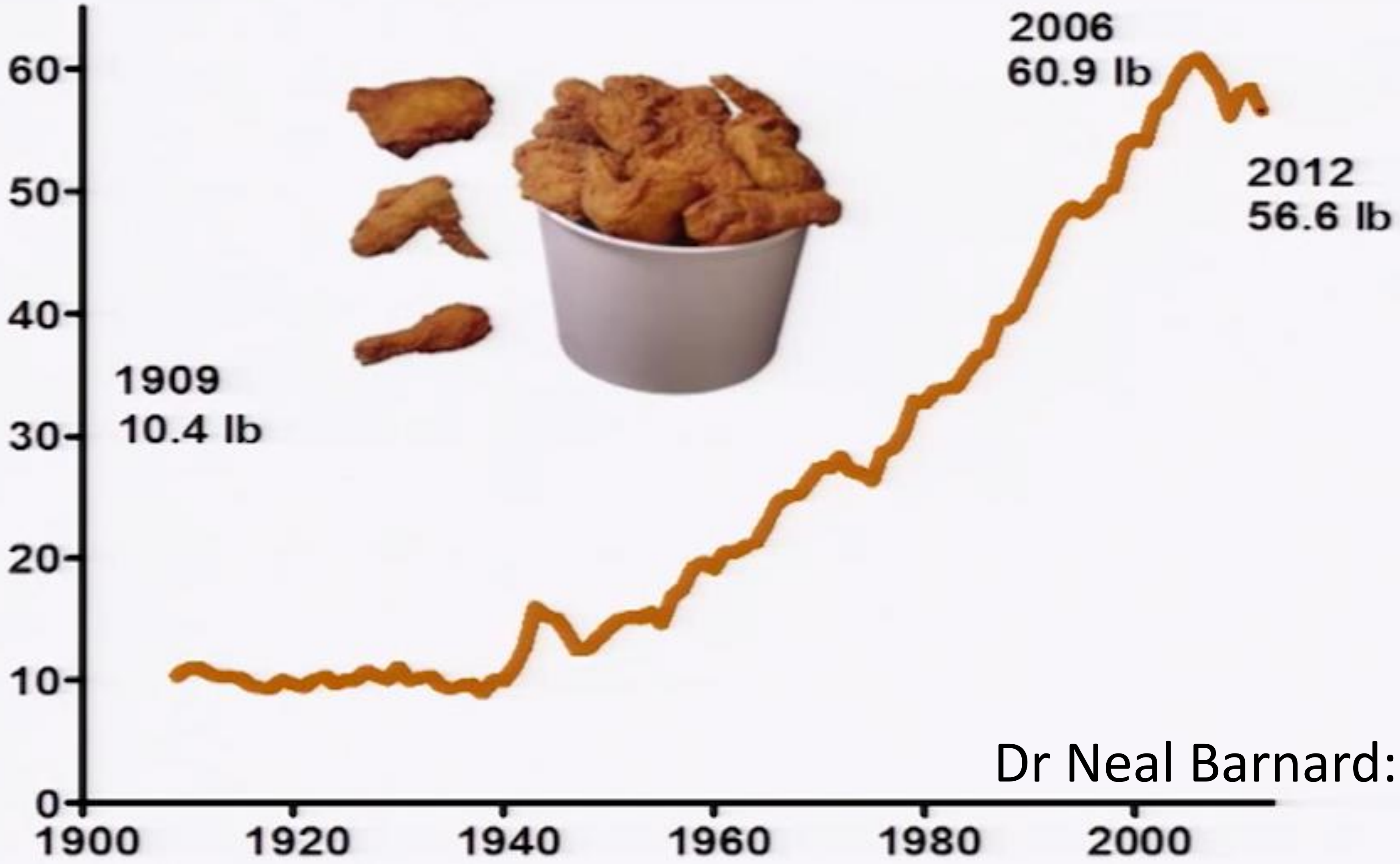


Presence of BLV-DNA in breast tissues was strongly associated with diagnosed and histologically confirmed breast cancer, OR = 3.07. As many as 37% of breast cancer cases may be attributable to BLV exposure.

PLoS One, 2015, Sept 2;10(9) eo34304

So what does all of this mean for People with an interest in Optimal Health?

U.S. Per Capita Chicken Intake (lb)



1909
10.4 lb

2006
60.9 lb

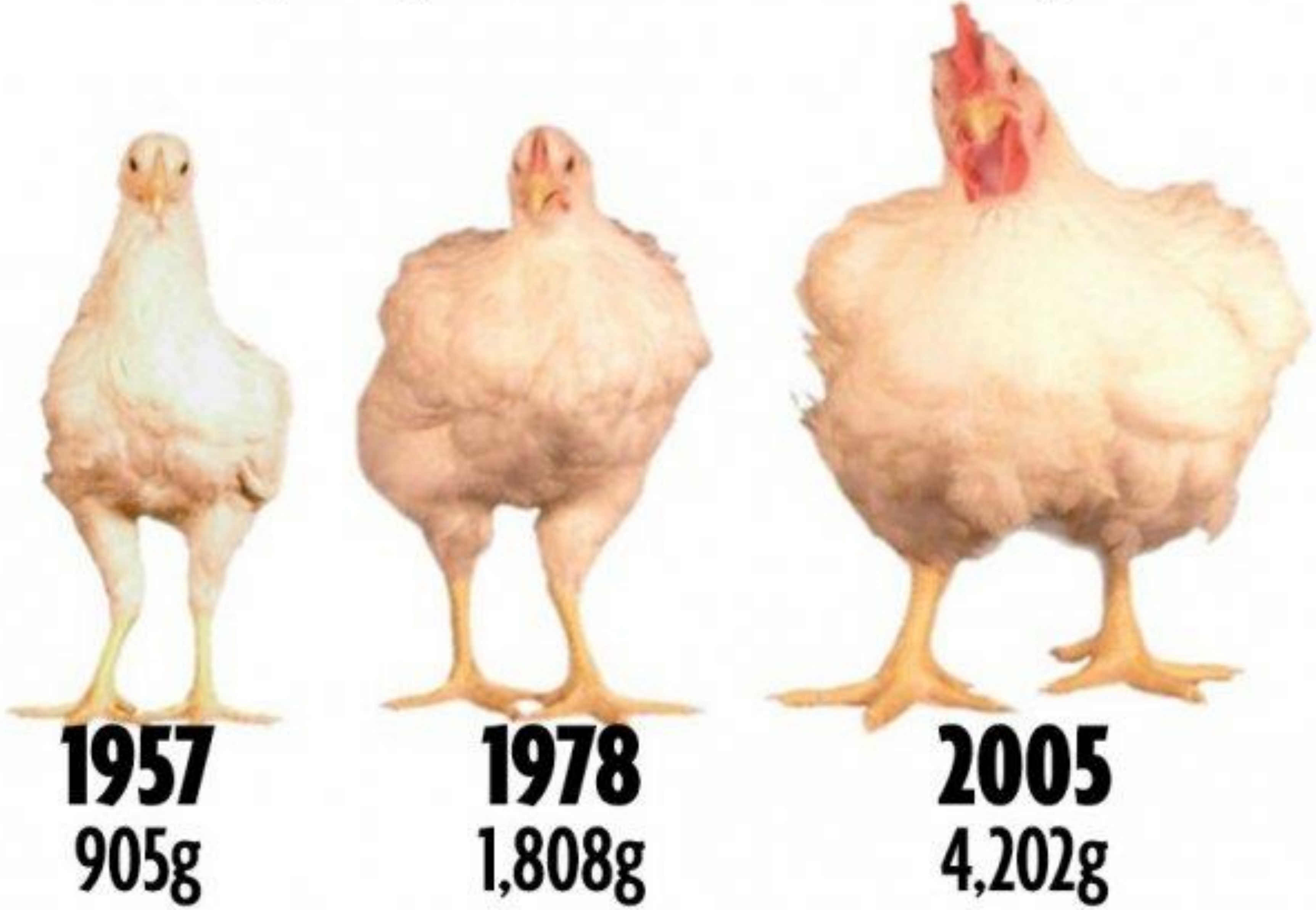
2012
56.6 lb

Dr Neal Barnard: PCRM, 2018

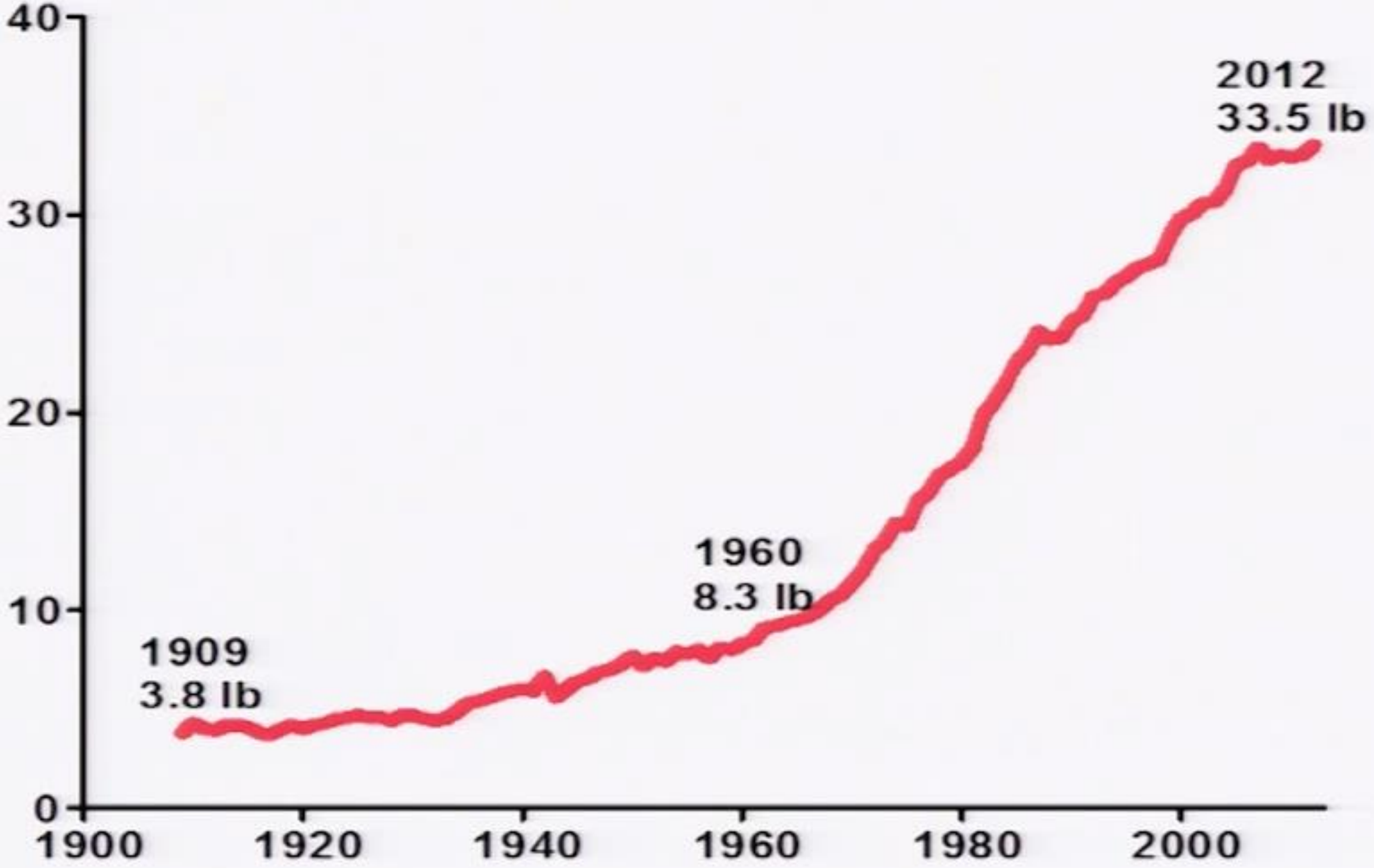
Source:US Department of Agriculture, Economic Research Service, http://www.ers.usda.gov/Data/FoodConsumption/FoodAvailSpreadsheets.htm#mtpcc, accessed August 15, 2009.

JUST HOW BIG ARE TODAY'S CHICKENS?

Average weight of chicken breeds at 56 days old


1957
905g
1978
1,808g
2005
4,202g

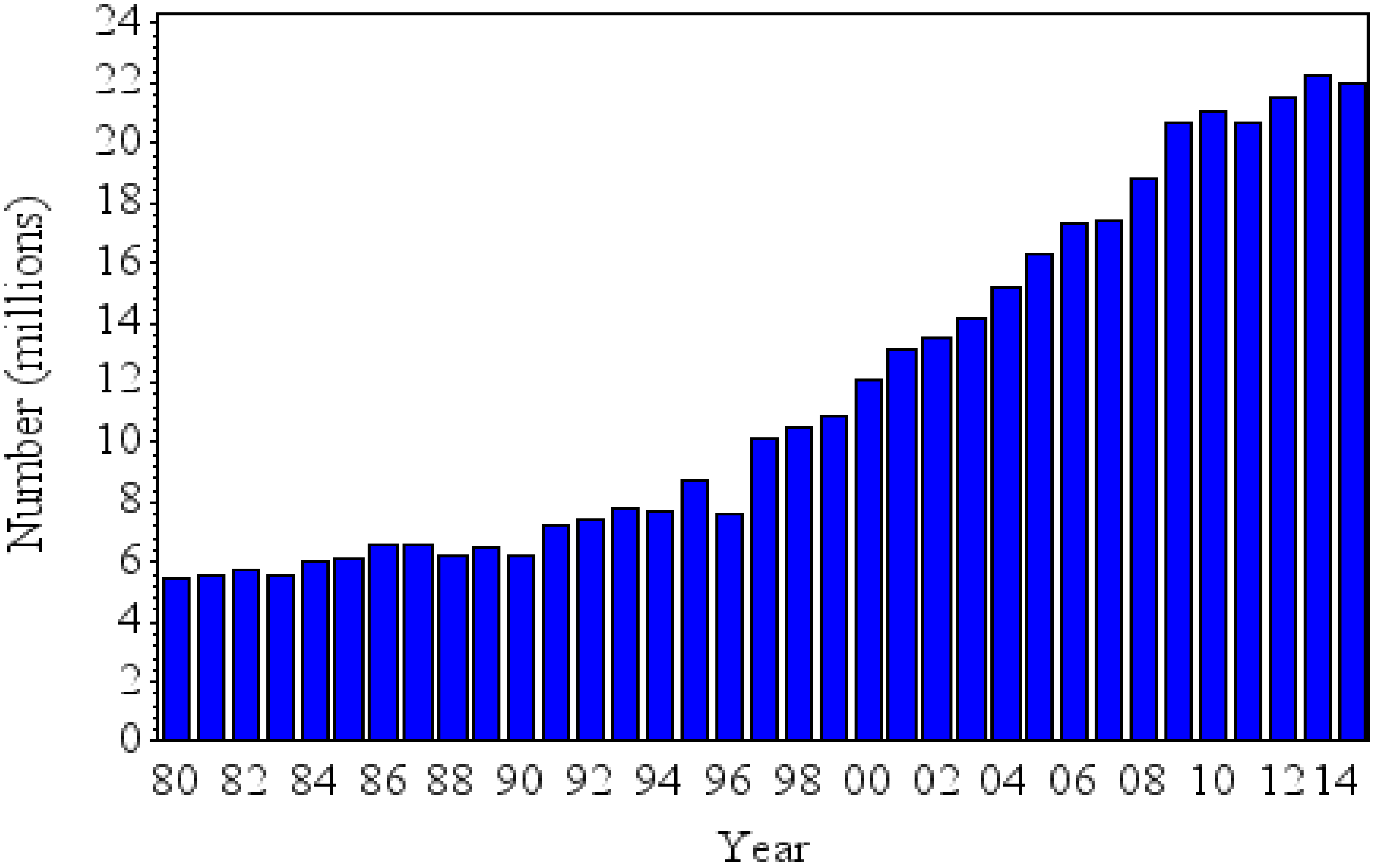
U.S. Per Capita Cheese Consumption (pounds)



Source:US Department of Agriculture, Economic Research Service, http://www.ers.usda.gov/data-products/dairy-data.aspx#.Ui9QRT_4LTI, accessed September 10, 2013

Dr Neal Barnard: PCRM, 2018

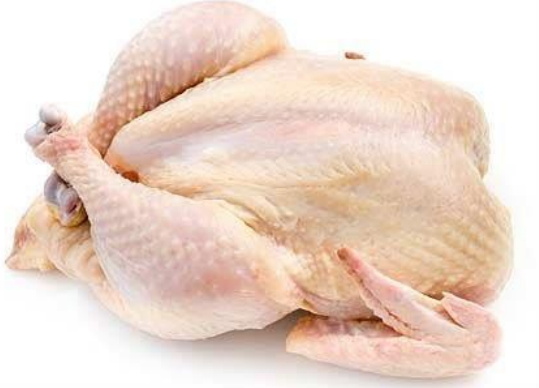
US Adults With Diabetes



Key Take Home Point:

Key Take Home Point:

Chicken and Cheese are key drivers of our Diabetes Epidemic



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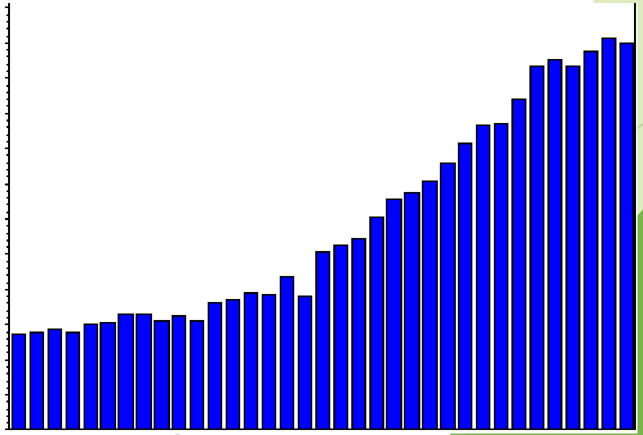
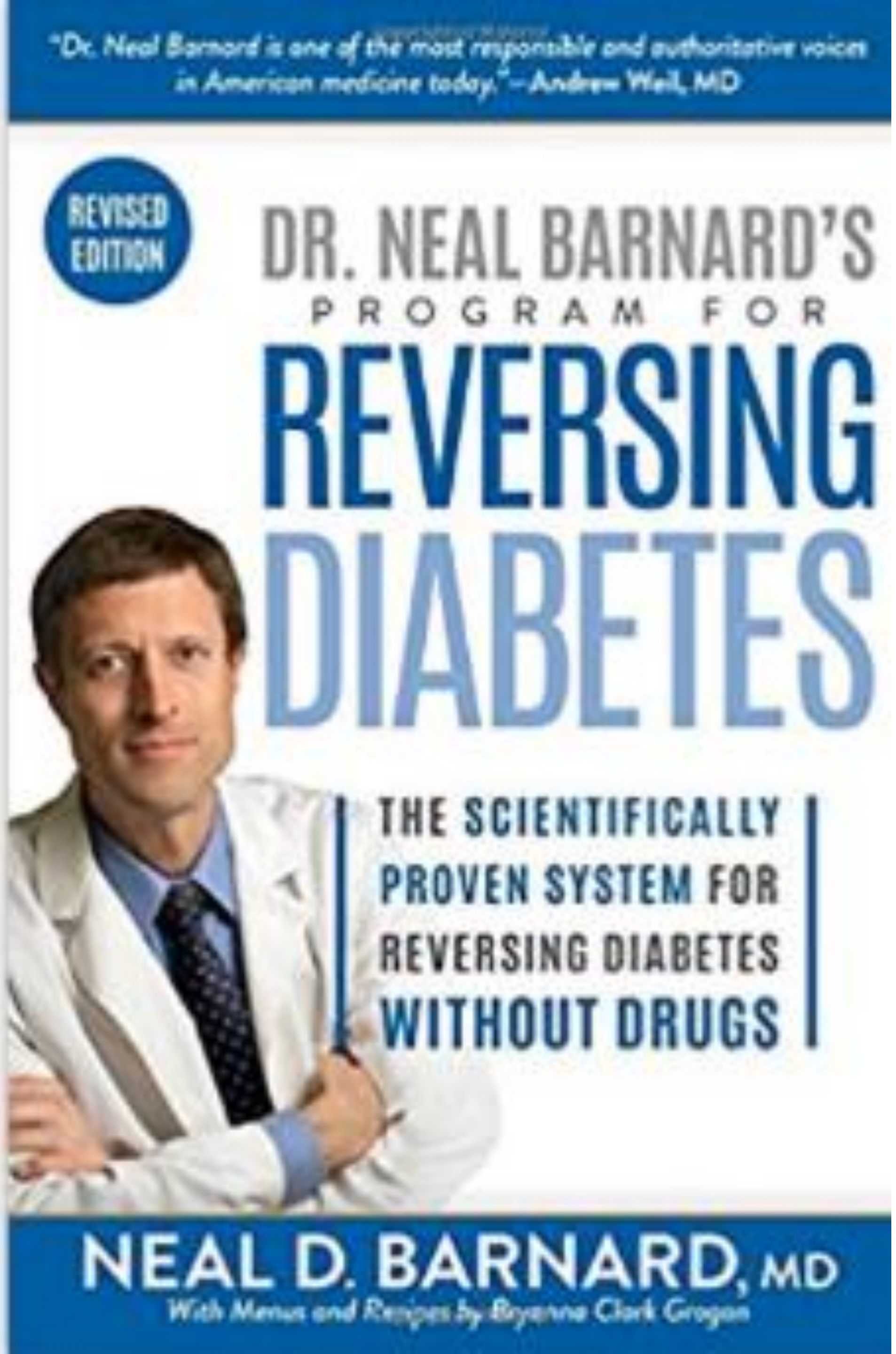




"Dr. Neal Barnard is one of the most responsible and authoritative voices in American medicine today." –Andrew Weil, MD

REVISED EDITION

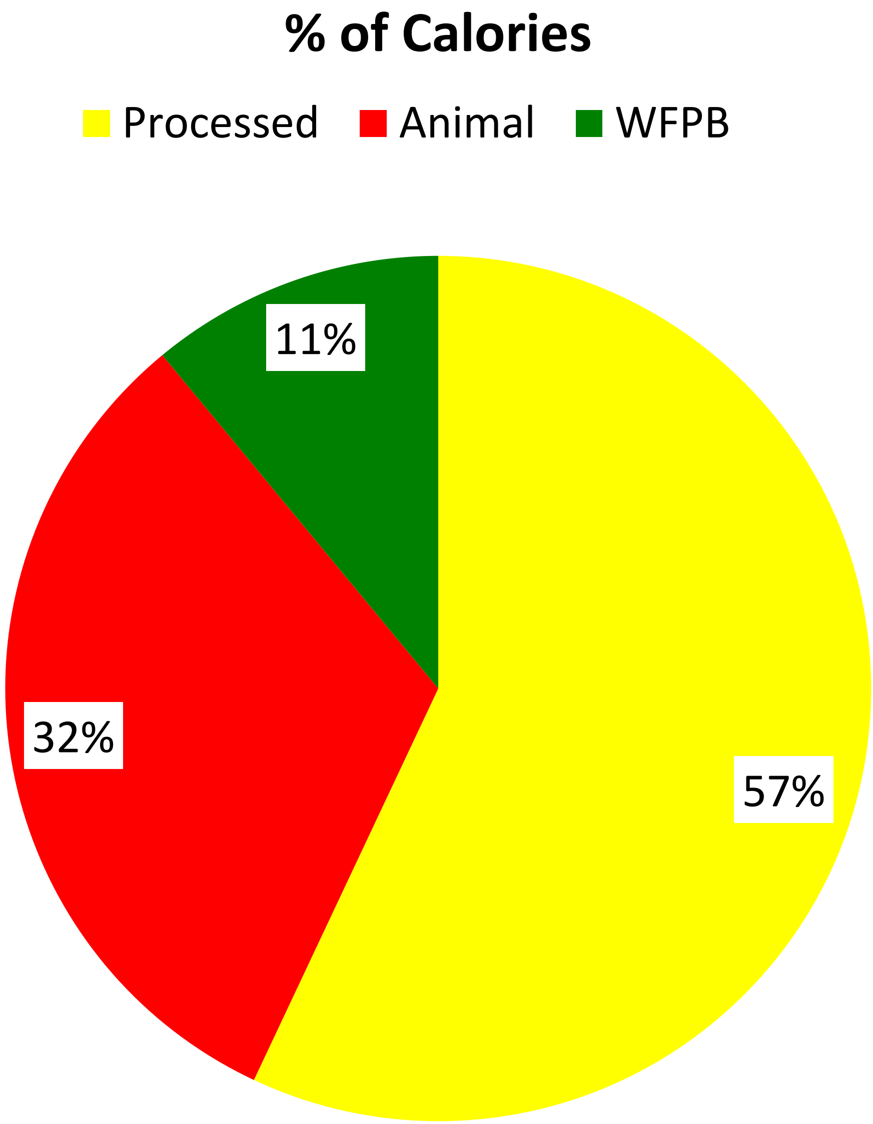
DR. NEAL BARNARD'S
PROGRAM FOR
REVERSING
DIABETES

THE SCIENTIFICALLY PROVEN SYSTEM FOR REVERSING DIABETES WITHOUT DRUGS

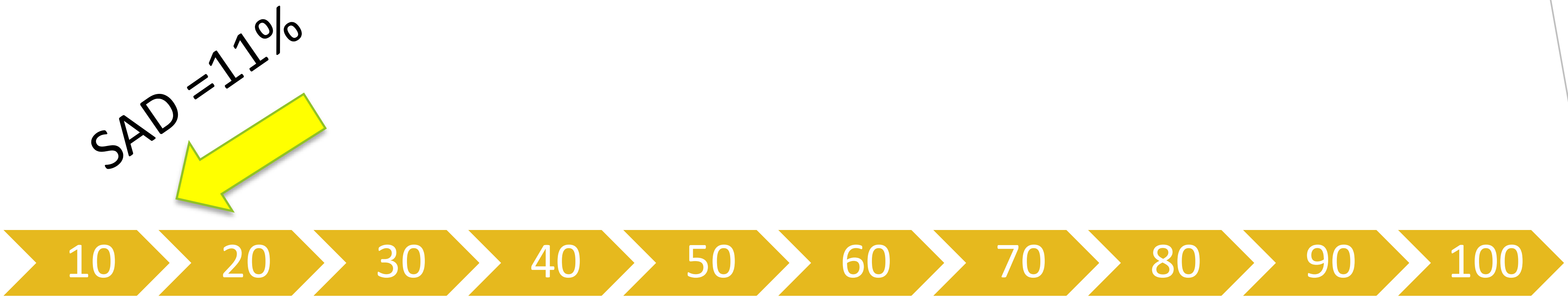
NEAL D. BARNARD, MD

With Menus and Recipes by Bryanna Clark Grogan

Standard American Diet (SAD)

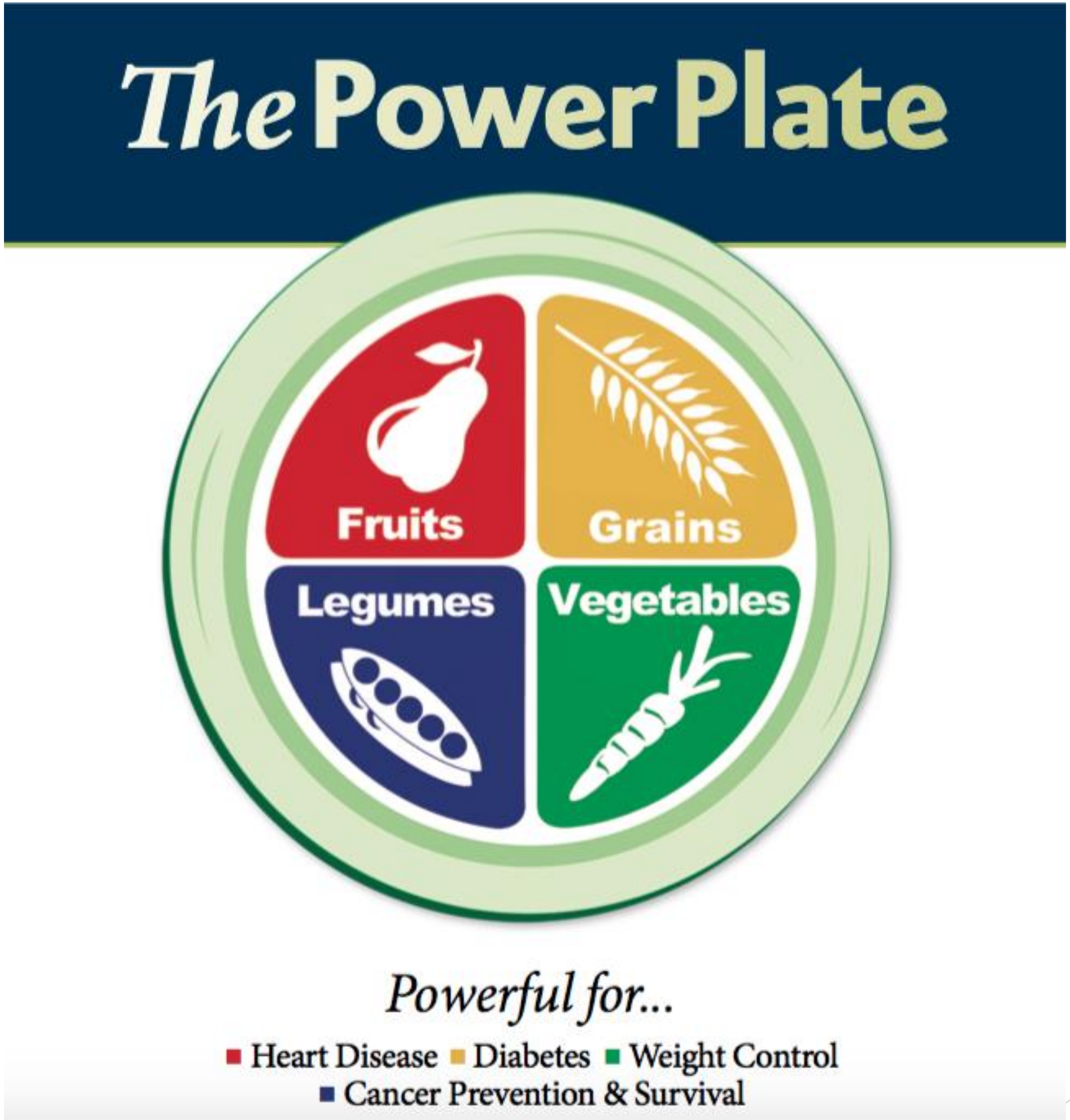


% of Calories WFPB



SAD =11%

10 20 30 40 50 60 70 80 90 100



The Power Plate

Fruits
Grains
Legumes
Vegetables

Powerful for...

🟥 Heart Disease 🟨 Diabetes 🟩 Weight Control
🟦 Cancer Prevention & Survival

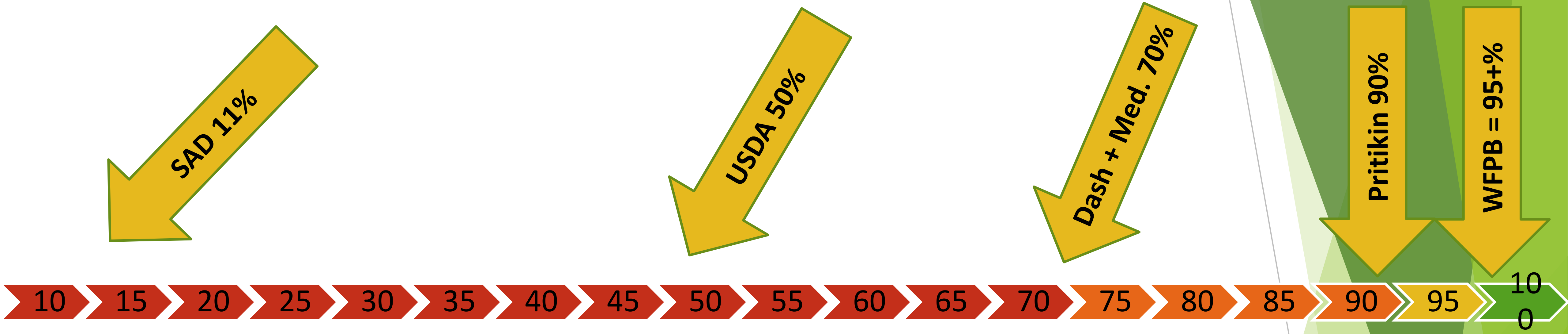
% of Calories WFPB

SAD =11%

WFPB = 95+%

10 20 30 40 50 60 70 80 90 100

% of Calories WFPB



SAD 11%

USDA 50%

Dash + Med. 70%

Pritikin 90%

WFPB = 95+%

10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100

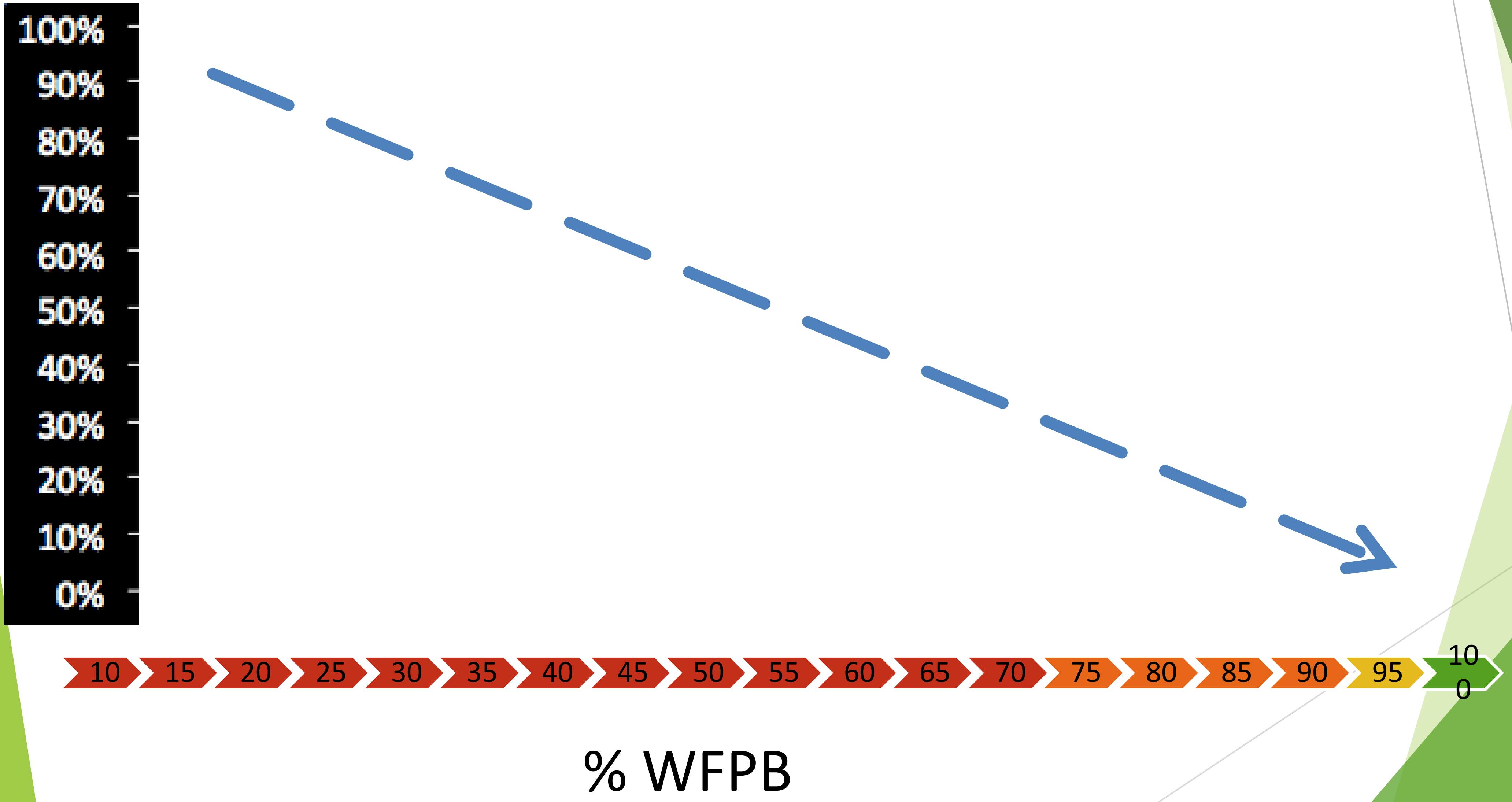
RED = Incite and Accelerate

Orange = Later, Slower Progression

Yellow = Mitigate and Arrest

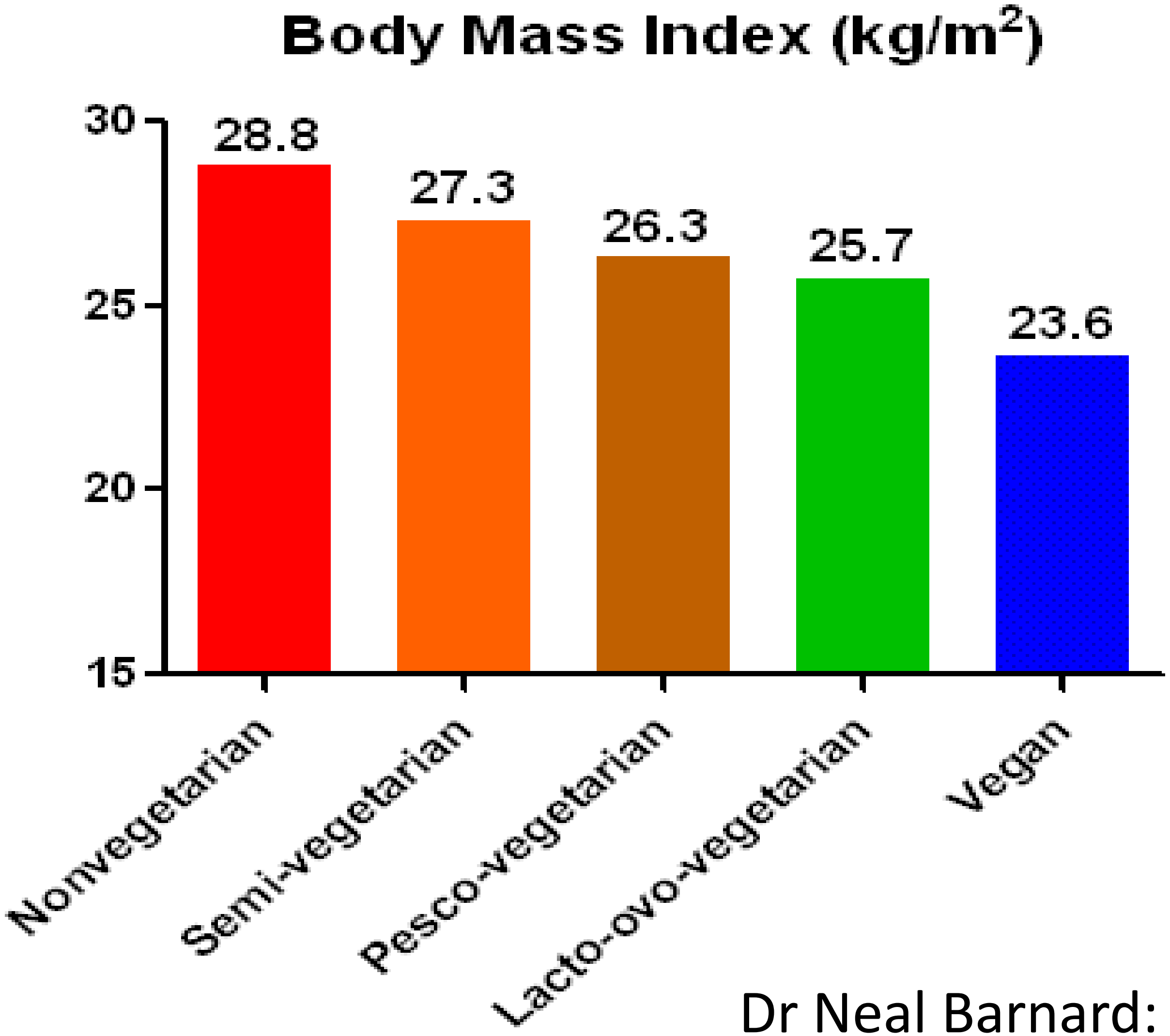
Green = Prevent and Reverse

Chronic Disease Risk- Diet



Adventist Health Study – 2

60,903 participants, aged ≥30, enrolled 2002-2006



Dr Neal Barnard: PCRM, 2018

Adventist Health Study – 2

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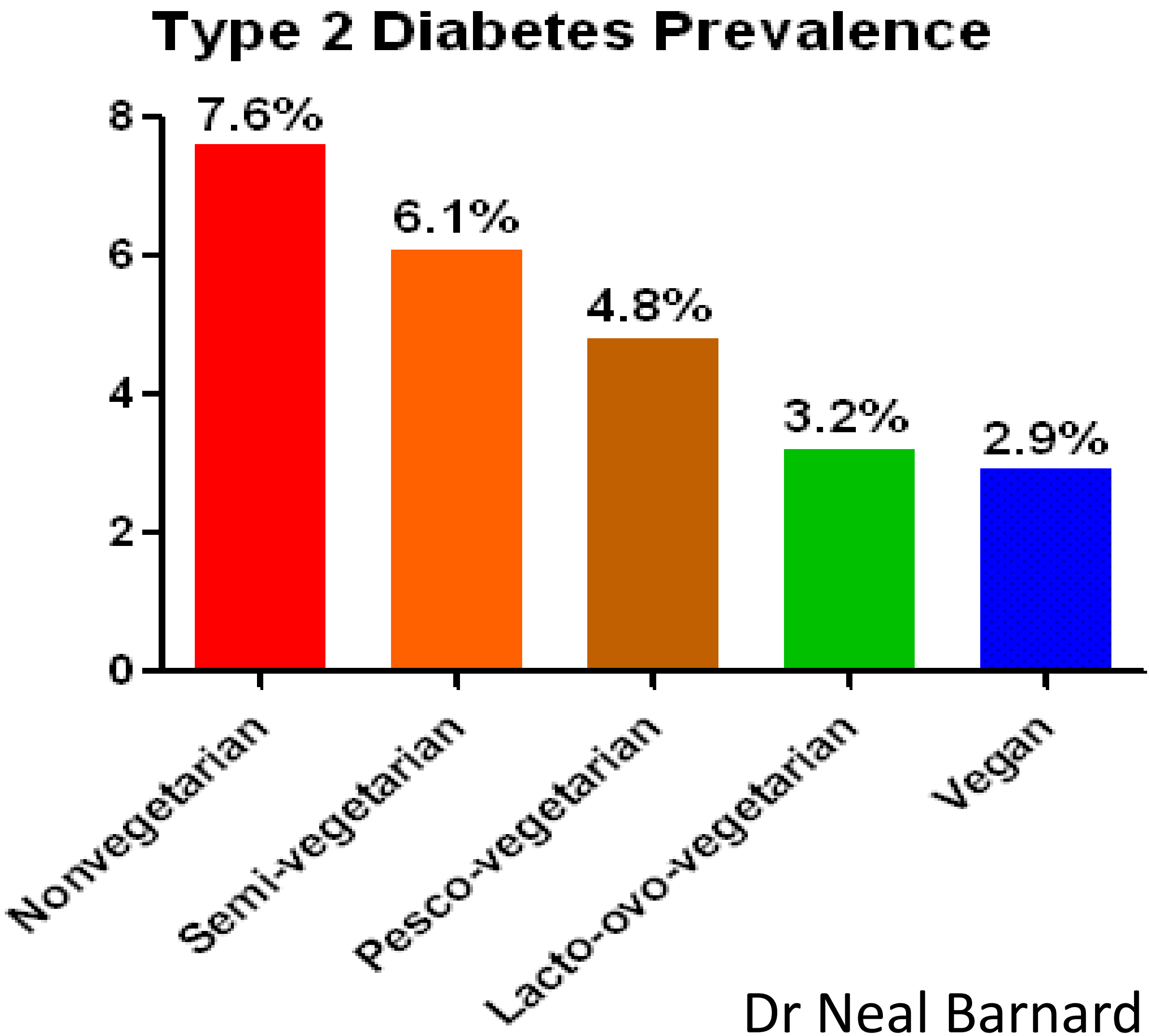


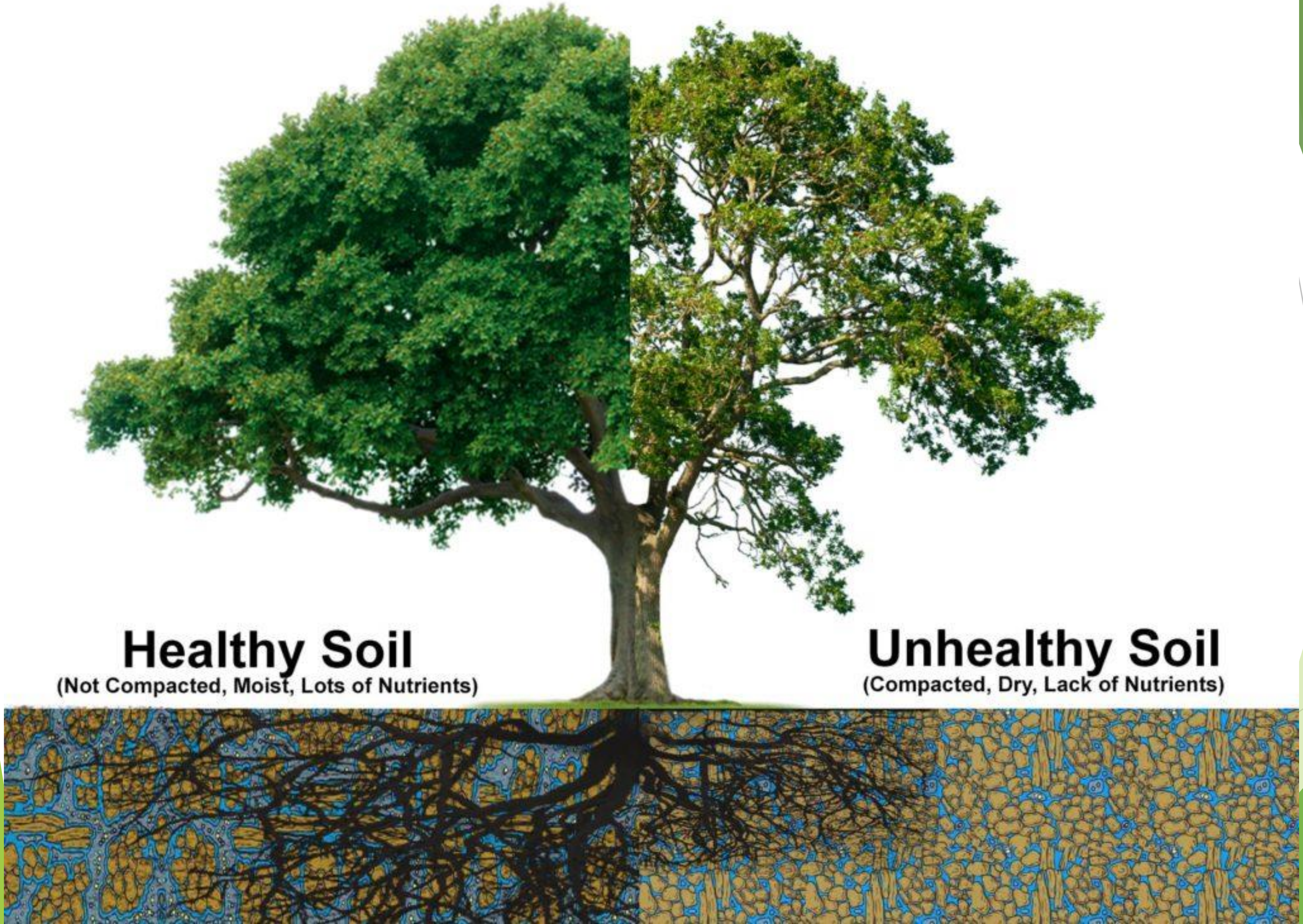
Dr Neal Barnard: PCRM, 2018

General Principles:

- Not “All or Nothing”
- No “Threshold Effect”
- The more you do – the greater your gain
- The earlier you start the better
- But it’s NEVER TOO LATE

Whole Plant Based Foods:

- Antioxidant and Phytonutrient Rich
- Microbiome supporting Fiber
- Alkalinizing
- Anti-Inflammatory
- Balanced, Healthy Macronutrients


Healthy Soil
(Not Compacted, Moist, Lots of Nutrients)
Unhealthy Soil
(Compacted, Dry, Lack of Nutrients)

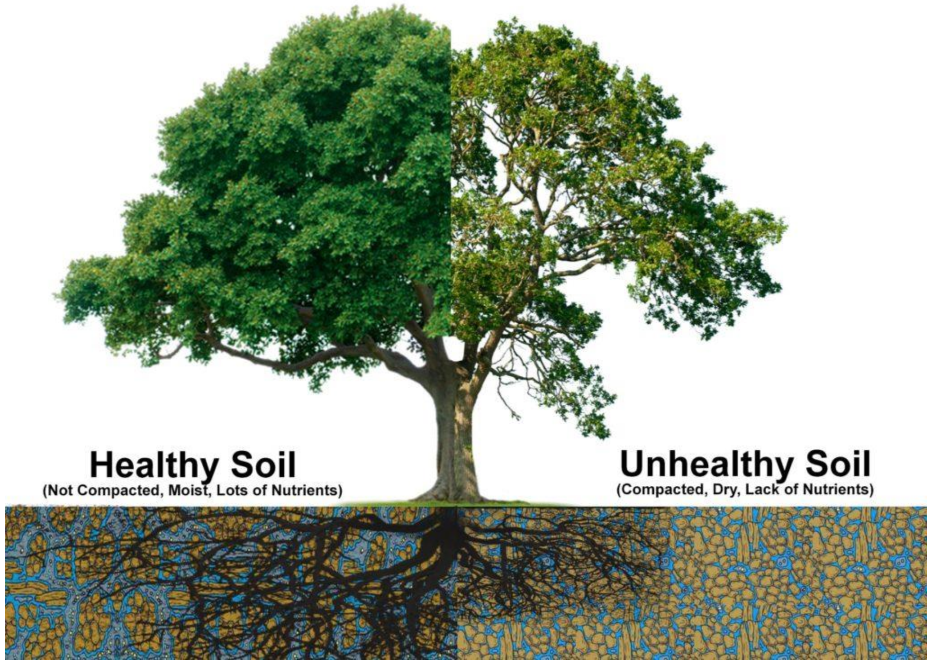
Vitality
Positive wellness
Independence
Freedom

Healthy Organs

Strong blood flow
Low Inflammation

Antioxidant rich
Healthy Microbiome
Phytonutrients
Alkalinizing
Balanced healthy Macronutrients

WFBP Lifestyle
Daily Exercise
Stress management
Social connections


Healthy Soil
(Not Compacted, Moist, Lots of Nutrients)
Unhealthy Soil
(Compacted, Dry, Lack of Nutrients)

Fatigue
CAD
Diabetes
Chronic pain
Depression

Organ dysfunction
Insulin resistance

Ischemia
Inflammation

Oxidative stress
Microbiome
Dysbiosis
Insulin resistance

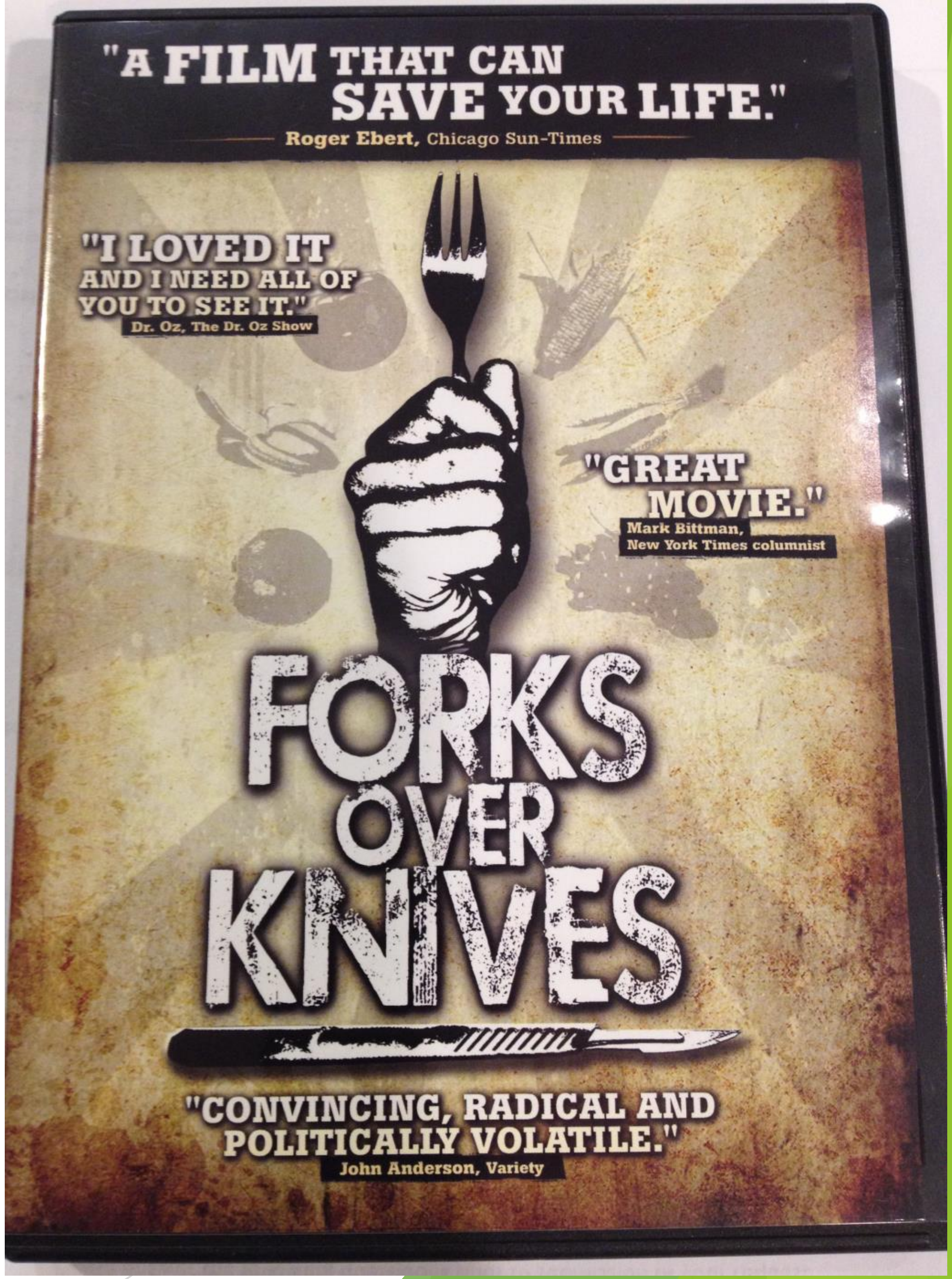
Processed and
Animal foods
Sedentary lifestyle
Isolation
Chronic stress

Every Day Eating WFPB Saves:

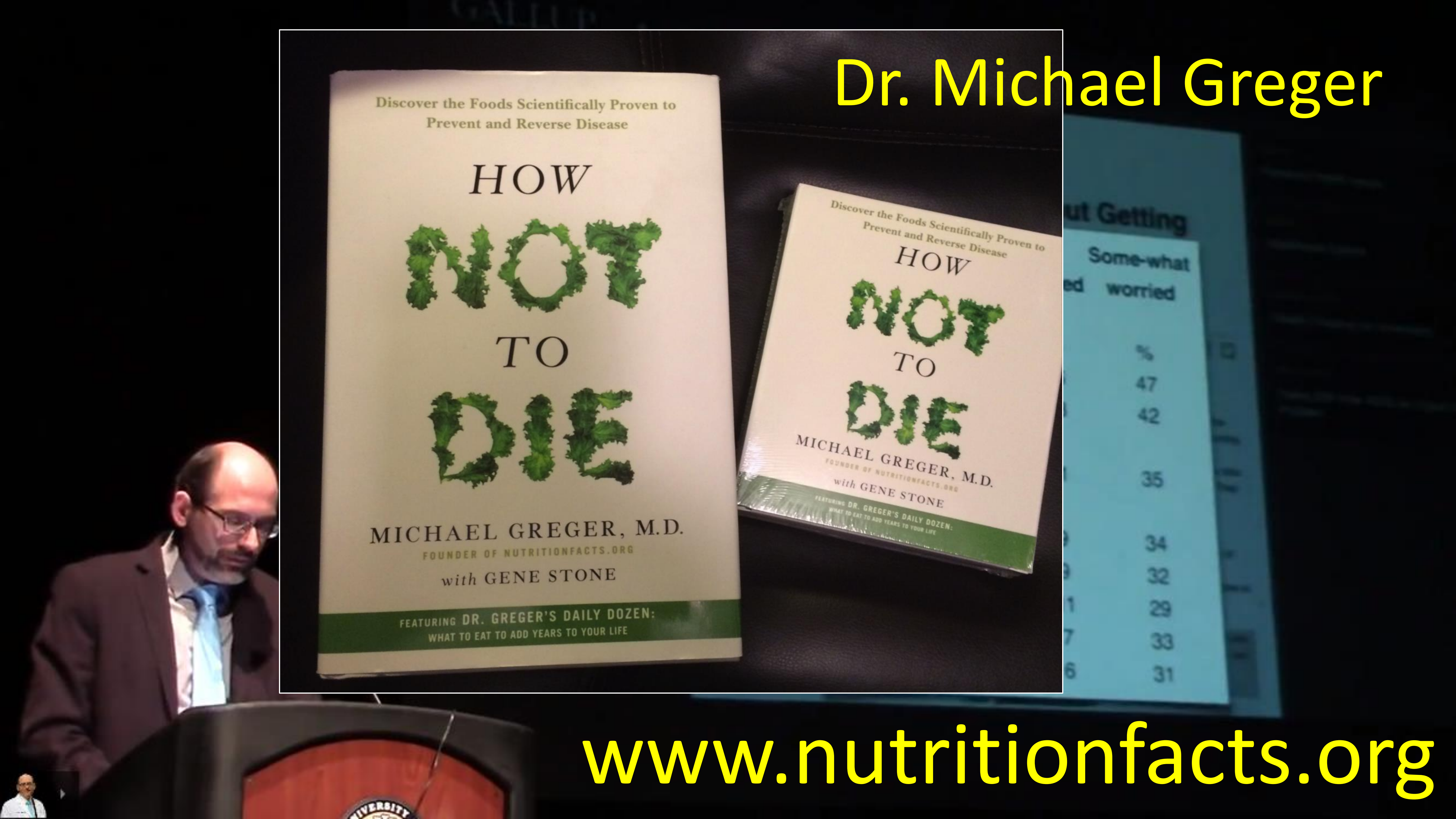
- 1100 Gallons of Water
- 45 pounds of Grain
- 30 sq. ft. of Forest
- 10 pounds of CO2
- 1 Animal’s Life

Additional Resources:

- PBNSG.org
- NutritionFacts.org
- PCRM.org
- ForksOverKnives.com
- ChickpeaAndBean.com
- VegMichigan.org
- FoodRevolution.org
- PlantricianProject.org
- P-POD.org


"A FILM THAT CAN SAVE YOUR LIFE."
Roger Ebert, Chicago Sun-Times
"I LOVED IT AND I NEED ALL OF YOU TO SEE IT."
Dr. Oz, The Dr. Oz Show
"GREAT MOVIE."
Mark Bittman, New York Times columnist
FORKS OVER KNIVES
"CONVINCING, RADICAL AND POLITICALLY VOLATILE."
John Anderson, Variety

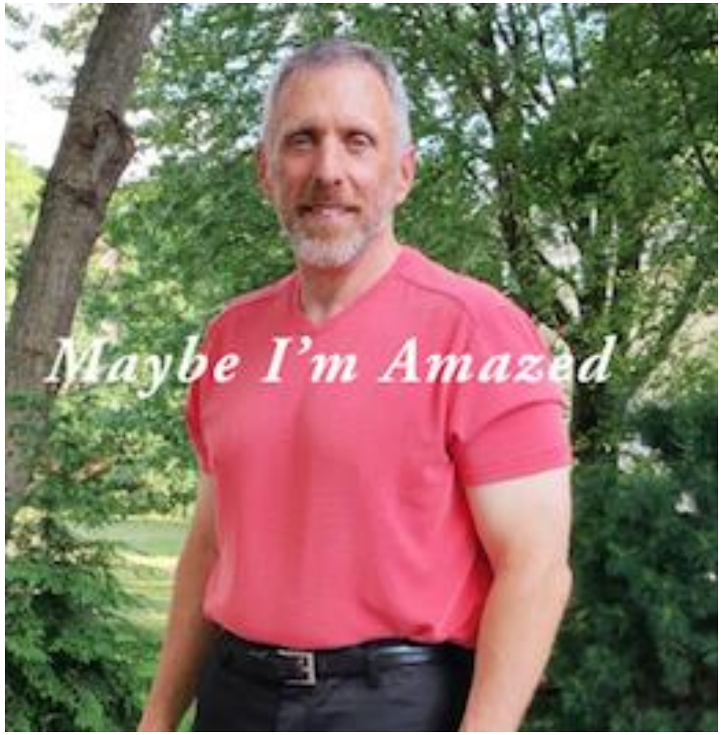
Dr. Michael Greger

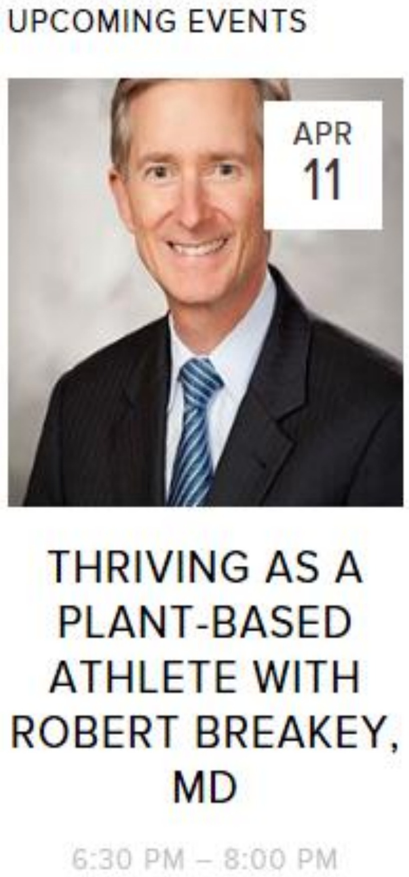


Discover the Foods Scientifically Proven to Prevent and Reverse Disease
HOW NOT TO DIE
MICHAEL GREGER, M.D.
FOUNDER OF NUTRITIONFACTS.ORG
with GENE STONE
FEATURING DR. GREGER'S DAILY DOZEN:
WHAT TO EAT TO ADD YEARS TO YOUR LIFE

www.nutritionfacts.org

Plant Based Nutrition Support Group


Maybe I'm Amazed

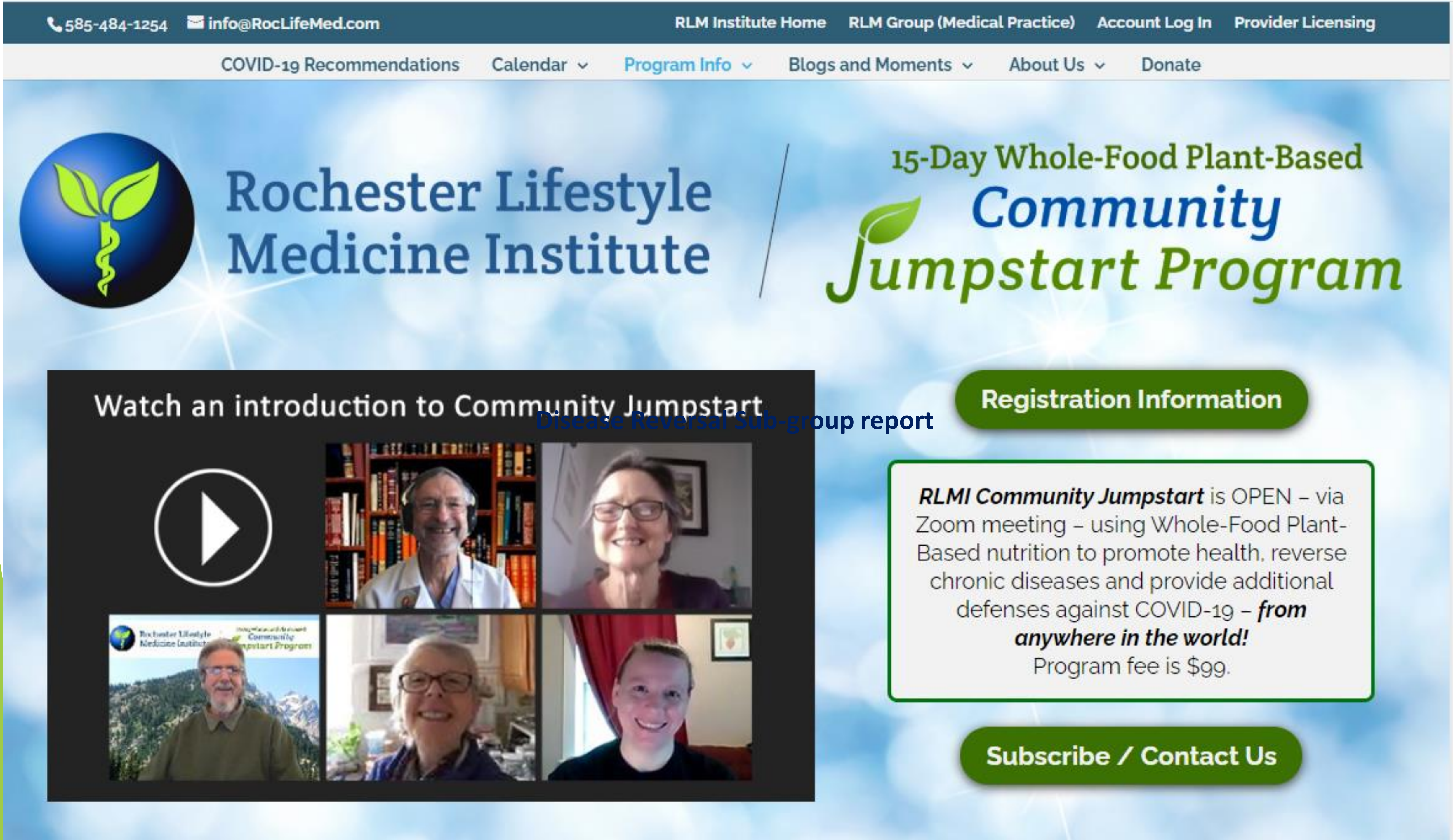

UPCOMING EVENTS

THRIVING AS A PLANT-BASED ATHLETE WITH ROBERT BREAKEY, MD

6:30 PM – 8:00 PM

www.PBNSG.org

Disease Reversal Sub-group report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Program Info
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Registration Information
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Rochester Lifestyle Medicine Institute

15-Day Whole-Food Plant-Based **Community Jumpstart Program**

RLMI Community Jumpstart is OPEN – via Zoom meeting – using Whole-Food Plant-Based nutrition to promote health, reverse chronic diseases and provide additional defenses against COVID-19 – ***from anywhere in the world!***
Program fee is $99.

The Bottom line:

Eat as if your Health

and your Life

Depended on it…

When you have your
Health
you have 1,000 dreams…

And when you don't,
you have one…

Questions?