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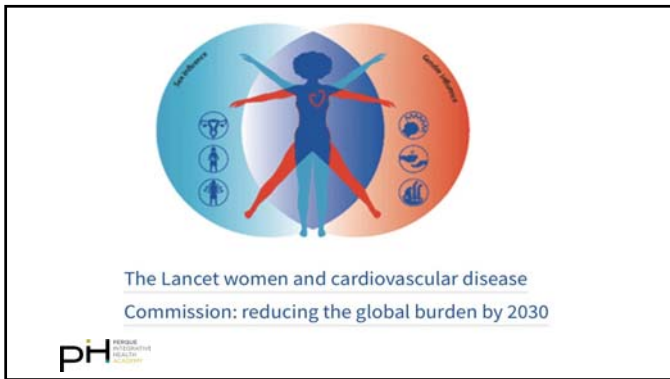
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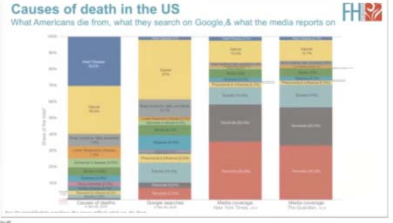
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# SECRET 1: HEART DISEASE IS STILL #1



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## In 2020, COVID-19 was the third leading cause of death in the U.S.\*

PROVISIONAL 2020 DEATHS



\* Provisional National Vital Statistics System (NVSS) death certificate data on underlying causes of death among U.S. residents in the United States during January-December 2020



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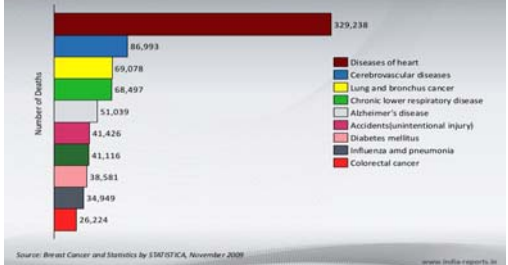
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## Top 10 Most Common Causes of Death in US Women



Source: Breast Cancer and Statistics by SEER\*DTIC, November 2008



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### Age-Specific Death Rates from Coronary Artery Disease in Males and Females

Age	Males	Females
5-14	0.9	0.8
15-24	2.6	1.6
25-34	9.4	4.2
35-44	60.6	16.2
45-54	265.6	71.2
44-64	708.7	243.7
65-74	1670.0	769.4
75-84	3751.5	2359.0
85+	8596.0	7215.1

**PH** PERQUE INTEGRATIVE HEALTH ACADEMY

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## ACTION STEP 1: FOCUS ON HEART DISEASE

**PH** PERQUE INTEGRATIVE HEALTH ACADEMY

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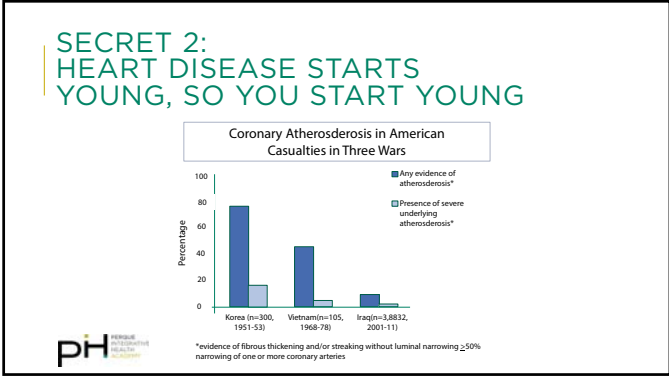
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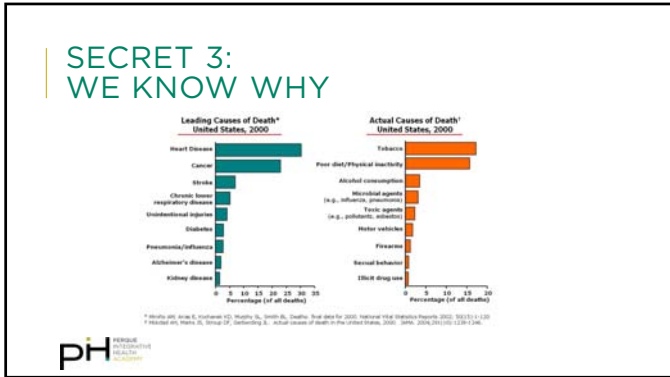
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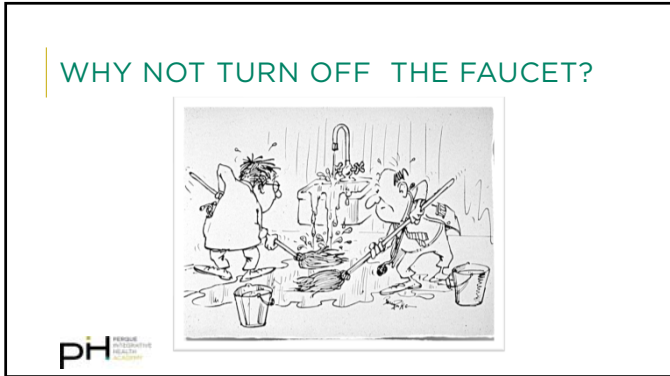
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**PREVENTABLE DISEASES**

- 85% HEART DISEASE
- 90% ADULT DIABETES
- 60% CANCER



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**PREVENT 85% OF HEART ATTACKS**

- Don't smoke
- Walk 30-40 minutes daily
- Eat >5 servings of fruit/veg a day
- Sleep 7 hours a night
- Enjoy a few alcoholic beverages a week



MORGEN STUDY 2013 Netherlands 17,887 men and women  
Karolinska study 2014 Sweden 20,721 men



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**SECRET 4: TEST NOT GUESS**



*person*  
**A man is as old as his arteries.**  
Thomas Sydenham



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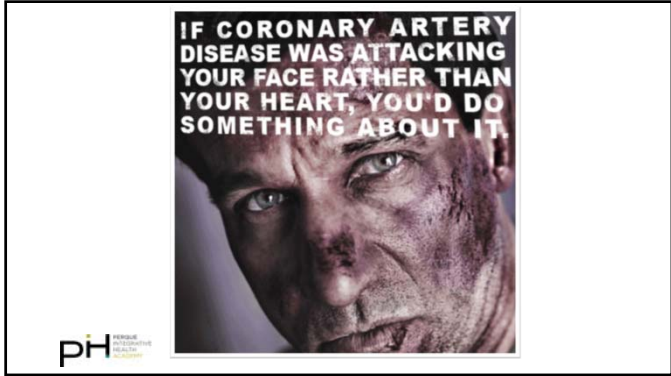
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EARLY DETECTION OF AMERICA'S #1 KILLER

**SHAPE** Support HEART ATTACK ERADICATION Campaign  
Shedding Excess Weight to Reduce Heart Disease and Diabetes

<p>Sir Winston Churchill, 91 ♀</p>  <ul style="list-style-type: none"> <li>• Overweight</li> <li>• Not Fit</li> <li>• Heavy Smoker</li> </ul>	<p>Jim Fixx, 53 ♂</p>  <ul style="list-style-type: none"> <li>• Not Overweight</li> <li>• Very Fit</li> <li>• Non-Smoker</li> </ul>
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PH PERQUE INTEGRATIVE HEALTH ACADEMY

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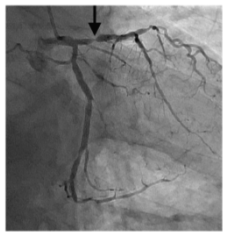
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DO YOU HAVE THIS PROBLEM?  
THE WIDOWMAKER



PH PERQUE INTEGRATIVE HEALTH ACADEMY

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**CLUES**

**Signs That May Signal Heart Attack Risk**

- Hair Loss (Crown)
- Hair Loss (Temples)
- Yellow Fatty Deposits on Eyelid
- Earlobe Crease

Source - American Heart Association Scientific Sessions Abstract 19333

**PH PERQUE INTEGRATIVE HEALTH ACADEMY**

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**DIAGONAL EARLOBE CREASE: DELC**

**PH PERQUE INTEGRATIVE HEALTH ACADEMY**

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### ED: CANARY IN THE COAL MINE

**Erectile Dysfunction Is a Warning Sign of Atherosclerosis/Clogged Arteries**

Clinical Presentation	± High BP -Erectile Dysfunction	+High BP -Angina -Heart Disease -Heart Attack	+High BP -Mild Strokes -Dementia -Stroke	+High BP -Peripheral Vascular Disease
Comparative Not Actual Artery Size				
Clogged Arteries with the same wall thickness				

**PH** PERQUE INTEGRATIVE HEALTH ACADEMY

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### TOOLS OF THE HEART ATTACK PREVENTION SPECIALIST

**50%** Traditional testing only identifies half of the people who will have a heart attack or stroke.

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### COMMON SENSE

**“The best test for prediction of the risk of atherosclerosis is the demonstration of atherosclerosis”**

Dr. Ernest Schaeffer, Editor-in-Chief of Atherosclerosis

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### Detect Your Plaques Earlier

Comparing Detection by Positive Cardiac CT and Positive Nuclear Stress Test



Stages >>	Early	Moderate	Advanced	Late
Obstruction	none	20%	50%	70%
Symptoms	none	none	none	yes
Stress test	normal	normal	normal	abnormal
Cardiac CT	none	abnormal	abnormal	abnormal

**PH** PERQUE INTEGRATIVE HEALTH ACADEMY

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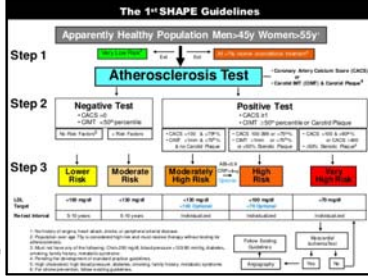
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## SHAPESOCIETY.ORG

### The 1<sup>st</sup> SHAPE Guidelines

Apparently Healthy Population Men-45y Women-55y



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## CORONARY ARTERY CALCIUM SCORE (CACS)



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## THE POWER OF A CACS OF ZERO

**CALCIUM SCORE AND CARDIAC FINDINGS:**

1. Left main coronary artery: 0
2. Left anterior descending coronary artery: 0
3. Left circumflex coronary artery: 0
4. Right coronary artery: 0
5. Total coronary calcium score: 0



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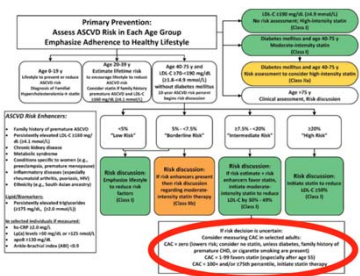
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## CACS: MAINSTREAM TEST AHA



**ASCVD Risk Enhancers:**

- Family history of premature ASCVD
- Previously diagnosed LDL-C ≥190 mg/dL at (a) 1 meeting
- Diagnosed diabetes
- Chronic kidney disease
- Conditions similar to women (e.g., gestational diabetes, hypertension, obesity)
- Chronic inflammatory conditions (e.g., rheumatoid arthritis, psoriasis, IBD)
- Chronic H. pylori, liver disease, celiac disease
- Subclinical atherosclerotic disease (e.g., carotid intima-media thickness [IMT] ≥0.5 mm, CAC ≥100)
- Metabolic syndrome (pre-diabetes, waist circumference ≥102 cm in men, ≥88 cm in women, systolic blood pressure ≥130 mmHg, triglycerides ≥150 mg/dL, fasting glucose ≥100 mg/dL)
- Other conditions (e.g., HIV, sickle cell disease, sickle cell trait, sickle cell disease)


**ASCVD Risk Discussion:**

- 0% -<10%:** "Zero Risk"
- 10% -<20%:** "Intermediate Risk"
- ≥20%:** "High Risk"

**Risk discussions:**

- 0% -<10%:** If risk enhancers present, discuss lifestyle changes and statin therapy based on patient preference.
- 10% -<20%:** If risk enhancers + risk enhancers, discuss statin therapy based on patient preference.
- ≥20%:** Discuss statin therapy based on patient preference.

**If risk discussion in prevention, consider measuring CAC in selected adults.**  
 CAC + stat (low-risk, statable for CVD), statable, diabetes, family history of premature CHD, approved statin by primary care.  
 CAC + stat (intermediate-high risk after age 40).  
 CAC + stat (high risk of CVD, statable, statable after therapy)



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## Carotid Intima Media Thickness (CIMT)

- Direct *in vivo* measurement of thickness of carotid artery wall by B-mode ultrasound
- Vessel wall thickness correlates with status of atherosclerosis and CV events
- Atherosclerosis is a systemic disorder
  - Atherosclerosis in the carotid artery is predictive of disease in other vascular beds

de Groot E, et al. Circulation (2004) 109(Suppl III):S33-S39

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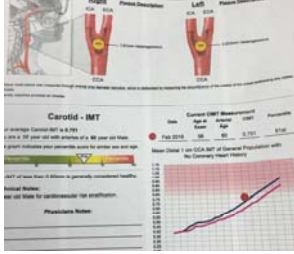
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# CIMT: CAROTID INTIMAL MEDIAL THICKNESS ULTRASOUND



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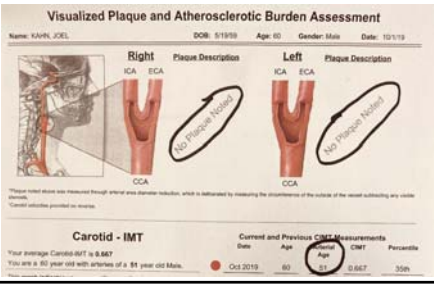
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# CIMT: A NORMAL



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# ACTION STEP



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### SECRET 5: ROUTINE LABS ARE NOT ADEQUATE

Of 136,905 patients hospitalized with CAD,  
77% had LDL levels below 130 mg/dl

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### 17 DAGGERS OF ARTERIAL DISEASE

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Dr. Fritzonari has identified 17 independent risk factors for cardiovascular disease. Any one of these 17 "daggers" can initiate...

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### SECRET 6: INFLAMMATION MATTERS A LOT

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**ANTI-INFLAMMATORY THERAPY**

**CANTOS**

Canakinumab Anti-inflammatory Thrombosis Outcomes Study

Paul M Ridker, MD, MPH  
Eugene Braunwald Professor of Medicine Brigham and Women's Hospital,  
Harvard Medical School, Boston MA, USA

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The New England  
Journal of Medicine

VOLUME 358      APRIL 3, 1997      NUMBER 14

**INFLAMMATION, ASPIRIN, AND THE RISK OF CARDIOVASCULAR DISEASE IN APPARENTLY HEALTHY MEN**

Paul M. Ridker, M.D., Mary Cushman, M.D., Man J. Stampfer, M.D., Russell P. Tracy, Ph.D., and Conrado H. Hennekens, M.D.

**PH** PERQUE INTEGRATIVE HEALTH ACADEMY

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**PH** PERQUE INTEGRATIVE HEALTH ACADEMY

Ridker PM. Circ Res 2016;118:145-156.      Ridker ESC 2017

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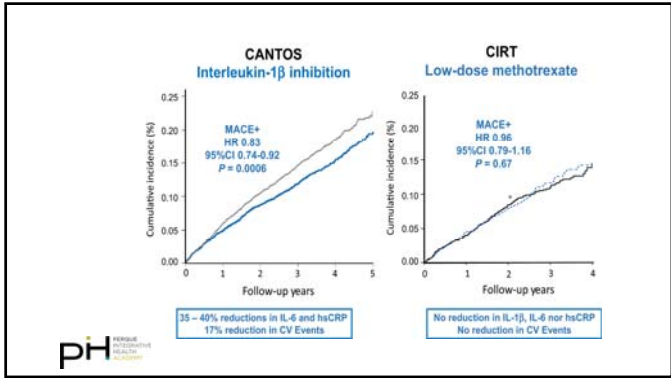
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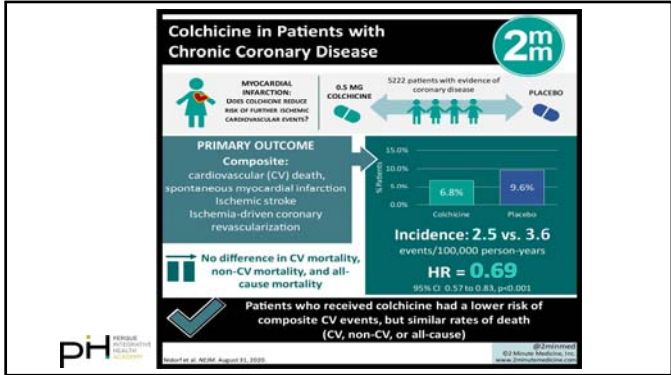
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**ACTION STEP**

RESTLESS LEGS SYNDROME

**GETTING TESTED FOR INFLAMMATION**

"Life is not merely to be alive, but to be well." - Marcus Valerius Martialis

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**SECRET 7:  
LIPOPROTEIN(A) MATTERS A LOT**

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**Pro-inflammatory**

- ↑ Macrophage IL-8 expression
- ↑ Monocyte cytokine release
- ↑ Oxidized Phospholipids
- ↑ Monocyte chemotaxis/transmigration
- Carries MCP-1

**Prothrombotic**

- ↓ Plasminogen activation
- ↓ Fibrin degradation
- ↑ EC PAI-1 expression
- ↑ TFPI activity
- ↑ Platelet responsiveness

**Proatherogenic**

- ↑ EC binding
- ↑ Upregulation of adhesion molecules
- ↑ SMC proliferation
- ↑ Proteoglycan matrix binding
- ↑ Foam/cell formation
- ↑ Necrotic core formation
- ↑ Lesion calcification

**PH** PERQUE INTEGRATIVE HEALTH ACADEMY

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**Prevalence elevated Lp(a)**

**Prevalence of Lp(a) > 50 mg/dL (> 125 nmol/L)**

**1:5 people ~1.4 billion worldwide**

Region	Prevalence	Number of People
North America	20%	200,000,000
Europe	15%	150,000,000
Asia	20%	200,000,000
Africa	30%	300,000,000
Australia	20%	200,000,000
South America	10%	100,000,000
Other	20%	200,000,000

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**+ Lipoprotein(a) + Heart disease**

1 in 14 heart attacks and 1 in 7 cases of aortic valve disease are due to Lipoprotein(a) cholesterol.

1 out of 5 individuals have high Lipoprotein(a) and are at increased risk of cardiovascular disease. It is highly heritable.

Screening and therapies could prevent up to 1 in 3 heart attacks and 1 in 2 cases of aortic valve disease in patients with high Lipoprotein(a).

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**ACTION STEP**

**PH** PERQUE INTEGRATIVE HEALTH ACADEMY

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**SECRET 8:  
HEART DISEASE IS REVERSIBLE**

**Reverse Heart Disease  
Atherosclerosis  
&  
Calcification**

**PH** PERQUE INTEGRATIVE HEALTH ACADEMY

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### ANCEL KEYS, PH.D. AND DIET-HEART DATA



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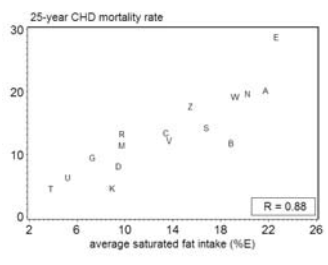
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### SEVEN COUNTRIES STUDY: SATURATED FAT VS. HEART DEATHS



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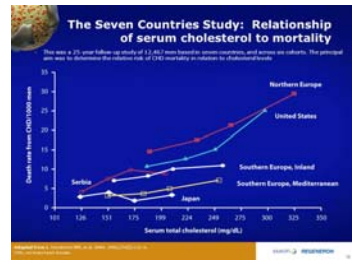
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### SEVEN COUNTRIES STUDY: CHOLESTEROL VS. HEART DEATHS



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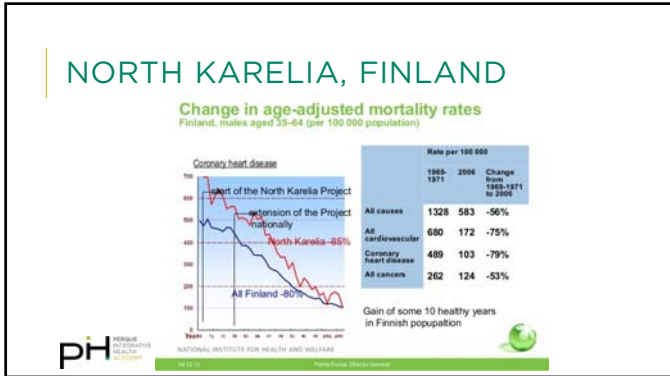
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### LESTER MORRISON, MD 1950'S IN LA

Foods To Be Avoided

SOUPS: Cream Soups.

MEATS: All glandular organs, as liver, brains, kidney, sweet-breads; pork and very fat meats, fat fish, fish roe.

MILK AND MILK PRODUCTS: Whole milk, cream, cheddar, Swiss and all rich cheese and cheese spreads; excessive butter and butter substitutes.

EGGS: Egg yolks.

BREADS: Hot breads, pancakes, waffles, coffee cakes, muffins, doughnuts.

DESSERTS: Any made with cream and egg yolks; pies, frozen creams, rich cakes and cookies.

CONCENTRATED FATS: The excessive use of fats in any form, as salad dressings, olive or vegetable oils, suet, chicken or pork fat.

MISCELLANEOUS: Rich gravies, olives, nuts and avocados.

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### REDUCTION OF MORTALITY RATE IN CORONARY DISEASE BY A LOW CHOLESTEROL-LOW FAT DIET (1951) AM. HEART J. 42: 538-545.

- 100 cases within 6 months post-infarction to either a low-cholesterol, low-fat diet or alternately to a control not intervened upon.
- After three years the test group reduced 166 lbs. in men and 141 lbs. in women to 145 lbs. and 124 lbs. and cholesterol fell from 312 mg % to 220 in the diet group.

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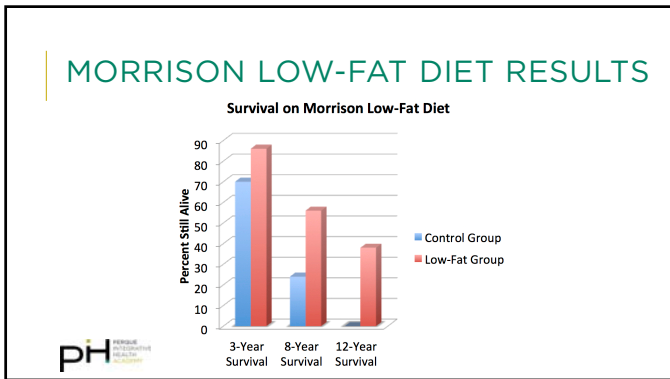
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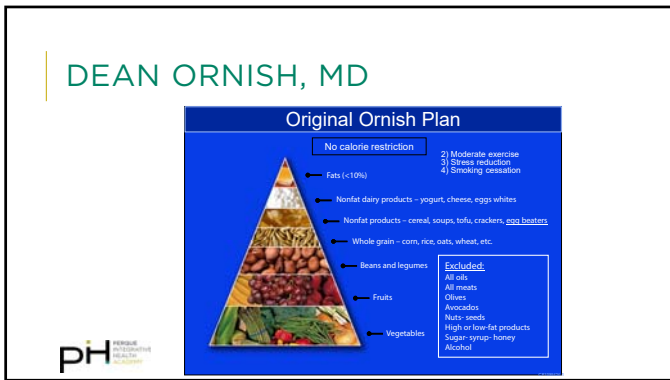
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### Intensive Lifestyle Changes for Reversal of Coronary Heart Disease

Dean Ornish, MD; Larry W. Scherwitz, PhD; James H. Billings, PhD; MPH; K. Lance Gould, MD; Terri A. Mannix, MD; Stephen Spertus, MA; William T. Aronson, MD; Thomas A. Ports, MD; Richard L. Kirkwood, PhD; Charissa Hoogeboom, PhD; Richard J. Brand, PhD

**Context**—The Lifestyle Heart Trial demonstrated that intensive lifestyle changes may lead to regression of coronary atherosclerosis after 1 year.

**Objectives**—To determine the feasibility of patients to sustain intensive lifestyle changes for a total of 5 years and the effects of these lifestyle changes (without lipid-lowering drugs) on coronary heart disease.

**Design**—Randomized controlled trial conducted from 1986 to 1992 using a randomized invitation design.

**Patients**—Forty-eight patients with moderate to severe coronary heart disease were randomized to an intensive lifestyle change group or to a usual-care control group, and 35 completed the 5-year follow-up quantitative coronary arteriography.

**Setting**—Two tertiary care university medical centers.

**Intervention**—Intensive lifestyle changes (10% fat whole foods vegetarian diet, aerobic exercise, stress management training, smoking cessation, group psychosocial support) for 5 years.

**Main Outcome Measures**—Adherence to intensive lifestyle changes, changes in coronary artery percent diameter stenosis, and cardiac events.

**THE LIFESTYLE Heart Trial** was the first randomized clinical trial to investigate whether ambulatory patients could be motivated to make and sustain comprehensive lifestyle changes and, if so, whether the progression of coronary atherosclerosis could be stopped or reversed without using lipid-lowering drugs as measured by computer-assisted quantitative coronary arteriography. This study derived from earlier studies that used subjective measures.<sup>1,2</sup>

After 1 year, we found that experimental group participants were able to make and maintain intensive lifestyle changes and had a 72% reduction in low-density lipoprotein (LDL) chole-

Ornish, D et al. (1998) JAMA, 280, 2002-2007

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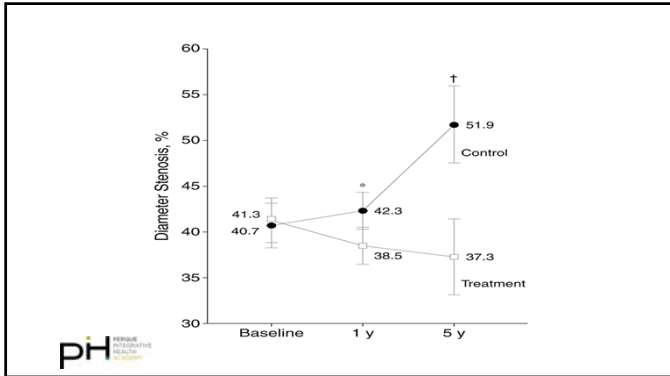
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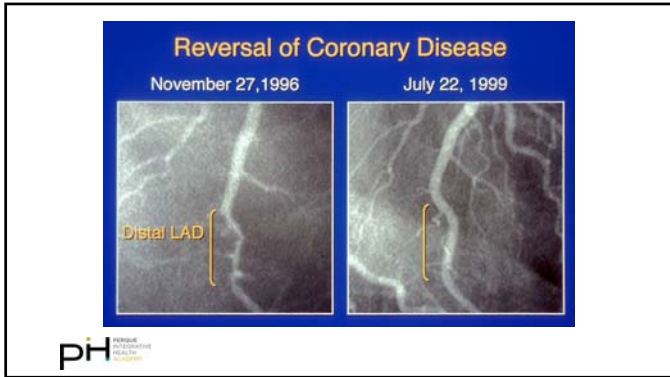
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## SECRET 9: THE ISCHEMIA STUDY

ISCHEMIA-CKD Enrollments: 803 Randomizations: 777	<b>ISCHEMIA</b> Enrollments: <b>8,518</b> Randomizations: <b>5,179</b>	CIAO ISCHEMIA Enrollments: 212
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**PH** PERQUE INTEGRATIVE HEALTH ACADEMY

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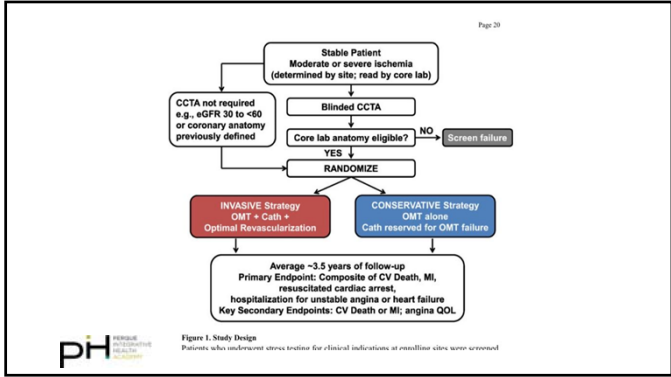
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Goals of Medical Therapy

RISK FACTOR	GOALS
<b>Behavioral</b>	
Smoking	Smoking cessation <sup>1</sup>
Physical activity	≥30 minutes of moderate intensity 5 times/week
Nutritional fat	<7% calories
<b>Physiological</b>	
Blood pressure	Systolic blood pressure <130 mmHg <sup>1,2</sup>
LDL cholesterol	LDL-C <70 mg/dL (1.8 mmol/L) <sup>1</sup>
Body Mass Index (kg/m <sup>2</sup> )	Initial BMI 25-27.5 (27.5-30) <sup>3</sup> Weight Loss Goal BMI <25 (10% relative weight loss)
Diabetes	<6% <sup>4</sup> A more stringent HbA1c goal (such as <7%) may be appropriate for selected individuals <sup>4</sup>
<b>Pharmacological agents</b>	
Aspirin	All participants; 75-162 mg daily <sup>1</sup>
Statins	All participants; maximum tolerated dose of high intensity statin (rosuvastatin 40-80 mg or atorvastatin 20-80 mg) <sup>1</sup>
ACEi/ARB	Use for hypertension, diabetes, eGFR <60 or LVEF <40% <sup>1</sup>
Beta blocker	Use for history of MI or LVEF <40% <sup>1</sup>
P2Y12 receptor antagonist	Use for participants unable to reach LDL-C goal on maximally tolerated statin dose in countries without access to evolocumab provided to trial participants
Evolocumab	Use for participants unable to reach LDL-C goal on maximally tolerated statin dose in countries with access to evolocumab provided to trial participants

**PH** PERQUE INTEGRATIVE HEALTH ACADEMY

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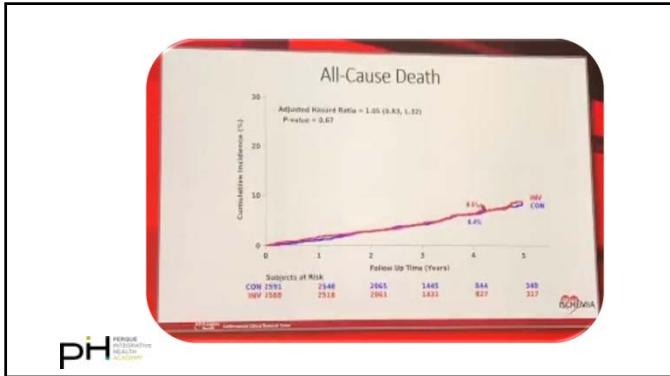
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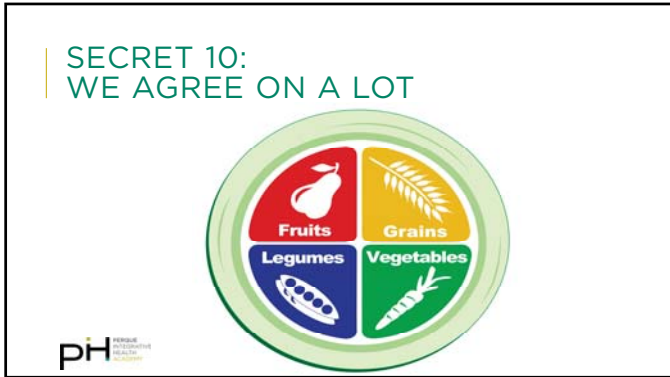
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**THE LANCET**

Published: May 17, 2021

**Executive Summary**

Despite being responsible for causing 35% of deaths in women each year, cardiovascular disease (CVD) women remains under-studied, under-recognised, under-diagnosed, and under-treated, with women under-represented in clinical trials. To tackle these inequities, 17 experts from 11 countries have authored the first-ever global report on CVD in women. The all-female-led Commission outlines 10 ambitious new recommendations to tackle inequities in targeting diagnosis, treatment, and prevention to reduce CVD in women, including educating health care providers and patients on early detection to prevent heart disease in women; scaling up heart health programs in highly populated and underdeveloped regions; and prioritising sex-specific research on heart disease in women and intervention strategies for women.



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**THE LANCET**

burden for women.

**Cardiovascular disease in women**


**35%**  
of all deaths in women worldwide are caused by cardiovascular disease.

**275 million**  
women were diagnosed with cardiovascular disease in 2019.

**8.9 million**  
women died from cardiovascular disease in 2019.

Cardiovascular disease among women is **understudied, under-recognised, underdiagnosed, undertreated, and women are under-represented in clinical trials.**

Read more: The Lancet women and cardiovascular disease Commission: reducing the global burden by 2030.



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**THE LANCET**

**Risk factors for cardiovascular disease in women**

Well-established, sex-specific, and under-recognised risk factors

**Sex-specific risk factors**

- Premature menopause
- Gestational diabetes
- Hypertensive disorders of pregnancy
- Preeclampsia
- Polycystic ovary syndrome
- Systemic inflammatory and autoimmune disorders




**Under-recognised risk factors**

- Psychosocial risk factors
- Abuse and intimate partner violence
- Socioeconomic deprivation
- Poor health literacy
- Environmental risk factors

**Well-established risk factors**

- Hypertension
- Dyslipidaemia
- Diabetes
- Obesity
- Unhealthy diet
- Sedentary lifestyle
- Smoking or tobacco use

Acknowledging the effects of these risk factors is crucial to understanding cardiovascular disease in women. Read more: The Lancet women and cardiovascular disease Commission: reducing the global burden by 2030.



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**THE LANCET**

**Strategies to increase the proportion of women in cardiovascular trials**

**Be inclusive**  
Avoid upper and lower age limits in inclusion criteria for enrolment in trials


**Meet women where they are**  
Target outreach in community settings frequented by women  
Involve primary care physicians and family members  
Provide education and information about the risk but also the benefits of participation

**Exchange knowledge**  
Educate recruiting personnel on importance of enrolling women  
Share experience of enrolling women after each study  
Conduct routine surveys on motivations for participation and non-participation in trials

**Remove barriers**  
Arrange childcare and free transportation  
Offer flexible hours and at-home follow-up

Read more: The Lancet women and cardiovascular disease Commission: reducing the global burden by 2030

**THE LANCET** The best science for better lives




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**The best kept secret in medicine is that under the right conditions, the body can heal itself...**  
-Dr. Michael Greger




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**THE GREATEST SECRET IN MEDICINE IS THAT UNDER THE RIGHT CONDITIONS WE NEED NEVER DEVELOP DISEASE AT ALL**





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