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Fair, Warmer
Highest Near 70;
—Cooler Tonight
(U.S. Official Forecast)
—Details, Page 3—

BOSTON SUNDAY HERALD

Editorials
Minn, Mullins,
Foster, Alexander
Pages 14, 15—Sheet II

VOL. CXXIX, NO. 87 LATE CITY EDITION HA 6-3000 BOSTON, SUNDAY, SEPTEMBER 25, 1955—TWO HUNDRED AND EIGHT PAGES *****

Buy "The Week"
Continued Reading TWENTY CENTS

PRESIDENT SUFFERS HEART ATTACK

In Oxygen Tent, But Condition Is 'Good'

EFFECT ON '56 WEIGHED



(Prepared exclusively for The Herald by John E. Wallace of the National Weather Service, Lexington.)

Boston and Vicinity

Fair with scattered to occasionally broken clouds and moderate temperatures today. Highest in the upper 60's with northwesterly winds, 10 to 15 miles per hour. Clear and cool tonight, lowest temperature near 50.

MONDAY: Fair with considerable sunshine. Highest temperature in the upper 60's. Continued fair at night and cool. Winds light, northerly.

FORECAST CONFIDENCE: Average.

Lines Now Forming For Battle of '56

By BILL CUNNINGHAM

WASHINGTON, D. C., Sept. 24.—The Congress is scattered, much of it junketing to the far ends of the earth, and but for the procedure of routine business the great governmental shop here is supposed to be closed. That, however, doesn't mean there are haaps on the doors of the political mills.

...in large part, because the main halls are

New Plans Seen Forced Upon GOP

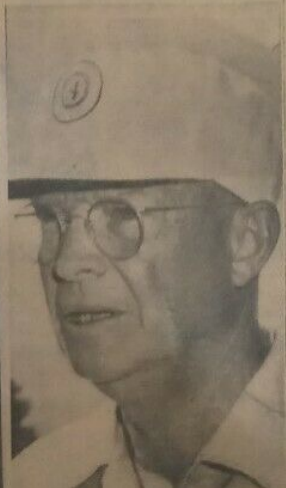
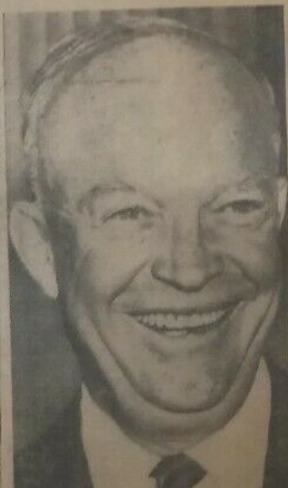
By JAMES BENTON
(Boston Herald Staff Writer)

WASHINGTON, Sept. 24.—President Eisenhower's illness was reported in Washington Saturday night to have a profound and perhaps a decisive effect on the 1956 presidential campaign.

Even on the most optimistic assumption of his rapid recovery, his intimate friends were inclined to believe that the "mild coronary thrombosis" he suffered Saturday morning would lead him to decide against seeking reelection in 1956.

World Significance

...even on the basis of the (cryptic medical) reports released from the White House in



Dr. Paul White Flies to Denver

DENVER, Sept. 24 (AP)—The White House announced tonight that President Eisenhower has been in an oxygen tent since suffering a heart attack today and that a second heart specialist has been summoned.

The attack, coming on the heels of a "digestive upset" suffered by the President, occurred at a time of top political interest in Eisenhower's health.

The fact that the President has been in an oxygen tent since he was taken to Fitzsimons Army Hospital at mid-afternoon was not made public until late tonight.

Say Condition Still Good

However, Murray Snyder, assistant White House press secretary, said the President's condition was unchanged from earlier in the evening. At that time, the White House physician said the President was "resting well in the hospital and his condition is good."

A Fitzsimons medical officer said the placing of the President in an oxygen tent is "standard procedure" in

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THE
HEART
HEALERS

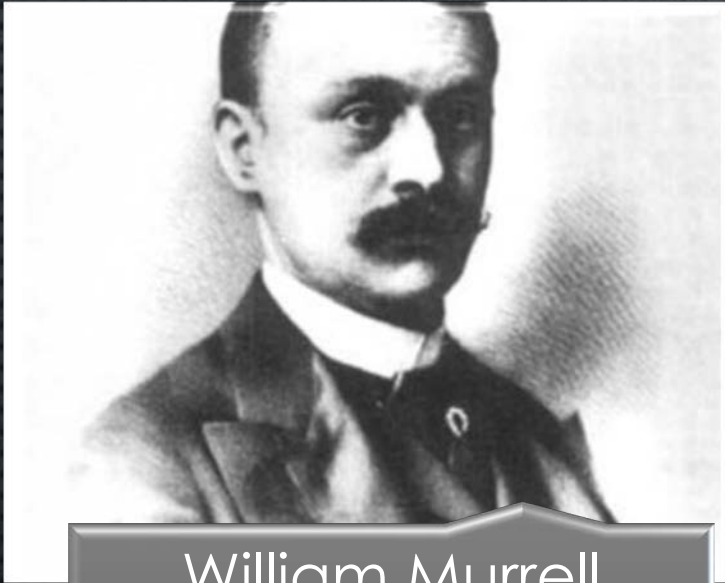


*The Misfits, Mavericks and Rebels
Who Created the Greatest Medical
Breakthrough of Our Lives*

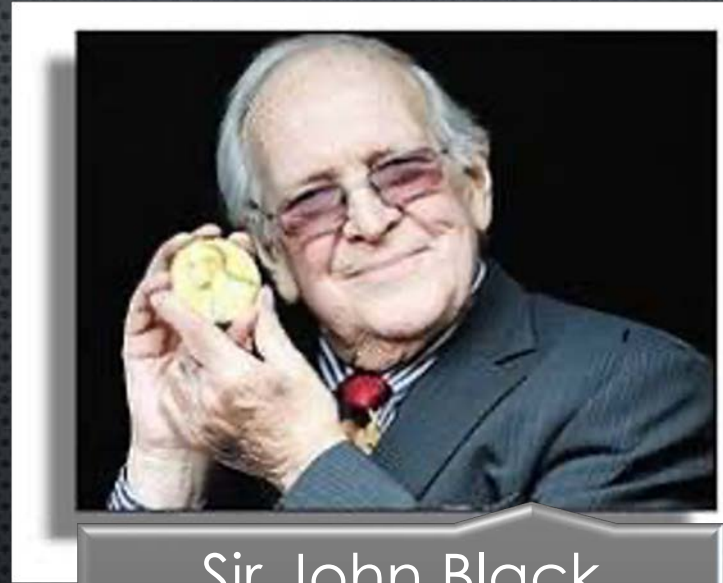
JAMES S. FORRESTER, M.D.

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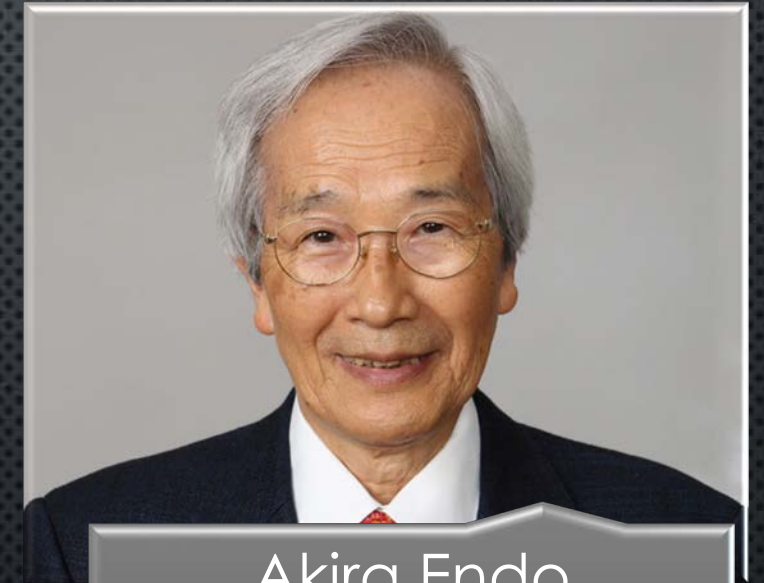
PIONEERS IN PHARMACEUTICALS



William Murrell
Nitroglycerin



Sir John Black
Beta Blockers



Akira Endo
Statins

PIONEERS IN REVASCULARIZATION



Sones

Cath



Gruentzig

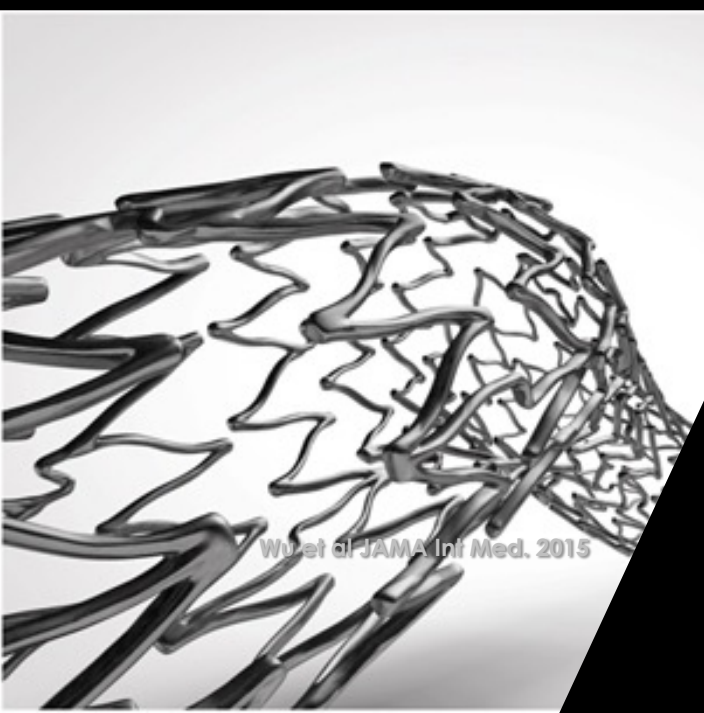
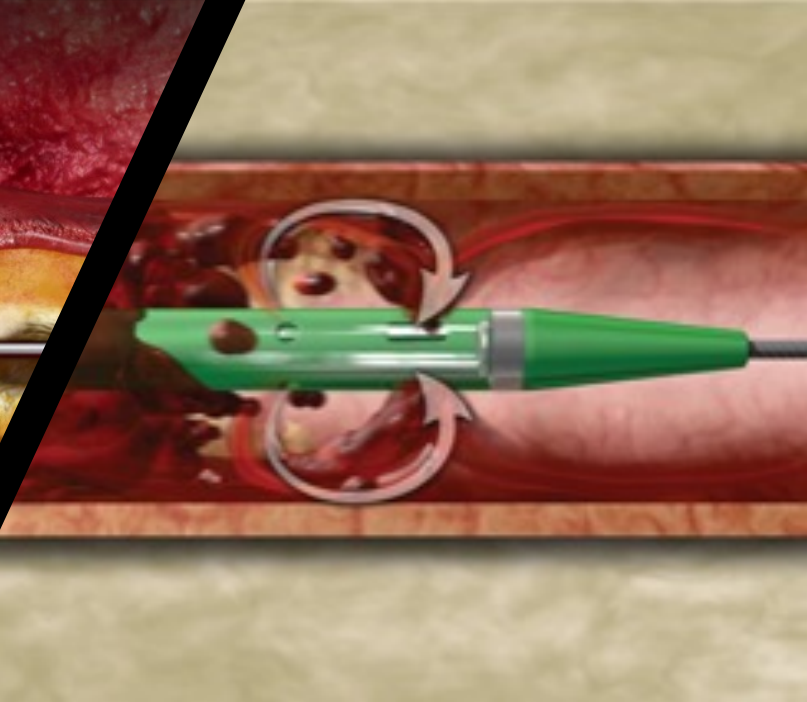
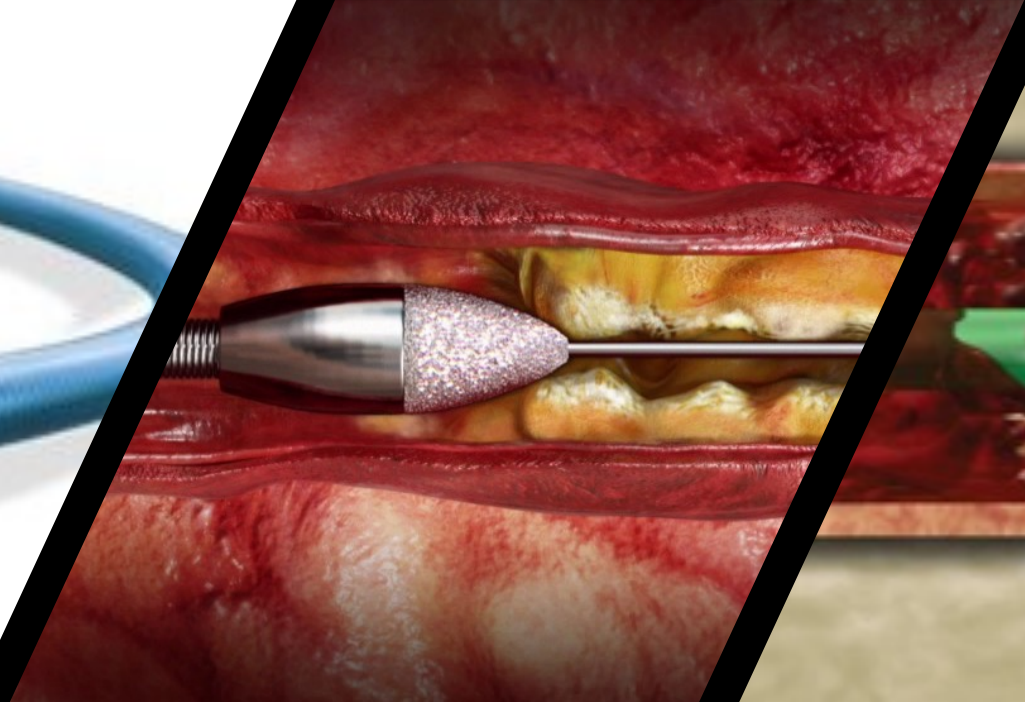
PCI



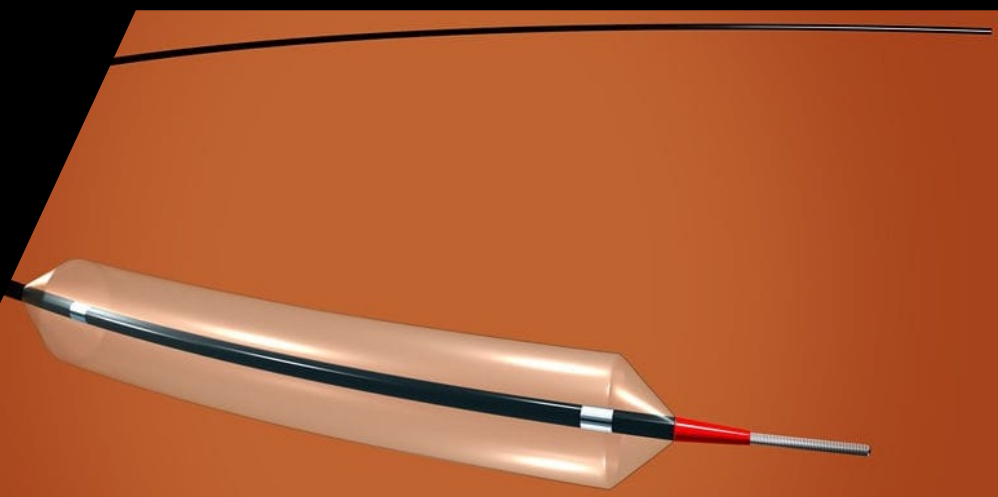
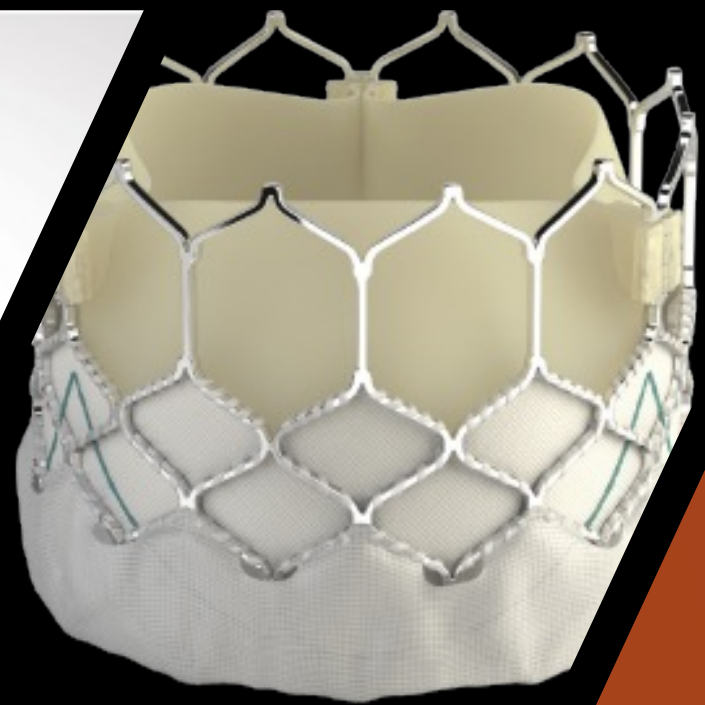
Favoloro

CABG





Wu et al JAMA Inf Med. 2015



***TREATMENT FOR ACUTE
MYOCARDIAL INFARCTION
DOESN'T EQUAL TREATMENT
FOR STABLE ISCHEMIC HEART
DISEASE***

ASPIRIN IN SIHD

- ARRIVE TRIAL REVEALED NO BENEFIT IN PATIENTS WITH MODERATE RISK
- ASCEND REVEALED BOTH A BENEFIT AND HEIGHTENED RISK BALANCE IN DIABETICS

ASPIRIN IN SIHD

- **ASPREE** MEDIAN FOLLOW-UP OF 4.7 YEARS DID NOT REDUCE THE RISK OF FATAL CORONARY HEART DISEASE, NONFATAL MI, FATAL OR NONFATAL STROKE, OR HOSPITALIZATION FOR HEART FAILURE. WHEN COMPARED WITH PLACEBO, HOWEVER, ASPIRIN WAS ASSOCIATED WITH A RELATIVE 38% INCREASED RISK OF MAJOR HEMORRHAGE AND 14% INCREASED RISK OF ALL-CAUSE MORTALITY.

ASPIRIN IN SIHD

- THE USPSTF CONCLUDES WITH MODERATE CERTAINTY THAT ASPIRIN USE FOR THE PRIMARY PREVENTION OF CVD EVENTS IN ADULTS AGED 40 TO 59 YEARS WHO HAVE A 10% OR GREATER 10-YEAR CVD RISK HAS A **SMALL NET BENEFIT**. THE USPSTF CONCLUDES WITH MODERATE CERTAINTY THAT INITIATING ASPIRIN USE FOR THE PRIMARY PREVENTION OF CVD EVENTS IN ADULTS 60 YEARS OR OLDER HAS **NO NET BENEFIT**.

BETA BLOCKERS IN SIHD

- DO NOT DECREASE INCIDENCE OF MYOCARDIAL INFARCTION
- DO NOT PROLONG SURVIVAL

BETA BLOCKERS IN SIHD

- BEYOND 3 YEARS, B-BLOCKER THERAPY ONLY OBTAINS A CLASS IIA RECOMMENDATION. FURTHERMORE, FOR PATIENTS WITHOUT A HISTORY OF ACS, B-BLOCKERS HAVE A CLASS IIB RECOMMENDATION. THIS STUDY CONFIRMS THAT LONG-TERM B-BLOCKER USE IS NOT NECESSARILY BENEFICIAL.

STATIN THERAPY IN SIHD

- 50% PERCENT OF HEART ATTACK PATIENTS FELL WITHIN TARGETS FOR LDL CHOLESTEROL
- NNT = 108 (7.5% RISK)
- RISK OF DIABETES
- RISK OF HEPATOTOXICITY
- RISK OF MUSCLE SYMPTOMS

BARI 2D TRIAL

AMONG PATIENTS WITH DIABETES AND STABLE CORONARY ARTERY DISEASE, A STRATEGY OF REVASCULARIZATION BY **PCI OR CABG FAILED TO DEMONSTRATE SUPERIORITY TO MEDICAL THERAPY** OVER A MEAN OF 5.3 YEARS

COURAGE TRIAL




“AS AN INITIAL MANAGEMENT STRATEGY IN PATIENTS WITH STABLE CORONARY ARTERY DISEASE, **PCI DID NOT REDUCE THE RISK OF DEATH, MYOCARDIAL INFARCTION, OR OTHER MAJOR CARDIOVASCULAR EVENTS** WHEN ADDED TO OPTIMAL MEDICAL THERAPY.....”

INITIAL CORONARY STENT IMPLANTATION WITH MEDICAL THERAPY VS MEDICAL THERAPY ALONE FOR SIHD

METANALYSIS OF 8 TRIALS AND OVER 7000 PATIENTS INITIAL STENT IMPLANTATION FOR STABLE CAD SHOWED **NO EVIDENCE OF BENEFIT** COMPARED WITH INITIAL MEDICAL THERAPY FOR PREVENTION OF DEATH, NONFATAL MI, UNPLANNED REVASCULARIZATION, OR ANGINA.

ORBITA

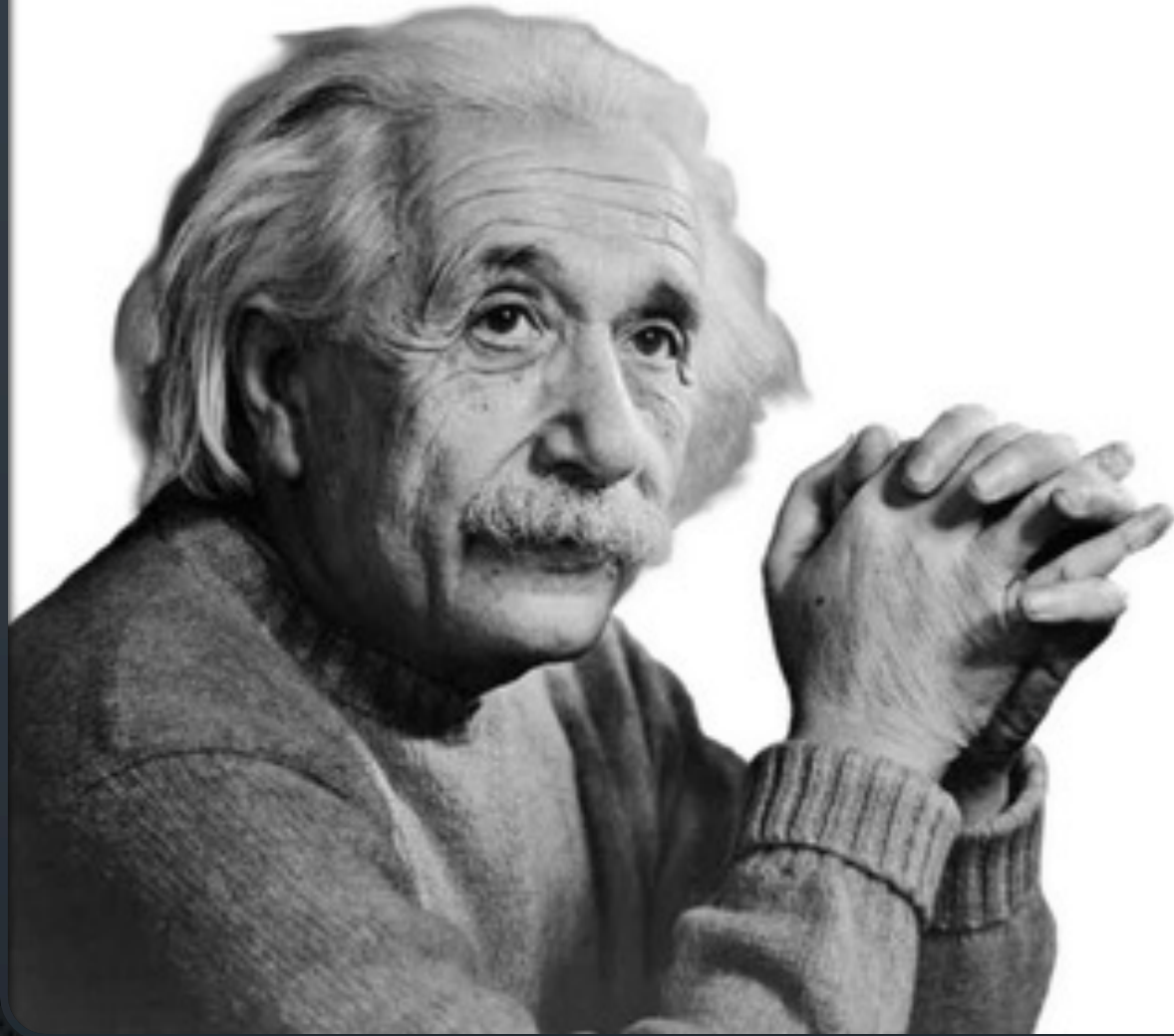
FIRST RANDOMIZED SHAM PROCEDURE TRIAL

-  NO IMPROVEMENT IN SYMPTOMS
-  IMPROVEMENT IN QUALITY OF LIFE
-  NO IMPROVEMENT IN EXERCISE TIME

PCI IN SIHD



- ❗ PCI reduces the incidence of angina.
- ❗ PCI has not been demonstrated to improve survival in SIHD patients.
- ❗ PCI may increase the short-term risk of MI.
- ❗ PCI does not lower the long-term risk of MI.



Insanity: Doing
the same thing
over and over
again and
expecting
different
results.

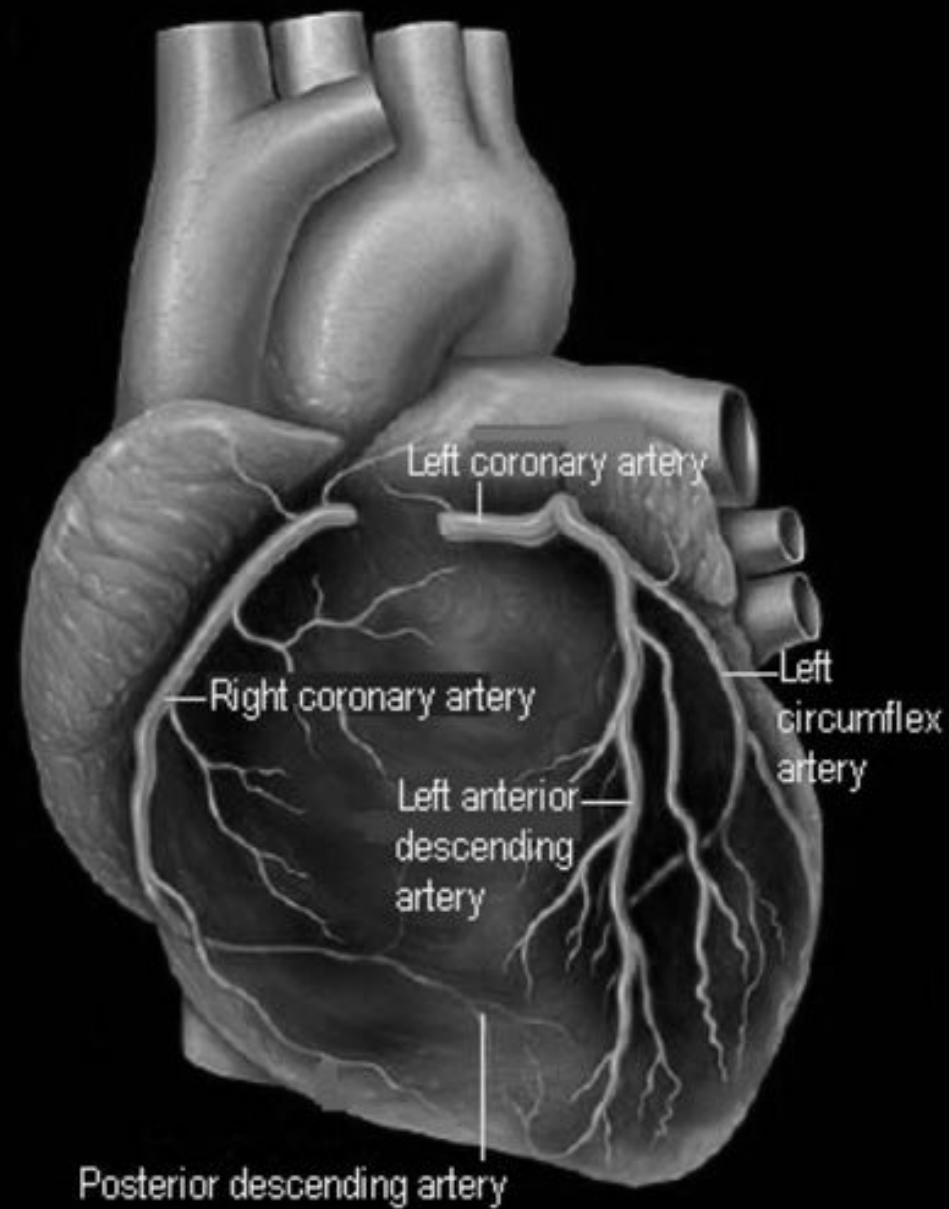
Revascularization to Improve Symptoms

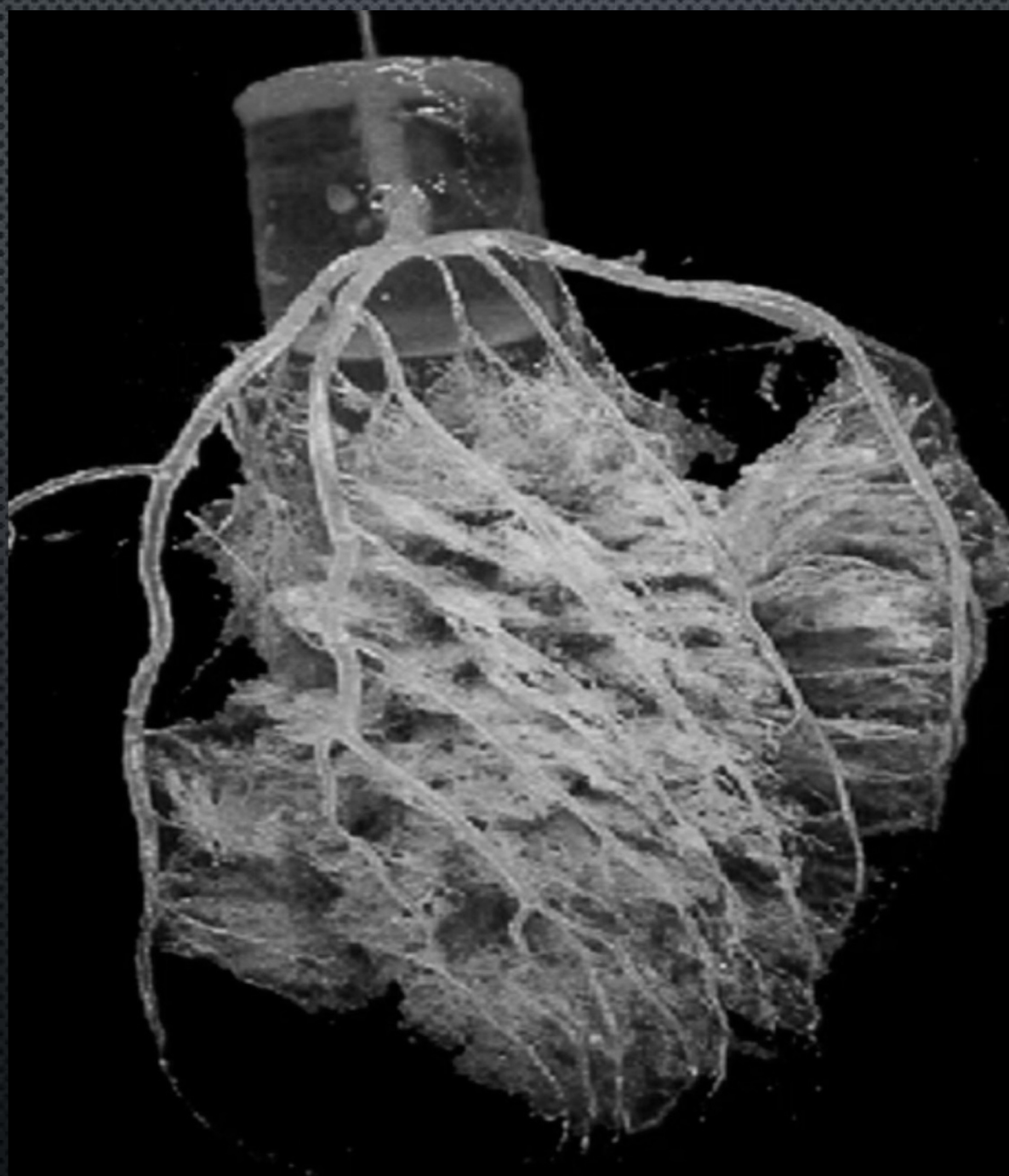
Clinical Setting	COR	LOE
≥1 significant stenoses amenable to revascularization and unacceptable angina despite GDMT	1—CABG	A
	1—PCI	
≥1 significant stenoses and unacceptable angina in whom GDMT cannot be implemented because of medication contraindications, adverse effects, or patient preferences	IIa—CABG	C
	IIa—PCI	C
Previous CABG with ≥1 significant stenoses associated with ischemia and unacceptable angina despite GDMT	IIa—PCI	C
	IIb—CABG	C
Complex 3-vessel CAD (e.g., SYNTAX score >22) with or without involvement of the proximal LAD artery and a good candidate for CABG	IIa—CABG preferred over PCI	B
Viable ischemic myocardium that is perfused by coronary arteries that are not amenable to grafting	IIb—TMR as an adjunct to CABG	B
No anatomic or physiological criteria for revascularization	III: Harm—CABG	C
	III: Harm—PCI	C

Anatomic (≥50% LM or ≥70% non-LM CAD) or physiological (FFR ≤0.80) coronary stenosis

Key Messages SIHD Guidelines Update 2014

1. A trial of Guideline directed medical rx (GDMT) before revascularization to improve symptoms.
2. Deferring revascularization is not associated with worse outcomes.
3. Pre-procedure identification of culprit lesions to ensure lesions responsible for symptoms are targeted.
4. Monitor progression of disease, complications and adherence.
5. Exercise and imaging studies should generally be repeated only when there is a change in clinical status (not annually).





There comes a point where we need to
stop just pulling people out of the river.

We need to go upstream & find out why
they're falling in.

Desmond Tutu



The Forgotten History





THE
HEART
HEALERS

*The Misfits, Mavericks and Rebels
Who Created the Greatest Medical
Breakthrough of Our Lives*

JAMES S. FORRESTER, M.D.

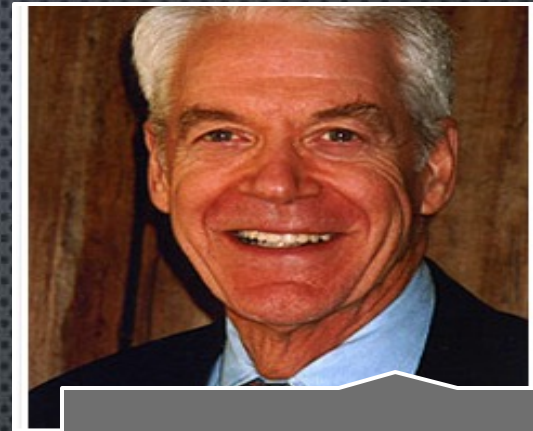




Nathan Pritikin



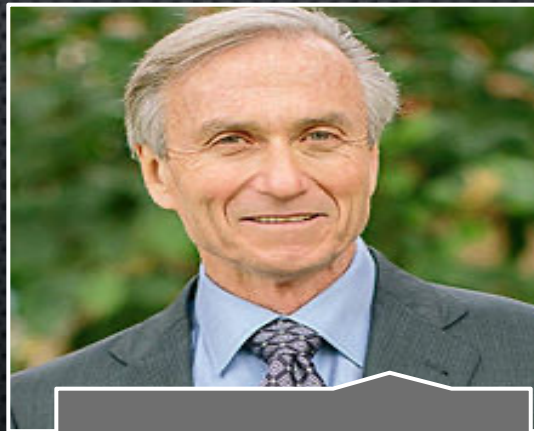
Dean Ornish



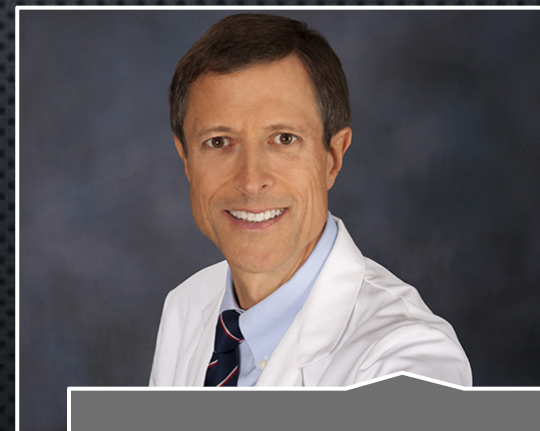
Caldwell Esselstyn



T. Colin Campbell



John McDougall



Neil Barnard

Heart Disease

A central image of a tree with its roots exposed, set against a background of a field and a cloudy sky. The tree's canopy is dark, and its trunk is thick. The roots are numerous and spread out across the ground, which is depicted as dark soil. The overall image is in grayscale, with the text overlaid in red and yellow.

Cancer

Diabetes Mellitus

Obesity

Hypertension

Hyperlipidemia

Autoimmune

Stroke

Allergies

Endothelial Damage

Poor
Sleep

Dehydration

Stress

Poor Relationships

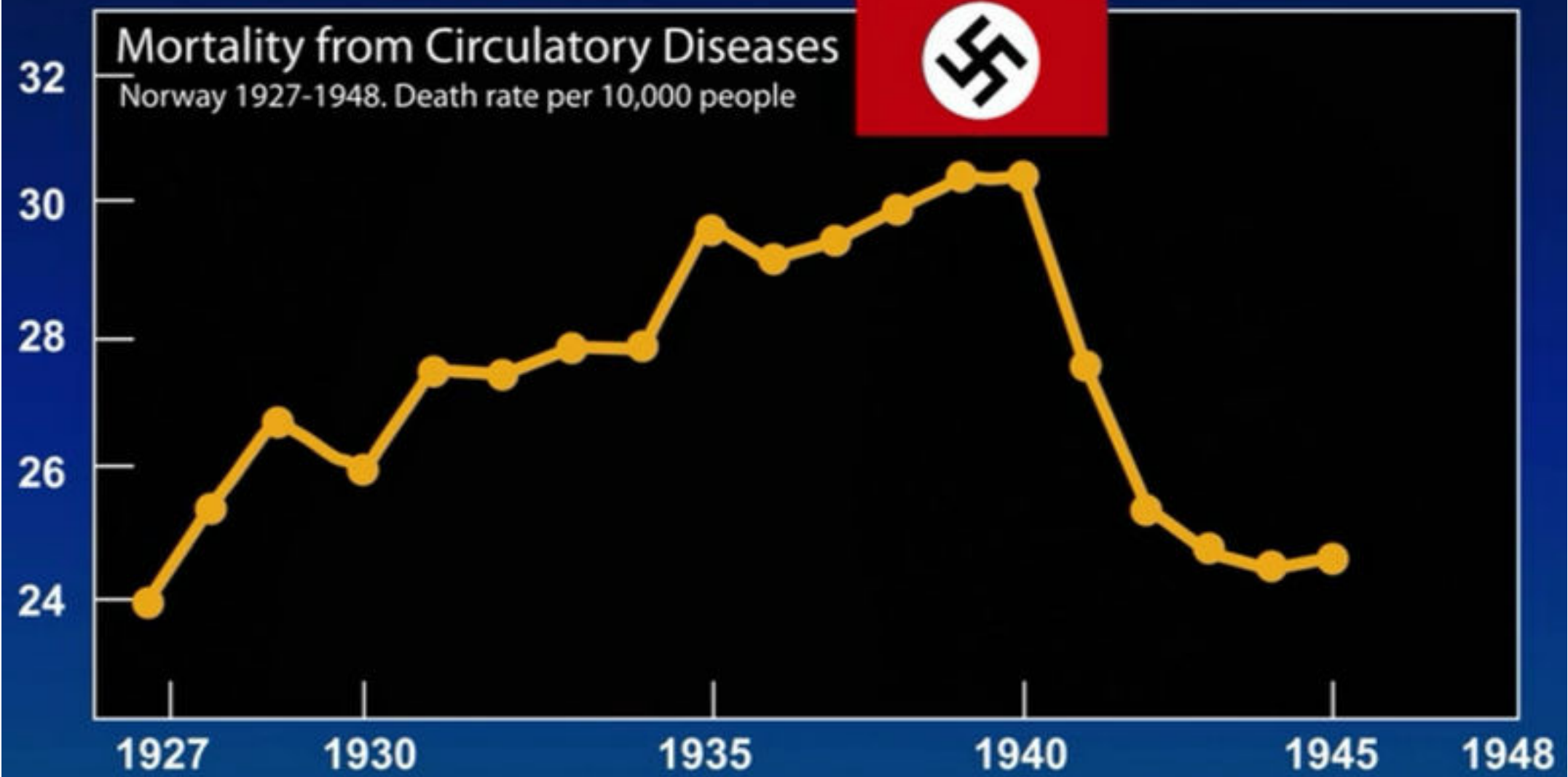
Standard American Diet



1955

Mortality from Circulatory Diseases

Norway 1927-1948. Death rate per 10,000 people



The Complete Guide to Health Through Automatic Weight Control, Modern Nutritional Supplements and Low-Fat Diet!

The LOW-FAT WAY to HEALTH and LONGER LIFE

by Lester M. Morrison, M. D.

The Principles and Program Set Forth in This Book
are Wholeheartedly Endorsed and Recommended by
Such Distinguished Medical Authorities As:

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Chairman and Professor of Medicine,
New York State University, School of Medicine

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Professor of Physiology, Yale University, School of Medicine,
and Consulting Cardiologist

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Associate Professor of Medicine,
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Nils P. Larson, M.D., F.A.C.P.

Medical Director, Hawaiian Plantation Association,
Former Pathologist and Consultant, Queen's Hospital, Honolulu

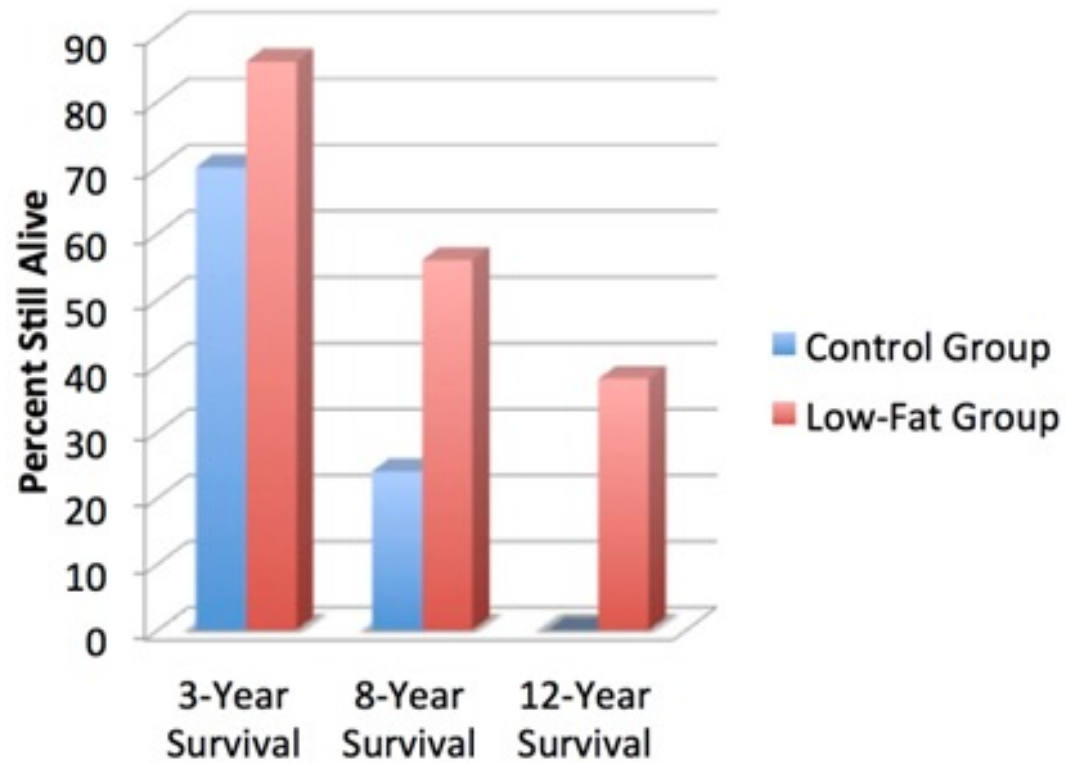
Paul S. Reen, M.D., F.A.C.P.

Director of Arteriosclerotic Clinic and Research,
Presbyterian Hospital, Los Angeles

Frederick Steigmann, M.D., F.A.C.P.

Director of the Institute for Medical Therapy and Research,
Cook County Hospital, Chicago, Associate Professor of Medicine,
University of Illinois, School of Medicine

Survival on Morrison Low-Fat Diet



12-year data taken from Morrison's "Diet in Coronary Atherosclerosis," JAMA, June 25, 1960.



"CHANCE FAVORS THE
PREPARED MIND."


— LOUIS PASTEUR —

No!



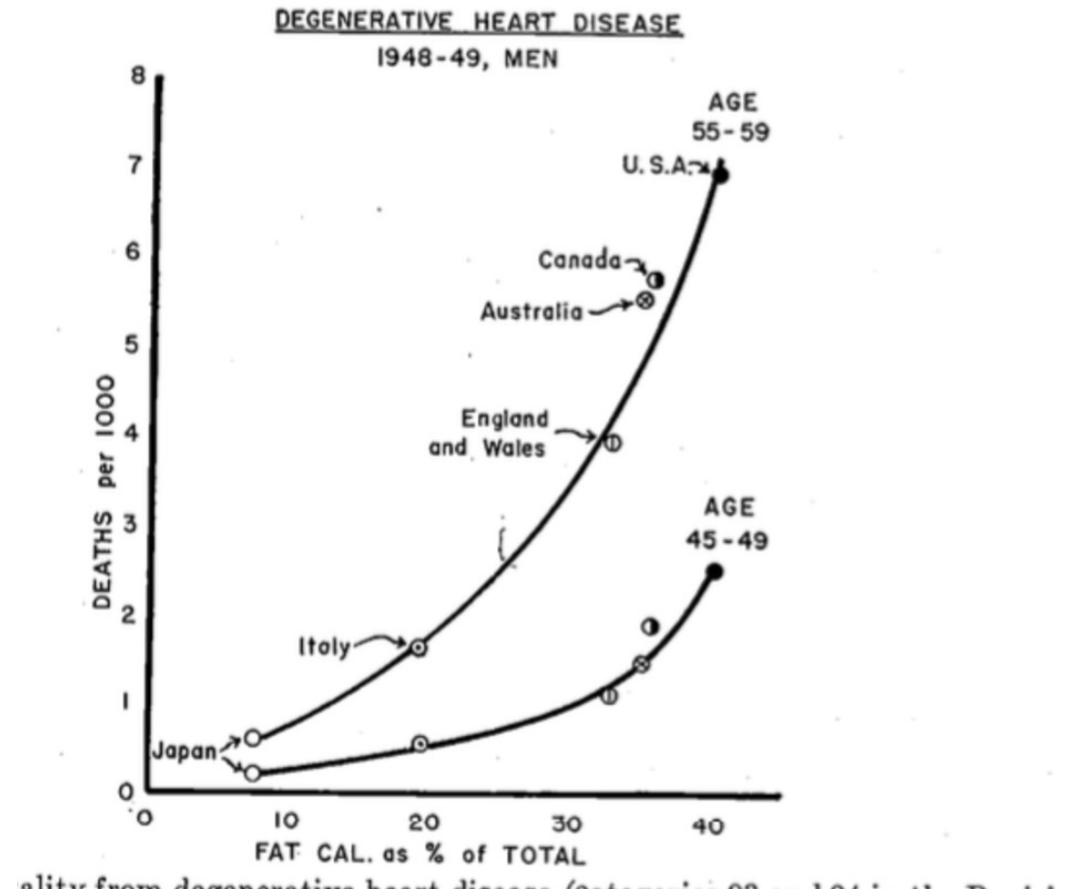
C. de Langen

IN 1916 A DUTCH PHYSICIAN, CORNELIS DE LANGEN, NOTED THAT THE DUTCH IN JAVA, AN ISLAND IN INDONESIA, HAD ATHEROSCLEROSIS (PLAQUE BUILD-UP INSIDE THE ARTERIES) AND CARDIOVASCULAR DISEASE, BUT THIS WAS UNCOMMON IN THE JAVANESE ON THEIR NATIVE DIET, WHICH WAS MAINLY BASED ON PLANT FOODS WITH A FEW EGGS A WEEK. HE LINKED HIGH BLOOD CHOLESTEROL TO HEART DISEASE AND SHOWED THAT PUTTING THE JAVANESE ON A DUTCH DIET INCREASED THEIR BLOOD CHOLESTEROL



**Chinese
Lessons to Western
Medicine** • A Contribution to
Geographical Medicine from the Clinics of Peiping
Union Medical College by I. SNAPPER
*Professor and Head of the Dept. of Medicine, Peiping Union Medical
College, Peiping, China. • With a Foreword by GEORGE R. MINOT,
Professor of Medicine, Harvard University.*

RESEARCH ON THE EPIDEMIOLOGY AND PREVENTION OF CARDIOVASCULAR DISEASES IN OBSERVING CHINESE CONTRASTS WITH WESTERNERS IN HEART DISEASE RATES, IN AVERAGE BLOOD CHOLESTEROL LEVELS, AND IN DIET, ATTRIBUTING PROTECTION TO PLANT FOODS AND LINOLEIC AND LINOLENIC ACID INTAKE. HE PUBLISHED THESE OBSERVATIONS IN CHINESE LESSONS TO WESTERN MEDICINE IN 1941



Circulation

FRAME OF REFERENCE

On My Mind
High Circulating Triglycerides Are Most Commonly a Marker of Ectopic Fat Accumulation: Connecting the Clues to Advance Lifestyle Interventions
N Sattar ... JMR Gill 77

ORIGINAL RESEARCH ARTICLES

Frailty Status Modifies the Efficacy of Exercise Training Among Patients With Chronic Heart Failure and Reduced Ejection Fraction: An Analysis From the HF-ACTION Trial
A Pandey ... DW Kitzman 80

Editorial
Heart Failure With Reduced Ejection Fraction: "The Importance of Being Frail"

LR Peterson and AR Coggan 91

Association of Cardiovascular Health Through Young Adulthood With Genome-Wide DNA Methylation Patterns in Midlife: The CARDIA Study

Y Zheng ... DM Lloyd-Jones 94

ORIGINAL RESEARCH ARTICLES

Frequency, Penetrance, and Variable Expressivity of Dilated Cardiomyopathy-Associated Putative Pathogenic Gene Variants in UK Biobank Participants

RA Shah ... on behalf of the Genotype-First Approach Investigators 110

Prolonged Myocardial Regenerative Capacity in Neonatal Opossum

C Nishiyama ... W Kimura 125

THE PULSE

Cardiology News

Nurse Navigators Cut Stroke Readmissions by Half

BM Kuehn 140

CORRESPONDENCE

Research Letter

Frequency of Screening-Detected Intracranial Aneurysms in Patients With Loeys-Dietz Syndrome

AL Huguenard ... AC Braverman 142



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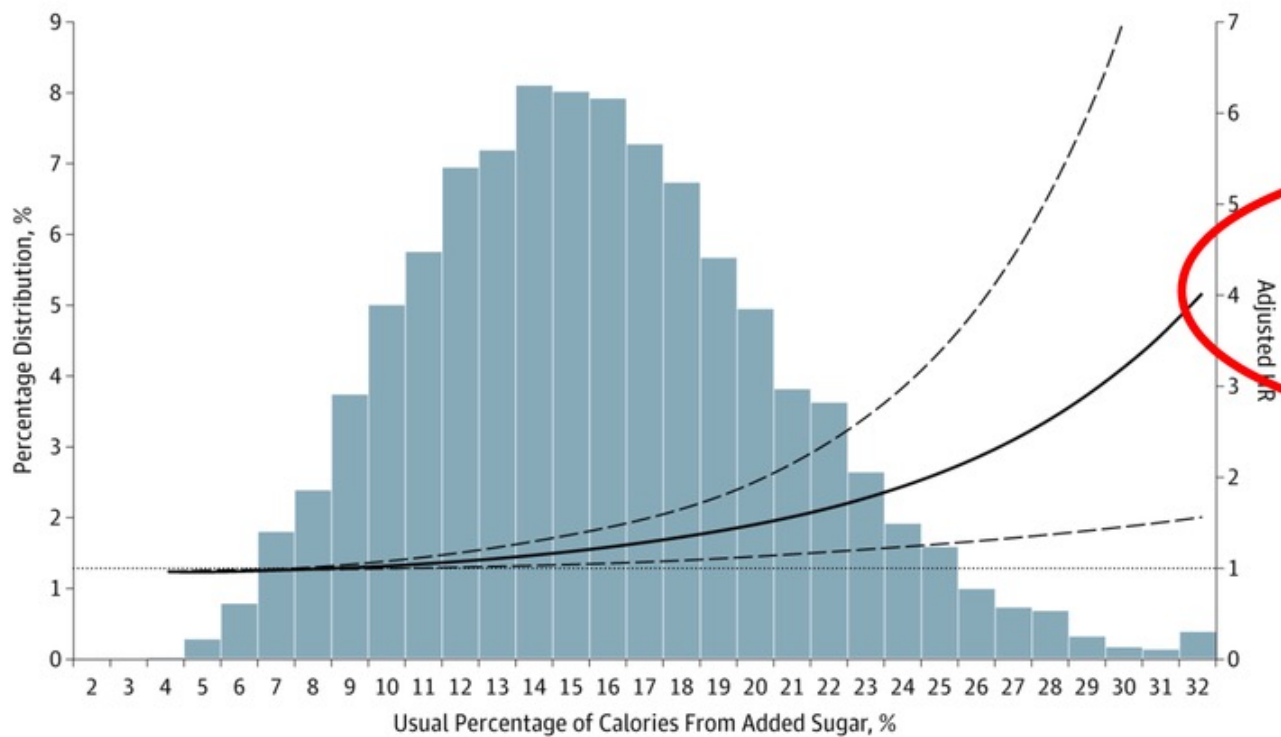
FINDINGS IN OBSERVATIONAL STUDIES FROM 1980-2012, COLLECTIVELY WITH MORE THAN 250,000 SUBJECTS, HAVE NOT SUPPORTED AN ASSOCIATION BETWEEN DIETARY CHOLESTEROL AND CVD RISK (FATAL OR NONFATAL MYOCARDIAL INFARCTION OR STROKE), PARTICULARLY WHEN ADJUSTING FOR TOTAL ENERGY INTAKE. SIMILARLY, EGG INTAKE IS NOT ASSOCIATED WITH CVD RISK. BUT THE OBSERVATIONS FOR EGGS MAY BE CONFOUNDED BY OTHER DIETARY, SOCIOECONOMIC, AND LIFESTYLE FACTORS THAT COVARY WITH EGGS.

A STUDY CARRIED OUT BY YUDKIN IN 1957, IN WHICH THE DEATH RATE FROM CORONARY DISEASE IN FIFTEEN COUNTRIES WAS CORRELATED IN RELATION TO THE AVERAGE INTAKE OF SUGAR. THE STUDY CONCLUDED THAT MEN CONSUMING RELATIVELY LARGE AMOUNTS OF SUCROSE FACED FAR GREATER ODDS OF DEVELOPING HEART DISEASE IN THE AGE RANGE OF 45 TO 65, THAN DID THOSE WHO DID NOT INGEST AS MUCH SUCROSE.



DR. JOHN YUDKIN

Added Sugar Intake and Cardiovascular Diseases Mortality Among US Adults



4x risk of heart disease @32% calcs from sugar

This is what many of our teens are consuming!



GYORGY SCRINIS CONCEPT OF 'NUTRITIONISM' IS PARTICULARLY USEFULACCORDING TO SCRINIS, BEGINNING IN THE 1960S, THERE WAS AN INCREASING TENDENCY TOWARDS A REDUCTIVE UNDERSTANDING OF NUTRIENTS IN WHICH FOODS BECAME DISTINGUISHED AS EITHER 'GOOD' OR 'BAD'. THIS SCRINIS ARGUES SIGNALLED THE EMERGENCE OF A NEW NUTRITIONAL ERA, ONE WHICH BECAME WHOLLY OBSESSED WITH FAT AND FOCUSING ATTENTION ON SINGLE NUTRIENTS **RATHER THAN ADDRESS THE ROLE OF FOOD PRODUCTION TECHNIQUES, ADDITIVES OR THE METABOLIC INTERACTION OF DIFFERENT NUTRIENTS.**¹⁸



SCRINIS MAINTAINS THAT THE NARROW FOCUS ON FAT, AND LATER THE DIFFERENT TYPES OF FAT, SERVED TO FOCUS THE ATTENTION OF THE PUBLIC AND NUTRITION EXPERTS ON THE PRESENCE OR ABSENCE OF FAT IN FOODS, RATHER THAN ON THE PROCESSING TECHNIQUES AND OTHER INGREDIENTS (I.E. REFINED SUGAR) USED IN PRODUCTION...

CORRESPONDINGLY, THE FOOD INDUSTRY, HEAVILY INFLUENCED BY THE POWERFUL SUGAR LOBBY, FUELLED THIS SIGNIFICANTLY BY TRANSLATING THE FINDINGS OF KEYS ET AL. INTO AN ENORMOUS ARRAY OF LOW-FAT PRODUCTS

**FIRST THEY WILL
LAUGH**

THEN THEY WILL COPY

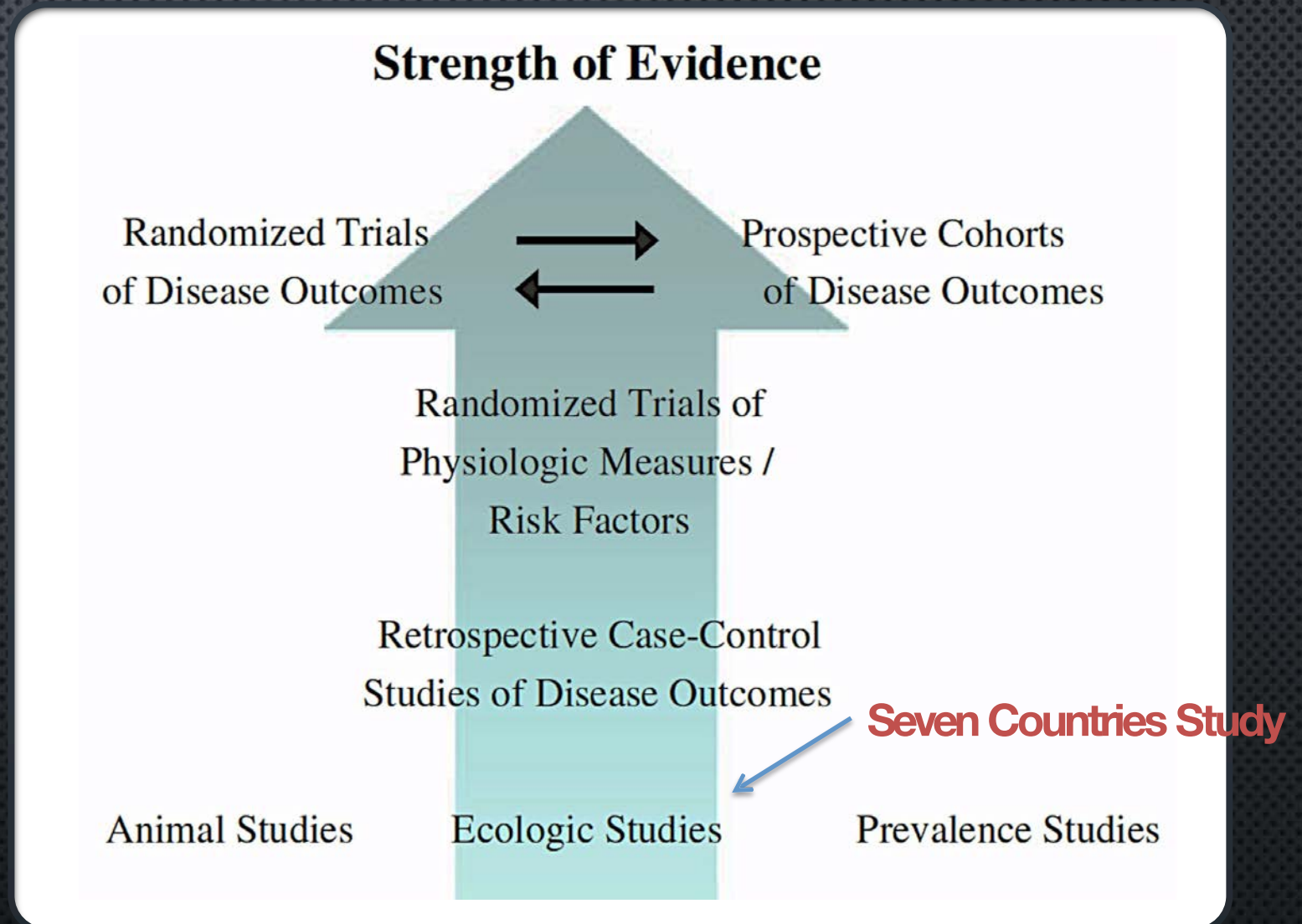
DON'T. GIVE. UP.



Nathan Pritikin,
Founder, The Pritikin Program

*"All I'm trying to do is wipe out heart disease,
diabetes, hypertension, and obesity."*

STRENGTH OF NUTRITION SCIENCE EVIDENCE

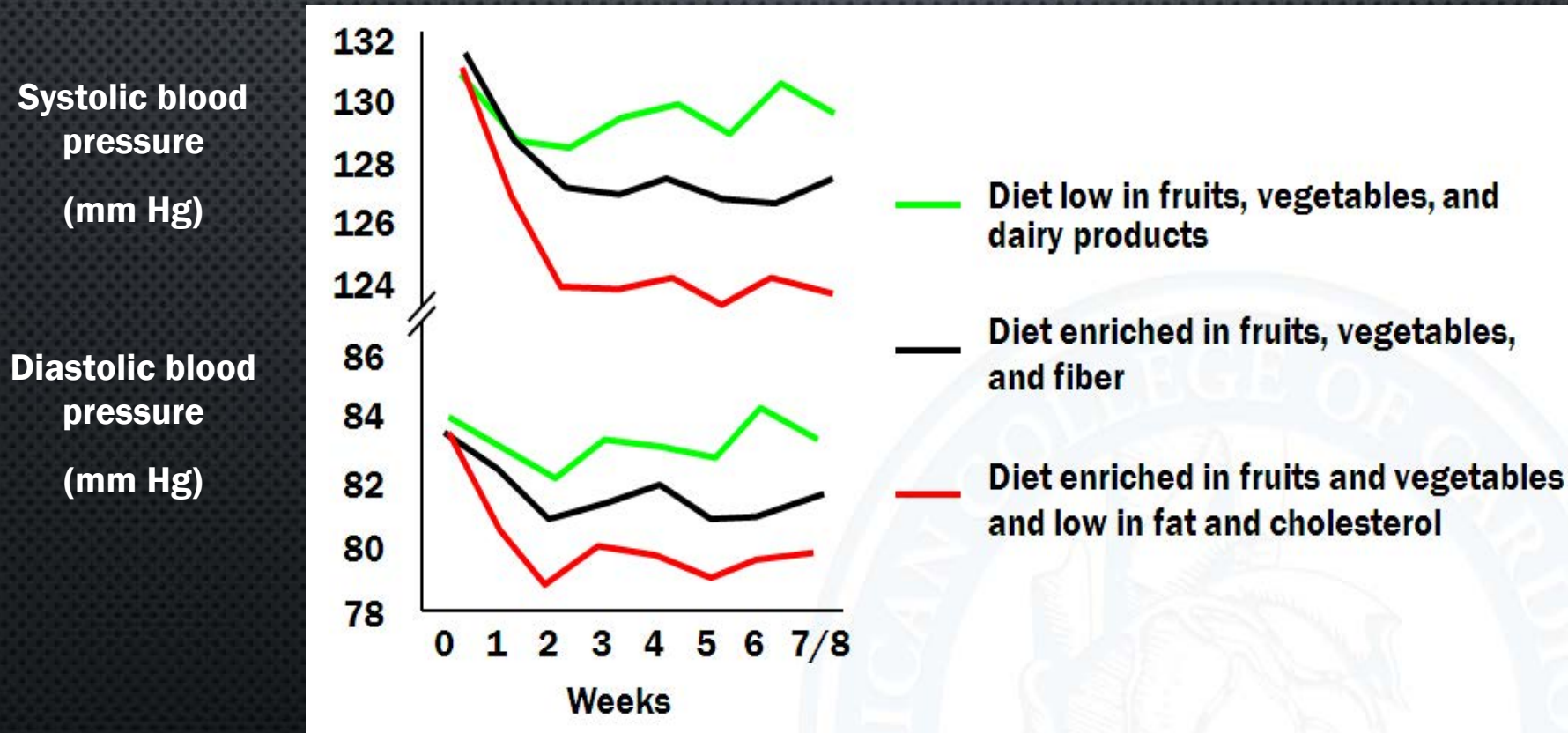


ROLE OF NUTRITION IN CVD RISK FACTORS

Randomized Trial Evidence

Dietary Approaches to Stop Hypertension (DASH) Group

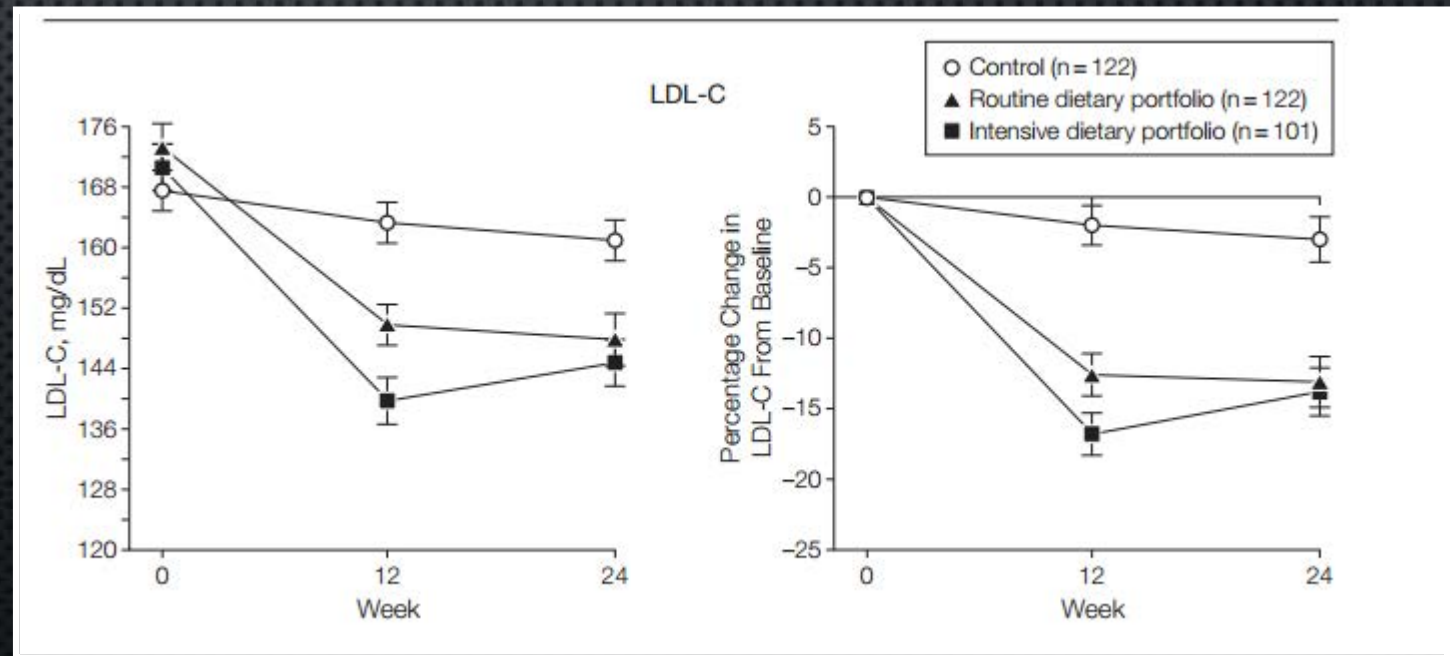
459 hypertensive patients randomized to 1 of 3 diets for 8 weeks



PLANT-BASED DIET EFFECTS ON LIPIDS

Effect of a Dietary Portfolio of Cholesterol-Lowering Foods Given at 2 Levels of Intensity of Dietary Advice on Serum Lipids in Hyperlipidemia

A Randomized Controlled Trial



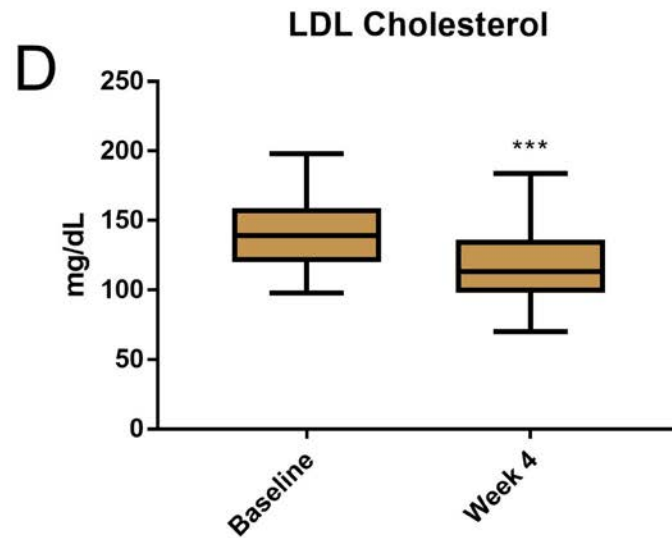
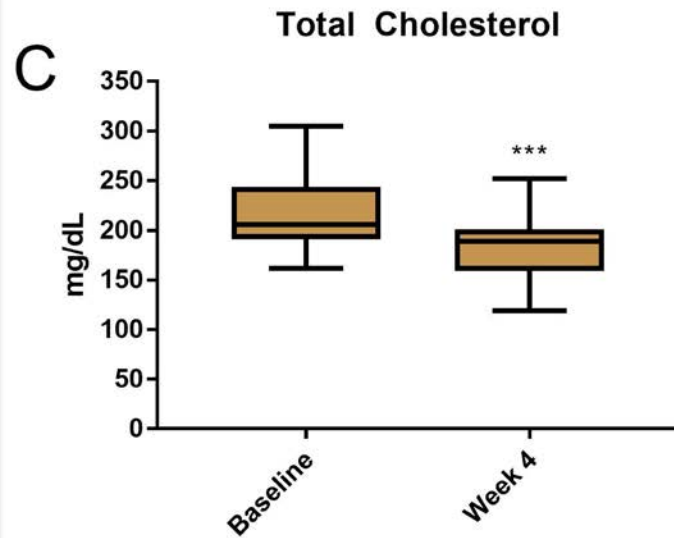
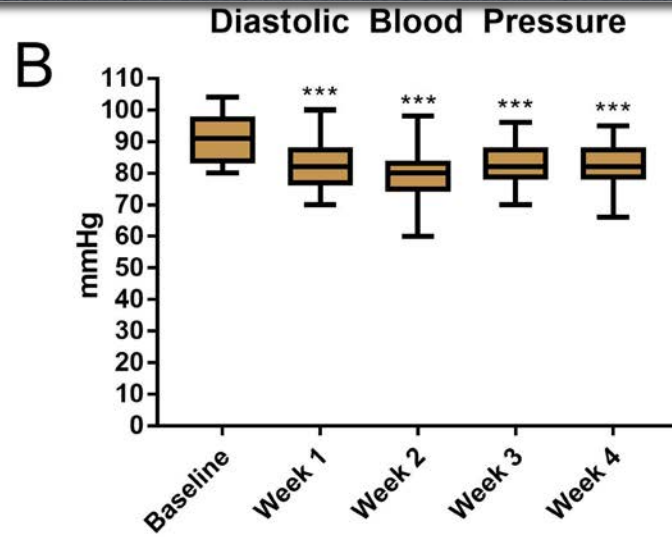
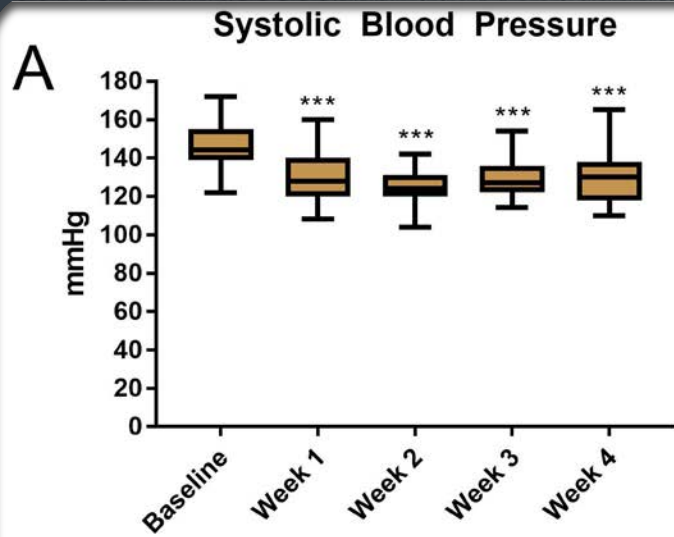
META-ANALYSIS OF RCTS

Circulation

SYSTEMATIC REVIEW

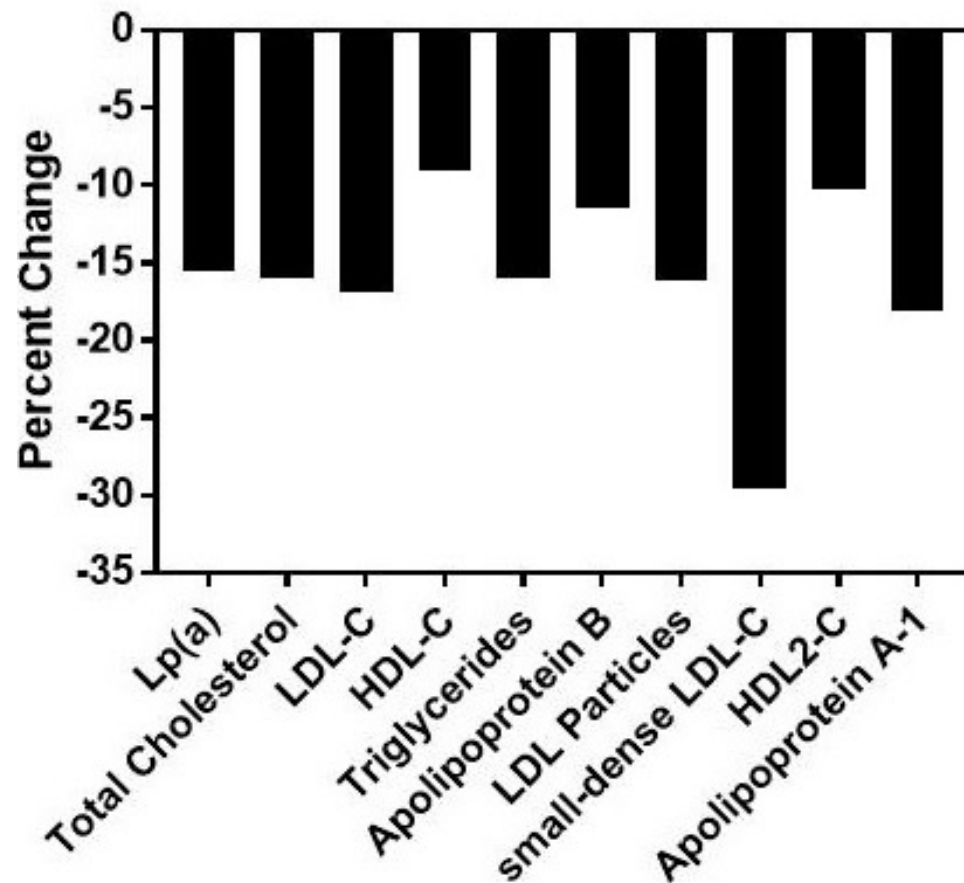
Meta-Analysis of Randomized Controlled Trials of Red Meat Consumption in Comparison With Various Comparison Diets on Cardiovascular Risk Factors

CONCLUSIONS: Inconsistencies regarding the effects of red meat on cardiovascular disease risk factors are attributable, in part, to the composition of the comparison diet. Substituting red meat with high-quality plant protein sources, but not with fish or low-quality carbohydrates, leads to more favorable changes in blood lipids and lipoproteins.



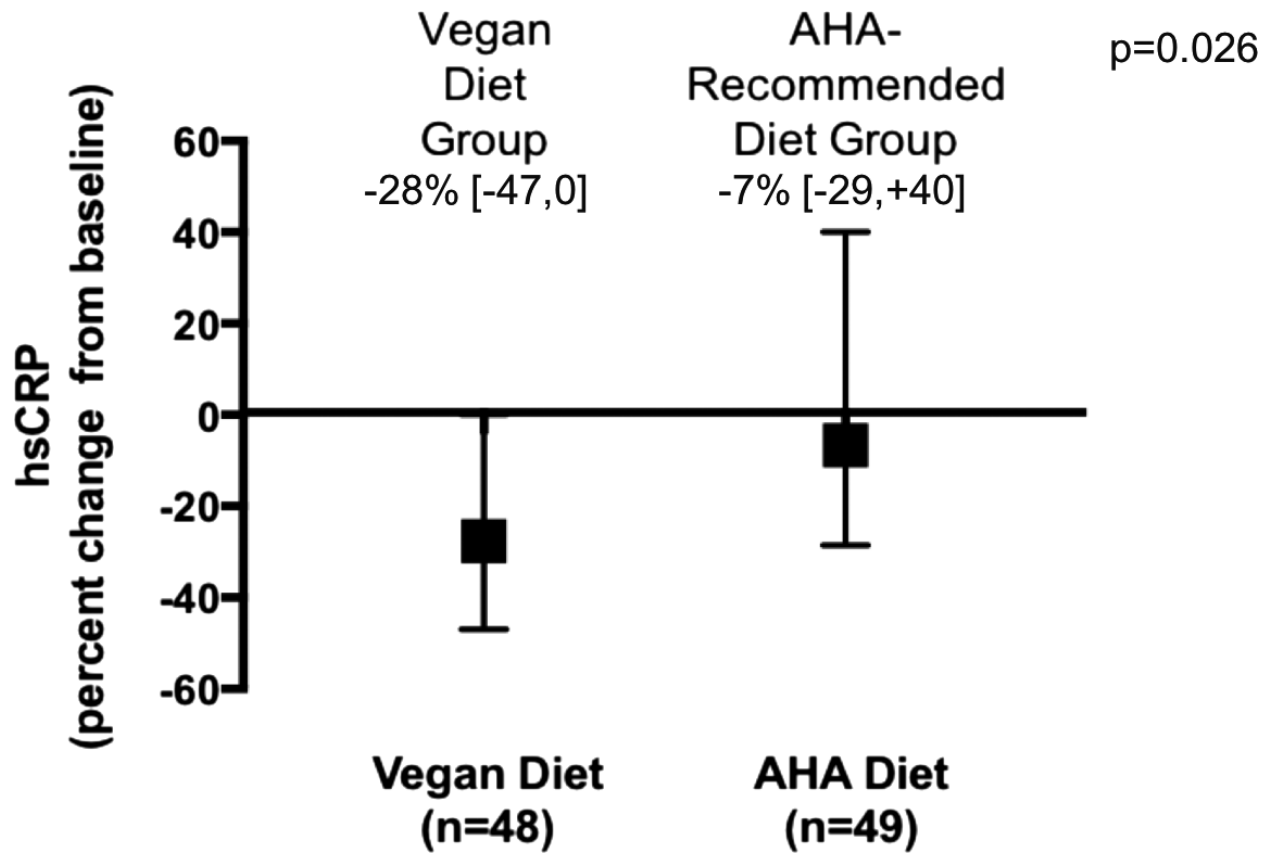
4 WEEK PLANT BASED INTERVENTION

Reductions in Biomarkers



4 WEEK PLANT
BASED
INTERVENTION

8 WEEK RANDOMIZED ANTI- INFLAMMATORY DIET INTERVENTION

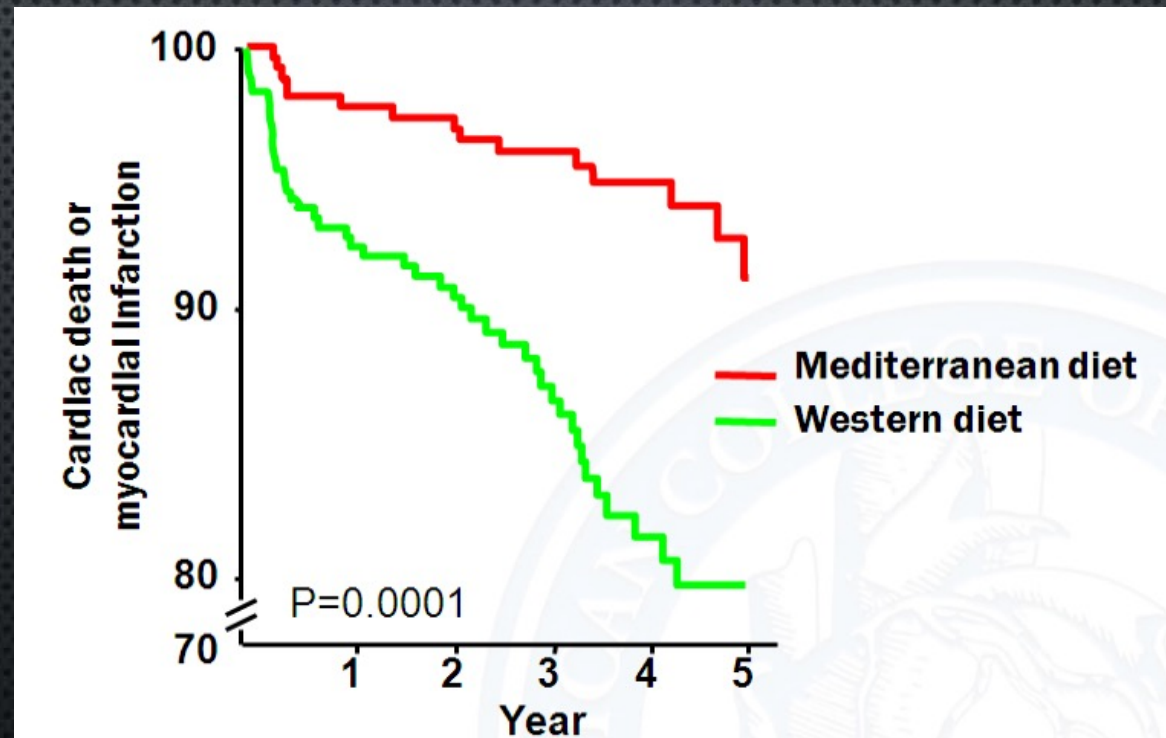


Randomized Trial Evidence: Secondary Prevention

Lyon Diet Heart Study

605 patients following a MI randomized to a Mediterranean* or Western** diet for 4 years

*High in polyunsaturated fat and fiber,
**High in saturated fat and low in fiber



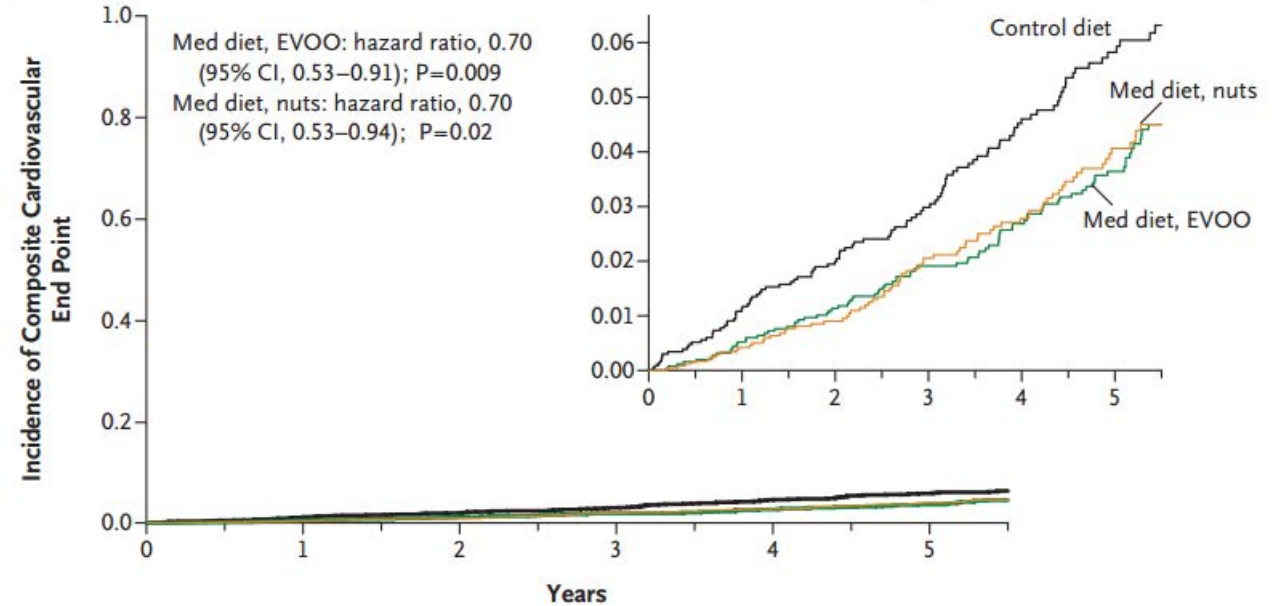
A Mediterranean diet reduces cardiovascular events

BENEFICIAL COMPONENTS OF THE LYON HEART TRIAL

Moderate Alcohol	23.5%
Low consumption of meat and meat products	16.6%
High Vegetable consumption	16.2%
High Fruit and Nut Consumption	11.2%
High Monounsaturated to Saturated Fats (Olive Oil)	10.6%
High Legume consumption	9.7%

PREDIMED STUDY

A Primary End Point (acute myocardial infarction, stroke, or death from cardiovascular causes)



No. at Risk						
Control diet	2450	2268	2020	1583	1268	946
Med diet, EVOO	2543	2486	2320	1987	1687	1310
Med diet, nuts	2454	2343	2093	1657	1389	1031

THE GREAT CARB DEBATE

Associations of fats and carbohydrate intake with cardiovascular disease and mortality in 18 countries from five continents (PURE): a prospective cohort study

Interpretation High carbohydrate intake was associated with higher risk of total mortality, whereas total fat and individual types of fat were related to lower total mortality. Total fat and types of fat were not associated with cardiovascular disease, myocardial infarction, or cardiovascular disease mortality, whereas saturated fat had an inverse association with stroke. Global dietary guidelines should be reconsidered in light of these findings.

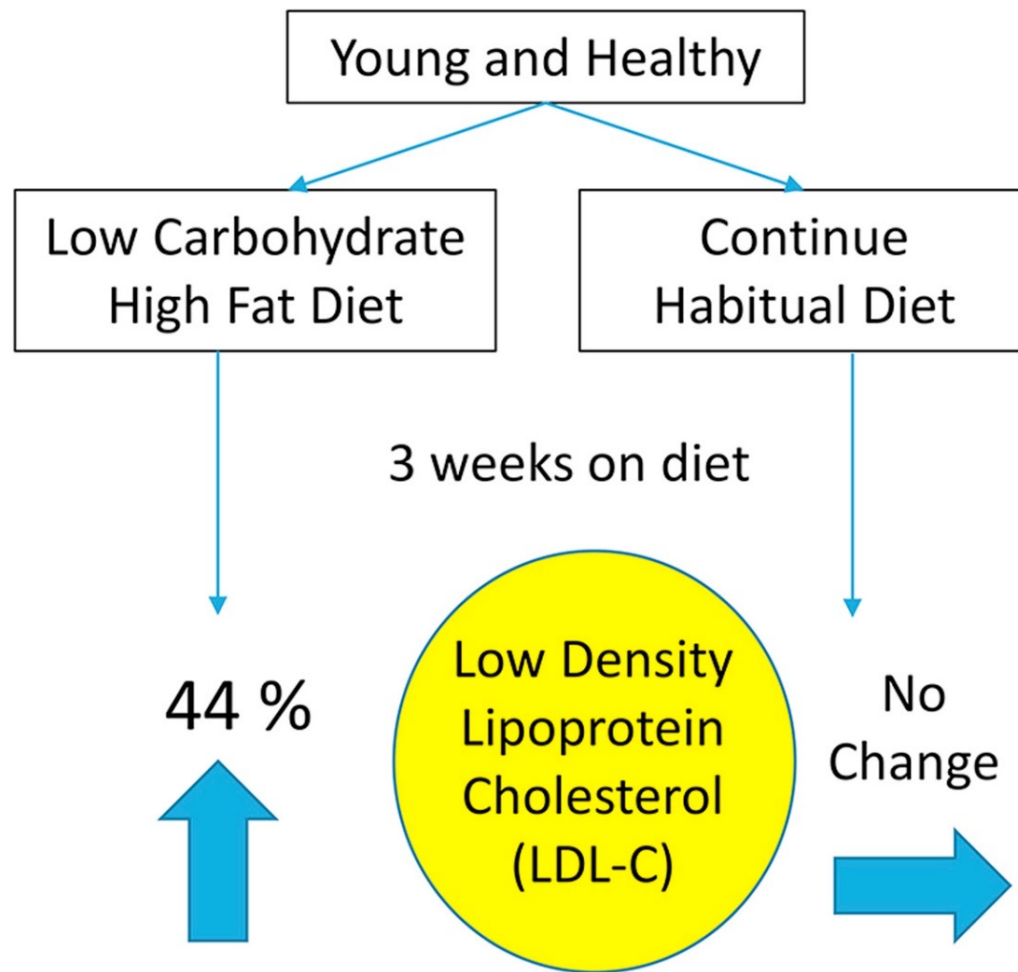
However, all carbs were considered equal (eg. soda versus whole wheat bread) and carb intake was highest in poorer countries with poor medical access.

The Great Carb Debate

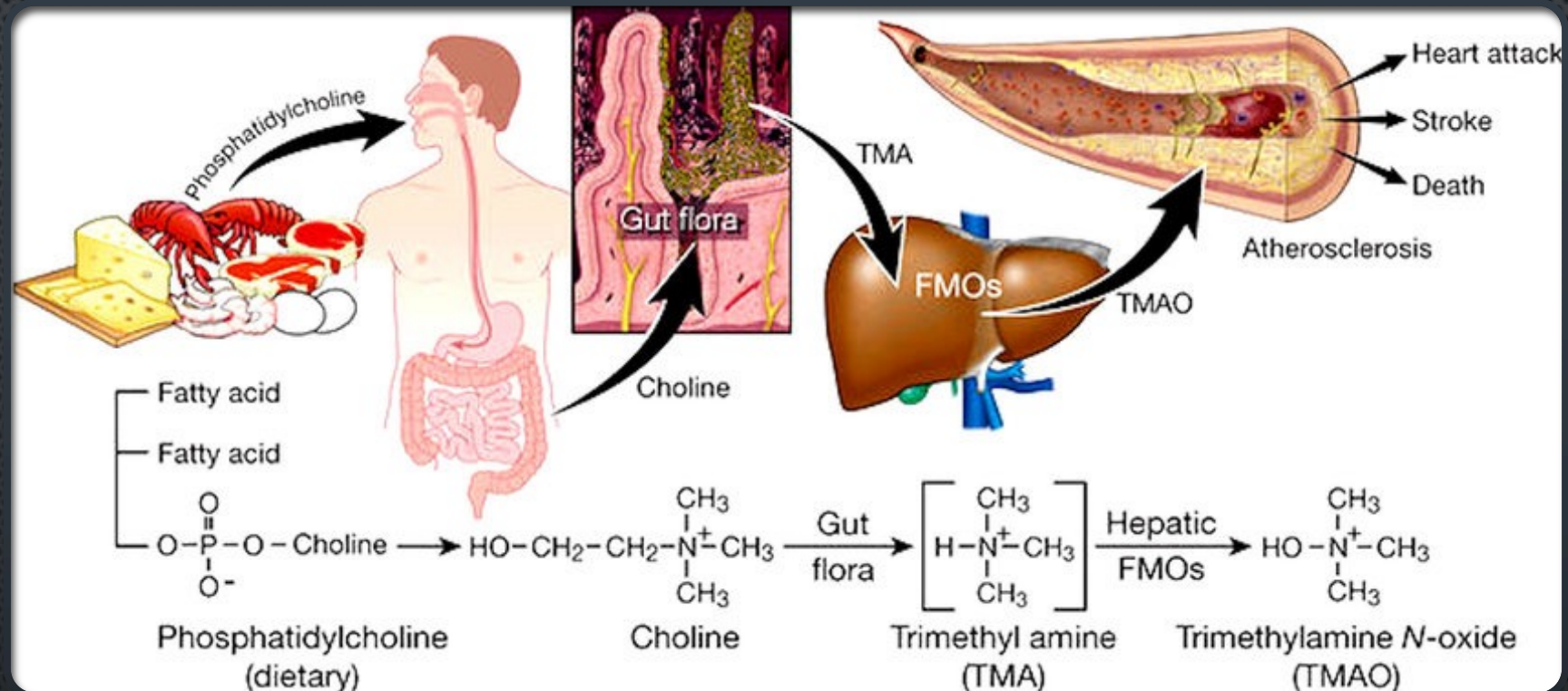
Dietary carbohydrate intake and mortality: a prospective cohort study and meta-analysis

Sara B Seidelmann, Brian Claggett, Susan Cheng, Mir Henglin, Amil Shah, Lyn M Steffen, Aaron R Folsom, Eric B Rimm, Walter C Willett, Scott D Solomon

Interpretation Both high and low percentages of carbohydrate diets were associated with increased mortality, with minimal risk observed at 50–55% carbohydrate intake. Low carbohydrate dietary patterns favouring animal-derived protein and fat sources, from sources such as lamb, beef, pork, and chicken, were associated with higher mortality, whereas those that favoured plant-derived protein and fat intake, from sources such as vegetables, nuts, peanut butter, and whole-grain breads, were associated with lower mortality, suggesting that the source of food notably modifies the association between carbohydrate intake and mortality.



LOW CARB DIET
MAY RAISE LIPIDS
30 PATIENTS
RANDOMIZED TO
LOW CARB/HIGH
FAT VS CONTINUE
DIET X 3WKS



TMAO: CAUSAL ROLE IN ATHEROSCLEROSIS

DIET AND THE MICROBIOME

Effects of dietary fat on gut microbiota and faecal metabolites, and their relationship with cardiometabolic risk factors: a 6-month randomised controlled-feeding trial

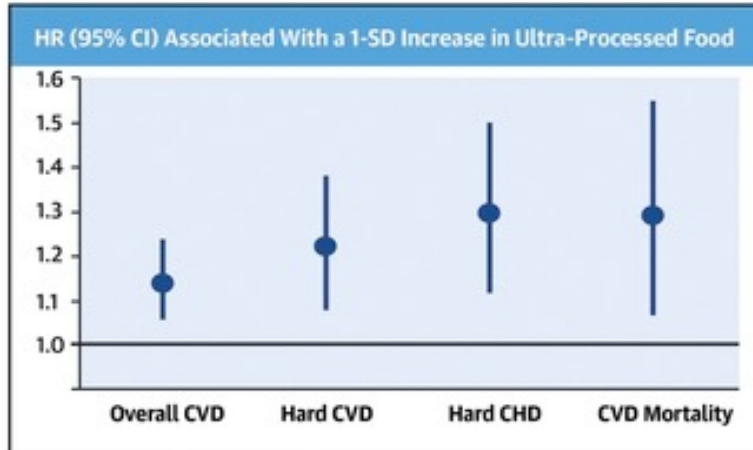
Yi Wan,¹ Finglei Wang,^{1,2} Jihong Yuan,³ Jie Li,³ Dandan Jiang,³ Jingjing Zhang,⁴ Hao Li,¹ Ruoyi Wang,^{1,2} Jun Tang,¹ Tao Huang,⁵ Jusheng Zheng,⁶ Andrew J Sinclair,⁷ Jim Mann,⁸ Duo Li^{1,9}

Conclusion Higher-fat consumption by healthy young adults whose diet is in a state of nutrition transition appeared to be associated with unfavourable changes in gut microbiota, faecal metabolomic profiles and plasma proinflammatory factors, which might confer adverse consequences for long-term health outcomes.

CENTRAL ILLUSTRATION: Ultra-Processed Food Intake and Cardiovascular Disease Incidence and Mortality in the Framingham Offspring Study Cohort

Ultra-Processed Foods

Industrial formulations made with no or minimal whole foods and produced with substances extracted from foods or synthesized in laboratories, such as dye, flavorings, and preservatives.



THE CURRENT FINDINGS SUPPORT THAT HIGHER CONSUMPTION OF ULTRA-PROCESSED FOODS IS ASSOCIATED WITH INCREASED RISK OF CVD INCIDENCE AND MORTALITY

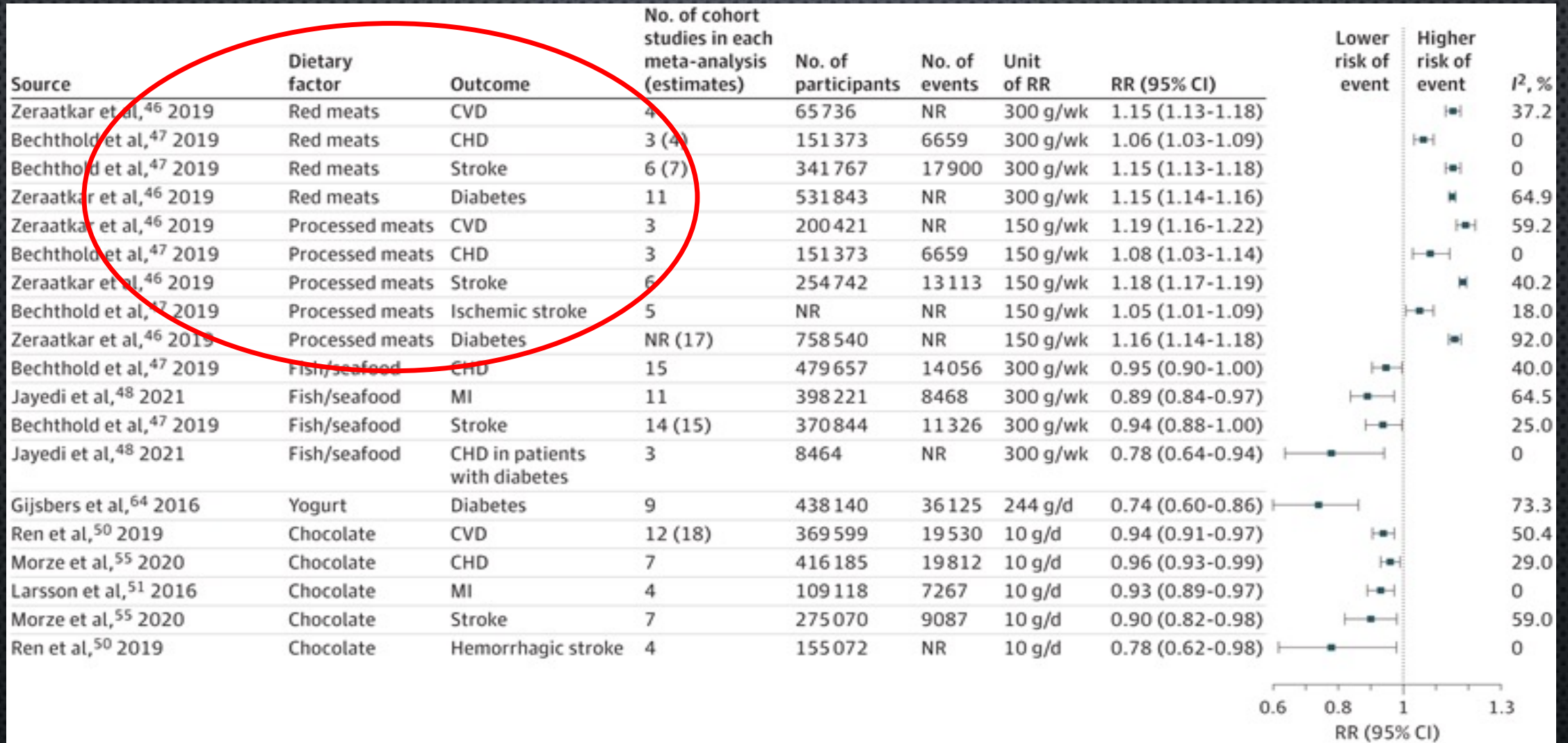


“THE FINDINGS....
DO NOT PROVIDE
EVIDENCE FOR
CHOOSING WHITE
OVER RED MEAT
FOR REDUCING
CVD RISK”

QUALITY OF EVIDENCE OF THE ASSOCIATION OF FOODS AND NUTRIENTS WITH CARDIOVASCULAR DISEASE AND DIABETES

Source	Dietary factor	Outcome	No. of cohort studies in each meta-analysis (estimates)	No. of participants	No. of events	Unit of RR	RR (95% CI)	Lower risk of event	Higher risk of event	I ² , %
Aune et al, ⁴² 2017	Fruits	CVD	17	1 492 617	72 648	100 g/d	0.93 (0.91-0.96)	■		79.1
Aune et al, ⁴² 2017	Fruits	CHD	24	1 555 553	43 336	100 g/d	0.95 (0.93-0.97)	■		43.7
Aune et al, ⁴² 2017	Fruits	Stroke	16	964 142	46 203	100 g/d	0.91 (0.86-0.95)	■		72.9
Aune et al, ⁴² 2017	Fruits	Ischemic stroke	9 (10)	412 875	11 577	100 g/d	0.88 (0.83-0.94)	■		57.5
Aune et al, ⁴² 2017	Fruits	Hemorrhagic stroke	7	655 406	6 728	100 g/d	0.81 (0.71-0.93)	■		56.9
Aune et al, ⁴² 2017	Vegetables	CVD	14	1 009 038	23 857	100 g/d	0.95 (0.93-0.96)	■		11.5
Aune et al, ⁴² 2017	Vegetables	CHD	20	1 047 071	20 853	100 g/d	0.92 (0.89-0.95)	■		60.6
Aune et al, ⁴² 2017	Vegetables	Stroke	13	441 670	14 973	100 g/d	0.93 (0.89-0.98)	■		63.4
Aune et al, ⁴² 2017	Vegetables	Ischemic stroke	8	372 526	9 651	100 g/d	0.93 (0.87-0.98)	■		55.4
Quan et al, ⁵² 2020	Potatoes	Diabetes	6 (8)	359 680	22 352	100 g/d	1.05 (1.02-1.08)		■	NR
Aune et al, ⁴³ 2016	Nuts/seeds	CVD	11 (12)	376 228	18 655	28 g/d	0.79 (0.70-0.88)	■		59.6
Aune et al, ⁴⁴ 2016	Nuts/seeds	CHD	10 (11)	315 397	12 331	28 g/d	0.71 (0.63-0.80)	■		47.4
Aune et al, ⁴⁴ 2016	Whole grains	CVD	9 (10)	704 317	26 243	50 g/d	0.87 (0.84-0.91)	■		40.0
Aune et al, ⁴⁴ 2016	Whole grains	CHD	7	312 639	16 800	50 g/d	0.89 (0.85-0.93)	■		9.0
Chen et al, ⁴⁵ 2016	Whole grains	Ischemic stroke	3	114 773	NR	50 g/d	0.81 (0.72-0.93)	■		NR
Schwingshackl et al, ⁶³ 2017	Whole grains	Diabetes	10 (12)	459 603	22 267	50 g/d	0.79 (0.72-0.89)	■		91.0

QUALITY OF EVIDENCE OF THE ASSOCIATION OF FOODS AND NUTRIENTS WITH CARDIOVASCULAR DISEASE AND DIABETES



WHOLE GRAINS

- EACH SERVING OF WHOLE GRAIN ASSOCIATED WITH
 - ↓ 5% DECREASE ALL-CAUSE MORTALITY
 - ↓ 9% DECREASE CVD MORTALITY

FRUITS & VEGETABLES



EACH ADDITIONAL SERVING OF FRUITS AND VEGETABLES

↓ 5% ALL CAUSE MORTALITY

↓ 4% CARDIOVASCULAR MORTALITY

FRUITS & VEGETABLES

- EATING FRESH FRUITS DAILY VS RARELY/NEVER
 - ↓ SBP 4 MM HG
 - ↓ BLOOD GLUCOSE 9MG/DL
 - ↓ DIABETES INCIDENCE 12%

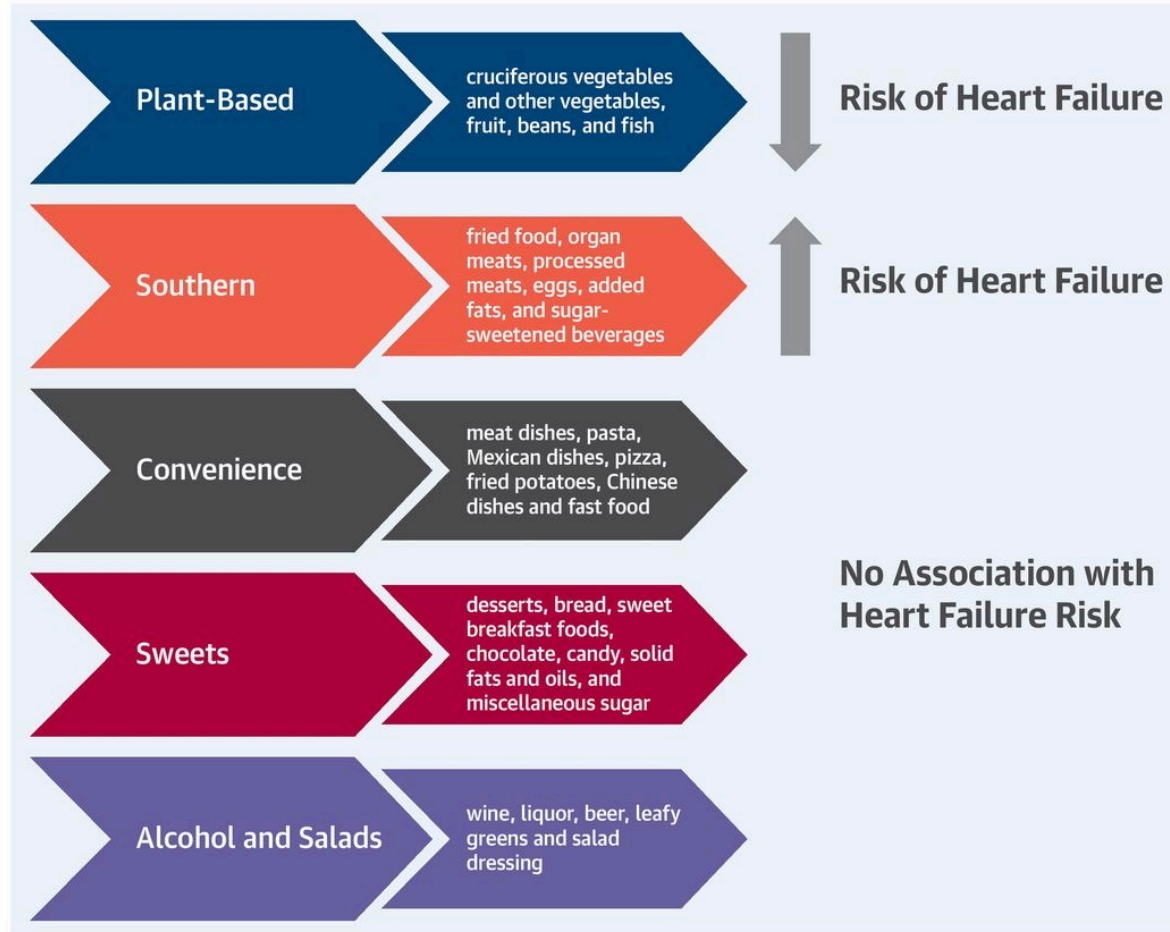
RISK PER SERVING OF RED/PROCESSED MEAT

	RED MEAT	PROCESSED MEAT
TOTAL MORTALITY	13%	20%
CANCER MORTALITY	10%	16%
CARDIOVASCULAR MORTALITY	18%	21%

NUTS

- META-ANALYSIS, 20 PROSPECTIVE COHORT STUDIES;
N=467,389
- HIGHEST VS LOWEST NUT CONSUMPTION:
 - ↓ ALL CAUSE MORTALITY 19%
 - ↓ CARDIOVASCULAR MORTALITY 27%

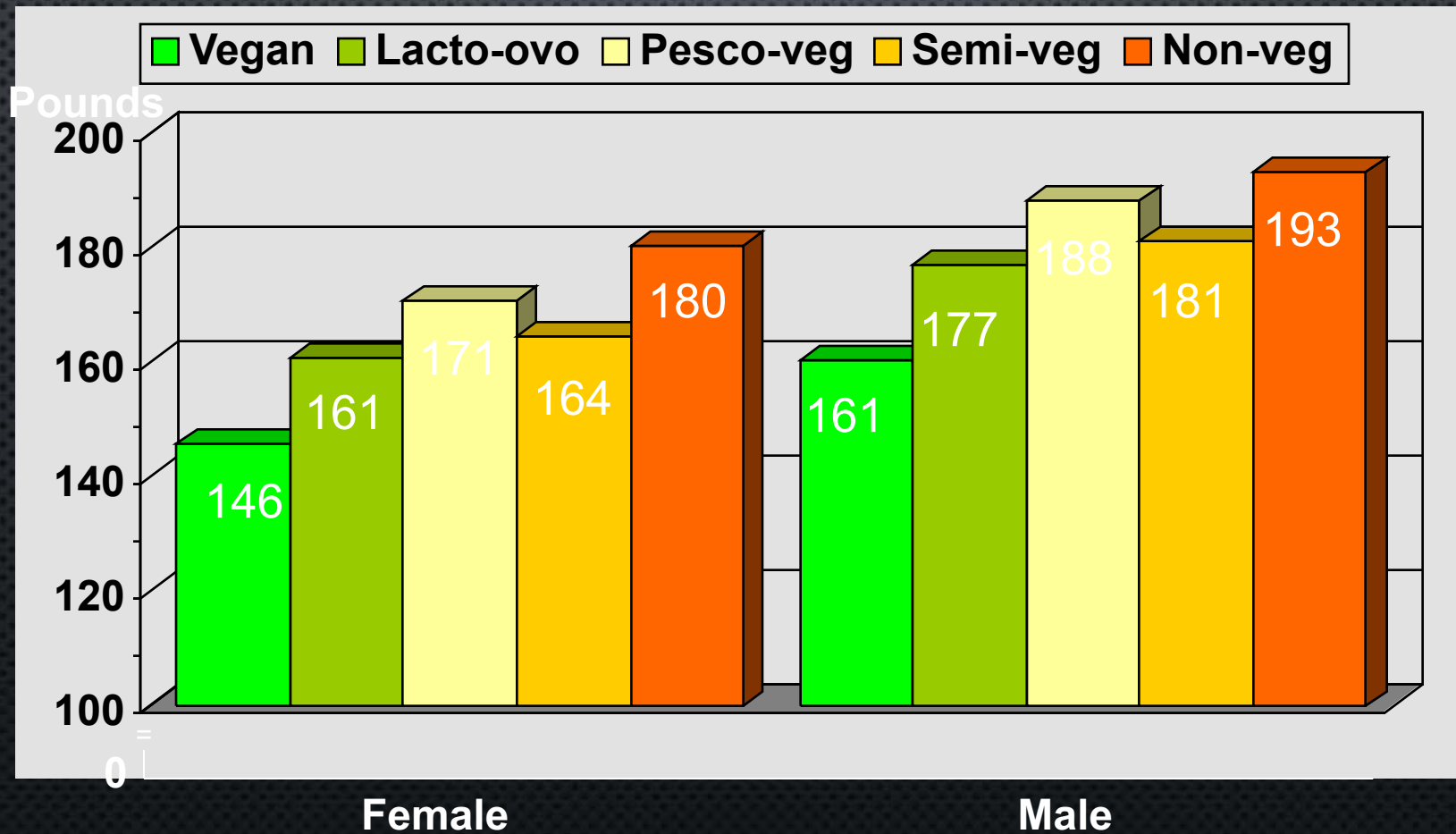
CENTRAL ILLUSTRATION: Dietary Patterns Among American Adults and Risk for Heart Failure



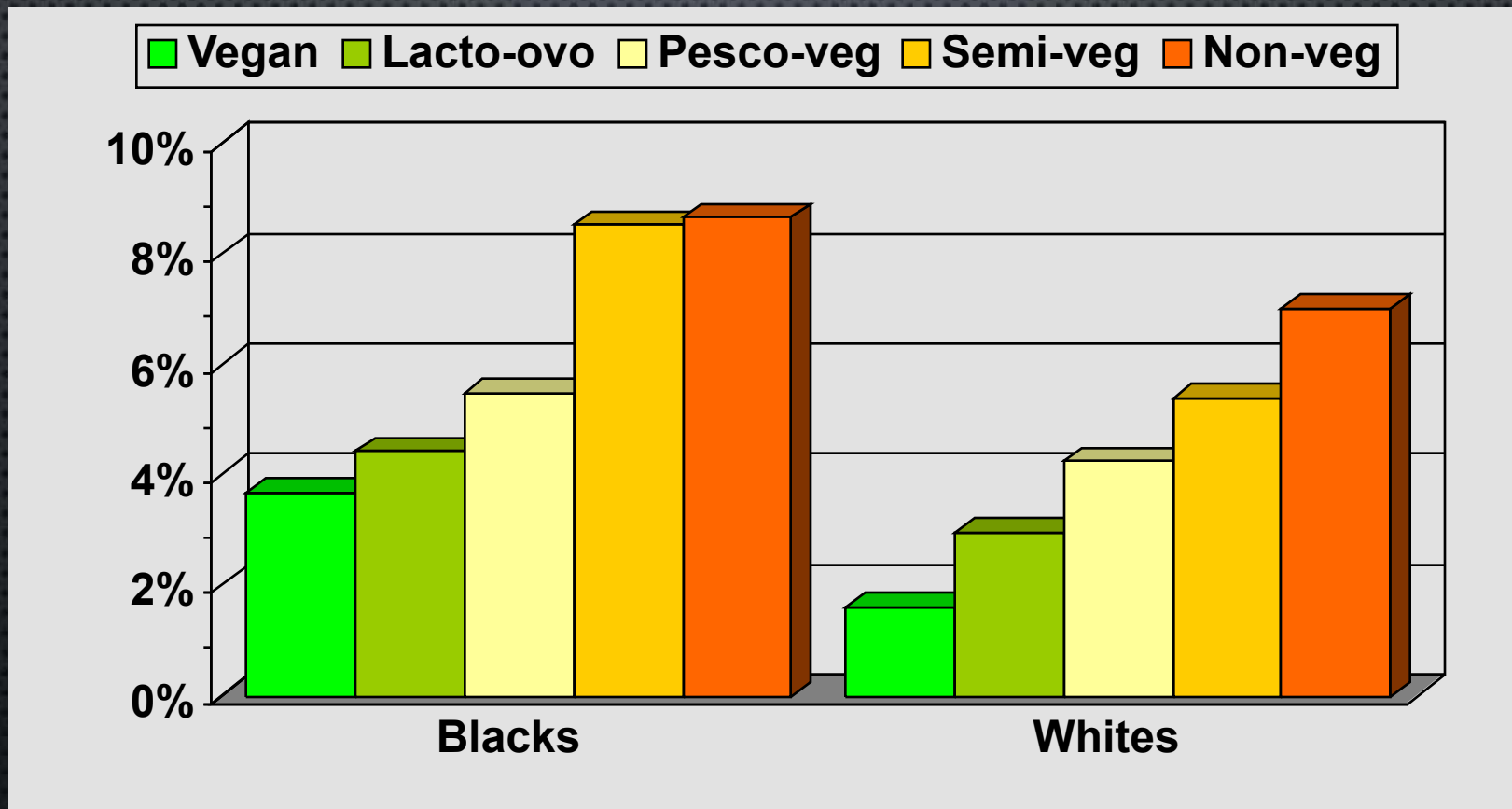
DIETARY PATTERNS AND RISK OF HF

Lara, K.M. et al. J Am Coll Cardiol. 2019;73(16):2036-45.

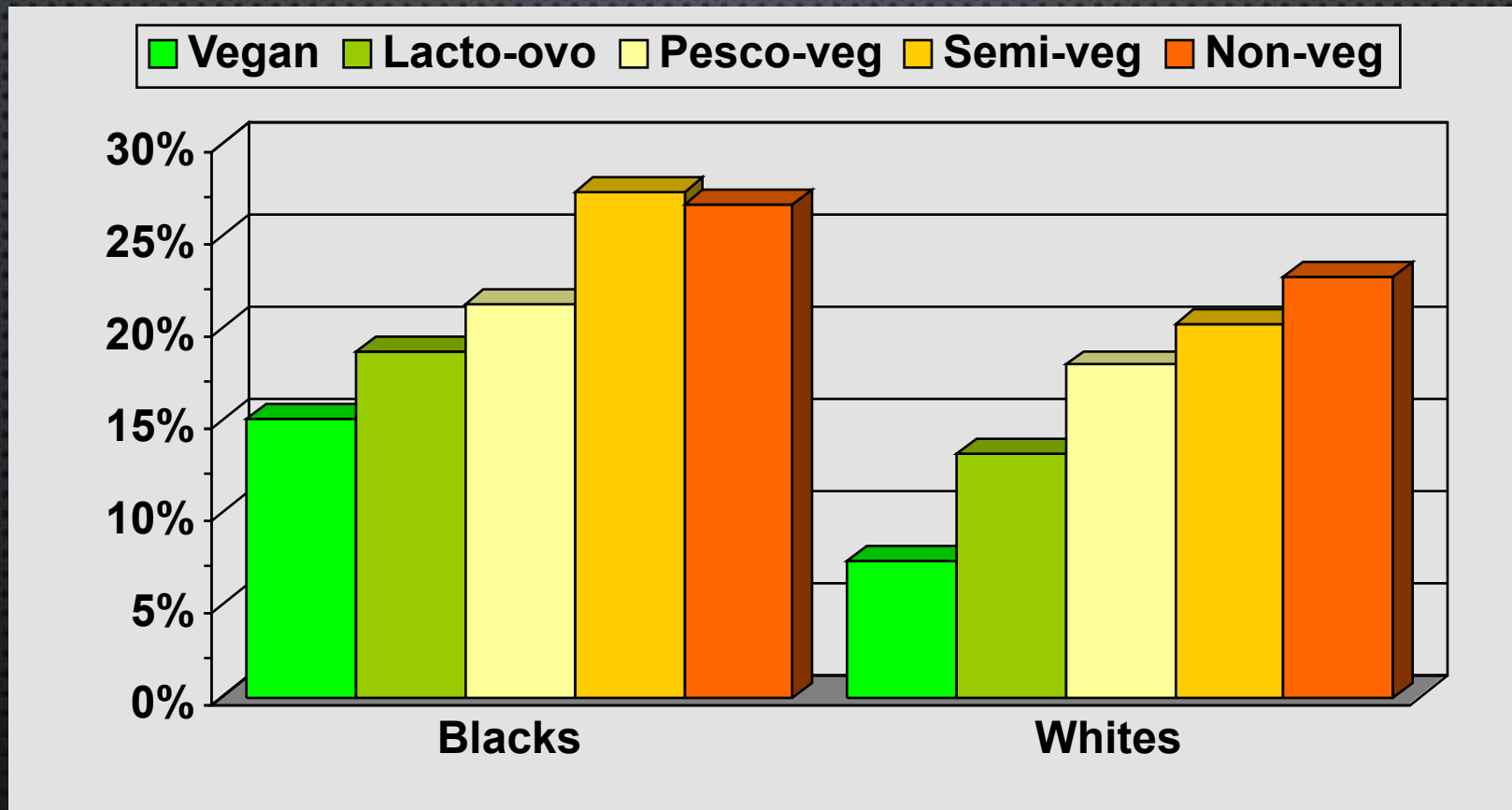
WEIGHT DIFFERENCES BETWEEN VEGETARIANS AND NON-VEGETARIANS



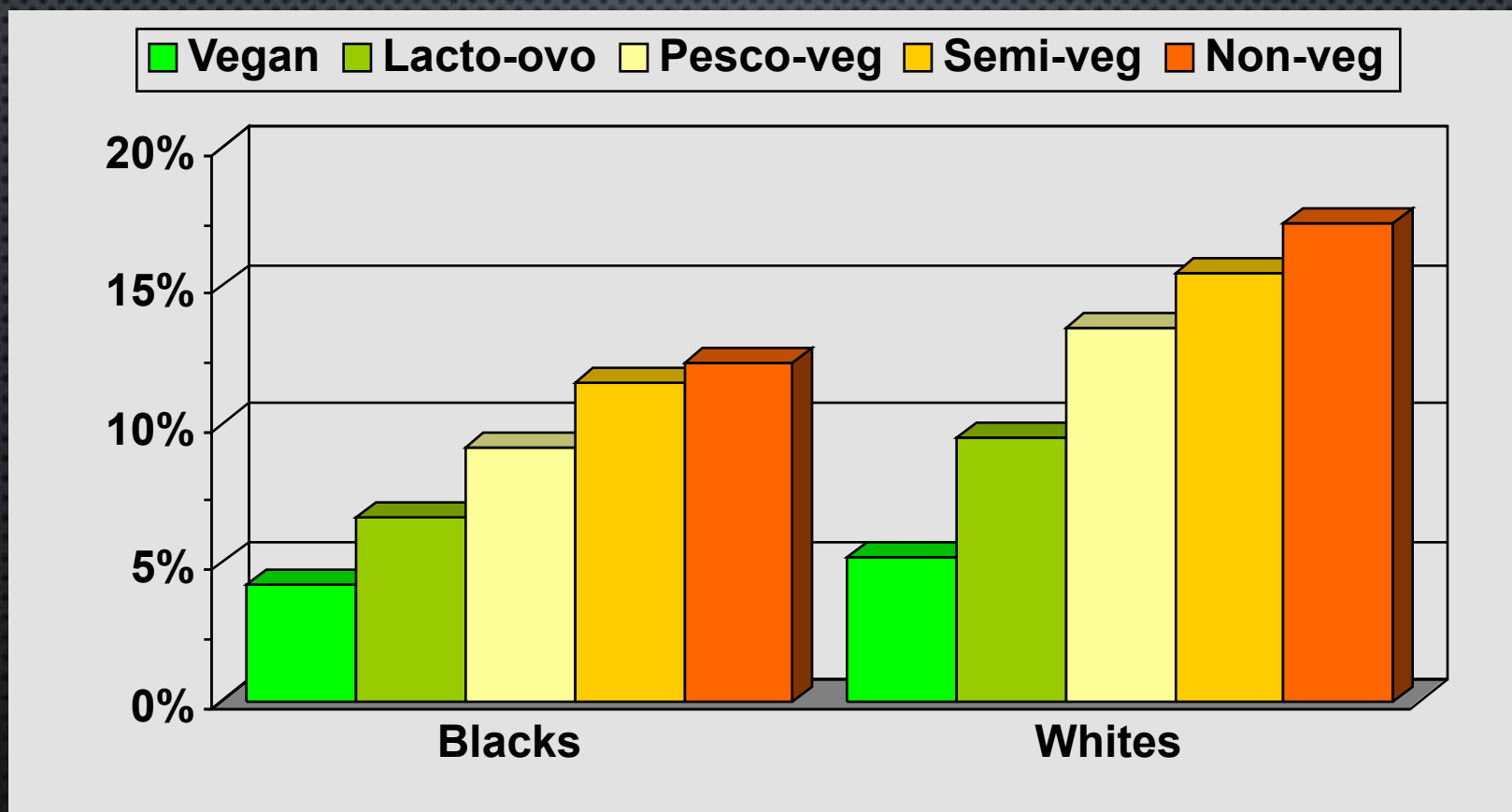
FREQUENCY OF TYPE 2 DIABETES BY DIETARY STATUS AND RACE



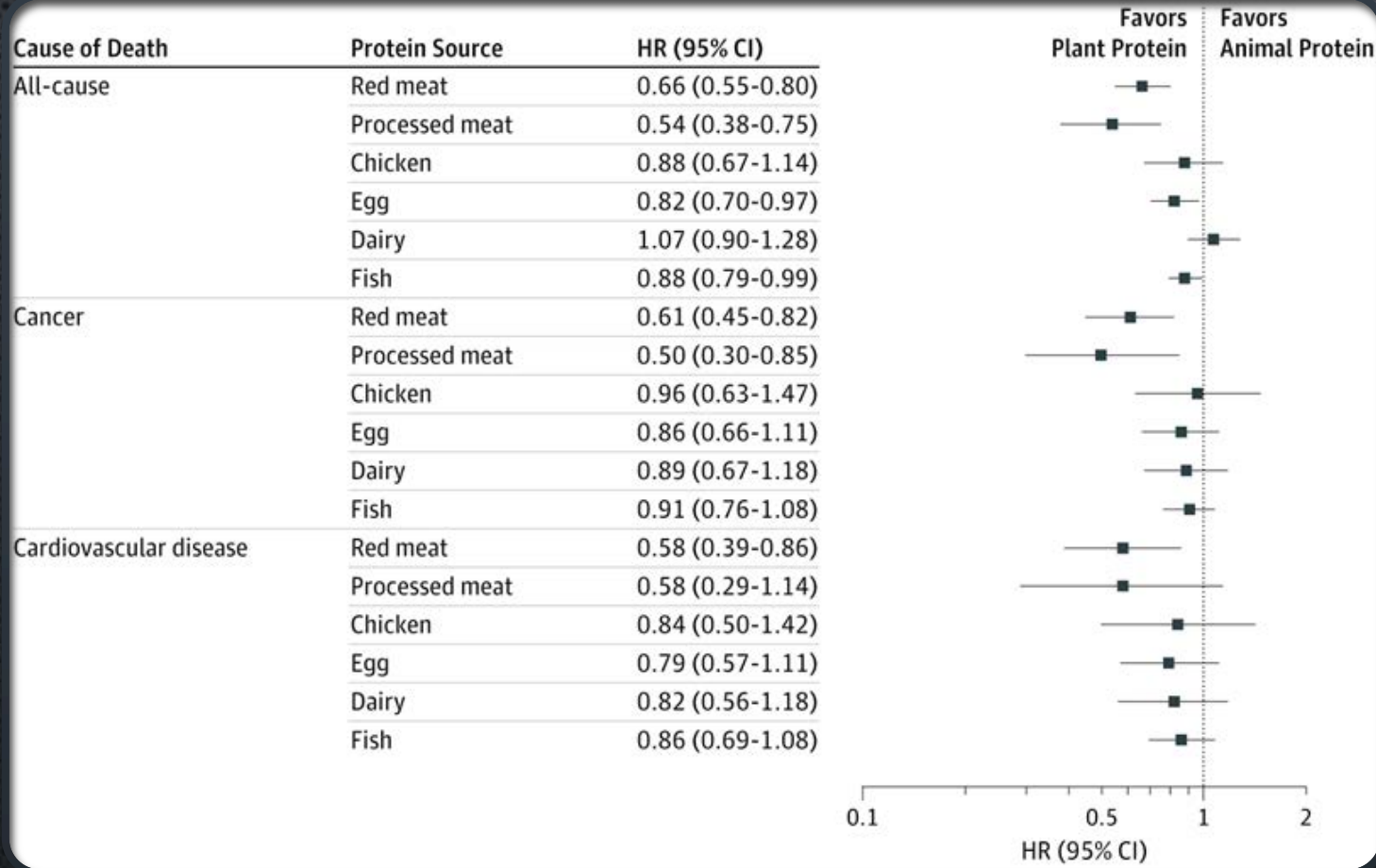
FREQUENCY OF HYPERTENSION BY DIETARY STATUS AND RACE



FREQUENCY OF HIGH CHOLESTEROL BY DIETARY STATUS AND RACE



SUBSTITUTION OF 3% ENERGY FROM PLANT PROTEIN FOR ANIMAL PROTEIN FROM VARIOUS SOURCES





CAN HEART DISEASE BE
STALLED OR REVERSED?

CENTRAL ILLUSTRATION: Coronary Atherosclerotic Plaque Regression

Imaging Plaque

Invasive

IVUS
Gold standard for plaque quantification, can assess morphology with post-processing

OCT
Higher resolution allows visualization of thin cap fibroatheroma and lipid content

NIRS
Semi-quantitative lipid measurement

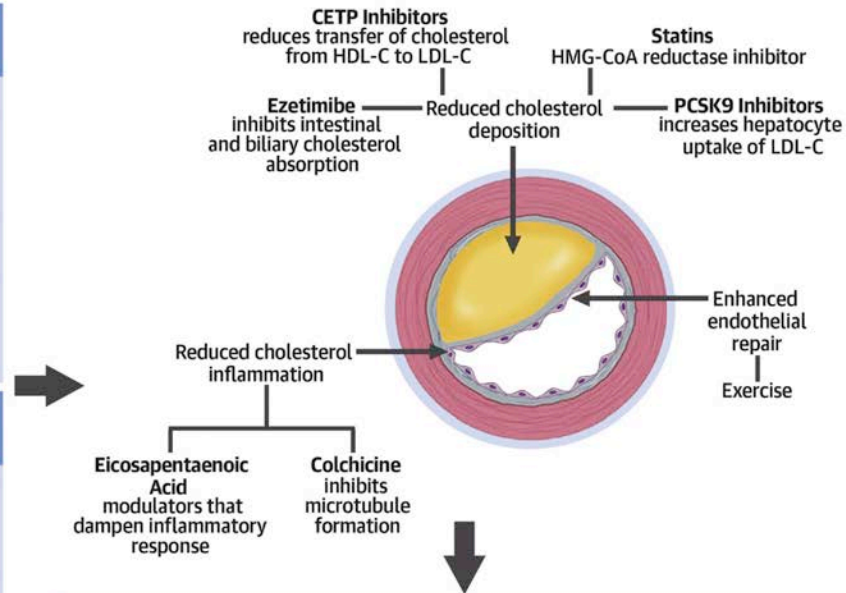
Non-Invasive

CCTA
Can measure volume and characterize plaque, assess high risk features, good correlation with IVUS

PET
In development, emerging molecular imaging probes

MRI
Some success in carotid imaging, ongoing studies to determine use for coronary assessment

Plaque Regression Strategies



Potential Future Applications

Further outcome and therapeutic trials



Direct imaging to monitor treatment response



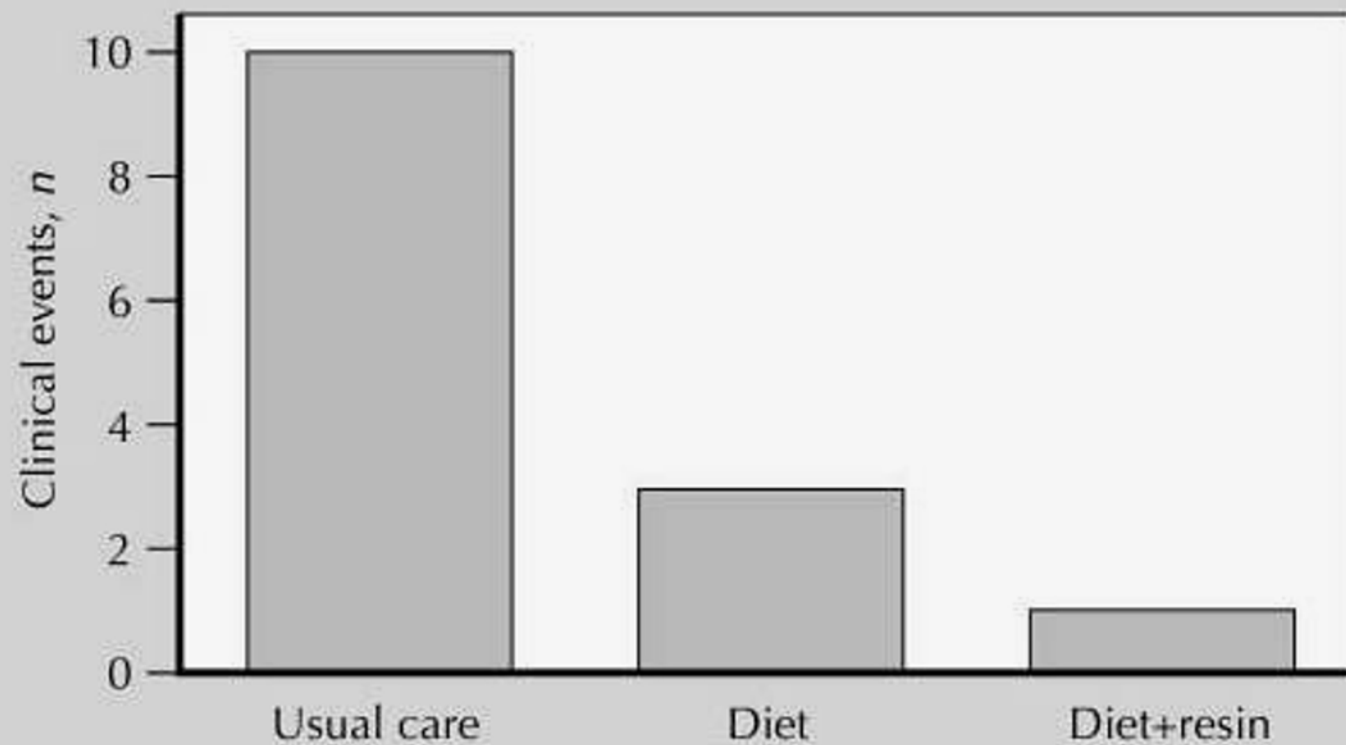
Population screening



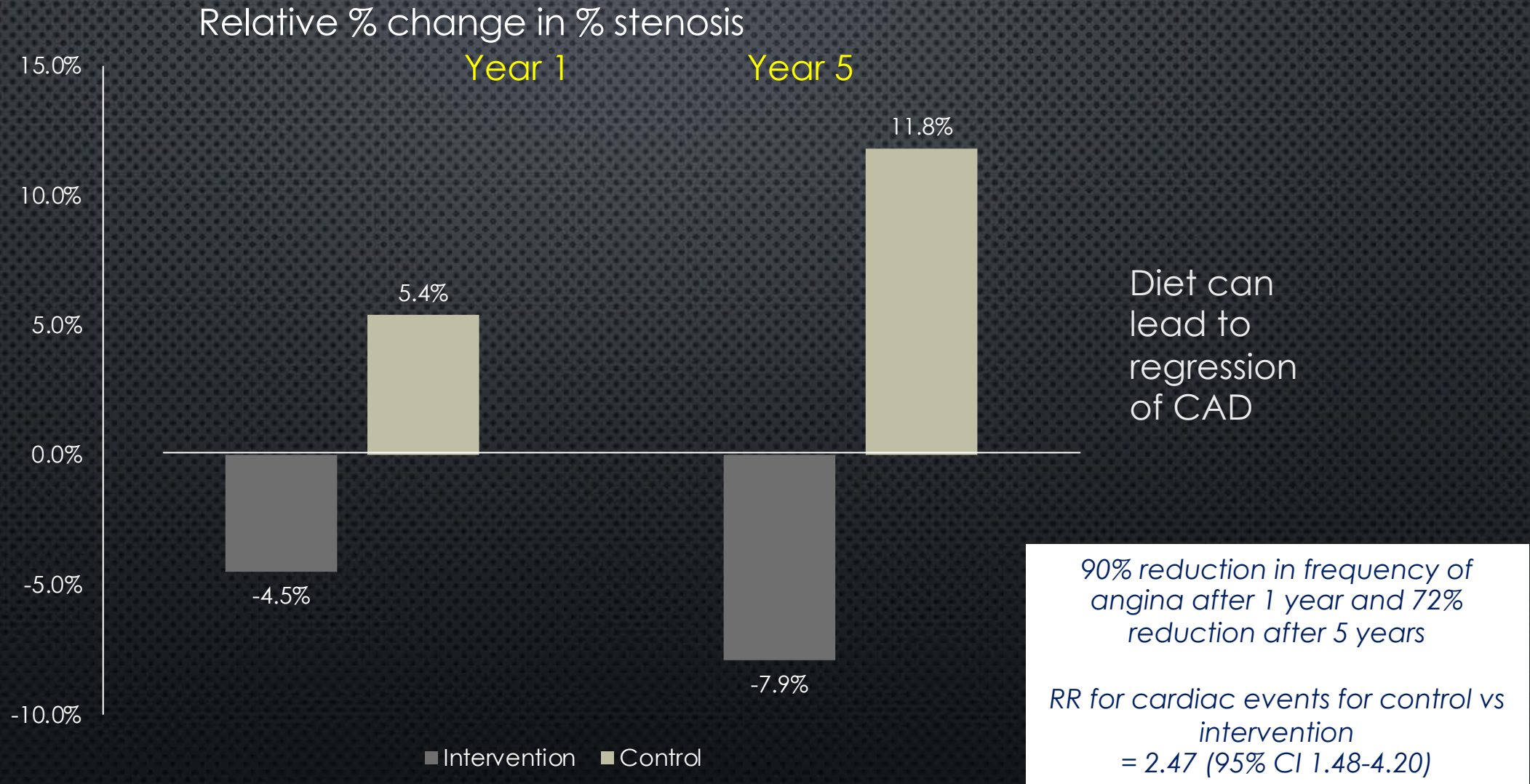
“IF OUTCOME DATA LINKING PLAQUE REGRESSION TO REDUCED CV EVENTS EMERGE, IT MAY BECOME POSSIBLE TO DIRECTLY IMAGE PLAQUE TREATMENT RESPONSE TO GUIDE MANAGEMENT DECISIONS.”

Effects on coronary artery disease of lipid-lowering diet, or diet plus cholestyramine, in the St Thomas' Atherosclerosis Regression Study (STARS)

G. F. WATTS B. LEWIS J. N. H. BRUNT E. S. LEWIS
D. J. COLTART L. D. R. SMITH J. I. MANN A. V. SWAN



LIFESTYLE HEART TRIAL



MOUNT ABU OPEN HEART TRIAL

- OBSERVATIONAL STUDY
- ONE HUNDRED AND TWENTY- THREE ANGIOGRAPHICALLY DOCUMENTED MODERATE TO SEVERE CORONARY ARTERY DISEASE (CAD) PATIENTS WERE ADMINISTERED LOW-FAT, HIGH-FIBER VEGETARIAN DIET, MODERATE AEROBIC EXERCISE AND STRESS-MANAGEMENT



MOUNT ABU OPEN HEART TRIAL RESULTS

- THREE HUNDRED AND SIXTY CORONARY LESIONS WERE ANALYZED BY TWO INDEPENDENT ANGIOGRAPHERS.
- IN CAD PATIENTS WITH MOST ADHERENCE, PERCENT DIAMETER STENOSIS REGRESSED BY 18.23 ± 12.04 ABSOLUTE PERCENTAGE POINTS.



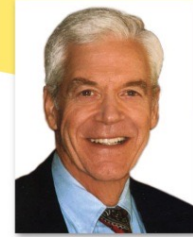
MOUNT ABU OPEN HEART TRIAL RESULTS

91% patients showed a trend towards regression and 51.4% lesions regressed by more than 10 absolute percentage points.

The cardiac events in coronary artery disease patients were: 11 in most adherence, and 38 in least adherence over a follow-up period of 6.48 yrs. (risk ratio; most vs least adherence: 4.32; 95% CI: 1.69-11.705; $P < 0.002$).

ESSELSTYN'S 23-YEAR STUDY OF 18 SERIOUSLY ILL HEART PATIENTS

- ALL PLANT-BASED DIET, LOW DOSE STATINS
- 49 CORONARY EVENTS DURING 8 YEARS PRIOR TO STUDY
- 0 CORONARY EVENTS DURING 12 YRS OF FOLLOW-UP IN 17/18 PATIENTS. ALL ADHERENT PATIENTS SURVIVED >20 YRS



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.

Foreword by T. Colin Campbell, Ph.D., author of *The China Study*

LANCET COMMISSION RECOMMENDATIONS

Food in the Anthropocene: the EAT–Lancet Commission on healthy diets from sustainable food systems

Walter Willett, Johan Rockström, Brent Loken, Marco Springmann, Tim Lang, Sonja Vermeulen, Tara Garnett, David Tilman, Fabrice DeClerck, Amanda Wood, Malin Jonell, Michael Clark, Line J Gordon, Jessica Fanzo, Corinna Hawkes, Rami Zurayk, Juan A Rivera, Wim De Vries, Lindiwe Majele Sibanda, Ashkan Afshin, Abhishek Chaudhary, Mario Herrero, Rina Agustina, Francesco Branca, Anna Lartey, Shenggen Fan, Beatrice Crona, Elizabeth Fox, Victoria Bignet, Max Troell, Therese Lindahl, Sudhvir Singh, Sarah E Cornell, K Srinath Reddy, Sunita Narain, Sania Nishtar, Christopher J L Murray

Healthy diets have an appropriate caloric intake and consist of a diversity of plant-based foods, low amounts of animal source foods, unsaturated rather than saturated fats, and small amounts of refined grains, highly processed foods, and added sugars.

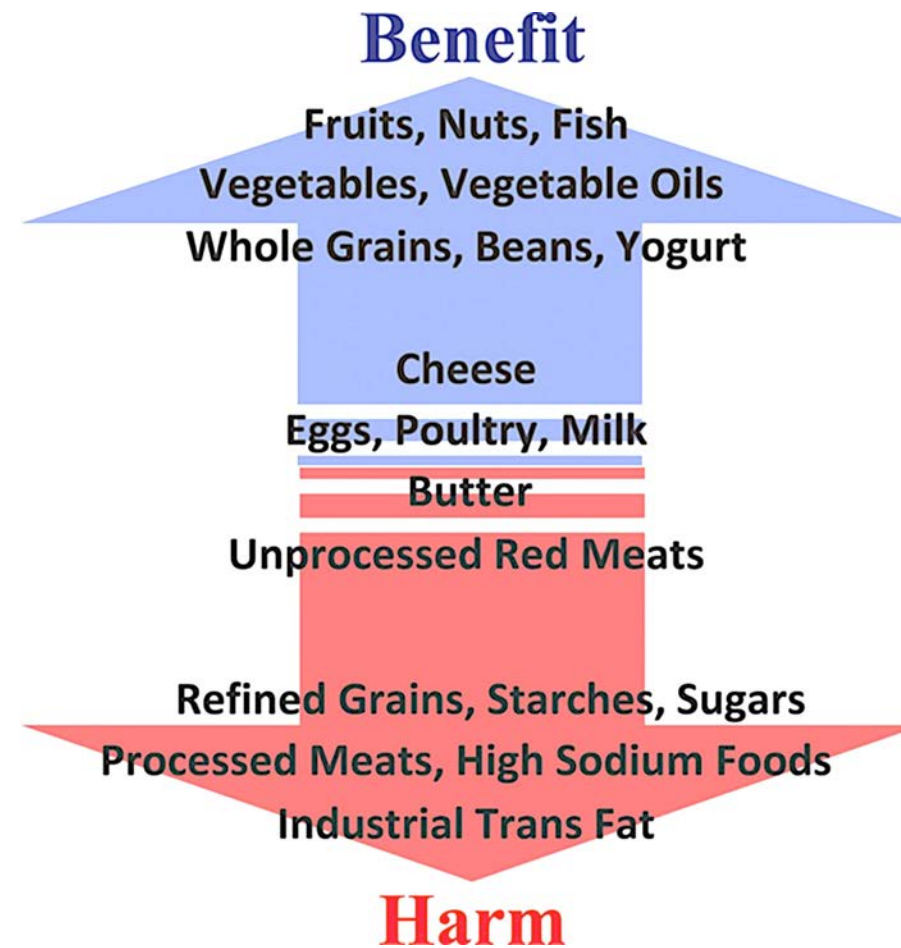
WHAT'S THE TAKE HOME MESSAGE?

NUTRITION COUNSELING BY U.S. PHYSICIANS LARGE GAPS, SLOW IMPROVEMENT

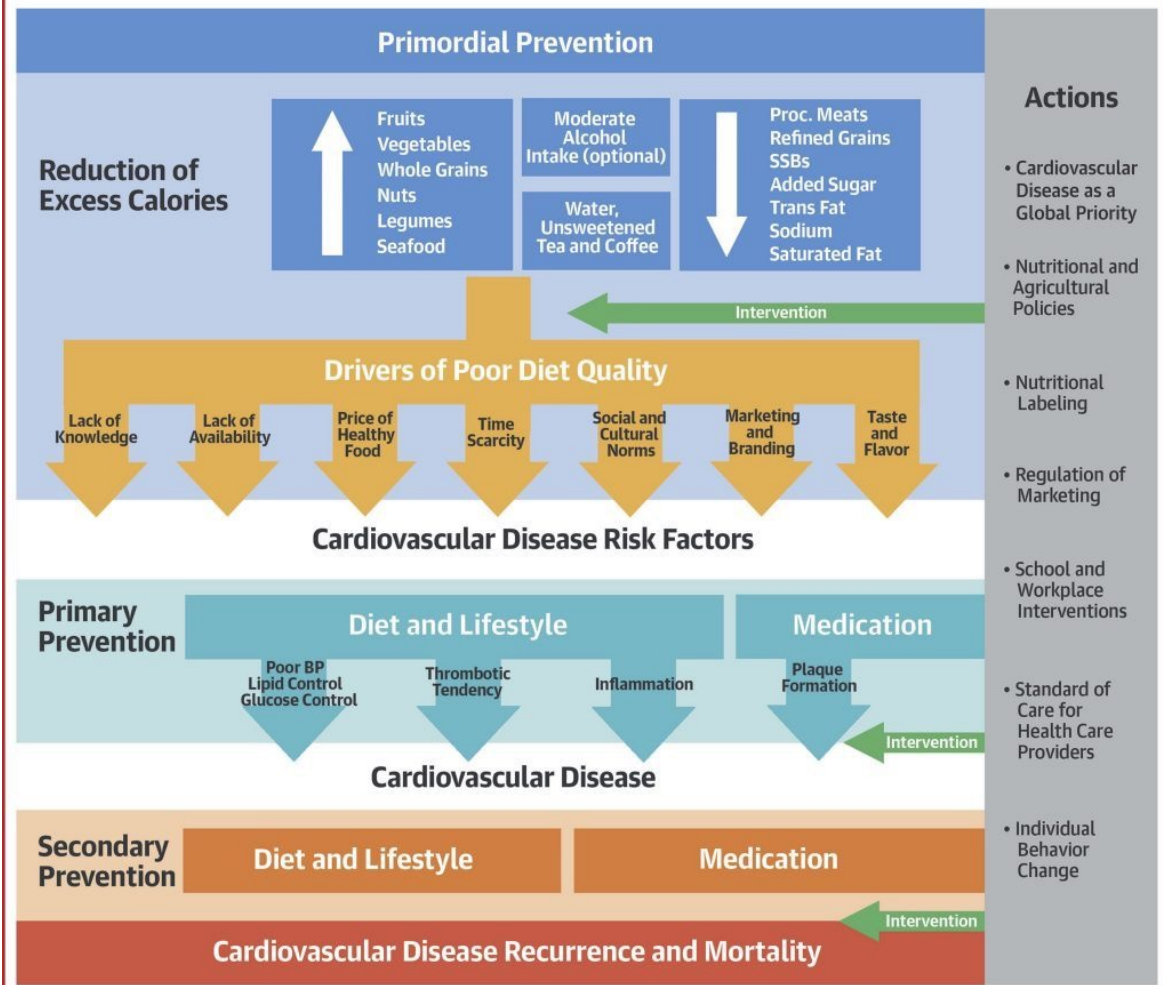
- NATIONAL HEALTH INTERVIEW SURVEY DATA OF >25,000 ADULTS WHO VISITED PHYSICIANS
- 2000 -23.7% REPORTED RECEIVING DIET COUNSELING AT VISITS 2011 – 32.6 %REPORTED RECEIVING DIET COUNSELING
- MORE COUNSELING IF OBESE OR MORE EDUCATED LESS COUNSELING IF UNINSURED OR LESS EDUCATED
- PHYSICIAN BARRIERS -LACK OF KNOWLEDGE-TRAINING AND ;ME

Ahmed, NU et al. Trends and disparities in prevalence of physician counseling on diet and nutrition among US adult population, 2000–2011. *Prev Med* 2016;89:70–75.

MODERN NUTRITION SCIENCE EVIDENCE

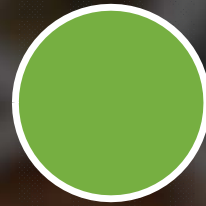


CENTRAL ILLUSTRATION: Flow Diagram of the Development of CVD and Possible Prevention by a Healthy Diet



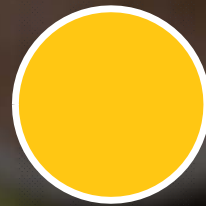
Yu, E. et al. J Am Coll Cardiol. 2018;72(8):914-26.

Food & Nutrients



**GREEN
LIGHT**

EAT OFTEN



Yellow light

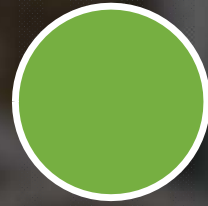
CAUTION



Red light

STAY AWAY

Food & Nutrients

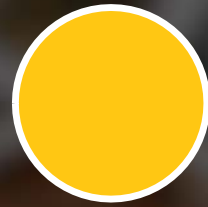


GREEN LIGHT

EAT OFTEN

- Whole grains
- Fruits and Vegetables
- Legumes
- Nuts
- Seeds
- Fish

Food & Nutrients



YELLOW LIGHT LIMIT

- Poultry
- Dairy
- Oils
- Eggs
- Alcohol

Food & Nutrients



RED LIGHT

- MINIMIZE
 - SALT
 - RED AND PROCESSED MEATS
 - SUGAR SWEETENED FOODS AND BEVERAGES
 - ARTIFICIAL SWEETENERS
 - REFINED GRAINS

QUESTIONS



@healthyheartdoc