

# 2023 OSMS Preview

Scott Moore, DO, DipIBLM



**eat plants**

**keep moving**

**sleep well**

**be present**

**stay calm**

**love people**

# LIFESTYLE MEDICINE

# Objectives

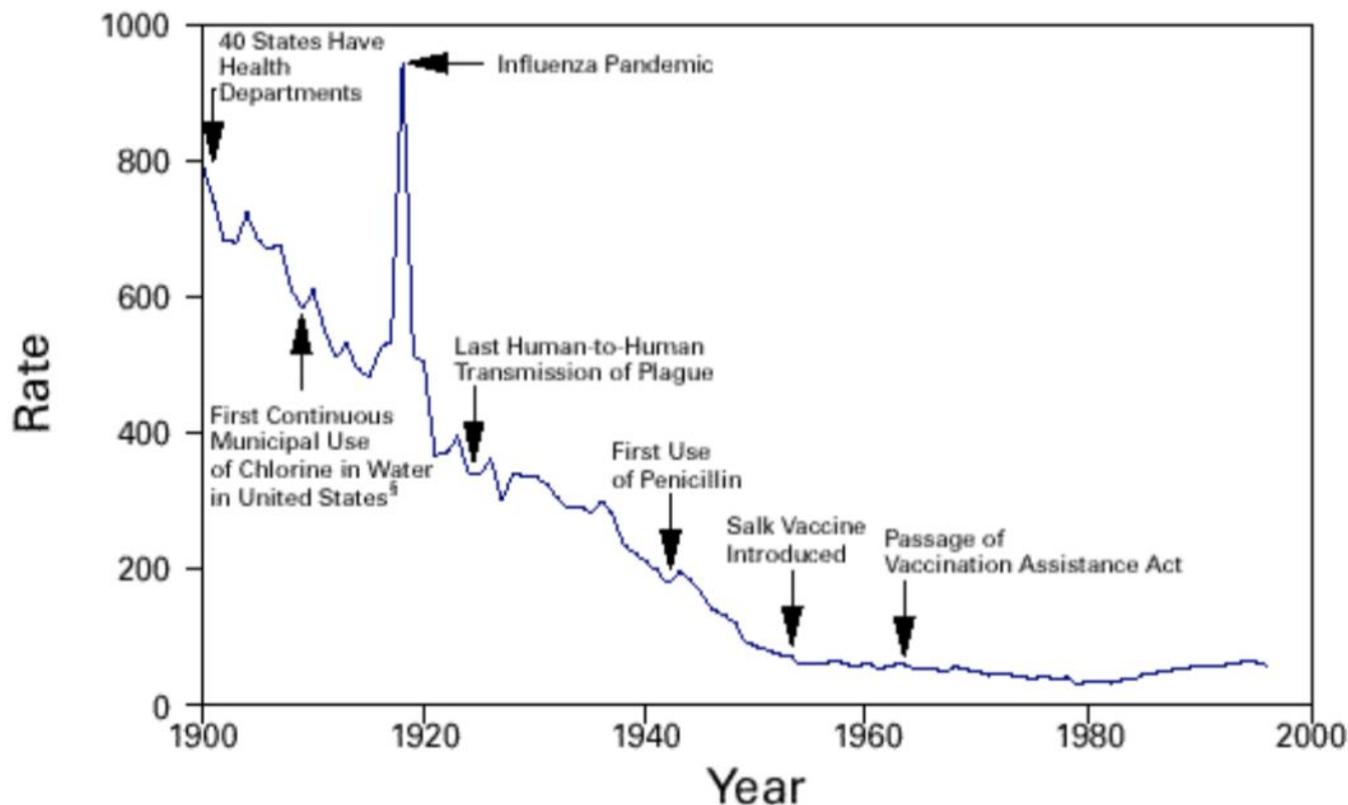
1. Recognize big picture attributes of Chronic vs Acute disease
2. Define Lifestyle Medicine and understand the evidence
3. Describe disease reversal with lifestyle modifications
4. List future speakers
5. Ask questions

# Current State of Medicine

The majority of what many physicians do is chronic disease care

We're winning the fight against infectious agents causing acute disease!

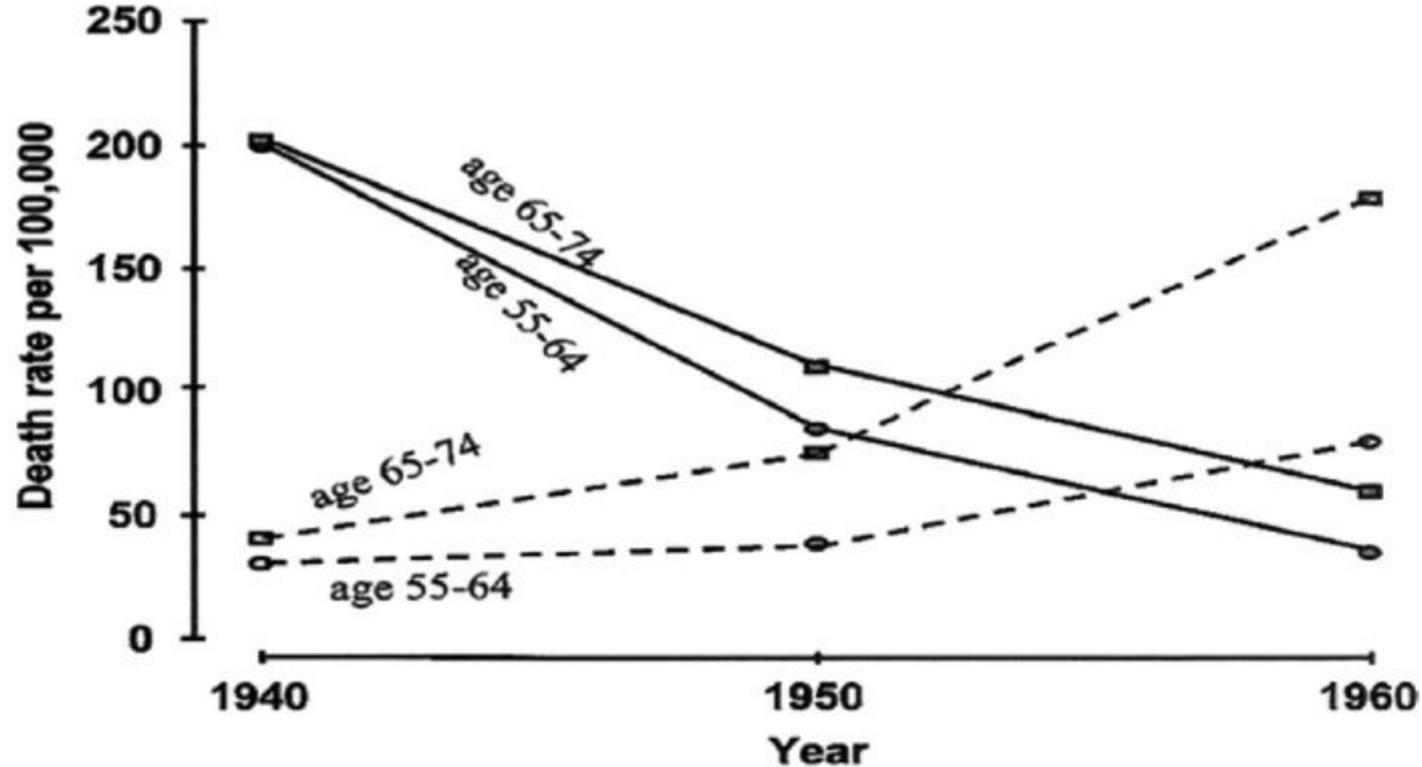
**FIGURE 1. Crude death rate\* for infectious diseases — United States, 1900–1996<sup>†</sup>**



\*Per 100,000 population per year.

<sup>†</sup>Adapted from Armstrong GL, Conn LA, Pinner RW. Trends in infectious disease mortality in the United States during the 20th century. *JAMA* 1999;281:61–6.

<sup>5</sup>American Water Works Association. Water chlorination principles and practices: AWWA manual M20. Denver, Colorado: American Water Works Association, 1973.



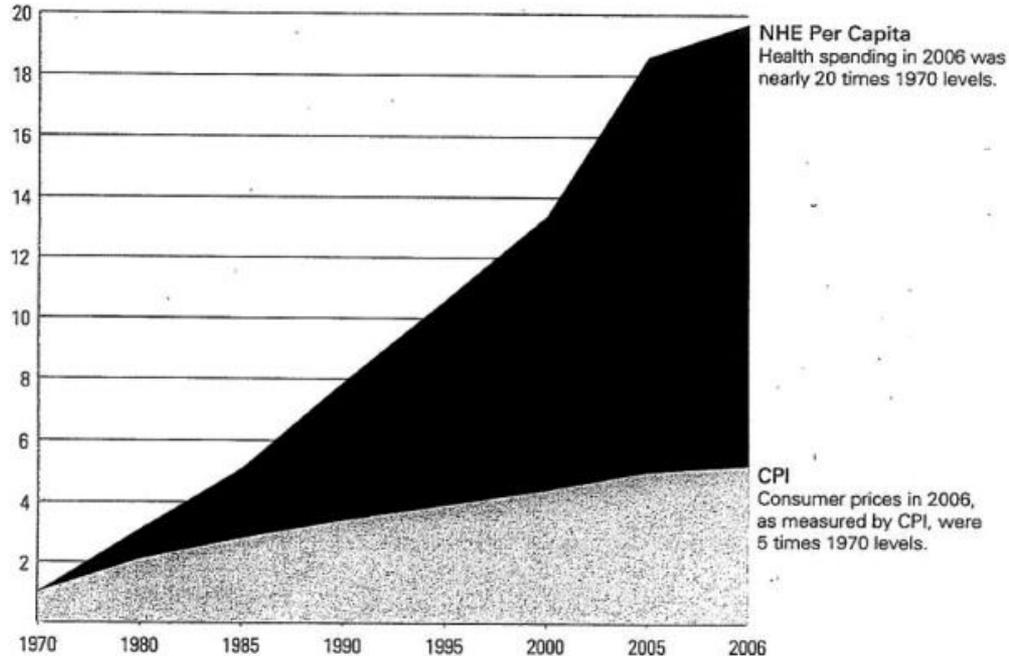
— Death from infectious and parasitic diseases

----- Death from lung disease excluding pneumonia and influenza

Source: Division of Vital Statistics, National Center for Health Sciences

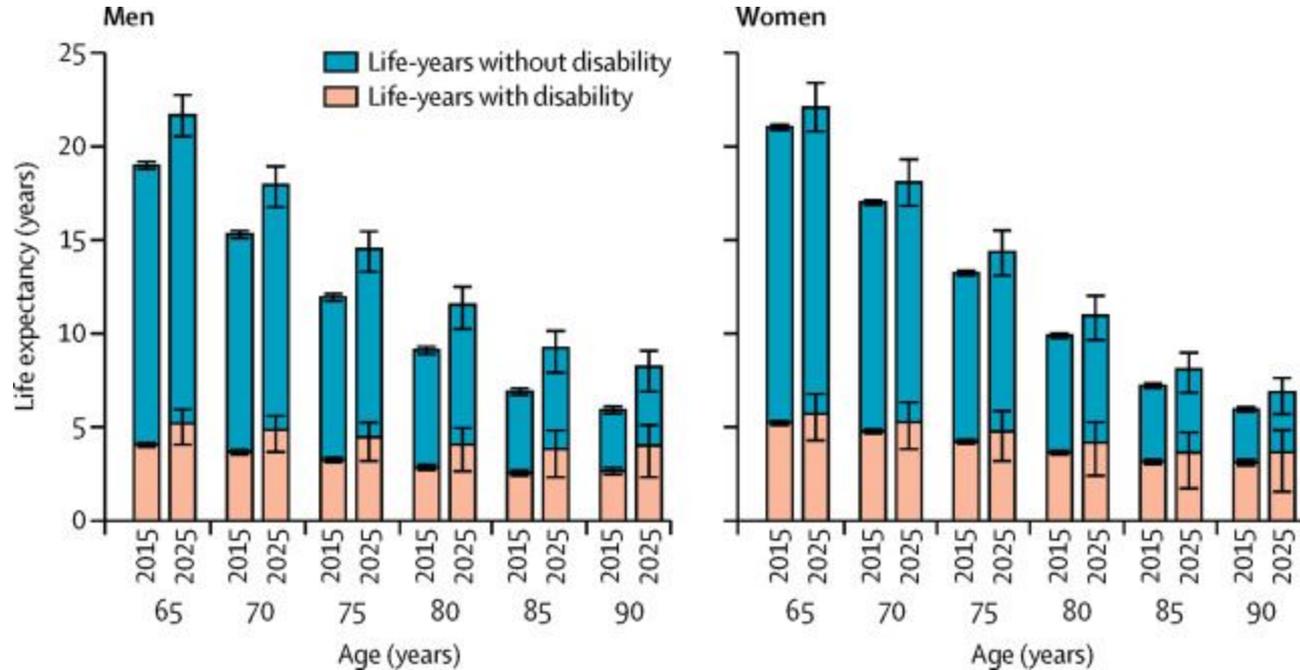
<b>Acute Disease</b>	<b>Chronic Disease</b>
Sudden onset	Gradual onset
Cure usual	Cure rare
Course short	Course lengthy
Patient passive	Patient active/caregiver
Physician dominant	Team care with patient
Return to normal likely	Return to normal unlikely
Future uncertainty rare	Future uncertainty common

# Costs are Rising Exponentially Greater than CPI



Sources: Center for Medicare and Medicaid Services (CMS). Office of the Actuary, Bureau of Labor Statistics [CPI-U, U.S. city average, annual figure].

# Life-years with Disability are Increasing



Guzman-Castillo M, Ahmadi-Abhari S, Bandosz P, Capewell S, Steptoe A, Singh-Manoux A, et al. Forecasted trends in disability and life expectancy in England and Wales up to 2025: a modeling study. 2017;2(7):307-13

# Quantity of Life versus Quality of Life

- Life Expectancy - 77.9 years
- Healthy Years - 66.2 years
- Impaired Life Years - 11.7 years

What can we do about our chronic lifestyle disease epidemic?

Lifestyle is the greatest promoter of disease prevention, but can it also REVERSE disease?

Can we empower patients to take charge of their own health?

Are consequences inseparably connected to individual choices?

# Lifestyle Medicine

Evidence-based specialty of medicine which focuses on treating the underlying causes of chronic disease

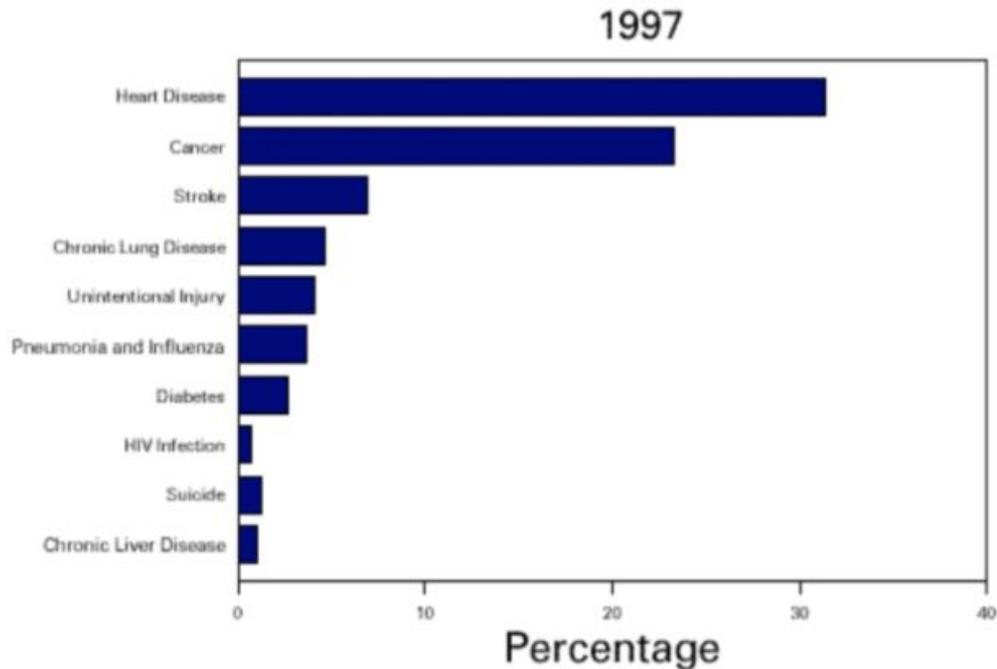
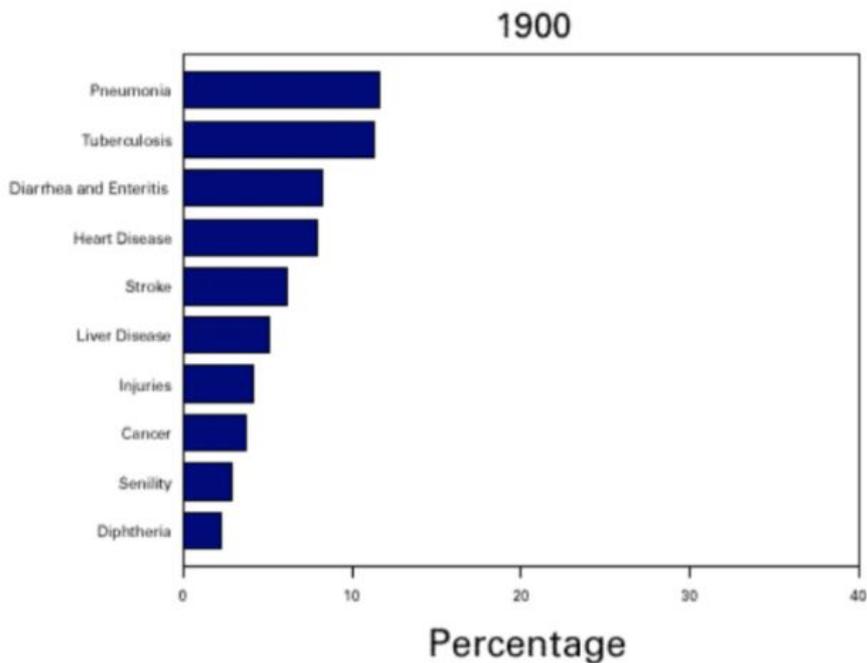
Lifestyle modifications are used as an adjunct, or occasionally instead of pharmacotherapy to either prevent or reverse chronic conditions

“Food as Medicine” “Nature as Medicine” “Sleep is medicine” “Exercise is Medicine” “Friends are the best Medicine”

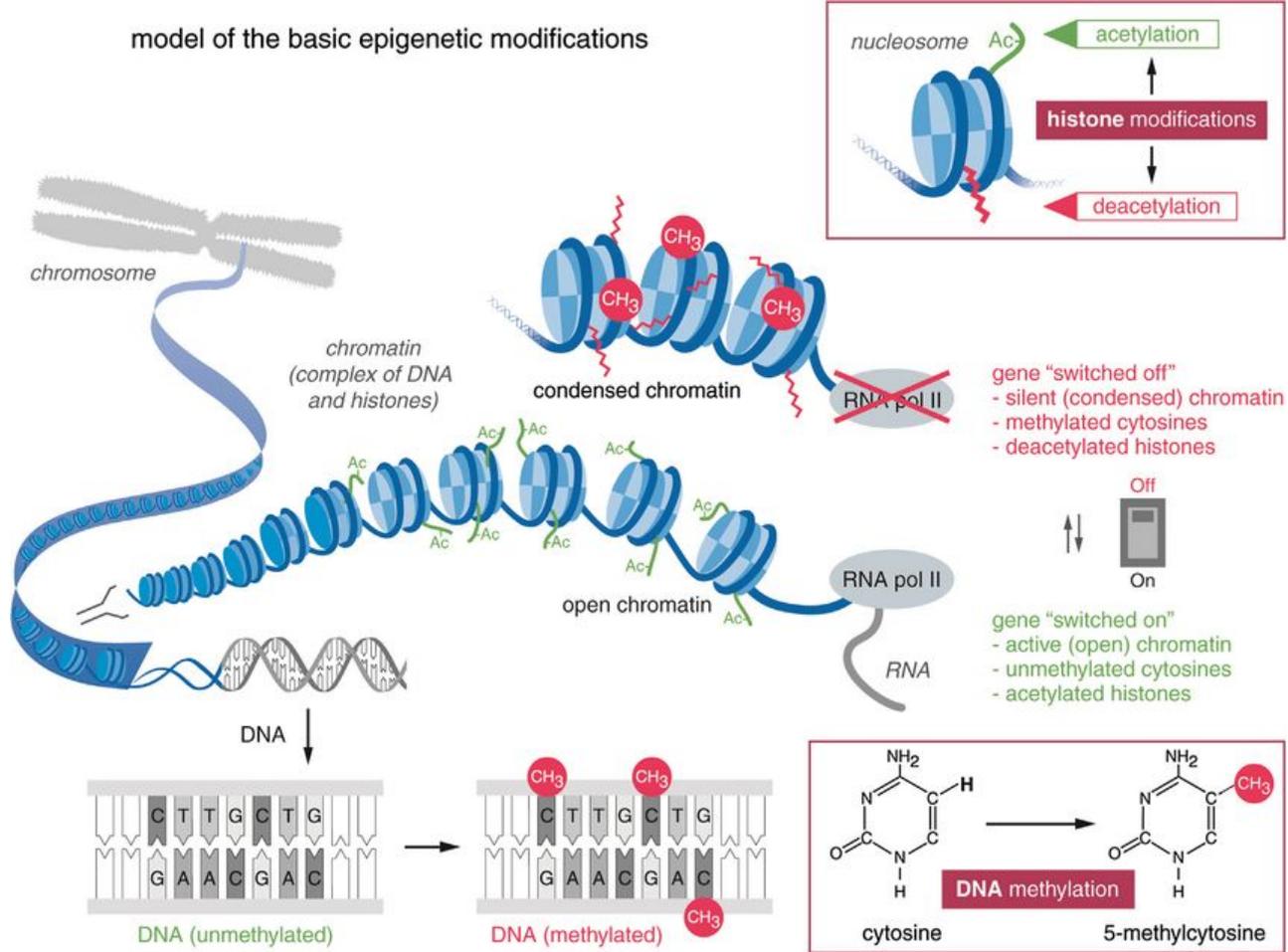
Just like we use evidence to prescribe drugs to prevent and reverse disease, we can prescribe lifestyle modifications to prevent and reverse disease.

# What happened last century?

FIGURE 2. The 10 leading causes of death as a percentage of all deaths — United States, 1900 and 1997



model of the basic epigenetic modifications



Vilcinskis, A. The role of epigenetics in host–parasite coevolution: lessons from the model host insects *Galleria mellonella* and *Tribolium castaneum*. *Zoology*. 2016:119. 10.1016/j.zool.2016.05.004

# Epigenetics

Epigenetics are things we understand (E.g. X-chromosome inactivation)

These are essential for effectively silencing genes

Did you know that there are actual epigenetic changes which occur every time you eat, or exercise, or sleep, or laugh, or feel happy

These affect the transcription and translation of your genes

We have more power over our genes than we thought!

Your DNA is NOT your destiny!

# Epigenetics and Monozygotic Twins

Experts estimate that DNA sequence (genes) explain ~10% variance in health status and epigenetics (gene switches) explain ~ 70-90% of variance in health

**“Epigenetic differences arise during the lifetime of monozygotic twins”**

indicated that environmental factors, not genetic factors, were the main determinant of epigenetic variance. The largest variance in DNA methylation occurred over time when they grew up in different homes, spent less time together, and had different medical histories.

Mario F. Fraga, Esteban Ballestar, Maria F. Paz, Santiago Ropero, Fernando Setien, Maria L. Ballestar, et al. Epigenetic differences arise during the lifetime of monozygotic twins. Proceedings of the National Academy of Sciences Jul 2005, 102 (30) 10604-10609; DOI: 10.1073/pnas.0500398102

# Lifestyle and Epigenetics

1. Diet
2. Activity
3. Sleep
4. Stress
5. Social Engagement
6. Risky Substance Use

# 6 Pillars of Lifestyle Medicine

1. Whole Food Plant-Predominant Eating Pattern
2. 150 min moderate intensity activity (OR 75 min vigorous intensity) per week
3. 7-8 hours of sleep
4. Stress management
5. Positive social interactions
6. Avoidance of tobacco, alcohol, and illicit drug use

**90%**

wipe out more than 90 percent  
of your risk of developing  
diabetes

**1/2**

cut by half your risk of having a  
stroke

**1/3**

reduce your overall cancer risk  
by more than one-third

**80%**

wipe out more than 80 percent  
of your risk of having a heart  
attack

# Lifestyle Heart Trial - Dean Ornish, MD

In a prospective, randomised, controlled trial to determine whether comprehensive lifestyle changes affect coronary atherosclerosis after 1 year

28 patients were assigned to an experimental group (low-fat vegetarian diet, stopping smoking, stress management training, and moderate exercise)

20 to a usual-care control group

195 coronary artery lesions were analysed by quantitative coronary angiography

# Lifestyle Heart Trial Results

The average percentage diameter stenosis

1. regressed from 40.0 (SD 16.9)% to 37.8 (16.5)% in the experimental group
2. progressed from 42.7 (15.5)% to 46.1 (18.5)% in the control group

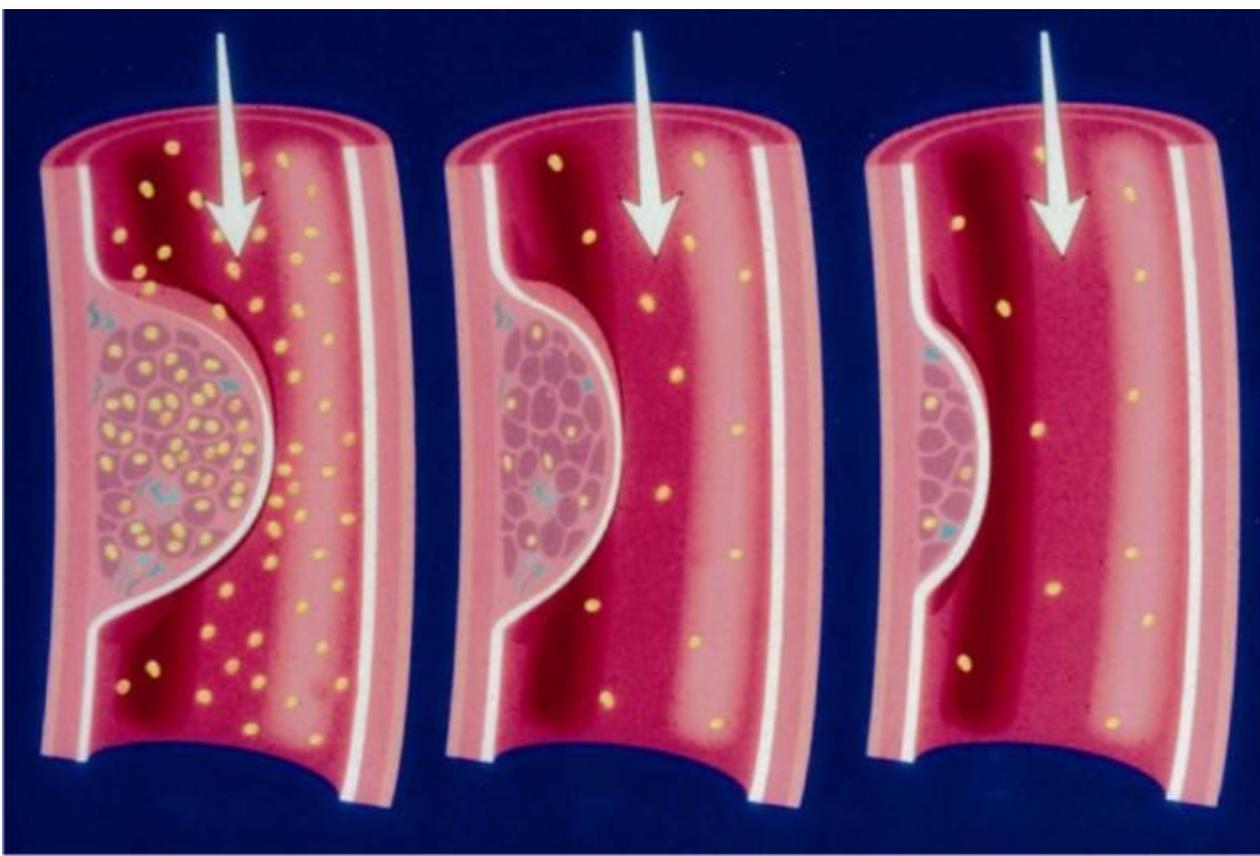
In lesions greater than 50% stenosed, the average percentage diameter stenosis

1. regressed from 61.1 (8.8)% to 55.8 (11.0)% in the experimental group
2. progressed from 61.7 (9.5)% to 64.4 (16.3)% in the control group

Overall, 82% of experimental-group patients had an average change towards regression.

Comprehensive lifestyle changes may be able to bring about regression of even severe coronary atherosclerosis after only 1 year, without use of lipid-lowering drugs.

1.  
Regression  
of coronary  
arterial  
plaque



2.  
Thickening  
of fibrous  
cap

Esselstyn CB. A plant-based diet and coronary artery disease: a mandate for effective therapy. *J Geriatr Cardiol.* 2017;14(5):317-320.  
doi:10.11909/j.issn.1671-5411.2017.05.004

# 2010: Is the Present Therapy for Coronary Artery Disease the Radical Mastectomy of the Twenty First Century?

Caldwell Esselstyn Jr, MD described how cardiac disease is derived from food

William Halsted in the 1890's, developed the radical mastectomy; mutilating, permanently disfiguring, and no less effective than less radical procedures

Because of his prestige and respect, Halsted's disciples defended and taught radical mastectomy at the most revered medical colleges.

This extreme surgery was perpetuated for almost a century, until challenged by a prospective randomized trial by Bernard Fisher, to end the practice.

Is this the same between coronary angioplasty and a whole food plant-based diet?

# 2013 Baylor University Conference on Heart Disease

1. The main risk factor for heart disease is cholesterol
  - a. No evidence that smoking, hypertension, diabetes mellitus, inactivity, or obesity promotes atherosclerotic plaques IF serum total cholesterol is 90-140 mg/dL
2. America's "normal" cholesterol level may be too high to be protective
  - a. 75% of heart attack patients have "normal" cholesterol levels
3. What is the optimal LDL-C?
  - a. Optimal LDL is 50-70 mg/dL
  - b. Lower is better, and physiologically normal is 50-70 mg/dL, which is the threshold for development of atherosclerosis
  - c. Healthy neonates and wild primates have LDL between 40 and 80 mg/dL
  - d. Only adult humans have a mean LDL-C over 80 mg/dL and total cholesterol over 160 mg/dL
  - e. Regression suggests that atherosclerosis does not progress with LDL is  $\leq 70$  mg/dL

# Coronary Artery Disease Prevention

Coronary artery plaque progression ceases when the total serum cholesterol is less than **150 mg/dL**

Although the average total cholesterol of a vegetarian is less than 150 mg/dL, lipid-lowering medications may also be used if patients are not willing to adhere to a vegetarian lifestyle

Roberts WC. Preventing and arresting coronary atherosclerosis. *Am Heart J.* 1995 Sep;130(3 Pt 1):580-600. doi: 10.1016/0002-8703(95)90369-0. PMID: 7661078.

# Take Home

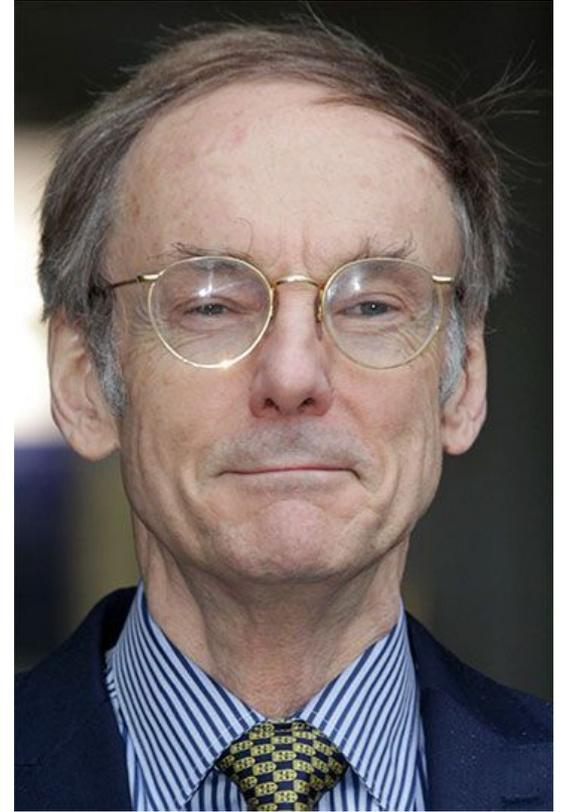
Genes may hold the gun, but lifestyle pulls the trigger

We will dive into this science during next year's conference

World-renown experts in Lifestyle Medicine

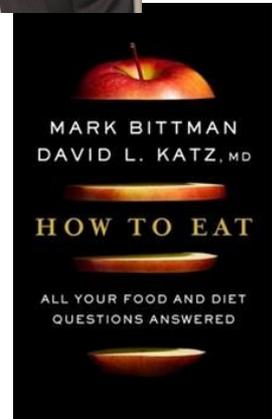
## Roy Taylor, MD,

Director at Institute of Cellular Medicine **Newcastle University**. In 1990-91, he researched the techniques of applying MRI to human disease as visiting Professor of Medicine at **Yale University**, USA, and then returned to the UK. Dr. Taylor's research and the reversal technique are widely accepted by medical and scientific communities around the world. Dr. Taylor gives invited lectures worldwide and has been awarded the moniker of **'the rock star of diabetes'**. He is the author of over 300 scientific papers. **Banting Award in 2012; Reversing the twin cycles of type 2 diabetes**. Author of "Life without diabetes."

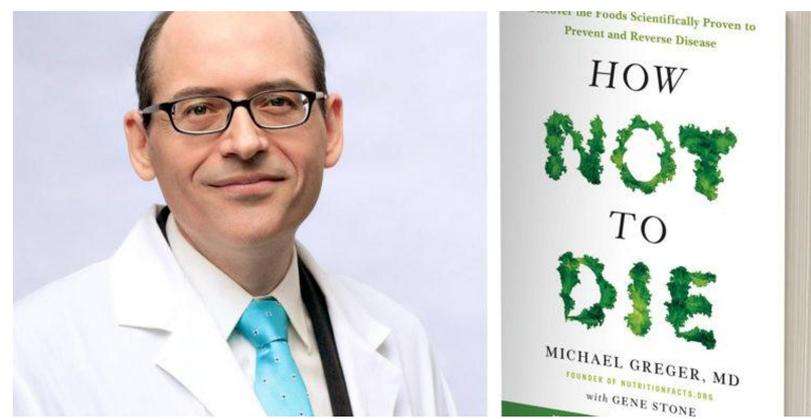


# David Katz, MD, MPH, FACPM, FACP, FACLM

He is the **founding director of the Yale-Griffin Prevention Research Center**, and was a previous clinical instructor in medicine at the **Yale School of Medicine**. Katz formerly served as associate director for nutrition science at the Rudd Center for Food Policy and Obesity at Yale. Katz received a BA degree from Dartmouth College, an MD degree from the Albert Einstein College of Medicine, and an MPH degree from Yale School of Public Health. **He is board certified in preventive medicine.**



# Michael Greger, MD, FACLM



Dr. Greger is a **physician, New York Times bestselling author, and internationally recognized speaker** on nutrition, food safety, and public health issues. A **founding member and Fellow of the American College of Lifestyle Medicine**, Dr. Greger is licensed as a general practitioner specializing in clinical nutrition. He is a graduate of the Cornell University School of Agriculture and Tufts University School of Medicine. In 2017, Dr. Greger was honored with the ACLM Lifestyle Medicine Trailblazer Award and became a diplomat of the American Board of Lifestyle Medicine.

His books [How Not to Die](#), [The How Not to Die Cookbook](#), and [How Not to Diet](#) became instant New York Times bestsellers, and his two latest books, [How to Survive a Pandemic](#) and [The How Not to Diet Cookbook](#), were published in 2020 with much acclaim.

# Scott Stoll, MD, FABPMR

Dr. Stoll is the **co-founder of the Plantrician Project**, the **International Plant Based Nutrition Healthcare Conference**, the **International Journal of Disease Reversal and Prevention**, and the **Regenerative Health Institute**, a unique collaborative project with the Rodale Institute that integrates health with agricultural and environmental regeneration. He is a member of the **Google FoodLab think tank**, serves on the **advisory board at Whole Foods** for their healthcare clinics and served as a member of the Whole Foods Scientific and Medical Advisory Board. Dr. Stoll is the Chairman of the Board for the Plantrician Project and Chief Medical Director for the Rouxbe Cooking School.



# Beth Frates, MD, FACLM

Elizabeth (Beth) Pegg Frates, MD is a **pioneer in Lifestyle Medicine education**, is an **award-winning teacher at Harvard**, and currently works with patients to help them adopt and sustain healthy habits. Dr. Frates went on to graduate magna cum laude from Harvard College, majoring in both psychology and biology. She then attended Stanford Medical School, interned at Mass General Hospital, and completed her **residency in the Department of Physical Medicine and Rehabilitation** at Harvard Medical School where she served as Chief Resident. After residency, Dr. Frates focused on stroke with an emphasis on stroke prevention. Fascinated by empowering people to adopt healthy habits, Dr. Frates pursued further training in behavior change through health and wellness coaching programs as well as **motivational interviewing training**.



## Dexter Shurney, MD, FACLM

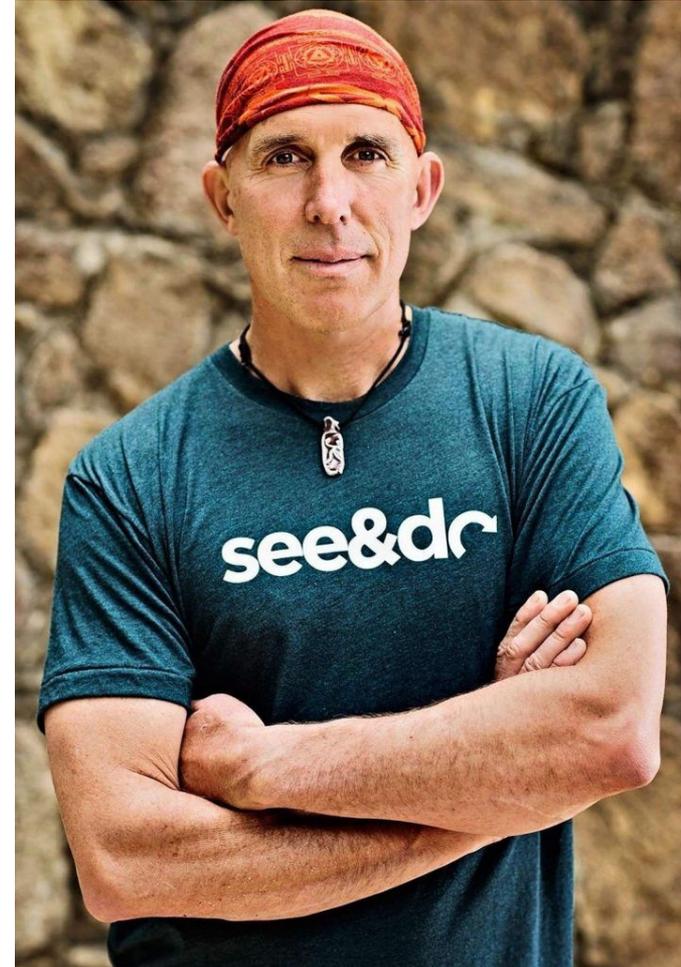
He was initially trained in general surgery and gradually his way to lifestyle medicine. Dexter is **board certified preventive medicine**. What led him to preventive medicine is that most of his surgeries were preventable. And then in medicine, most things in preventive medicine really prevent much. It was more along the lines of early detection and screening, but we weren't really getting at the root cause of why these individuals are getting those diseases. He has been doing this in the in the **telehealth** world. And really doing this with tele-nutrition since nutrition is such an important aspect of how we stay healthy. He's also the **past-president for the American College of Lifestyle Medicine and the Chief Medical Officer for Ziponogo tele-nutrition.**



# Christopher McDougall - Born to Run

McDougall earned his bachelor's degree from **Harvard University**. A **former war correspondent** for the Associated Press, McDougall is a three-time National Magazine Award finalist. He is also the author of **Natural Born Heroes: Mastering the Lost Secrets of Strength and Endurance** and **Running with Sherman: The Donkey with the Heart of a Hero** (October 2019). He does his own running in rural Pennsylvania, where he lives with his wife and two daughters.

With the publication of **Born to Run** (2009), McDougall has been credited with sparking the biggest innovation in modern sportswear: the barefoot-running movement. He is an engaging and inspirational speaker who lectures on how he overcame the mental and physical challenges of being an athlete, all while partaking in the adventure of a lifetime. His message resonates with anyone facing a challenge, and, consequently, he speaks to diverse groups, from university students to fitness enthusiasts and corporate executives.



# Rich Ingebretson, MD, PhD

Richard Justin Ingebretsen was graduated from the University of Utah with a masters in physics and a PhD in Physics Education. He received an MD degree from the University of Utah School of Medicine in 1993. He completed a **residency in internal medicine and a fellowship in emergency medicine** in Salt Lake City. He is now a clinical instructor of medicine at the University of Utah School of Medicine and a professor in the Department of Physics. He is an attending emergency room physician and practices internal medicine. He is the **program director of wilderness program at the University of Utah School of Medicine** and is the **medical director of Salt Lake County Sheriff's Search and Rescue**. He was the Associate Dean for Student Affairs for the College of Science in 2014 and 2015. He does extensive work in the environment. He is the founder of the Glen Canyon Institute and is also the vice chair of the Southern Utah Wilderness Alliance. He **founded Wilderness Medicine of Utah** to teach backcountry medicine and is owner of River Bound Adventures an education river trip company.



Questions?