



*Come experience,  
discover and learn.*

Resolve to get

**Healthy**

UNIVERSITY OF  
Cincinnati

 **AIHM**  
Academy of Integrative Health & Medicine

# Food as Medicine

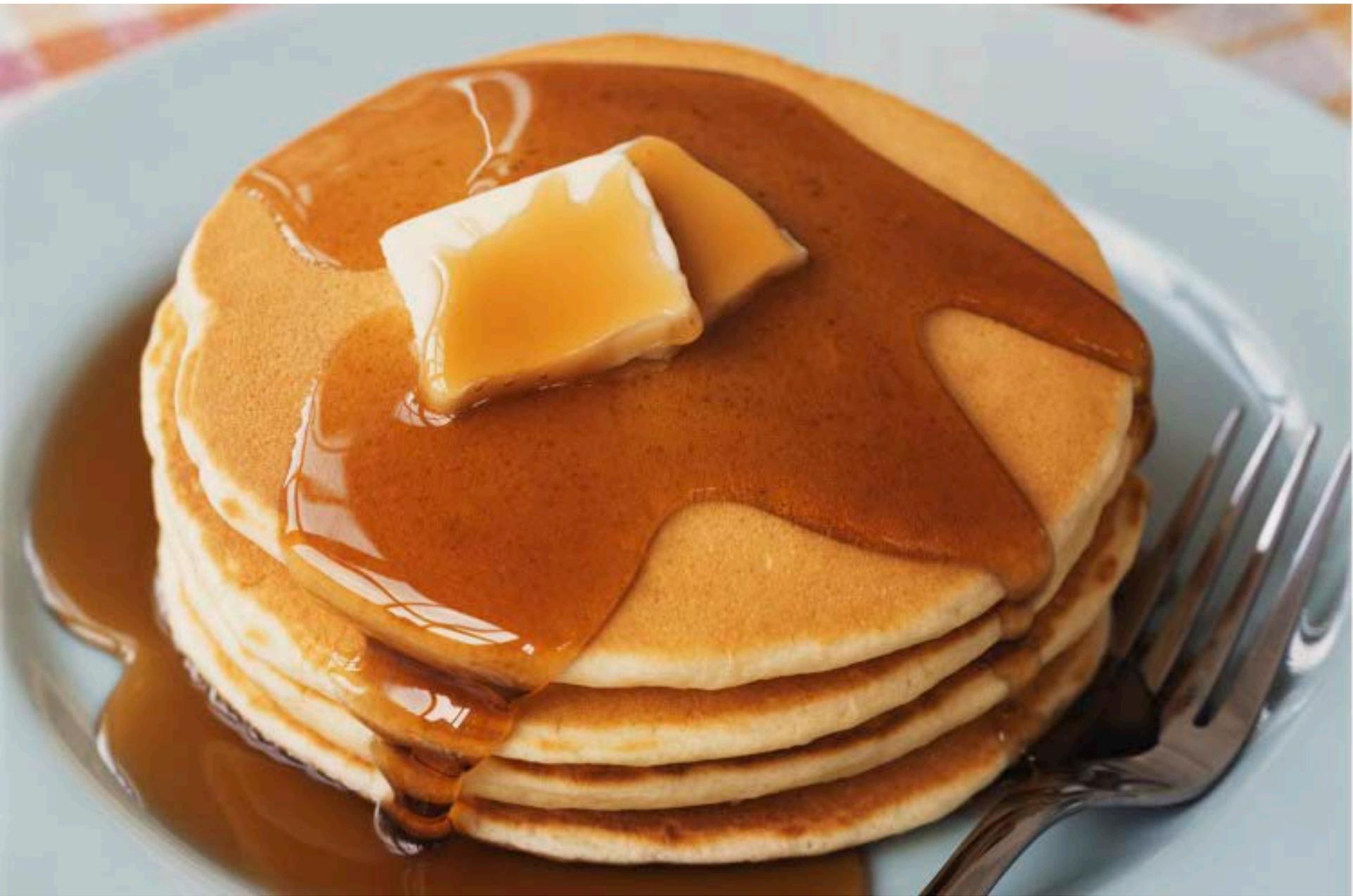
**John Sacco, MD**

A Community Day Focused on Integrative Health & Wellness

**Saturday, January 23, 2016**

















# The History of Medicine

*2000 B.C.—Here, eat this root.*

*1000 A.D.—That root is heathen. Here, say this prayer.*

*1850 A.D.—That prayer is superstition. Here, drink this potion.*

*1920 A.D.—That potion is snake oil. Here, swallow this pill.*

*1945 A.D.—That pill is ineffective. Here, take this penicillin.*

*1955 A.D.—Oops...bugs mutated. Here, take this tetracycline.*

*1960–1999—39 more “oops.” Here, take this more powerful antibiotic.*

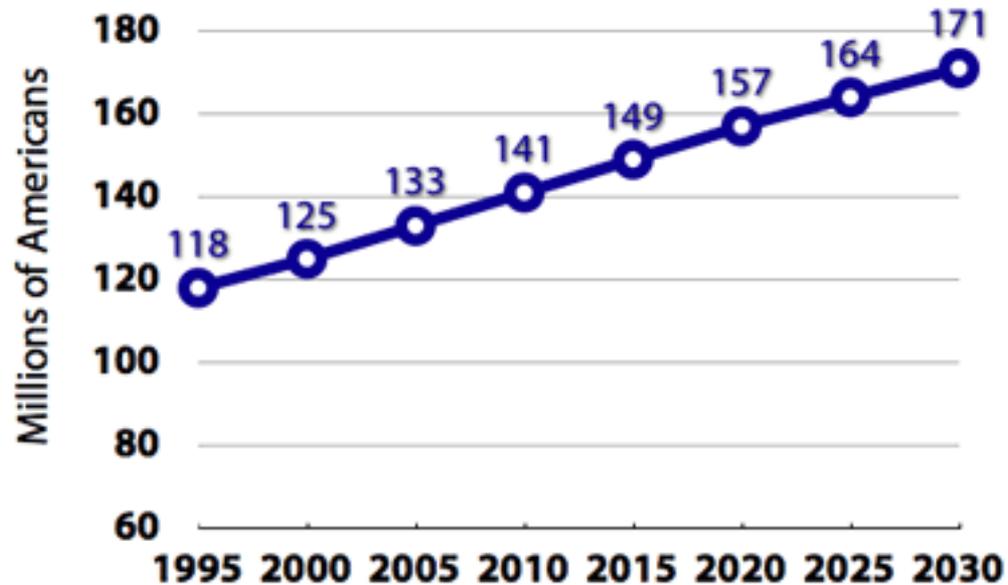
*2000 A.D.—The bugs have won! Here, eat this root.*

*—Anonymous (WHO, 2000)*

# Medicines are classified based on how they work in your body.

- People use medicine to restore their body to optimal health.
- Medicines are drugs that are used to treat or prevent disease or other conditions.
- Drugs are substances other than food that change the structure or function of the body or mind.
- All medicines are drugs, but not all drugs are medicines.
- Drugs are effective in treating illness when taken as directed by a physician or according to the label.
- Medicines can be classified into four broad categories:
  1. prevent disease,
  2. fight pathogens,
  3. relieve pain and other symptoms,
  - and 4. manage chronic conditions, help maintain or restore health, and regulate body systems.

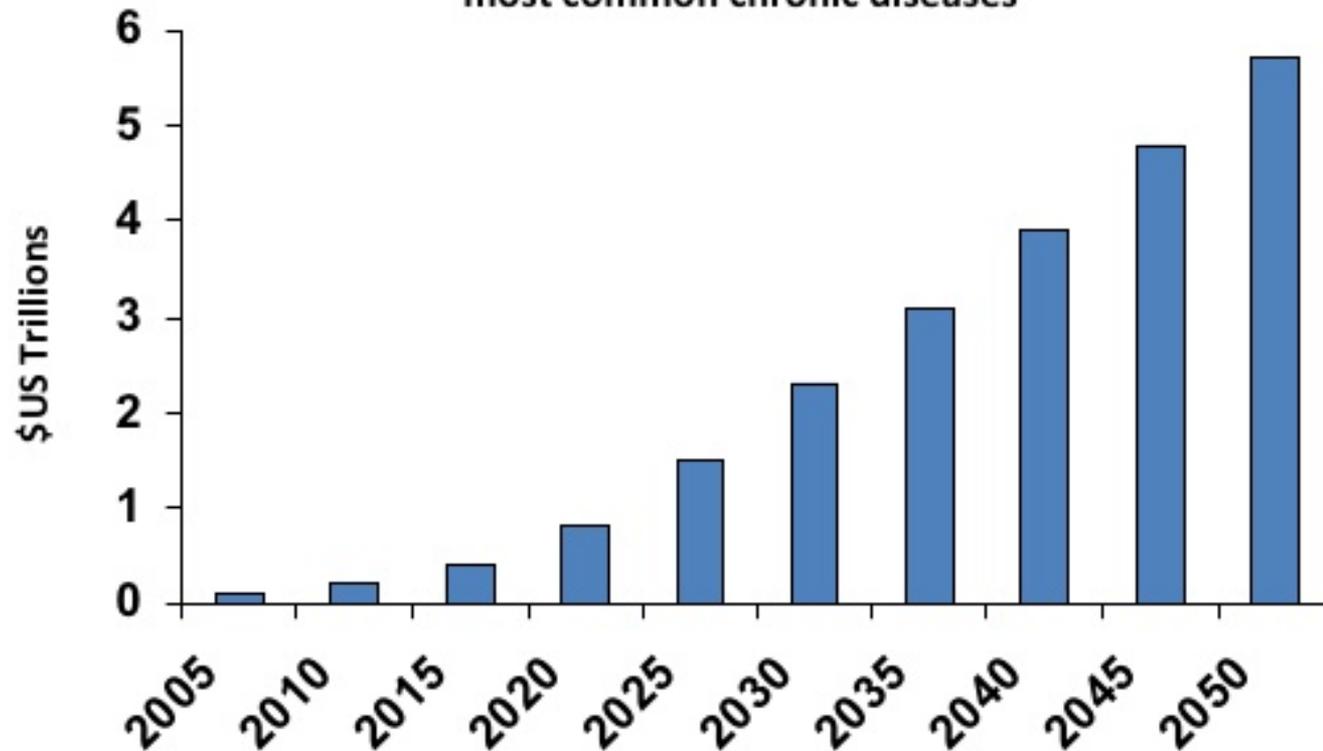
## Prevalence of Chronic Disease in the U.S.



Source: Wu, Shin-Yi *et al.* 2000. Projection of Chronic Illness Prevalence and Cost Inflation. RAND Corporation.

# ...And could cost the U.S. almost \$6 trillion in lost economic output by 2050

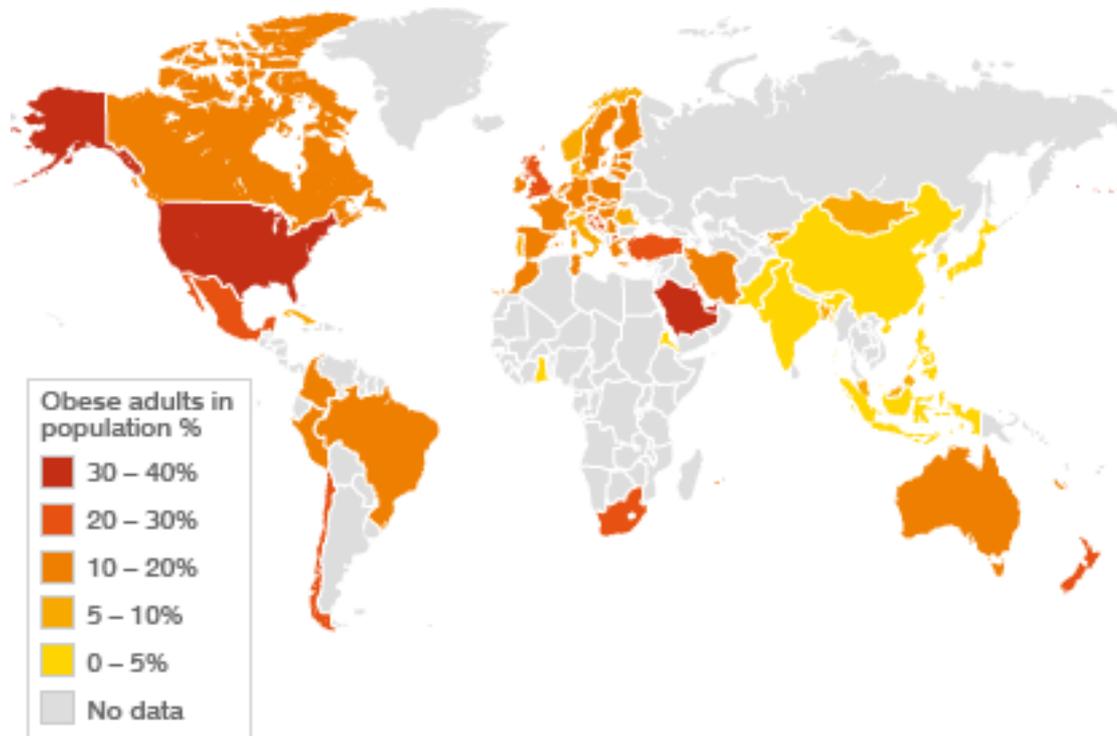
Projected lost economic output associated with seven of the most common chronic diseases\*



\*This study evaluated the burden of seven of the most common chronic diseases/conditions (cancer, diabetes, heart disease, hypertension, mental disorders, pulmonary conditions, and stroke).

Source: DeVol, R, Bedroussian, A, et al. An Unhealthy America: The Economic Burden of Chronic Disease. The Milken Institute. October 2007. Full report and methodology available at: [www.chronicdiseaseimpact.com](http://www.chronicdiseaseimpact.com).

## THE GLOBAL OBESITY PROBLEM

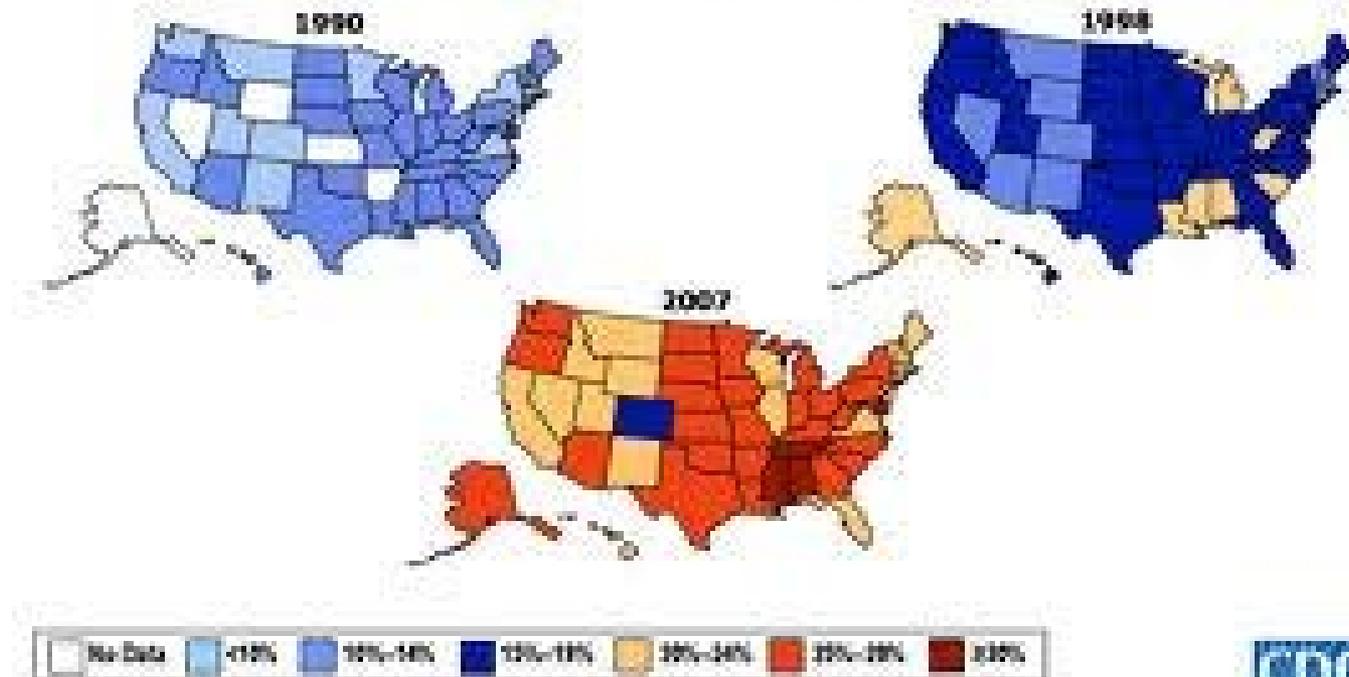


An obese adult is classified as having a Body Mass Index equal to or greater than 30

SOURCE: World Health Organization, 2005

# Obesity Trends\* Among U.S. Adults BRFSS, 1990, 1998, 2007

(\*BMI  $\geq 30$ , or about 30 lbs. overweight for 5'4" person)



Source: CDC Behavioral Risk Factor Surveillance System.

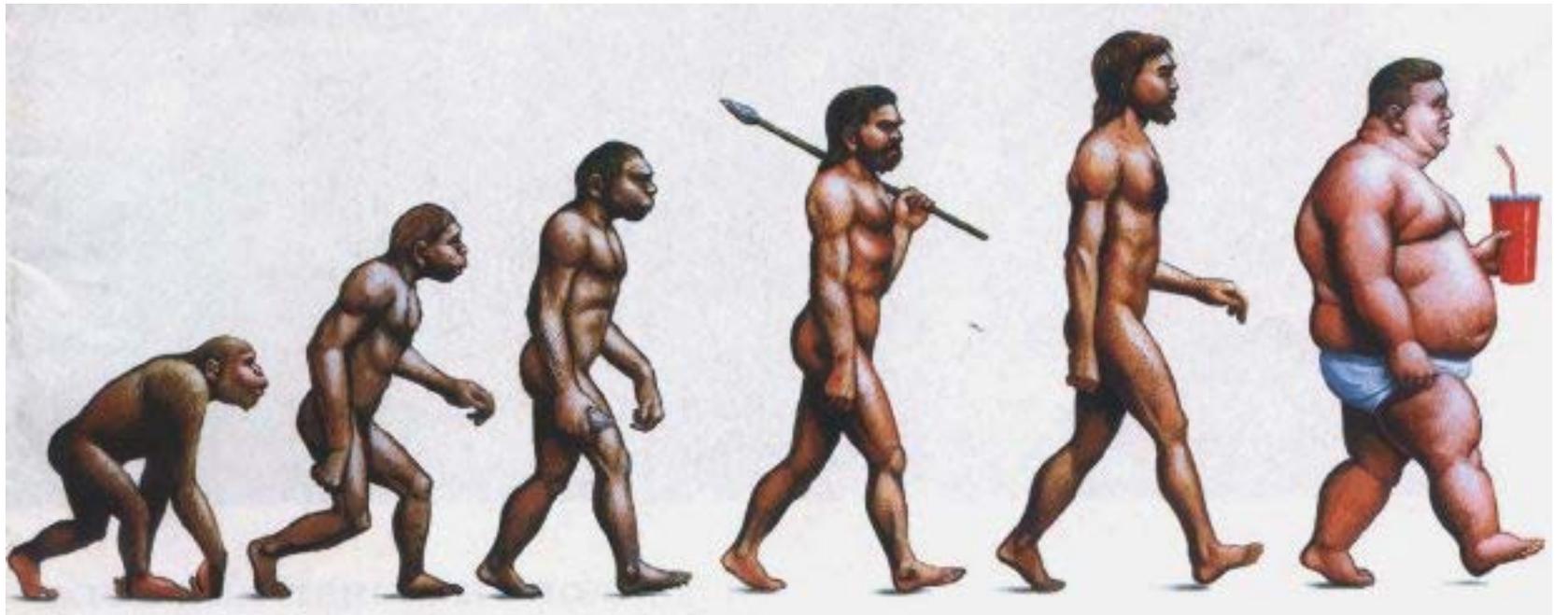


## ADR - Adverse Drug Reactions



Sources: U.S. Center for Disease Control and Prevention and Journal of the American Medical Association (JAMA)

**The World Cancer Research Fund has estimated that up to one-third of cancer cases that occur in economically developed countries like the US are related to being overweight, obese, inactive (sedentary) or having poor nutrition. These are all potentially preventable.**







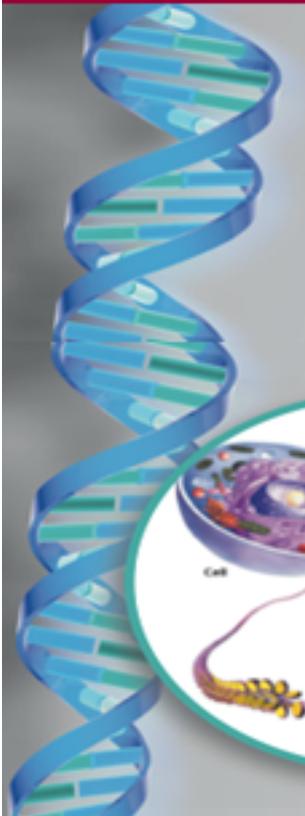
# Phytonutrients

- Beyond vitamins, minerals and fiber, natural compounds found in plants may exert profound disease preventive effects
- The “immune system” of a plant – many also represent the pigment that gives the plant its color.

## Health Benefits of Phytonutrients

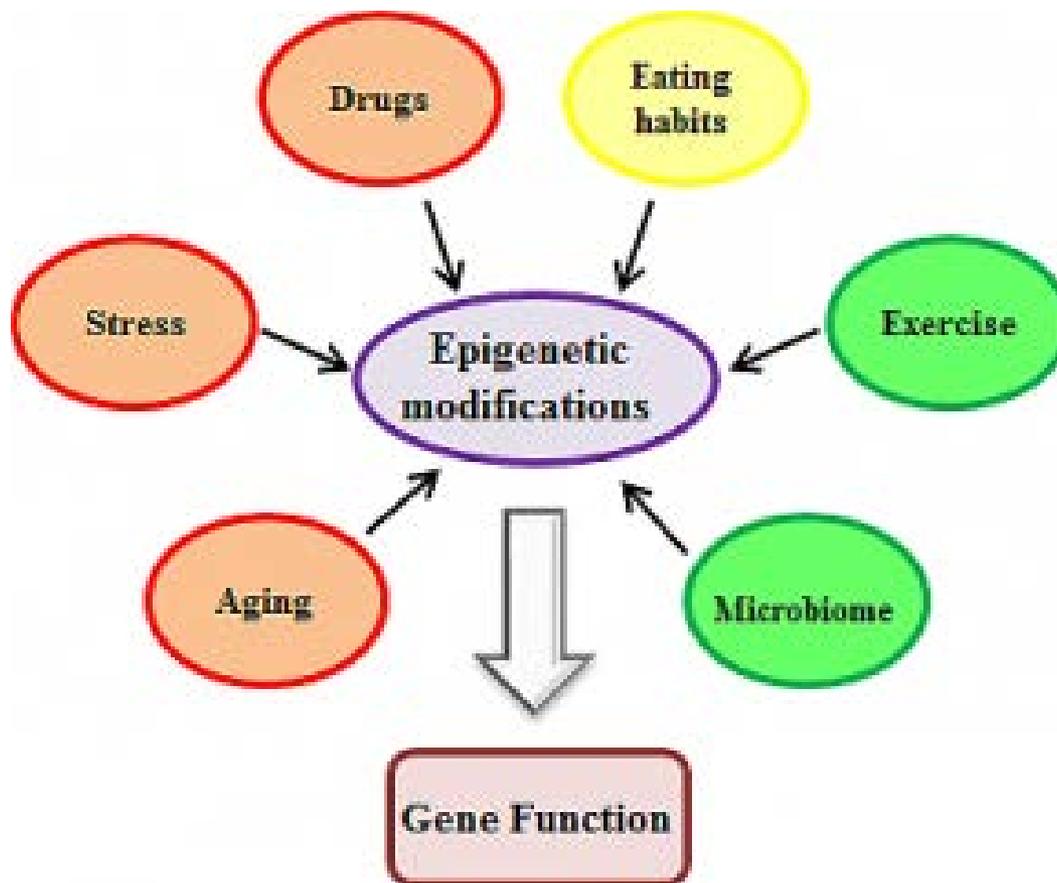
- Phytonutrients exert a wide range of beneficial effects. When consumed, these health benefits are conferred to us:
  - Serve as antioxidants
  - Enhance immune response
  - Enhance cell-to-cell communication
  - Alter estrogen metabolism
  - Convert to vitamin A (e.g., beta-carotene)
  - Cause cancer cells to die (apoptosis)
  - Repair DNA damage caused by smoking and other toxic exposures
  - Detoxify carcinogens through activation of the cytochrome P450 and Phase II enzyme systems
- Phytonutrients are most known for their antioxidant and anti-inflammatory benefits

## WHAT'S IN YOUR GENES?



**the GENOME is the hardware, that makes up the human body as the biologists like to say,**

**the EPIGENOME is the software, and to a large extent, you are the “Epigenome Software Programmer” in charge.**



**Estruch R, et al. [Primary Prevention of Cardiovascular Disease with a Mediterranean Diet. The New England Journal of Medicine, 2013.](#)**

**Details:** 7447 individuals at a high cardiovascular risk were randomized to a Mediterranean diet with added olive oil, a Mediterranean diet with added nuts, or a low-fat control group. The study went on for 4.8 years.

In this paper, researchers primarily looked at the pooled risk of heart attack, stroke and death from cardiovascular causes.

**Results:** The risk of combined heart attack, stroke and death from cardiovascular disease was reduced by 30% in the Med + Olive Oil group, and 28% in the Med + Nuts group.

**Ferre GM, et al. [Frequency of nut consumption and mortality risk in the PREDIMED nutrition intervention trial. BMC Medicine, 2013.](#)**

**Details:** 7216 participants in the PREDIMED study were evaluated after 5 years.

**Results:** After 5 years, a total of 323 people had died, with 81 cardiovascular deaths and 130 cancer deaths. Consuming nuts was linked to a 16-63% lower risk of death during the study period.

**De Lorgeril M, et al. [Mediterranean Diet, Traditional Risk Factors, and the Rate of Cardiovascular Complications After Myocardial Infarction: Final Report of the Lyon Diet Heart Study. Circulation, 1999.](#)**

**Details:** This study enrolled 605 middle-aged men and women who had suffered a heart attack.

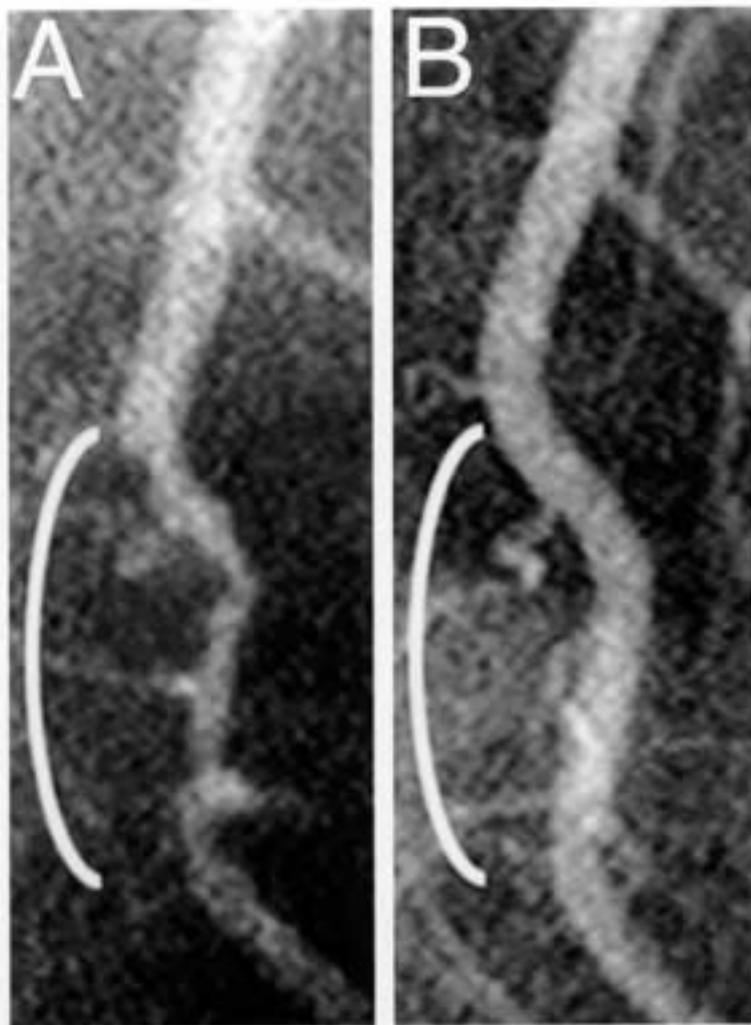
They were split into two groups, a Mediterranean-type diet (supplemented with an Omega-3 rich margarine) and a “prudent” Western-type diet, and followed for 4 years.

**Results:** After 4 years, the group eating the Mediterranean diet was 72% less likely to have had a second MI, or died from heart disease.

## Intensive Lifestyle Changes for Reversal of Coronary Heart Disease

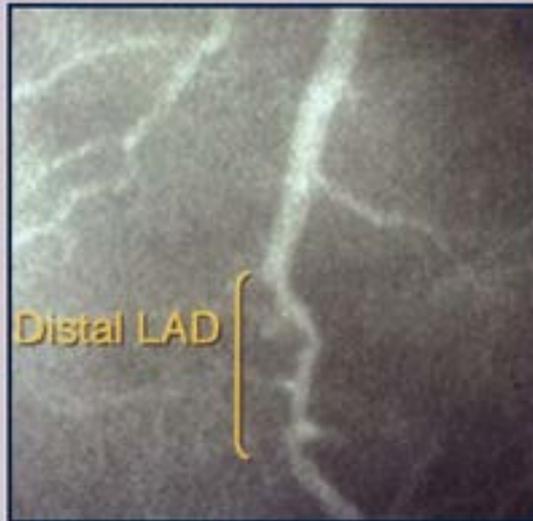
Dean Ornish, MD; Larry W. Scherwitz, PhD; James H. Billings, PhD, MPH; K. Lance Gould, MD; Terri A. Merritt, MS; Stephen Sparler, MA; William T. Armstrong, MD; Thomas A. Ports, MD; Richard L. Kirkeeide, PhD; Charissa Hogeboom, PhD; Richard J. Brand, PhD

**Conclusions.**—More regression of coronary atherosclerosis occurred after 5 years than after 1 year in the experimental group. In contrast, in the control group, coronary atherosclerosis continued to progress and more than twice as many cardiac events occurred.

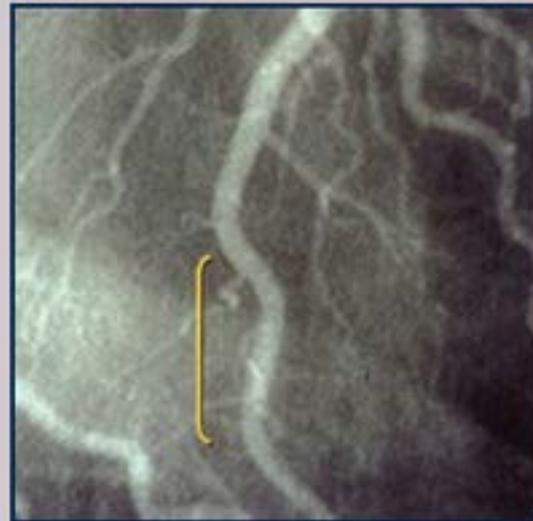


## Reversal of Coronary Disease Achieved with Plant-Based Diet

1996



1999



Coronary angiograms of the distal left anterior descending artery before (left bracket) and after (right bracket) 32 months of a plant-based diet without cholesterol-lowering medication, showing profound improvement. Used with permission from Dr. Caldwell B. Esselstyn, Jr. (Source: *Prevent and Reverse Heart Disease* by Dr. Esselstyn.)

J Urol. 2005 Sep;174(3):1065-9; discussion  
1069-70.

**Intensive lifestyle changes may affect the  
progression of prostate cancer.**

Ornish D1, Weidner G, Fair WR, Marlin R,  
Pettengill EB, Raisin CJ, Dunn-Emke S,  
Crutchfield L, Jacobs FN, Barnard RJ, Aronson  
WJ, McCormac P, McKnight DJ, Fein JD,  
Dnistrian AM, Weinstein J, Ngo TH, Mendell  
NR, Carroll PR.

**RESULTS:**

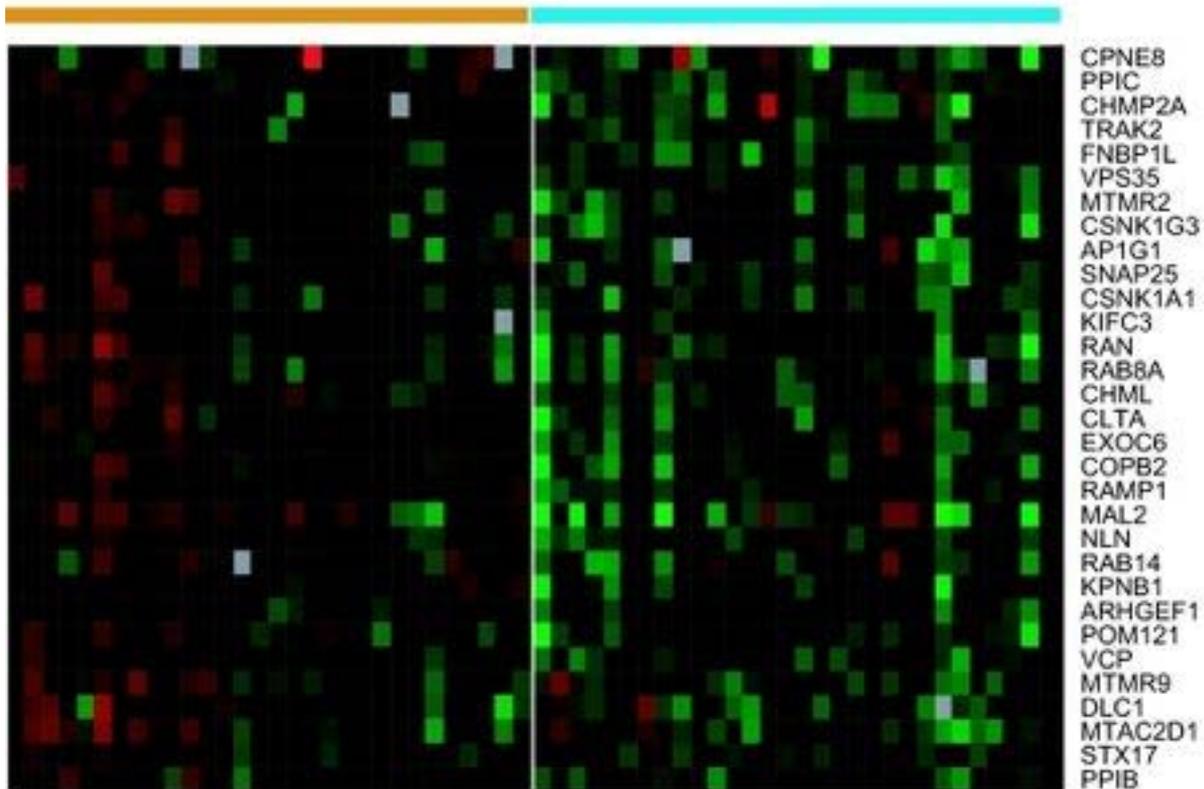
None of the experimental group patients but 6 control patients underwent conventional treatment due to an increase in PSA and/or progression of disease on magnetic resonance imaging. PSA decreased 4% in the experimental group but increased 6% in the control group ( $p = 0.016$ ). The growth of LNCaP prostate cancer cells (American Type Culture Collection, Manassas, Virginia) was inhibited almost 8 times more by serum from the experimental than from the control group (70% vs 9%,  $p < 0.001$ ). Changes in serum PSA and also in LNCaP cell growth were significantly associated with the degree of change in diet and lifestyle.

**CONCLUSIONS:**

Intensive lifestyle changes may affect the progression of early, low grade prostate cancer in men. Further studies and longer term follow-up are warranted.

Pre-intervention

Post-intervention



Phytonutrients are natural compounds found in plant-based foods that give plants their rich pigment, as well as their distinctive taste and smell. They are essentially the plant's immune system and offer protection to humans as well. There are thousands of phytonutrients that may help prevent cancer as well as provide other health benefits.

Dana Farber Cancer Institute

The best way to increase your intake of phytonutrients is to eat a variety of plant-based foods, including fruits, vegetables, whole grains, spices, and tea. Phytonutrients work together as a team to provide a more potent protective punch when eaten as whole foods.

Dana Farber Cancer Institute

Plant-based diets are the nutritional equivalent of quitting smoking.

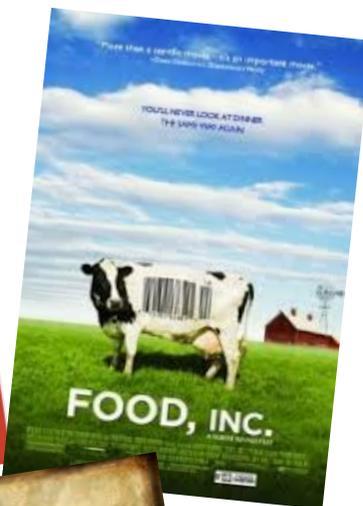
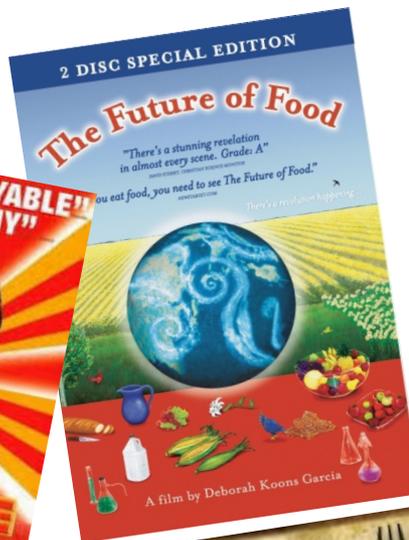
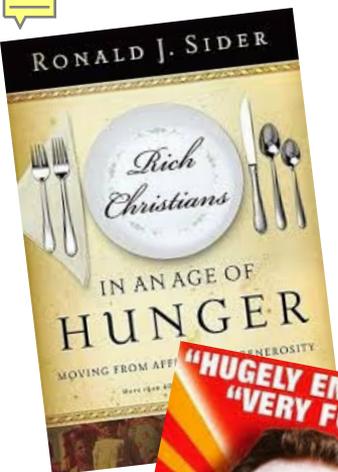
health rethink food medicine disease  
emergence genes epigenetics  
complex as networks environment  
systems adaptive

Fruit	Benefit					
apples		Protects your heart	prevents constipation	Blocks diarrhea	Improves lung capacity	Cushions joints
apricots		Combats cancer	Controls blood pressure	Saves your eyesight	Shields against Alzheimer's	Slows aging process
artichokes		Aids digestion	Lowers cholesterol	Protects your heart	Stabilizes blood sugar	Guards against liver disease
avocados		Battles diabetes	Lowers cholesterol	Helps stop strokes	Controls blood pressure	Smooths skin
bananas		Protects your heart	Quiets a cough	Strengthens bones	Controls blood pressure	Blocks diarrhea
beans		Prevents constipation	Helps	Lowers cholesterol	Combats cancer	Stabilizes blood sugar
beets		Controls blood pressure	Combats cancer	Strengthens bones	Protects your heart	Aids weight loss
blueberries		Combats cancer	Protects your heart	Stabilizes blood sugar	Boosts memory	Prevents constipation
broccoli		Strengthens bones	Saves eyesight	Combats cancer	Protects your heart	Controls blood pressure
cabbage		Combats cancer	Prevents constipation	Promotes weight loss	Protects your heart	Helps
cantaloupe		Saves eyesight	Controls blood pressure	Lowers cholesterol	Combats cancer	Supports immune system

# Phytonutrients:

Colors	Foods	Colorful Protective Substances and Possible Actions
Red	Tomatoes and tomato products, watermelon, guava	Lycopene: antioxidant; cuts prostate cancer risk
Orange	Carrots, yams, sweet potatoes, mangos, pumpkins	Beta-carotene: supports immune system; powerful antioxidant
Yellow-orange	Oranges, lemons, grapefruits, papayas, peaches	Vitamin C, flavonoids: inhibit tumor cell growth, detoxify harmful substances
Green	Spinach, kale, collards, and other greens	Folate: builds healthy cells and genetic material
Green-white	Broccoli, Brussels sprouts, cabbage, cauliflower	Indoles, lutein: eliminate excess estrogen and carcinogens
White-green	Garlic, onions, chives, asparagus	Allyl sulfides: destroy cancer cells, reduce cell division, support immune systems
Blue	Blueberries, purple grapes, plums	Anthocyanins: destroy free radicals
Red-purple	Grapes, berries, plums	Resveratrol: may decrease estrogen production
Brown	Whole grains, legumes	Fiber: carcinogen removal

# Where do we get our food information?

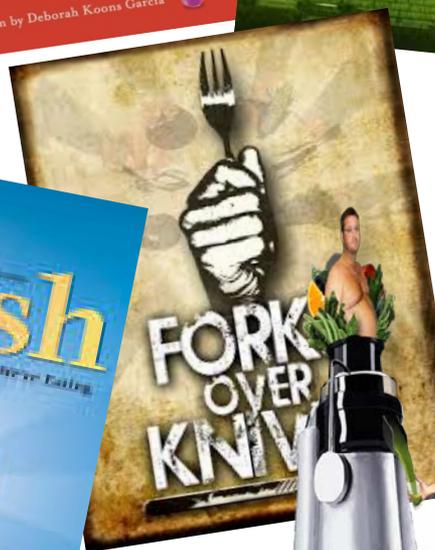
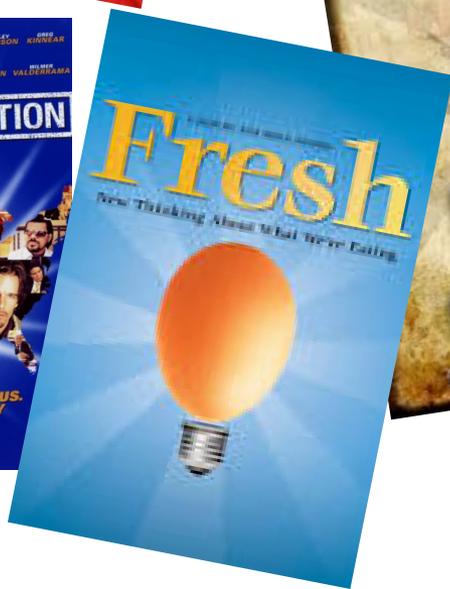
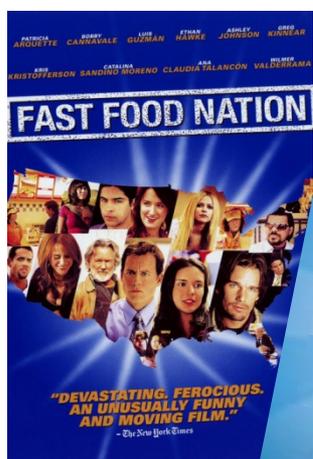
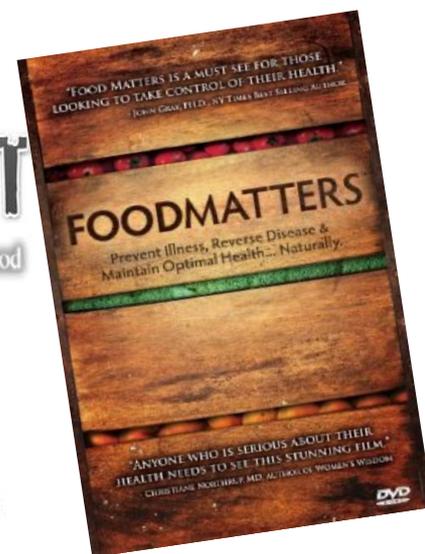


## FOOD FIGHT

Revolution never tasted so good



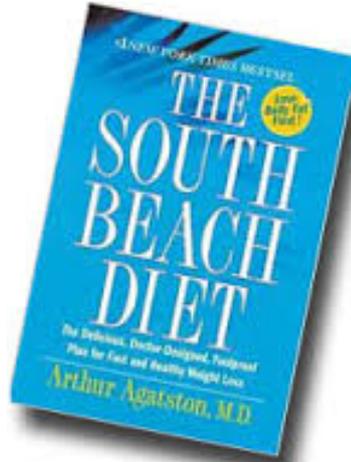
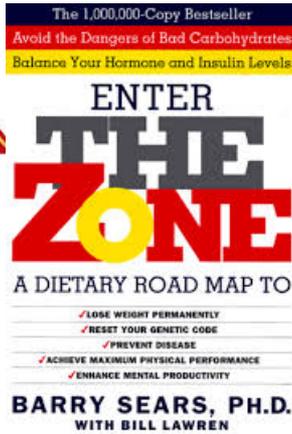
A Documentary by CHRIS TAYLOR  
in Association with November Films



## FAT SICK & NEARLY DEAD

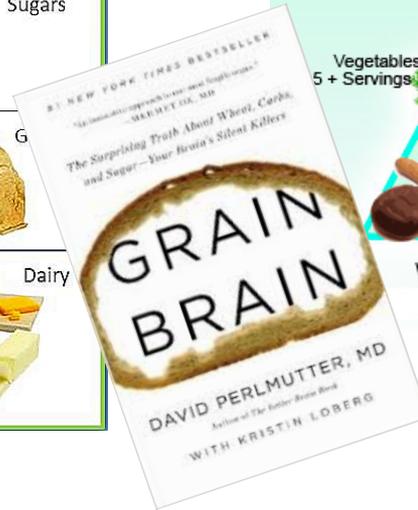


# Food fights

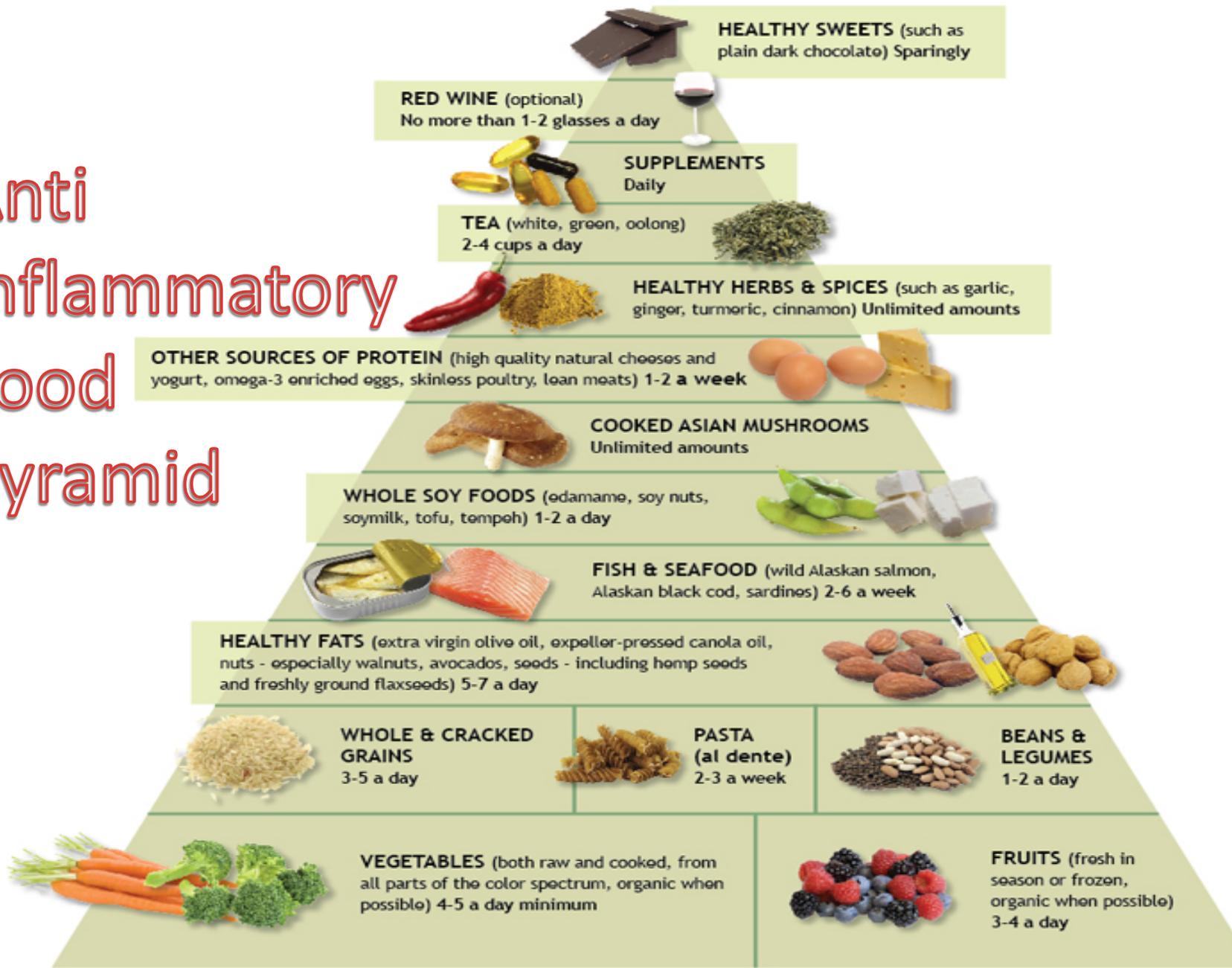


The Paleo Diet		Not in the Paleo Diet	
Vegetables 		Refined, Processed Foods 	
Fruits 		Sugars 	
Eggs 	Nuts 	Grains 	
Wild Meats 		Beans 	Dairy 

## Vegan Food Pyramid



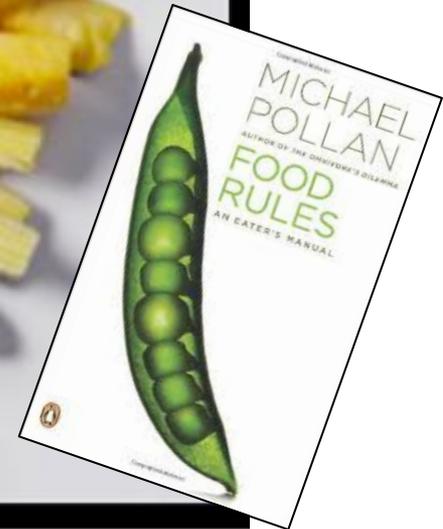
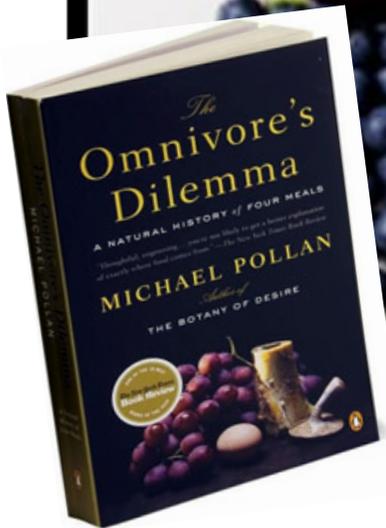
# Anti Inflammatory Food pyramid



# KISS!



EAT  
*food*  
NOT TOO MUCH  
MOSTLY  
*Plants*  
-MICHAEL POLLAN



"When diet is wrong, medicine is  
of no use. When diet is correct,  
medicine is of no  
need."



~ Ancient Ayurvedic Proverb

# Let Your Food Be Your Medicine



The doctor of the future will give no medicine, but will interest her or his patients in the care of the human frame, in a proper diet, and in the cause and prevention of disease.

-Thomas A. Edison. / US inventor (1847 - 1931)

**"Let your food be your medicine and your medicine be your food....**

**Leave your drugs in the chemist's pot if you can cure the patient with food."**

-Hippocrates, the "Father of Medicine," -420 BC

**"While you can't shut out illness entirely, you CAN make your body a place where health thrives." - Whole Living**

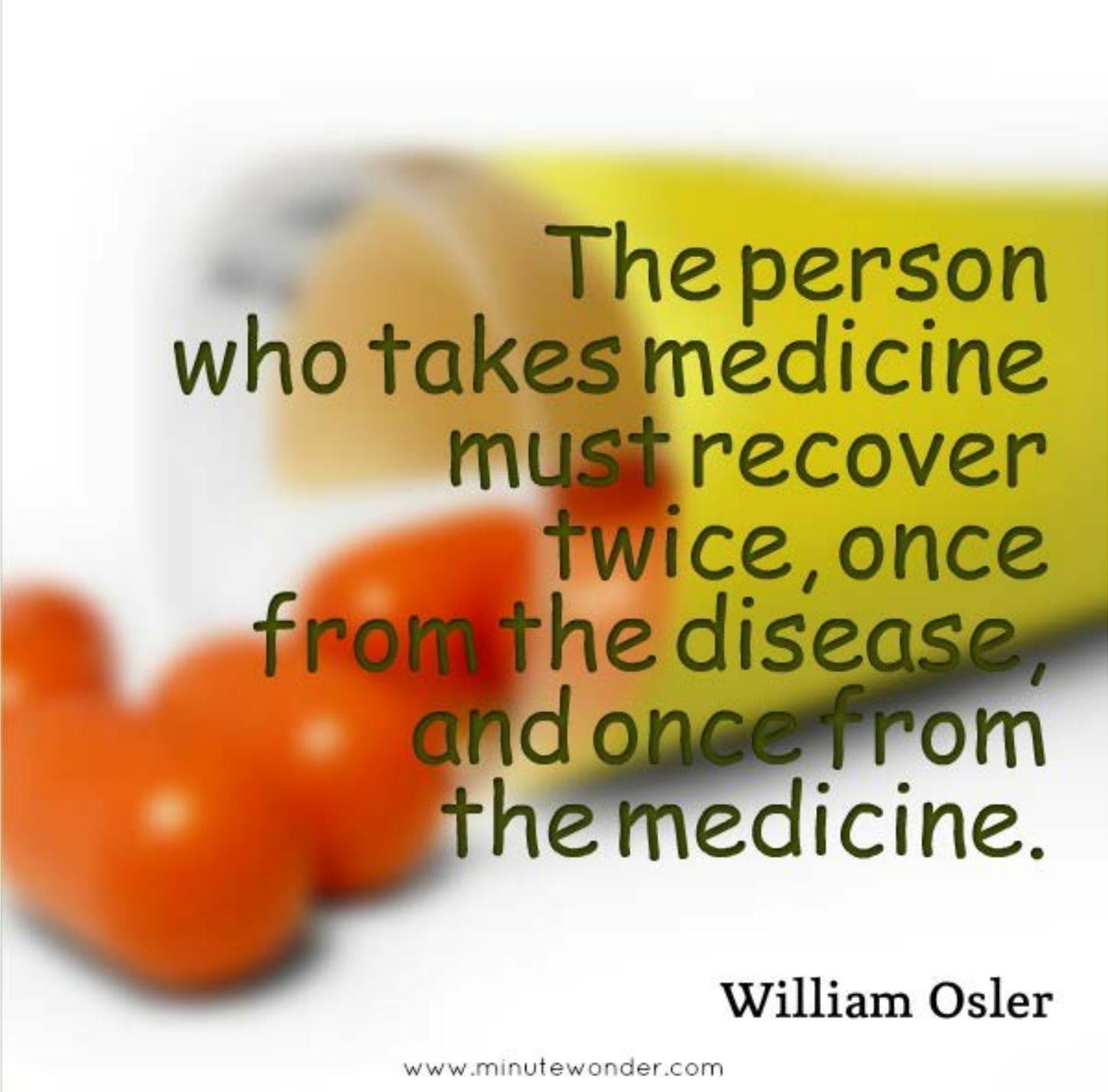
**"The fork is your most powerful tool to change your health and the planet; food is the most powerful medicine to heal chronic illness." -Dr. Mark Hyman MD**

“People are fed by the Food Industry,  
which pays no attention to health,



and are treated by the Health Industry,  
which pays no attention to food.”

Wendell Berry



The person  
who takes medicine  
must recover  
twice, once  
from the disease,  
and once from  
the medicine.

William Osler

**I'M SENDING CHESTERFIELDS** to all my friends.  
That's the merriest Christmas any smoker can have —  
Chesterfield mildness plus no unpleasant after-taste

*Ronald Reagan*

see RONALD REAGAN  
starring in "HONG KONG" a Fine-  
Thomas Paramount Production  
Color by Technicolor



*According to a recent Nationwide survey:*

# MORE DOCTORS SMOKE CAMELS THAN ANY OTHER CIGARETTE

DOCTORS in every branch of medicine—113,597 in all—were queried in this nationwide study of cigarette preference. Three leading research organizations made the survey. The gist of the query was—What cigarette do you smoke, Doctor?

*The brand named most was Camel!*

The rich, full flavor and cool mildness of Camel's superb blend of costlier tobaccos seem to have the same appeal to the smoking tastes of doctors as to millions of other smokers. If you are a Camel smoker, this preference among doctors will hardly surprise you. If you're not—well, try Camels now.



Your "T-Zone" Will Tell You...

**T for Taste . . .**  
**T for Throat . . .**

that's your  
proving ground  
for any cigarette.

See if Camels  
don't suit your  
"T-Zone" to a "T."



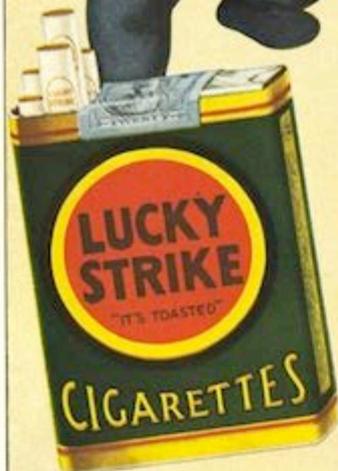
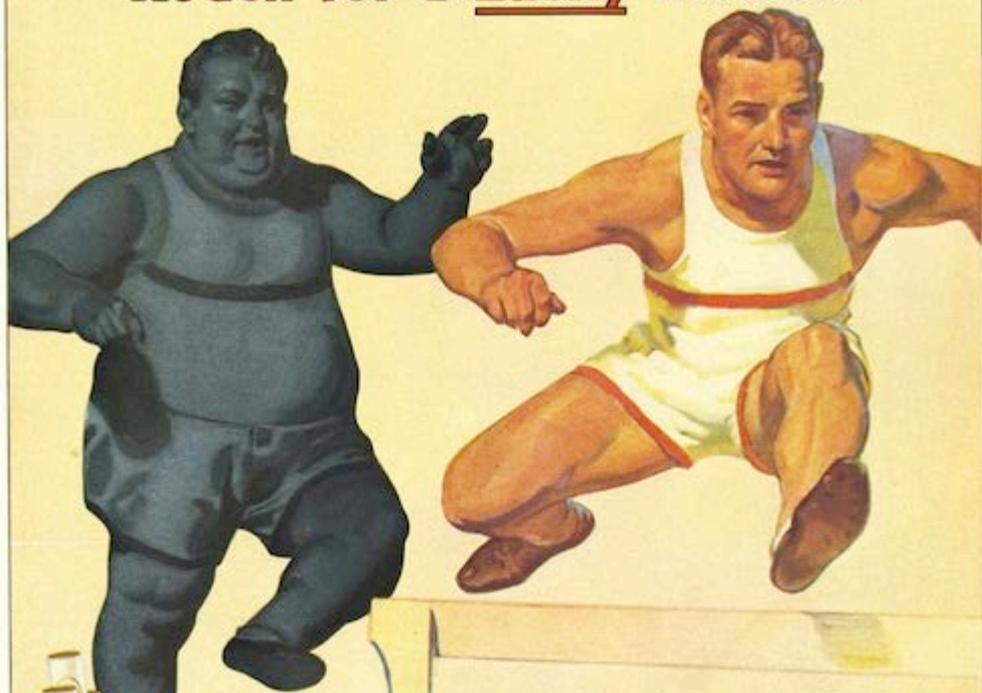
R. J. REYNOLDS  
TOBACCO COMPANY  
WATSON, NORTH, D. C.

**CAMELS** *Costlier Tobaccos*

# FACE THE FACTS!

*When tempted to over-indulge*

**"Reach for a Lucky instead"**



Be moderate—be moderate in all things, even in smoking. Avoid that future shadow\* by avoiding over-indulgence, if you would maintain that modern, over-youthful figure. "Reach for a Lucky instead."

**Lucky Strike**, the finest Cigarette you ever smoked, made of the finest tobacco—The Cream of the Crop—"IT'S TOASTED."

**Lucky Strike** has an extra, secret heating process. Everyone knows that heat purifies and so 20,679 physicians say that **Luckies** are less irritating to your throat.

## "It's toasted"

**Your Throat Protection — against irritation — against cough.**

\*We do not say smoking **Luckies** reduces flesh. We do say when tempted to over-indulge, "Reach for a **Lucky** instead."

For a better start in life  
start **COLA** earlier!



- Promotes Active Lifestyle!
- Boosts Personality!
- Gives body essential sugars!

## How soon is too soon?

Not soon enough. Laboratory tests over the last few years have proven that babies who start drinking soda during that early formative period have a much higher chance of gaining acceptance and "fitting in" during those awkward pre-teen and teen years. So, do yourself a favor. Do your child a favor. Start them on a strict regimen of sodas and other sugary carbonated beverages right now, for a lifetime of guaranteed happiness.

**The Soda Pop Board of America**

1515 W. Hart Ave. - Chicago, ILL.



Watch "Soldiers of Fortune"  
For exciting adventure, see this  
7-Up TV show every week.

Copyright 1955 by The Seven-Up Company



Avoid  
imitations  
served from  
taps or  
cup-machines.  
Seven-Up  
is sold in  
bottles only.

## Why we have the youngest customers in the business

This young man is 11 months old—and he isn't our youngest customer by any means.

For 7-Up is so pure, so wholesome, you can even give it to babies and feel good about it. Look at the back of a 7-Up bottle. Notice that all our ingredients are listed. (That isn't required of soft drinks, you know—but we're proud to do it and we think you're pleased that we do.)

By the way, Mom, when it comes to toddlers—if they like to be coaxed to drink their milk, try this: Add 7-Up to the milk in equal parts, pouring the 7-Up gently into the milk. It's a wholesome combination—and it works! Make 7-Up your family drink. *You like it . . . it likes you!*

# Nothing *does it like* Seven-Up!

For  
PEP and VIGOR-

# VITAMIN DONUTS



Each Donut Fortified with a minimum of 25 units of Vitamin B1



Take them in fortified food—the delicious Ovaltine way!

Of course, the whole subject of vitamins is new. We learn more about them every day. And today, scientists are learning a new and better way to take their extra vitamins—more natural way that can do more good. Discovering better methods of taking vitamins, then, they now take them in purified form!

For latest evidence shows that vitamins do not work alone. They work more effectively in combination with certain other food elements—which are absolutely necessary for best results.

This is the reason so many people are changing to Ovaltine. A specially blended supplementary food-drink, it contains, besides vitamins, nearly every pos-

sible food element needed for good health. Especially, those elements necessary for vitamin deficiencies.

For example, Vitamin A needs protein for necessary work in cell-building. Vitamin B<sub>6</sub> and folic acid also must act together for sparkling vitality. Vitamin D, Calcium and Phosphorus can't do their best work without each other. You get all of these in a glass of Ovaltine made with milk!

So why not turn to Ovaltine, as so many people are doing? If you're eating normal meals, including some fruit or vegetables, 2 glasses of Ovaltine daily should give you all the extra amounts of vitamins and minerals you need for robust health.

## Read what you get in 2 GLASSES OF OVALTINE

more FOOD-ENERGY than  
2 servings of Ice Cream



more IRON than  
2 servings of Spinach

more NIACIN than  
5 cubes of Baked Bread



more VITAMIN G than  
1/4 pound of Sliced Steak



more CALCIUM and PHOSPHORUS  
than 2 1/2 servings of American Cheese



more VITAMIN D than  
10 ounces of Butter



more VITAMIN A than  
2 servings of Peas



more PROTEIN  
than 2 Eggs



more VITAMIN B<sub>1</sub> than  
2 servings of Oatmeal

# "My boys are crazy about Swanson TV Dinners!"

—SAYS MRS. T. M. CARRILL, JR., 5600 RIVER FOREST DRIVE,  
ARLINGTON, JACKSONVILLE



Mom, can I watch the news while I eat?

Wow! Now we can look forward to Thanksgiving leftovers all year long! Where's dad?

No, sweetie, tonight we're going to all enjoy a family meal at the table.

"I only have to call them to the table once when it's TV Turkey Dinner Day," adds Mrs. Carrill. "And there's no fussing with food. Both boys eat every scrap from their plates. Douglas, the littler one, always looks up at Swanson Dinners when we go shopping at the grocery store, just to be sure we have plenty at home!"

Most families do get the Swanson TV Turkey Dinner habit, once they've tried these delicious meals. Every trayful is heaped with thick, tender slices of Swanson turkey in real turkey gravy and cranberry dressing

... with whipped sweet potatoes and tender garden peas—each topped by a pat of Swanson Butter. It's a feast indeed, served with that special Swanson bread of old-fashioned goodness.

No work either. No dishing needed. Just pop it into the oven, serve 25 minutes later on the same individual serving tray. Try a quick frozen Swanson TV Turkey Dinner soon. You'll also enjoy Swanson TV Fried Chicken and Beef Pot Roast Dinners. All at your favorite food store forever!











ICESCREAMERS™

THE ORIGINAL

# PUSH UP

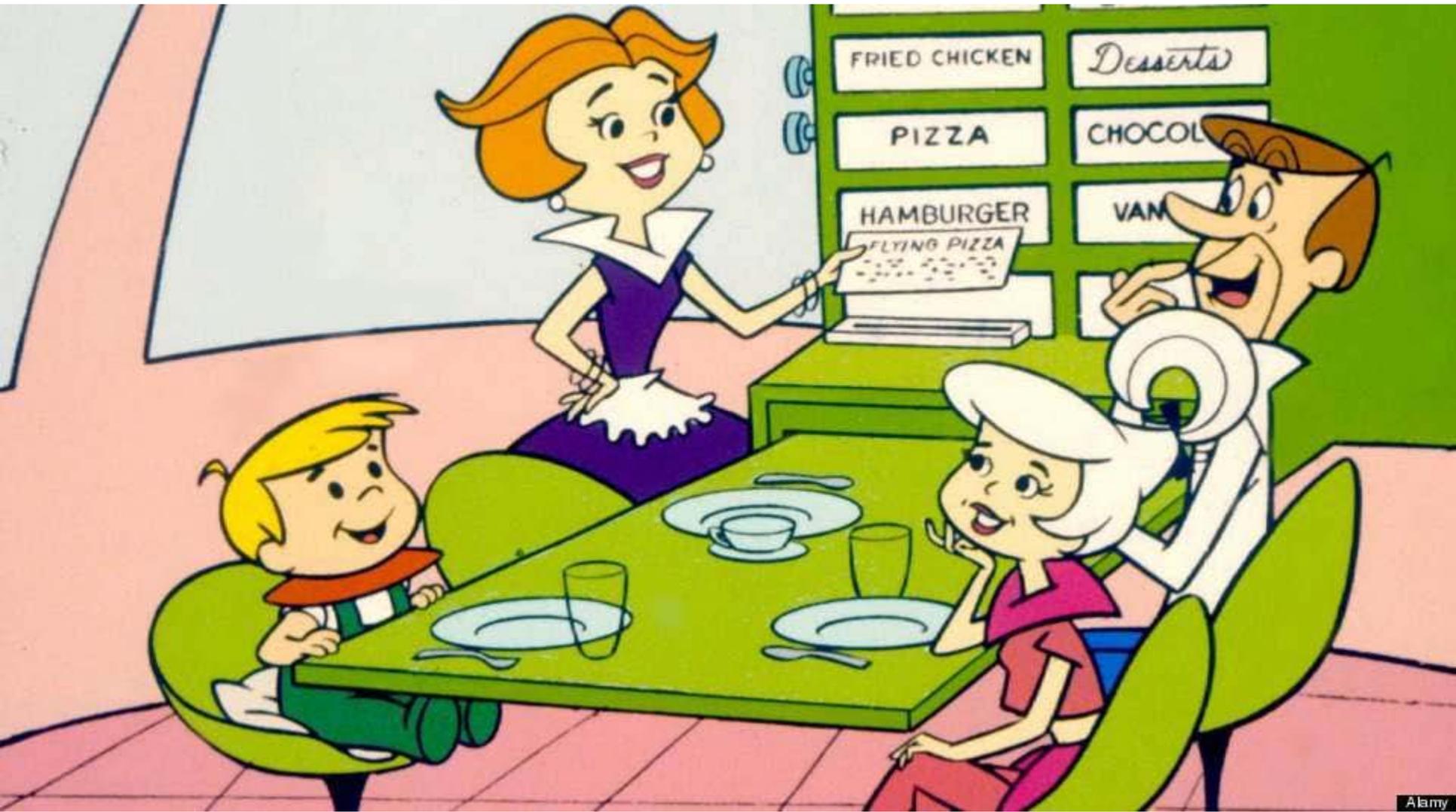


**6** Pack  
Sherbet Treats  
ORANGE

ARTIFICIAL FLAVOR AND COLOR ADDED

6-2.75 fl oz Treats  
(16.5 fl oz) (488mL)







**SICK CARE**



**HEALTH CARE**





*Come experience,  
discover and learn.*

Resolve to get

**Healthy**

UNIVERSITY OF  
Cincinnati

 **AIHM**  
Academy of Integrative Health & Medicine

# **Mindfulness for a Less Stressed Life**

**Richard Sears, PsyD, PhD, MBA,**

A Community Day Focused on Integrative Health & Wellness | **Saturday, January 23, 2016**

# **Mindfulness for a Less Stressed Life**



**Richard W. Sears, PsyD, PhD, MBA, ABPP**

Clinical Psychologist, Private Practice  
Research/Clinical Faculty, UC Center for  
Integrative Health & Wellness

# Stress Response

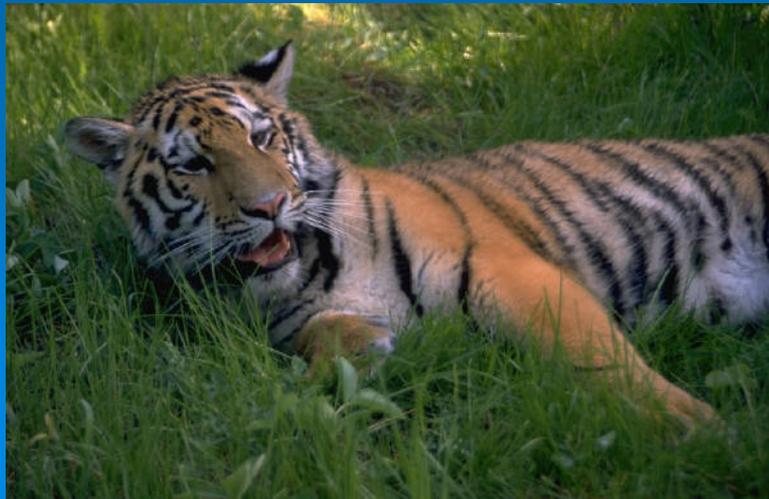


- Adrenalin & cortisol
- Heart rate & blood pressure
- Digestion stops
- Muscles tighten



# Stress Response

- short-term – helpful – then relax
- long-term – many problems
- 90% of physician's visits have a stress component



# What is Mindfulness?

“the awareness that emerges through paying attention on purpose, in the present moment, and nonjudgmentally to the unfolding of experience moment to moment”



(Kabat-Zinn, 2003, p. 145)



# Being vs. Doing

Being: Present focused

Doing: Future focused

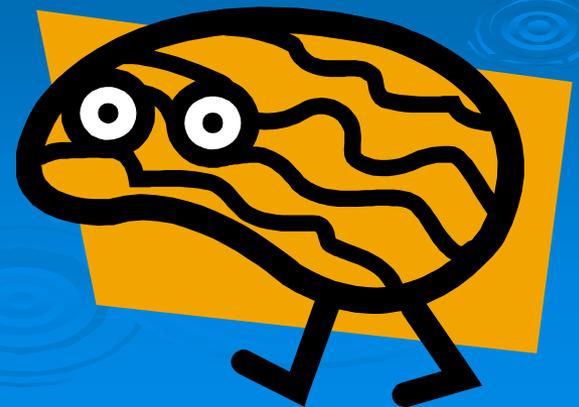


# What is Mindfulness?

## ➤ Relating differently to stress

- Worry
- Getting stuck in vicious circles
- Diving into the swimming pool
- Stepping back from thoughts

•Exercising the brain



# Neurological Findings

## Brain Changes After 8 Weeks (Sara Lazar, PhD)

**“Participating in an 8-week mindfulness meditation program appears to make measurable changes in brain regions associated with memory, sense of self, empathy and stress”**

[www.sciencedaily.com](http://www.sciencedaily.com)

# Neurological Findings

## Children - MBCT-C (12 wks)

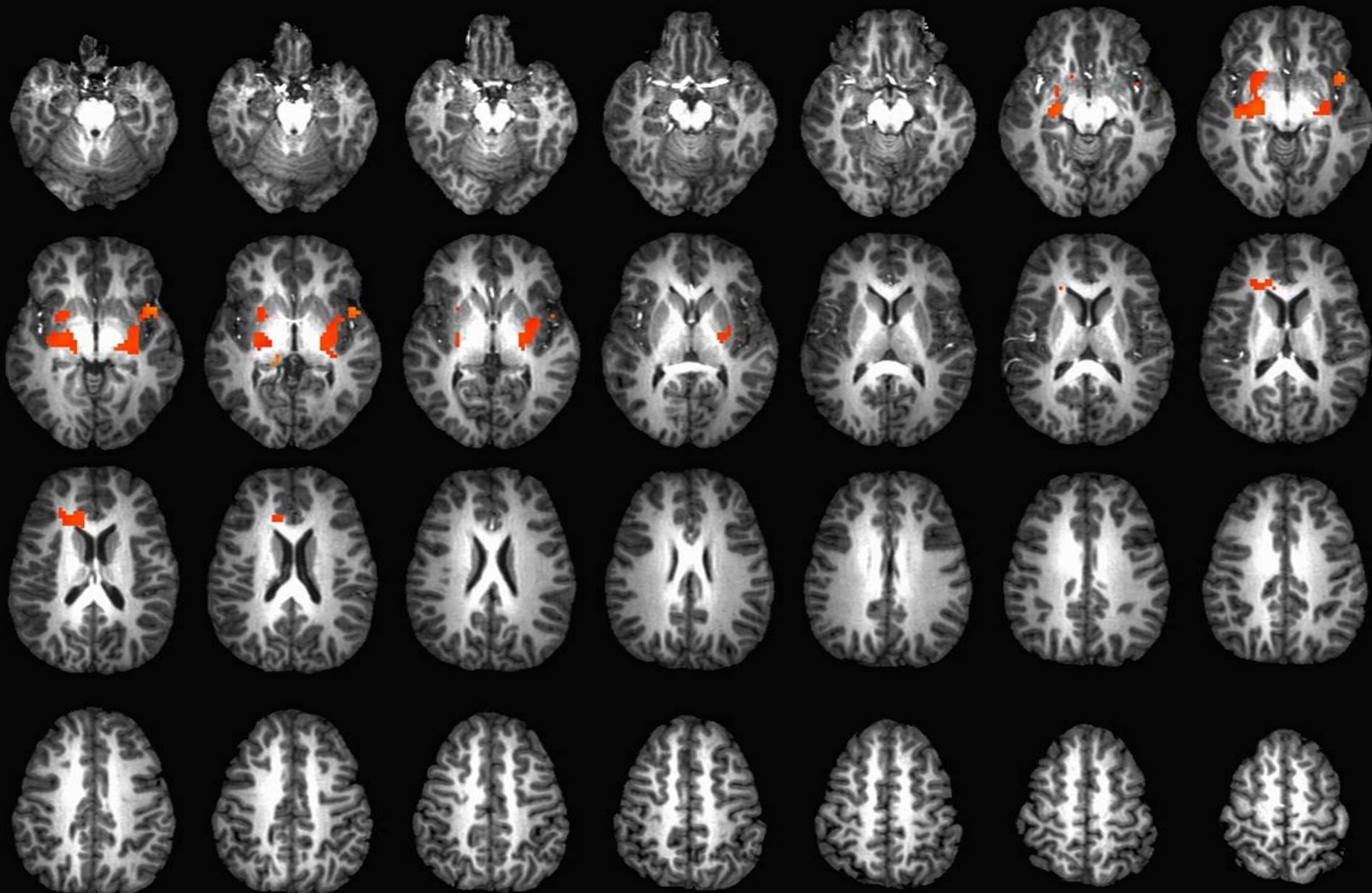
**Increased activation of structures that subserve interoception and processing of internal stimuli**

**Increased mindfulness predicts decreased amygdala activity during fear processing**

- **Increases in bilateral insula, lentiform nucleus, thalamus, & left anterior cingulate while viewing emotional stimuli.**
- **Increased mindfulness associated with increased activation in bilateral anterior cingulate & insula during emotional stimuli.**
- **Post-tx decreases in right amygdala activation**

(Strawn, Cotton, Luberto, Patino, Stahl, Weber, Eliassen, Sears, & DelBello, 2014)

# Children - MBCT-C (Strawn et al, 2014)



# 3-Minute Breathing Space

- Minute 1 – Noticing this moment
  - Body, feelings, thoughts
- Minute 2 – Breathe
  - Mind wanders, just bring it back
- Minute 3 – Be in your body
  - If it's already here, just feel it

# Mindful Living



- Notice what you're doing
- Remember to breathe
  - Let go of struggle
  - Be kind to yourself



# Suggested Readings

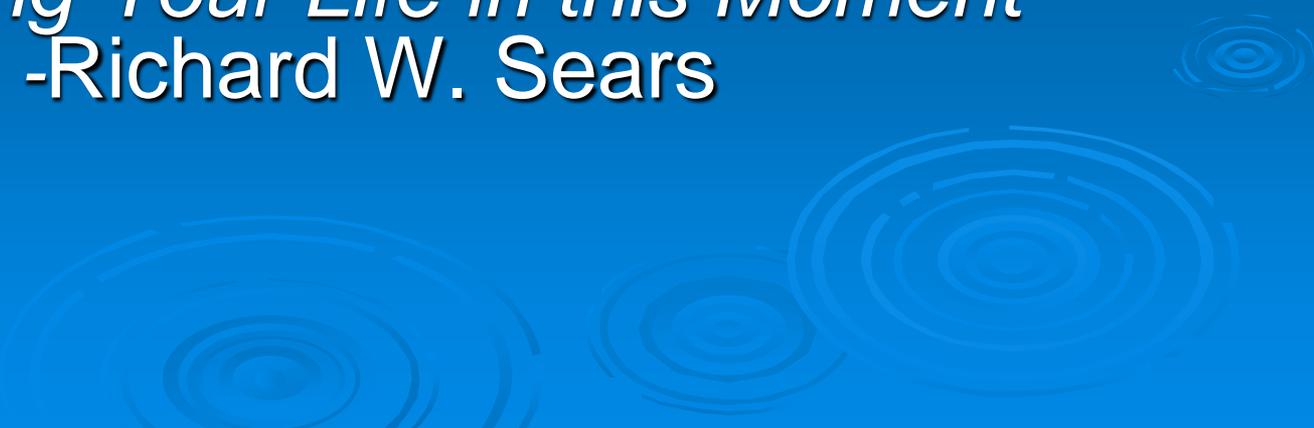
*Full Catastrophe Living*

-Jon Kabat-Zinn

*Mindfulness:*

*Living through Challenges and  
Enriching Your Life in this Moment*

-Richard W. Sears



# Contact

Richard W. Sears

[www.psych-insights.com](http://www.psych-insights.com)

513-899-MIND (6463)

UC Integrative Medicine

[med.uc.edu/integrative](http://med.uc.edu/integrative)

513-558-7333





*Come experience,  
discover and learn.*

Resolve to get

**Healthy**

UNIVERSITY OF  
Cincinnati

**AIHM**  
Academy of Integrative Health & Medicine

# **Yoga & Meditation for Cardiovascular Health**

**Mehran Attari, MD**

A Community Day Focused on Integrative Health & Wellness | **Saturday, January 23, 2016**

***WE DO NOT STOP EXERCISING BECAUSE  
WE GROW OLD ,***

***WE GROW OLD BECAUSE WE STOP  
EXERCISING.***

Dr. Kenneth Coope

# Cardiovascular Risk Factors

High blood pressure

Diabetes

Obesity

High cholesterol and lipids

Lack of exercise

Tobacco use

Unhealthy diet

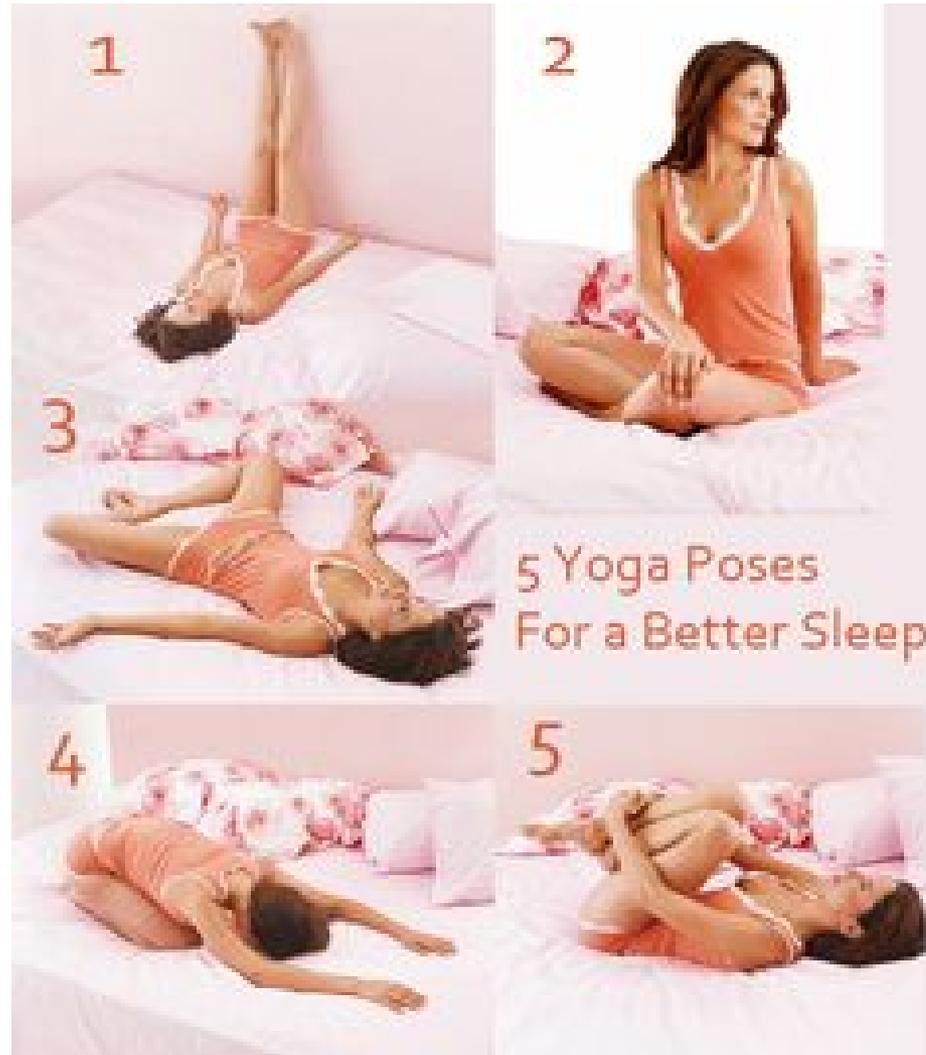
# Yoga

*In the practice of Yoga the ultimate aim is  
one of  
self-development and self-realization.*

# Many faces of yoga

Asanas

Postures



# Many faces of yoga

## Pranayama

Breathing exercises



# Many faces of yoga

## Meditation

Resting the mind and attaining a state of consciousness that is totally different from the normal waking state



Half an hour's meditation each day is essential,  
except when you are busy. Then a full hour is  
needed.

Saint Francis de Sales

# Origin of Yoga

## Halasana

Plow Pose reduces backache and can help you get to sleep.



# Setu Bandha Sarvangasana

The bride pose calms the brain and rejuvenates tired legs.



# Ananda Balasana

This pose gently brings a greater awareness to the hip joints.





# Stress

Heart disease

Asthma

Obesity

Diabetes

Headaches

Depression and anxiety

Gastrointestinal problems

Alzheimer's disease

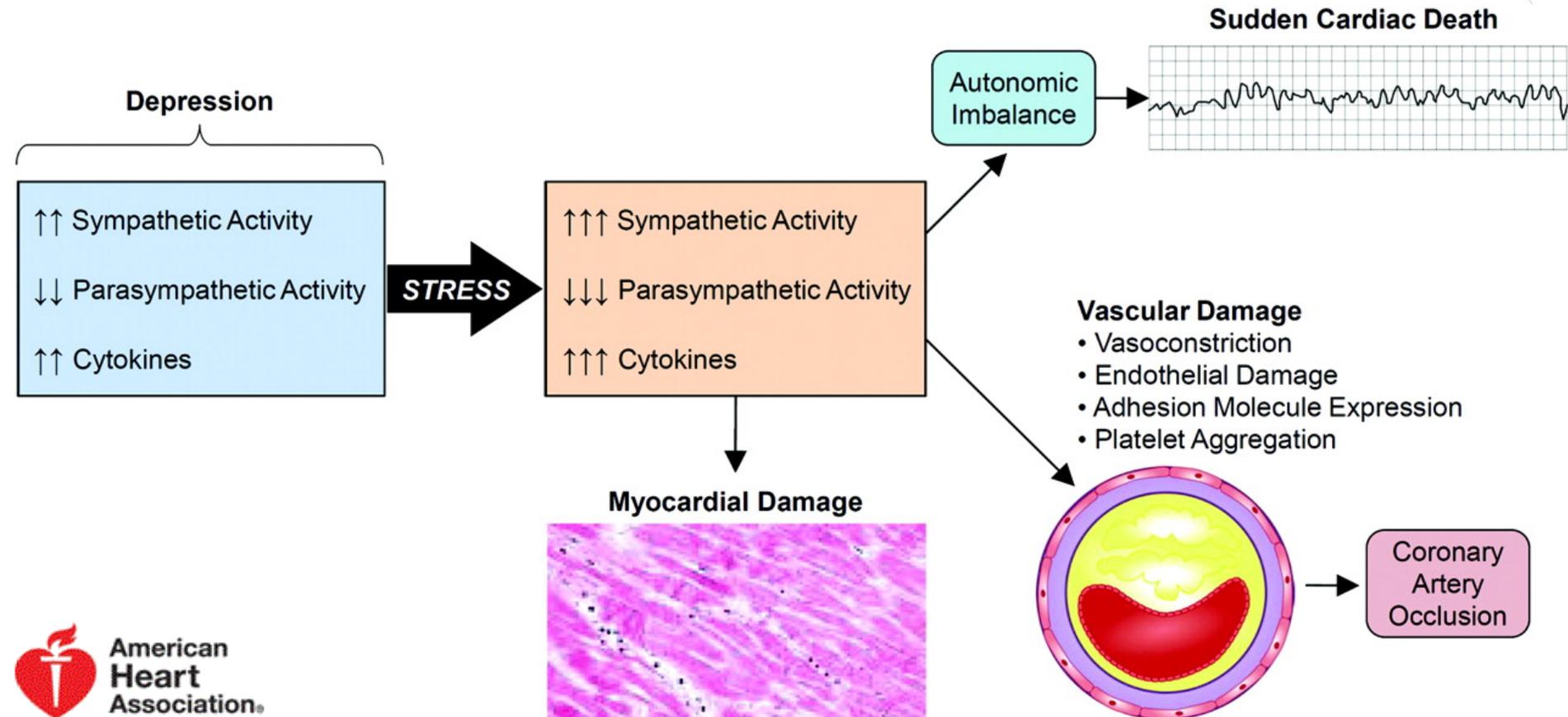
Accelerated aging

Premature death

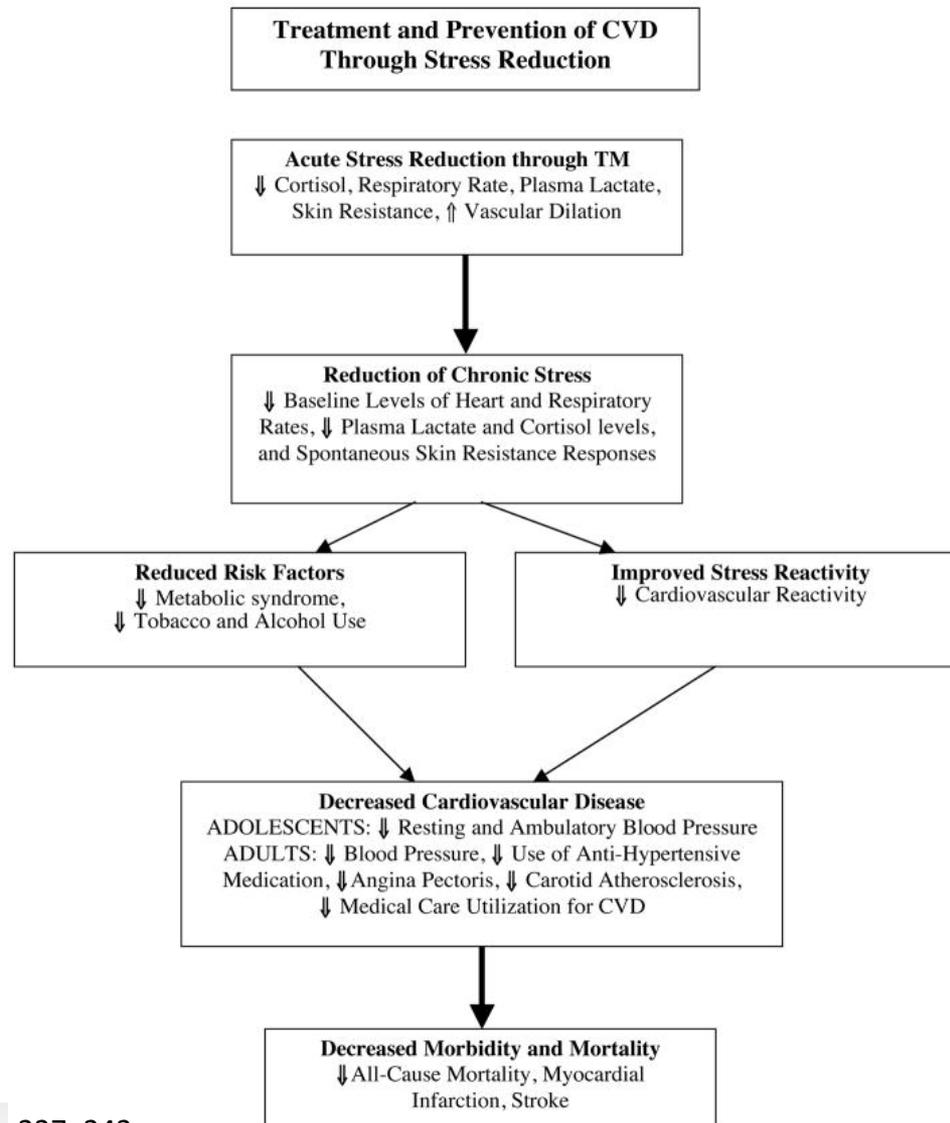


# Heart Failure: The Mind-Body Connection

Proposed remodeling of mind-heart interactions leads to progressive increases in neuroimmune activation in response to stress

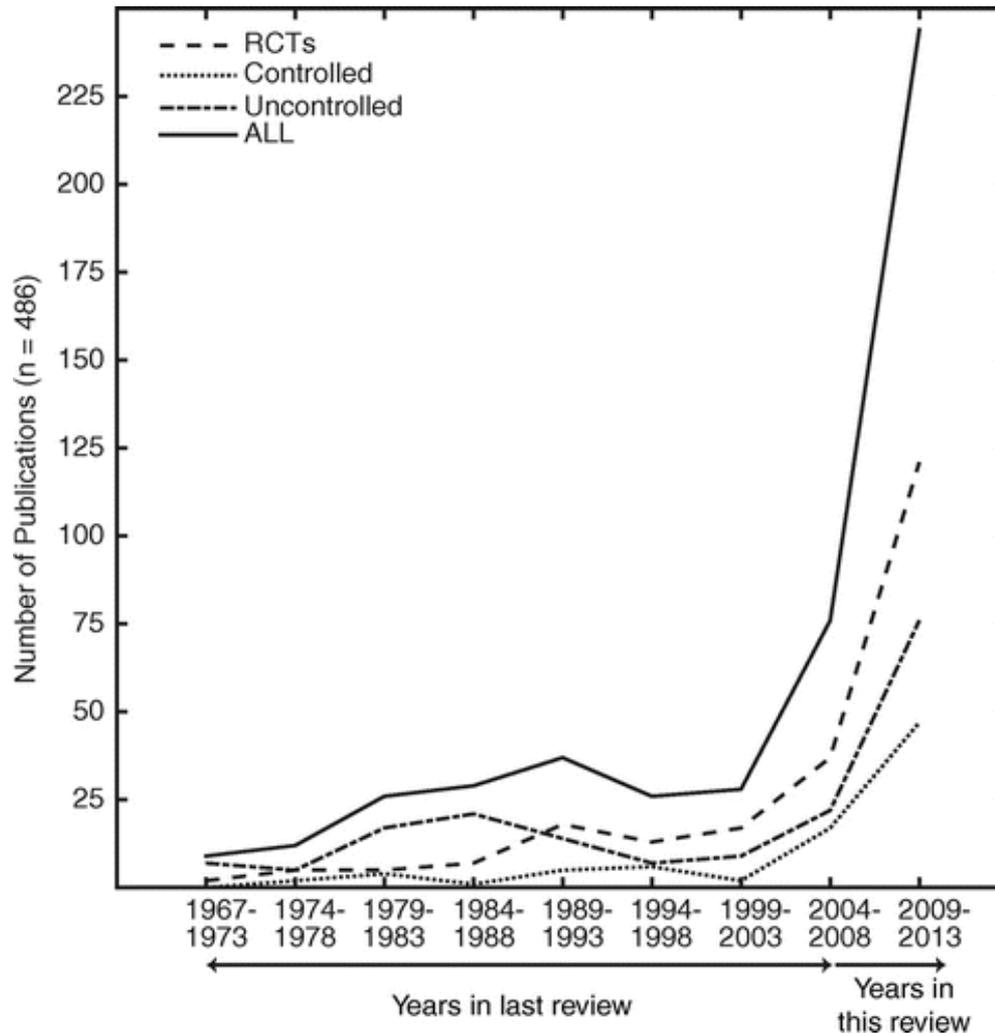


# How Stress Reduction can Improve CV Outcome





# Research in Yoga



Number of publications for every 5-year increment (with the exception of 1967–1973) for all journals and for each study design

# *CV Disease: Yoga and Meditation*

*A recent review of yoga and meditation in CV disease showed **improvement** in:*

Hypertension (4.7/3.2)

Metabolic syndrome

Hg A1c

DM type 2

Weight (1.5-13% reduction)

Lipid profile (5.8-28%  
reduction)

Rehabilitation

Psychosocial stress

Oxidative stress

Reduction in fibrinogen

Regression of atherosclerosis

Secondary prevention

Atrial fibrillation

Reduction in smoking (60%)

# *Hypertension: Mind-Body Therapies*

- **Relaxation, Yoga, Meditation, Qi Gong, Tai Chi**, etc.
  - Studies since 1995 show these modalities lead to average reductions of 7 and 10 mmHg for SBP and DBP, respectively.
- **Yoga**<sup>1</sup> (*Rating: B1*)
  - 33 previously unmedicated subjects, between 35 and 65 years of age, underwent either yoga intervention, medication, or neither (control)
  - 1 hour yoga session in morning and evening for 11 weeks.
  - Yoga group experienced SBP and DPB reductions of 33.3 and 26.3 mmHg compared to medication group reductions of 24.0 and 9.9 mmHg. Control group experienced reductions of 4.2 and 2.0 mmHg.
- **Tai Chi**<sup>2</sup> (*Rating: A1*)
  - 76 unmedicated individuals underwent a 12-week Tai Chi intervention with an hour-long session three times a week
  - Significant decrease in SBP and DBP of 15.6 and 8.8 mmHg. Cholesterol decreased 15.2 mg/dL, trait and state anxiety decreased

1. Murugesan R, Govindarajulu N. *Indian J Physiol Pharmacol*. 2000;44:207–210.

2. Tsai JC, Wang WH, Chan P, et al. *J Altern Complement Med*. 2003;9:747–754.

# Hypertension: American Heart Association - Alternative Approaches

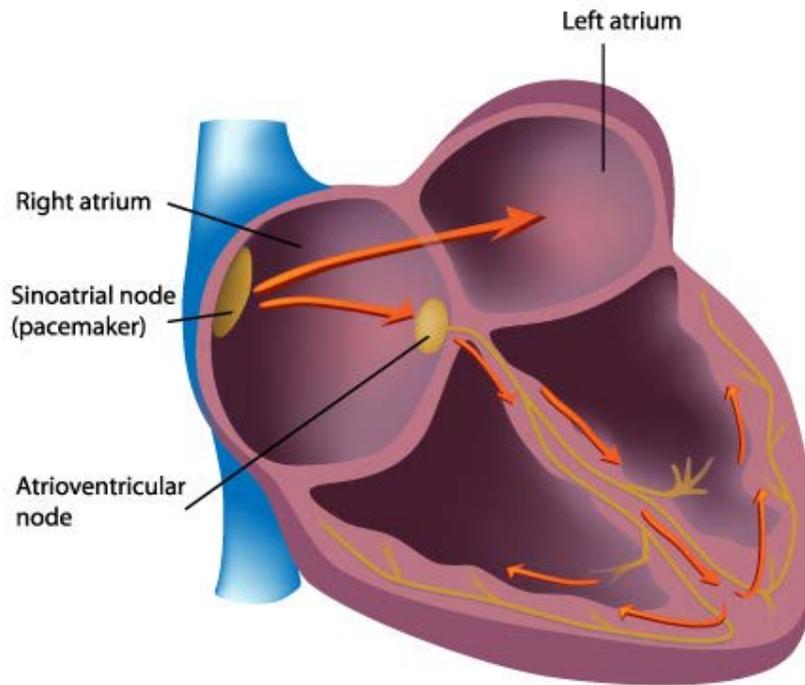
Beyond Medications and Diet: Alternative Approaches to Lowering Blood Pressure: A Scientific Statement From the American Heart Association

**Table 2. Class of Recommendation and Level of Evidence for Blood Pressure Lowering**

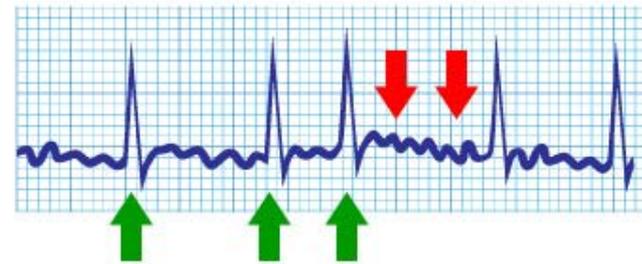
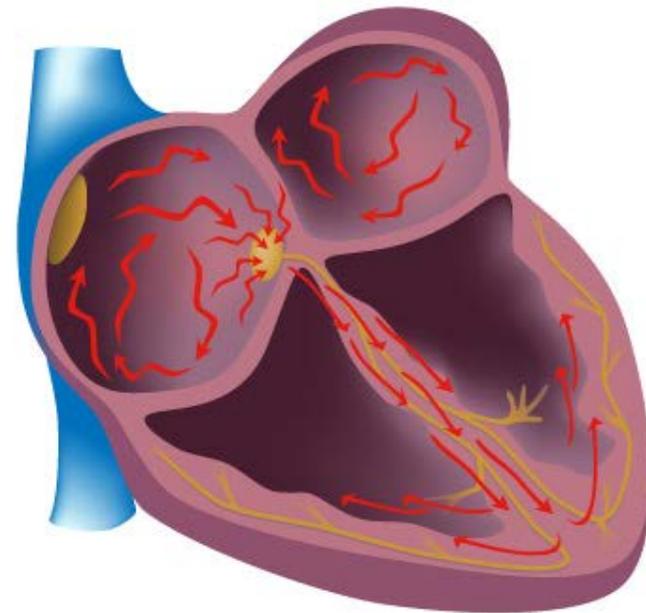
Alternative Treatments	LOE	COR
<b>Behavioral therapies</b>		
Transcendental Meditation	B	IIB
Other meditation techniques	C	III (no benefit)
Biofeedback approaches	B	IIB
Yoga	C	III (no benefit)
Other relaxation techniques	B	III (no benefit)
<b>Noninvasive procedures or devices</b>		
Acupuncture	B	III (no benefit)
Device-guided breathing	B	IIA
<b>Exercise-based regimens</b>		
Dynamic aerobic exercise	A	I
Dynamic resistance exercise	B	IIA
Isometric handgrip exercise	C	IIB

COR indicates class of recommendation; and LOE, level of evidence.

## Normal Heart Rhythm



## Atrial Fibrillation



# *Atrial Fibrillation: Yoga*

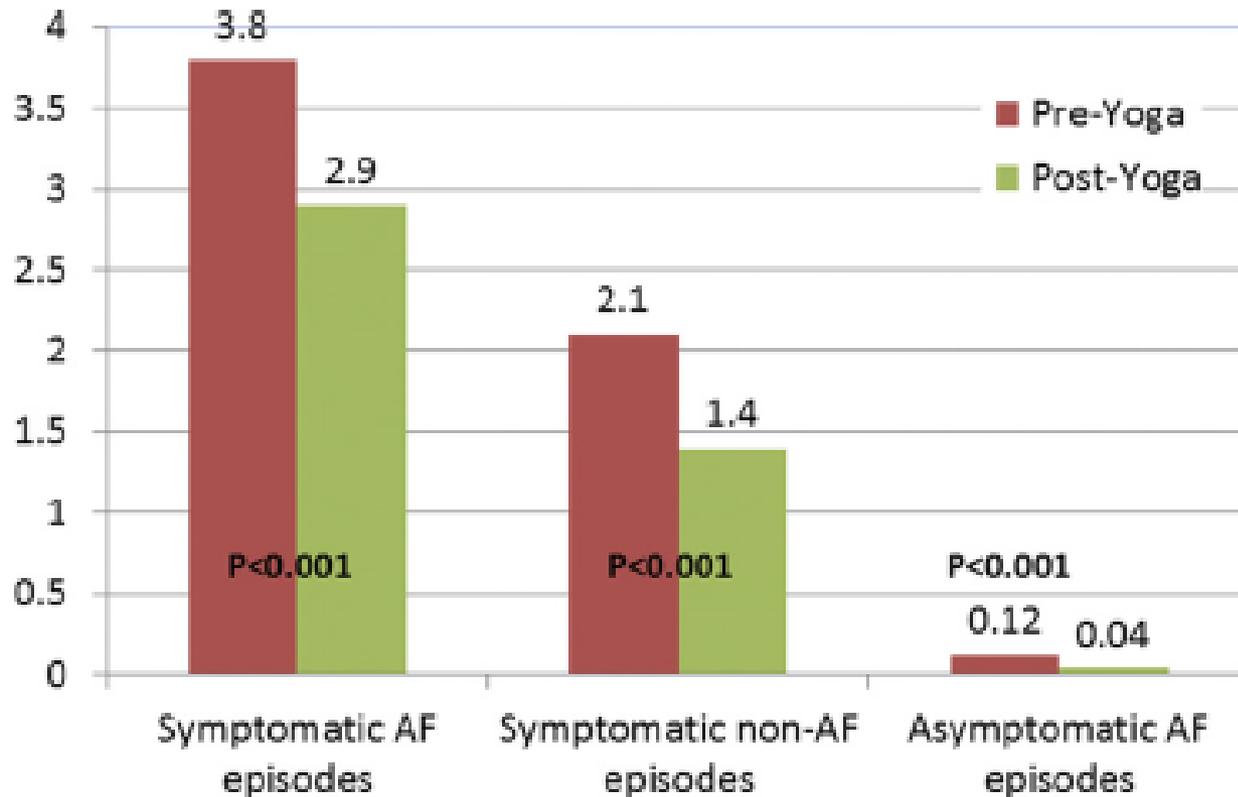
## The YOGA My Heart Study:

Single-center pre-post study on yoga for patients with symptomatic paroxysmal AF

<b>Table 1</b>		<b>Baseline Characteristics of Participants</b>	
<b>Clinical characteristics</b>			
Gender (M/F)		23 (46.9)/26 (53.1)	
Age, yrs		60.6 ± 11.5	
BMI, kg/m <sup>2</sup>		28.0 ± 5.9	
Duration of AF, months		63.9 ± 71.9	
Symptomatic AF		43 (87.7)	
LV ejection fraction, %		58.5 ± 6.3	
LA size, cm		4.01 ± 0.50	
<b>Comorbid conditions</b>			
Coronary artery disease		9 (18.4)	
Diabetes mellitus		1 (2.0)	
Hypertension		19 (38.8)	
Hyperlipidemia		20 (40.8)	
Obstructive sleep apnea		11 (22.4)	
Prior revascularization (PCI/CABG)		4 (8.2)	
<b>Medication use</b>			
Aspirin		28 (57.1)	
Beta-blockers		31 (63.3)	
ACE-I/ARB		10 (20.4)	
Statins		16 (32.7)	
Antiarrhythmic medications		38 (77.6)	

# *Atrial Fibrillation: Yoga*

## The YOGA My Heart Study



Differences in Primary Efficacy Outcomes Measures Between the Control and Intervention Phase

# Atrial Fibrillation: Yoga

## The YOGA My Heart Study

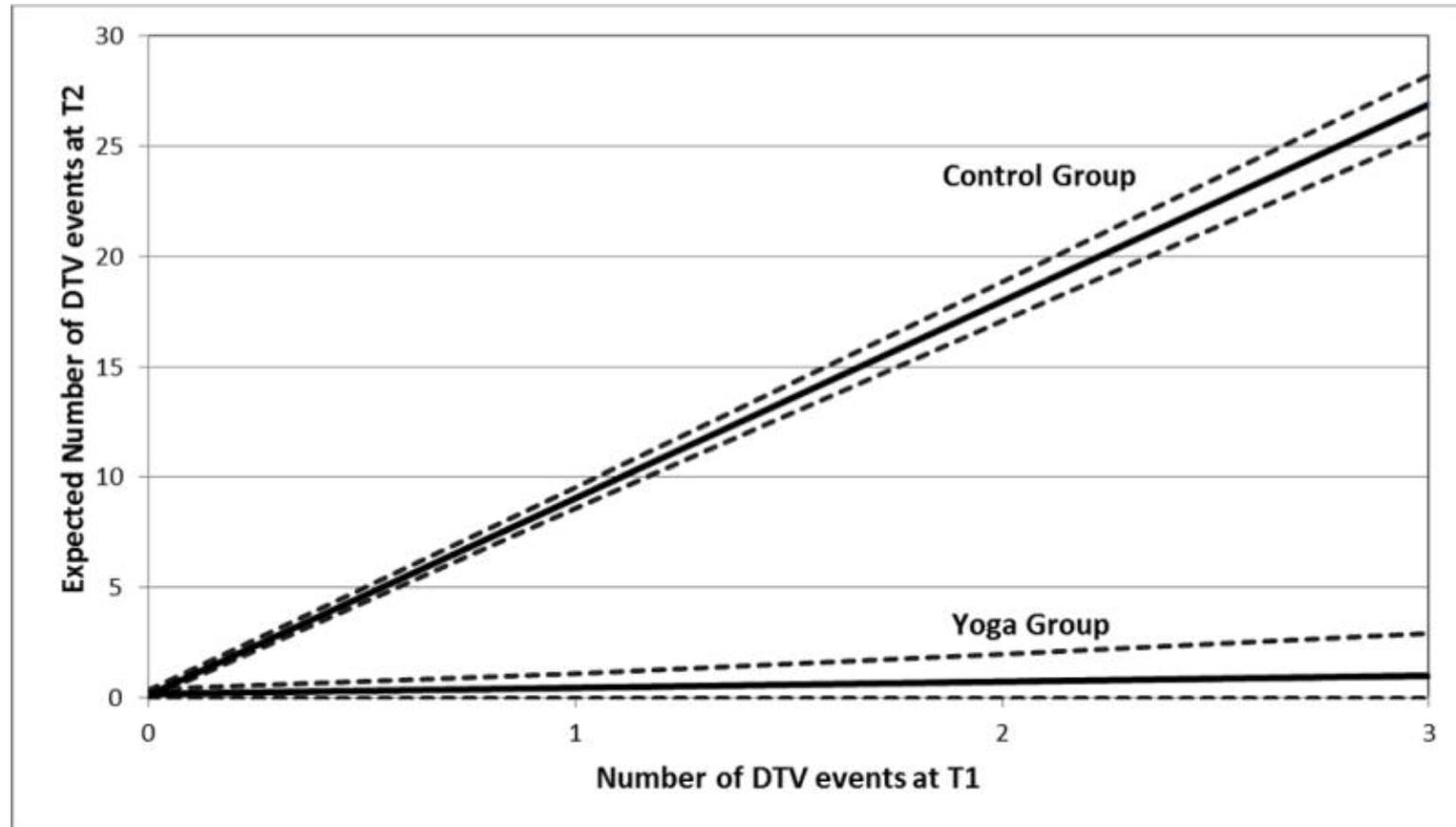
**Table 2** Comparison of Baseline, and Pre- and Post-Yoga Intervention Secondary Efficacy Outcome Measures

Type of Score (n = 49)	Baseline (Day 0)	Pre-Yoga (Day 90)	Post-Yoga (Day 180)	p Value
SDS (Depression)	31.0 (27.0–37.0)	29.0 (24.0–35.0)	27.0 (22.0–31.0)	<0.001*
SAS (Anxiety)	34.0 (31.5–37.0)	33.0 (31.0–36.5)	25.0 (23.0–30.0)	<0.001*
SF-36 (domain-wise)				
1. Physical functioning	85.0 (80.0–95.0)	85.0 (70.0–93.8)	90.0 (85.0–95.0)	0.017*
2. Role physical	100.0 (75.0–100.0)	100.0 (56.3–100.0)	100.0 (86.3–100.0)	0.304
3. Bodily pain	100.0 (67.0–100.0)	100.0 (100.0–100.0)	100.0 (100.0–100.0)	0.494
4. General health	65.0 (50.0–77.5)	60.0 (45.0–75.0)	75.0 (65.0–82.5)	<0.001*
5. Vitality	84.0 (68.0–88.0)	84.0 (73.0–91.0)	91.0 (80.0–95.8)	<0.001*
6. Social functioning	100.0 (75.0–100.0)	100.0 (75.0–100.0)	100.0 (90.0–100.0)	0.019*
7. Role emotional	68.0 (60.5–80.0)	68.0 (58.5–80.0)	78.0 (60.5–80.0)	0.212
8. Mental health	75.0 (65.0–85.0)	75.0 (65.0–80.0)	80.0 (70.0–86.0)	<0.001*
Hemodynamic parameters				
Heart rate	66.9 ± 8.3	64.7 ± 7.5†	61.5 ± 7.6†	<0.001
Systolic BP	135.0 ± 7.5	133.0 ± 6.2†	127.7 ± 6.7†	<0.001
Diastolic BP	80.9 ± 7.7	78.2 ± 6.5†	74.0 ± 6.7†	<0.001

### Conclusion:

In patients with paroxysmal AF, yoga improves symptoms, arrhythmia burden, heart rate, blood pressure, anxiety and depression scores, and several domains of QoL

# Yoga decreases ICD shocks



# *Heart Failure: Mind-Body Therapies*

- Increased release of inflammatory cytokines can lead to worsening morbidity and mortality rates. Treating depression and reducing stress can lessen the risk.
- **Meditation** (*Rating: B1*)
  - Transcendental meditation groups compared with control had improvements in 6-minute walk, depression, quality of life, and hospitalization scores<sup>1</sup>
  - Listening to 30 minute meditation tapes 2x/day showed improvements in neurotransmitter levels and quality of life measures<sup>2</sup>
- **Mindfulness and Coping** (*Rating: B1*)
  - Mindfulness and coping skills taught to more than 200 adults with reduced ejection fraction or congestive heart failure.<sup>3</sup>
  - Measures of anxiety/depression found to be significantly lower in active group
  - Symptom improvement was still observed at 12 month follow-up

1. Jayadevappa R, Johnson JC, Bloom BS, et al. *Ethnic Dis.* 2007;17:72–77

2. Curiati JA, Bocchi E, Freire JO, et al. *J Altern Complement Med.* 2005;11:465–472.

3. Sullivan MJ, Wood L, Terry J, et al.. *Am Heart J.* 2009;157:84–90.

**Table. Representative Studies Examining Mind-Body Interventions in Congestive Heart Failure**

Intervention	Author and Reference No.	Type	n (Treatment Arm)	Follow-Up	Outcomes With Intervention
Biofeedback	Moser et al <sup>105</sup>	Prospective Randomized controlled	40 (20)	Immediate	Increased cardiac output and decreased systemic vascular resistance No changes in catecholamine levels or O <sub>2</sub> consumption
Biofeedback	Swanson et al <sup>109</sup>	Prospective Randomized controlled	29 (15)	6 weeks	Improved 6MWD for subgroup with ejection fraction >30% (n=9 vs 8) No significant change in HRV or QoL
Slow breathing	Bernardi et al <sup>106</sup>	Prospective NR Self-matched and controlled	102 (81)	Immediate	Increased baroreflex sensitivity and BP decrease in heart failure patients pre intervention vs postintervention (self-matched) No significant difference between heart failure and control populations
Transcendental Meditation	Jayadevappa et al <sup>111</sup>	Prospective Randomized controlled	23 (13)	6 mo	Improved 6MWD, depression scores, and QoL
Meditation	Curiati et al <sup>126</sup>	Prospective Randomized controlled	19 (10)	14 wk	Reduced NE levels and improved QoL Left ventricular ejection fraction not significantly changed
Tai Chi	Yeh et al <sup>124,125</sup>	Prospective Randomized controlled	30 (15)	12 wk	Improved QoL, 6MWD, decreased brain natriuretic peptide
Stress management	Kostis et al <sup>127</sup>	Prospective Randomized controlled	19 (7)	12 wk	Improved exercise time, QoL, depression, and weight loss 6MWD not statistically improved
Stress management	Luskin et al <sup>132</sup>	Prospective Incomplete Randomization controlled	33 (14)	10 wk	Improved 6MWD, depression, perceived stress, and emotional distress HRV not statistically improved
Mindfulness-based stress reduction	Sullivan et al (SEARCH Trial) <sup>133</sup>	Prospective NR	217 (117)	12 mo	Improved symptoms, anxiety, depression, and QoL No differences in death and rehospitalization
Guided imagery	Klaus et al <sup>128</sup>	Prospective NR Self-matched	8	6 wk	No statistically significant improvements in exercise or dyspnea measures QoL measures trended towards but not significant for improvement
Progressive muscle relaxation training	Yu et al <sup>129</sup>	Prospective Randomized controlled	121 (59)	14 wk	Trend toward symptom improvement
Relaxation response	Chang et al <sup>130</sup>	Prospective Randomized controlled	83 (33)	Approx 4 mo	Improved spiritual QoL Trend toward improved emotional QoL Physical QoL and exercise capacity not improved by relaxation response

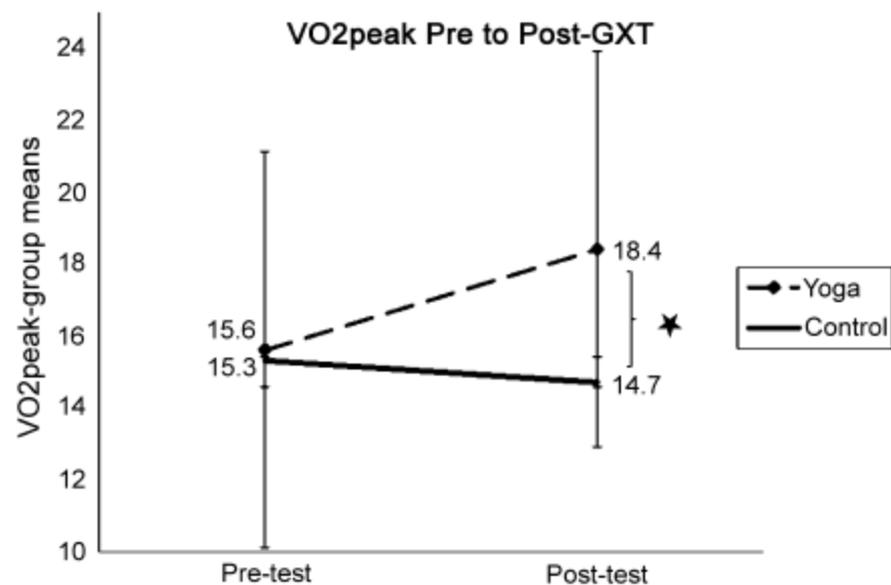
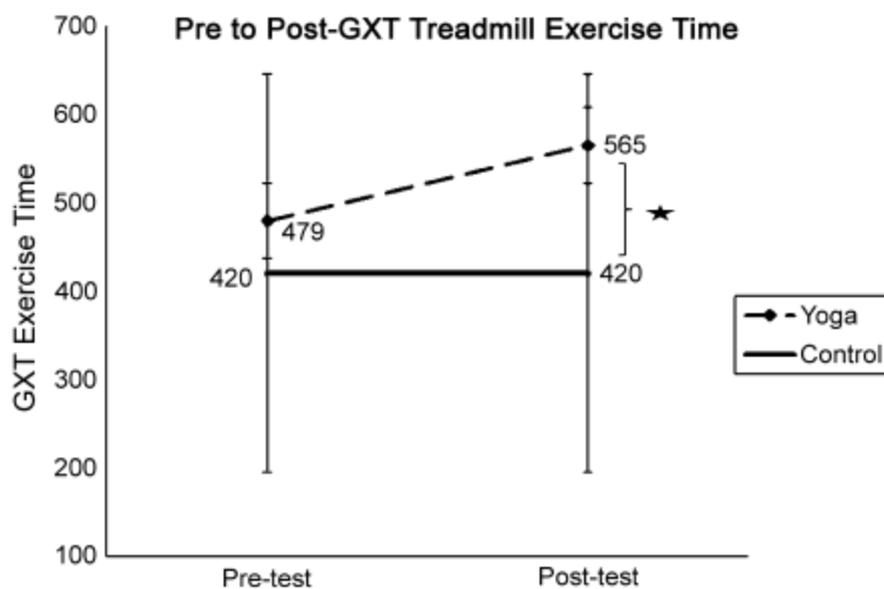
NR indicates nonrandomized; 6MWD, 6-minute walk distance; QoL, quality of life; HRV, heart rate variability; and NE, norepinephrine.

## A 2010 Review of Mind-Body Therapy Studies for Patients with Congestive Heart Failure

# Heart Failure: Yoga

A Randomized-Clinical Trial on an 8 Week Yoga Program for African-American Heart Failure Patients

Yoga Group (n=21)  
Control Group (n=19)



# Heart Failure: Yoga

A Randomized-Clinical Trial on an 8 Week Yoga Program for African-American Heart Failure Patients

TABLE 3. Within-yoga group differences.

Parameter	Time = 0 Months	Time = 2 Months	P
Pre-Post			Time 0 vs Time 2 Months
Flexibility (cm)	-1.4 ± 5.6	0.29 ± 4.5	<b>0.002</b>
GXT (s)	441 ± 208	565 ± 222	<b>0.001</b>
$\dot{V}O_{2peak}$ (mL·kg <sup>-1</sup> ·min <sup>-1</sup> )	15.3 ± 5.1	18.4 ± 5.6	<b>0.001</b>
MLwHFQ-T	41.55 ± 21.82	30 ± 15	<b>0.02</b>
MLwHFQ-P	18.6 ± 10.8	13.6 ± 6.8	<b>0.034</b>
MLwHFQ-E	7.8 ± 4.6	5.4 ± 5.4	0.192
IL-6 (pg·mL <sup>-1</sup> )	19.6 ± 2.5	15.9 ± 2.1	<b>0.001</b>
CRP (mg·L <sup>-1</sup> )	2.4 ± 0.58	1.9 ± 0.39	<b>0.001</b>
EC-SOD (U·mL <sup>-1</sup> )	509.1 ± 71.8	610.1 ± 86.2	<b>0.001</b>

TABLE 2. Between-group differences.

Test	Yoga Δ From Baseline	Control Δ From Baseline	P For Δ
Weight (kg)	0.63 ± 2.3	0.63 ± 3.3	0.983
Flexibility (cm)	5.0 ± 4.0	1.2 ± 4.1	<b>0.012</b>
GXT (s)	123 ± 108.95	-21.46 ± 137.77	<b>0.002</b>
$\sim\dot{V}O_{2peak}$ (mL·kg <sup>-1</sup> ·min <sup>-1</sup> )	3.11 ± 3.04	-0.65 ± 3.73	<b>0.003</b>
MLwHFQ-T	11.56 ± 19.18	1.93 ± 16.87	0.133
MLwHFQ-P	5.0 ± 8.87	0.5 ± 7.55	0.128
MLwHFQ-E	2.35 ± 7.12	0.13 ± 8.23	0.451
IL-6 (pg·mL <sup>-1</sup> )	3.57 ± 1.97	-0.59 ± 1.52	<b>0.001</b>
hs-CRP (mg·L <sup>-1</sup> )	0.5 ± 0.49	0.12 ± 0.17	<b>0.001</b>
EC-SOD (U·mL <sup>-1</sup> )	1.01 ± 73.75	-12.82 ± 30.94	<b>0.001</b>

A pilot trial on 8 weeks of yoga for heart failure patients (75% Caucasian)

Table 2. Functional and Psychological Measures (n = 12)

Clinical Data	Before Yoga Mean ± SD	After Yoga Mean ± SD	P Value
Endurance (m)	436.7 ± 82.0	465.5 ± 82.2	<.02*
Balance (sec)	26.9 ± 19.7	40.0 ± 18.5	.05*
Upper body strength (total no.)	16.5 ± 6.9	19.69 ± 8.6	.04*
Lower body strength (total no.)	11.6 ± 3.6	13.4 ± 4.8	.01*
Flexibility: right shoulder (°)	-18.5 ± 18.5	-16.3 ± 14.5	.20
Flexibility: left shoulder (°)	-19.7 ± 19.4	-17.5 ± 17.5	.07
Flexibility: right hip (°)	-14.0 ± 16.3	9.0 ± 8.3	.27
Flexibility: left hip (°)	-11.3 ± 14.7	-7.6 ± 7.1	.32
Flexibility: thighs (cm)	12.3 ± 11.7	13.2 ± 11.4	.43
Quality of life score (1-100)	80.2 ± 11.6	78.0 ± 15.0	.60
Symptom stability (1-100)	47.7 ± 7.5	65.9 ± 20.2	.02*
Beck Depression Inventory	7.4 ± 6.0	7.1 ± 5.7	.77
KIMS: Observing	40.7 ± 8.2	41.0 ± 9.0	.86
KIMS: Describing	29.4 ± 5.5	29.5 ± 4.7	.86
KIMS: Acting	34.4 ± 5.8	34.4 ± 4.1	1.0
KIMS: Non-judging	35.0 ± 6.4	34.8 ± 7.5	.85

SD, standard deviation; KIMS, Kentucky Inventory of Mindfulness.

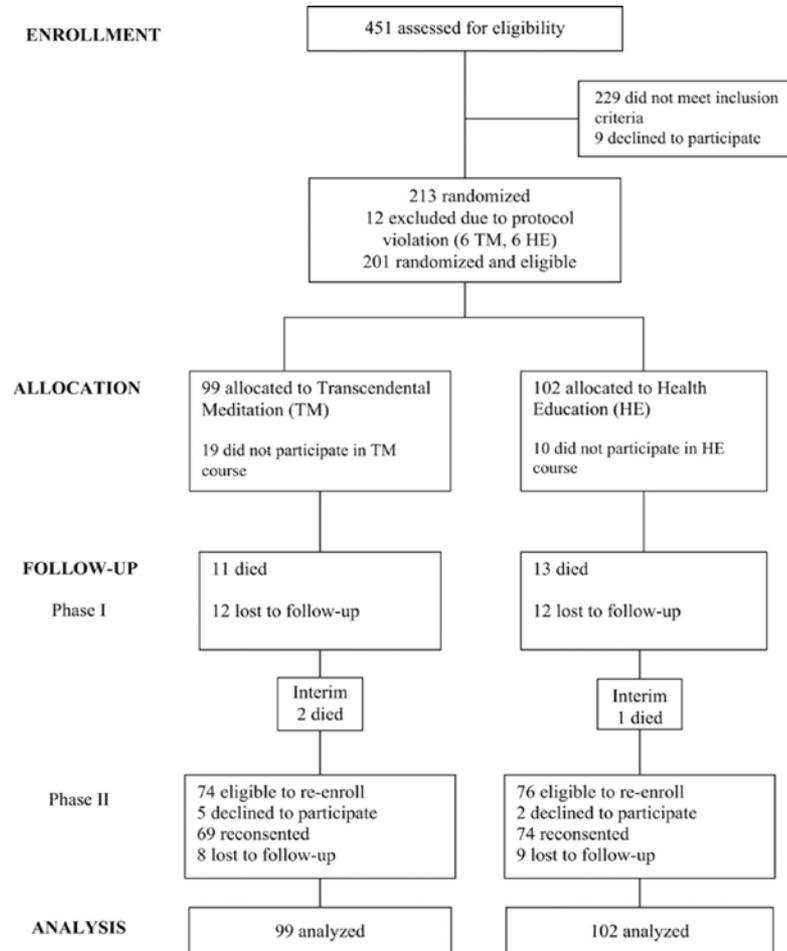


# CV Disease: Meditation

Stress reduction in the secondary prevention of CV disease in African-American patients, RCT of:

- **Transcendental Meditation (TM)**
- **Health Education (HE)**

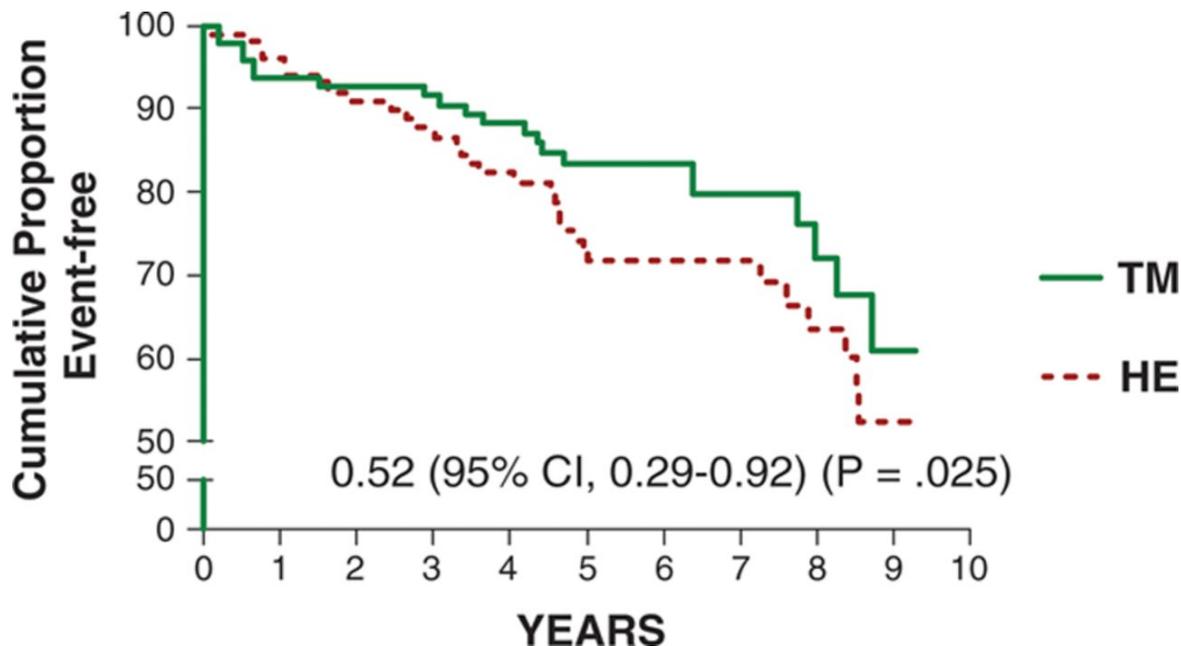
## Participant Flow Diagram





# *CV Disease: Meditation*

Kaplan-Meier survival curves of primary end point (all-cause mortality, nonfatal MI, or nonfatal stroke).



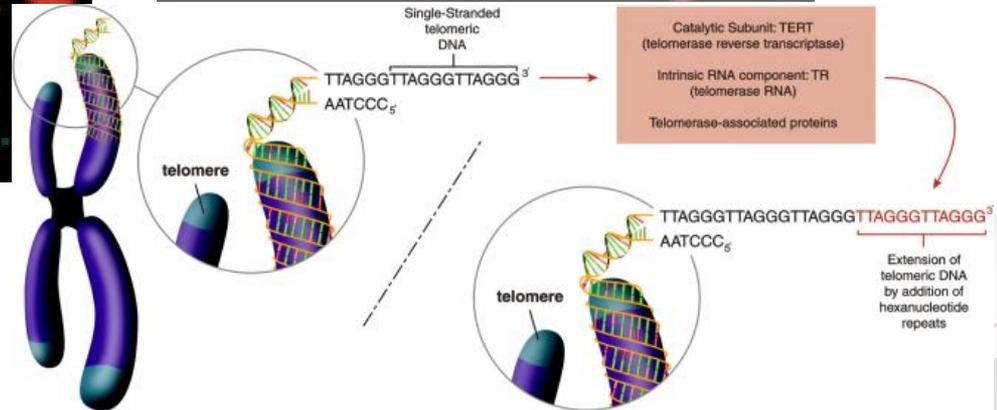
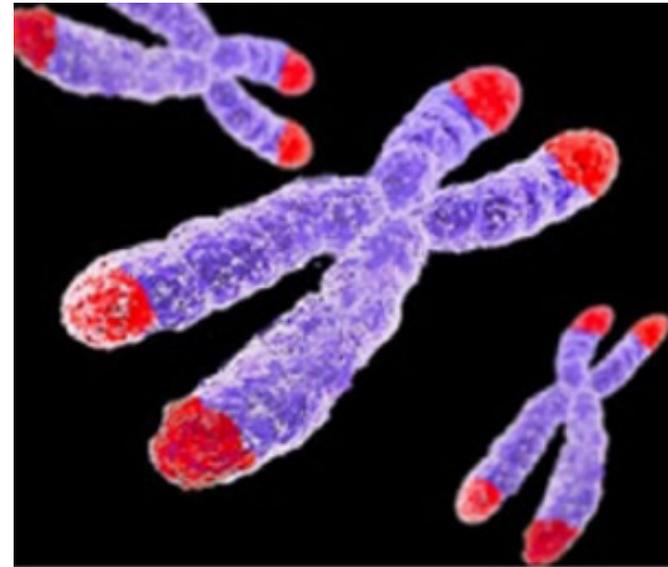
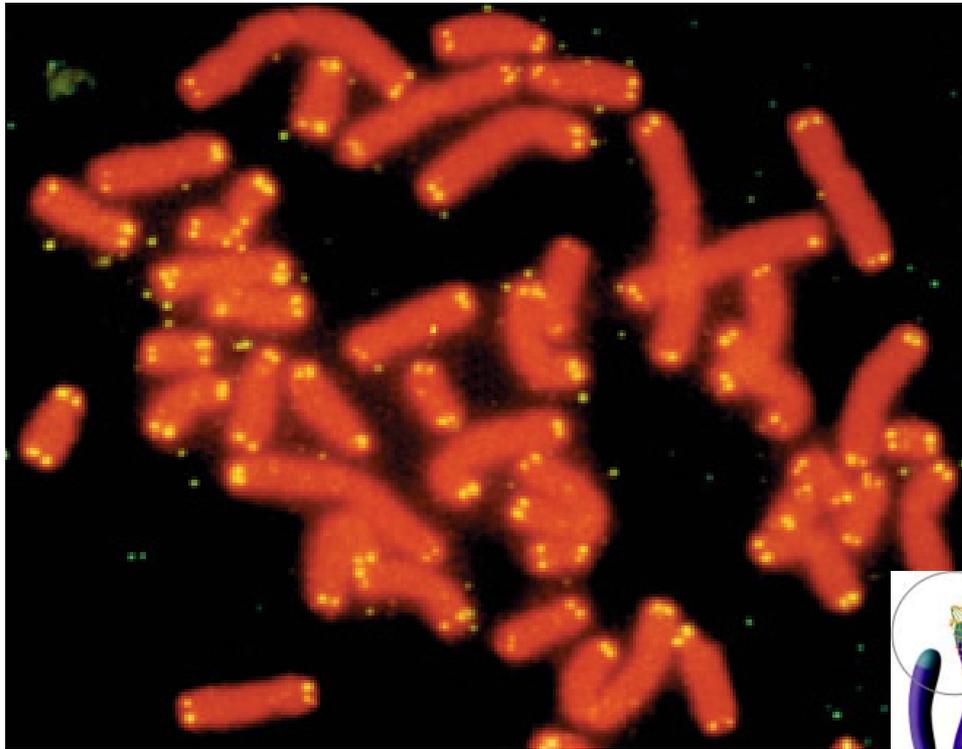
## **Transcendental Meditation**

Resulted in significantly reduced:

- Mortality
- Risk of myocardial infarction, and
- Stroke in coronary heart disease patients
- Changes associated with lower blood pressure and psychosocial stress factors
- Adherence was associated with survival

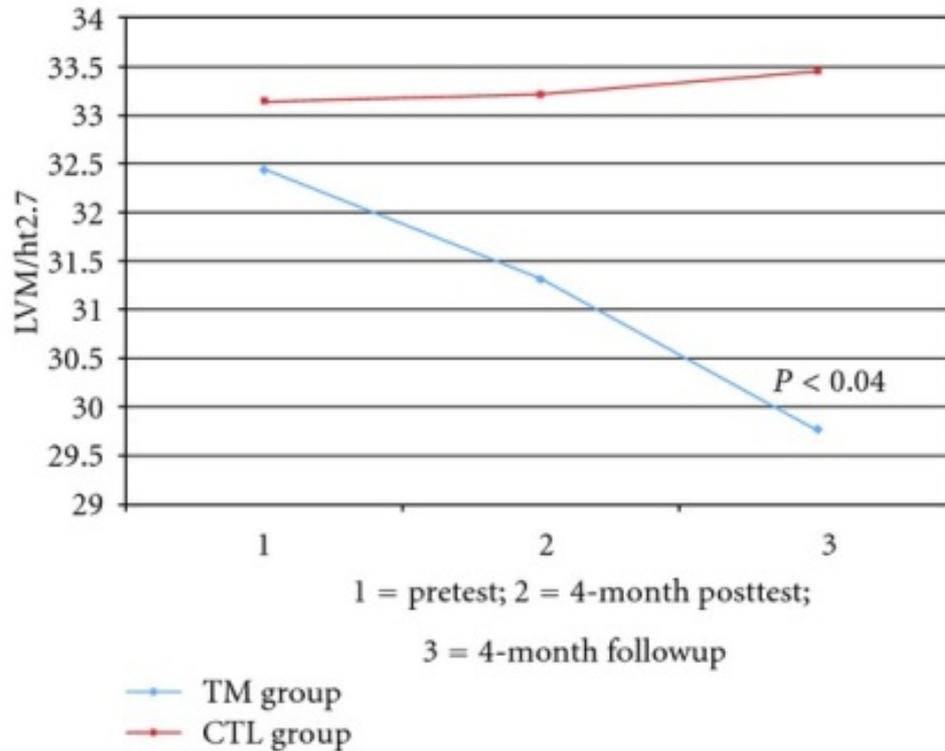


# Telomeres and Telomerase

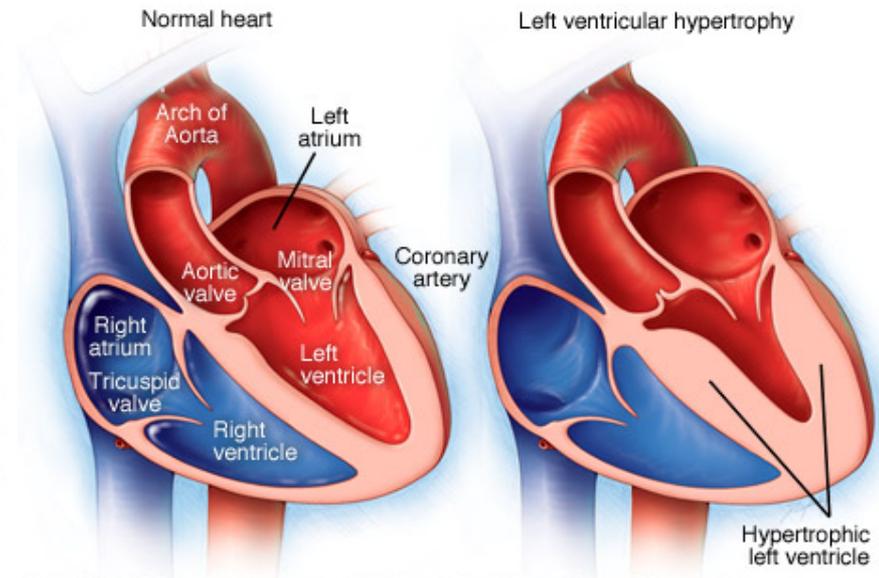




# Meditation reduces Heart Muscle Thickness



Changes in left ventricular mass index.



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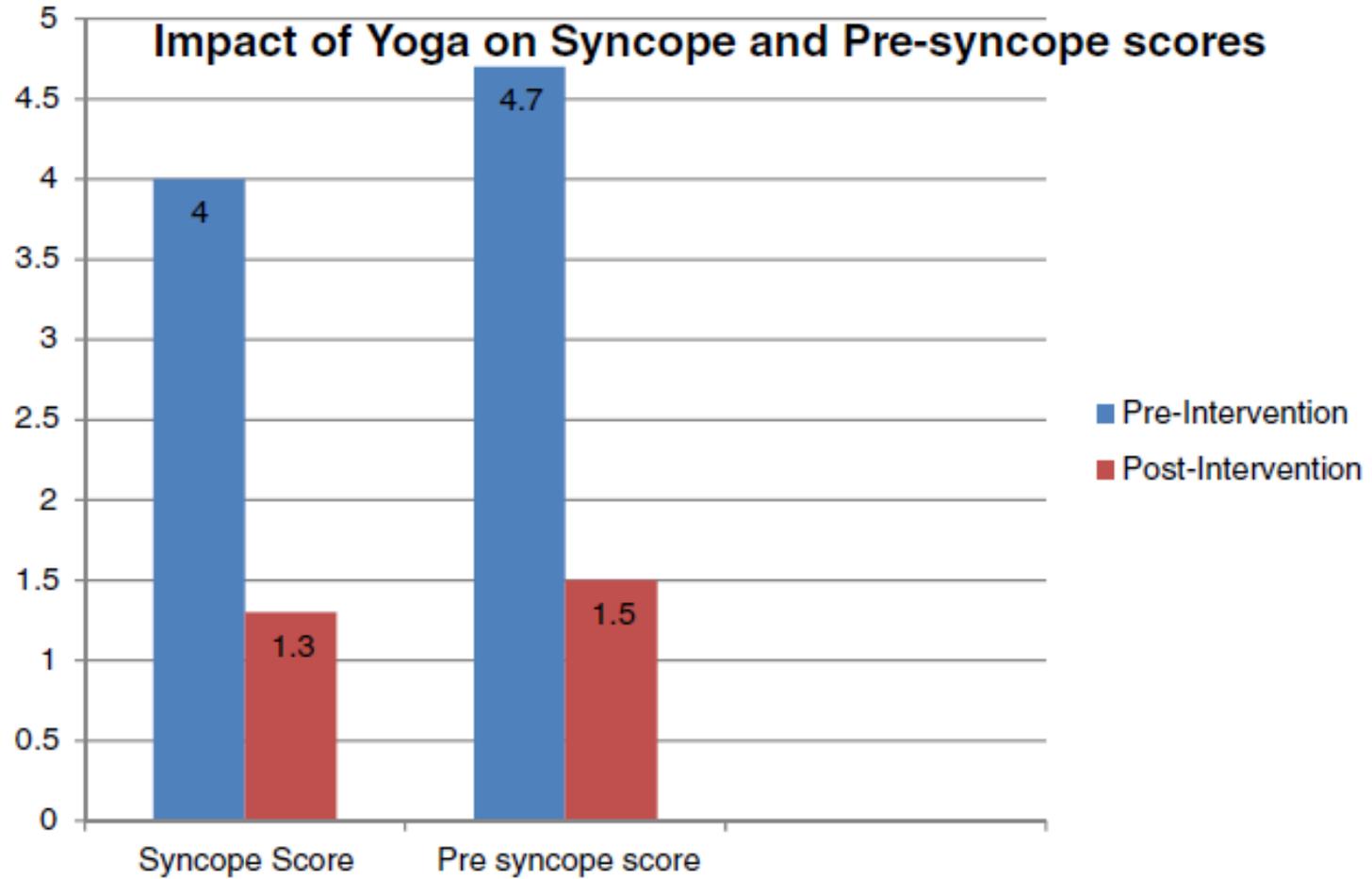
# Anti-inflammatory effect of Yoga

Variable	HIY group (n=21)			Control group (n=23)			p-Value: HIY vs. control
	Baseline	6 wk	p-Value	Baseline	6 wk	p-Value	
Cooper test (maximal oxygen consumption) (mL/kg per min)	37.3±7.9	37.5±7.9	0.78	38.5±7.7	38.3±6.6	0.79	0.87
Central RPE	17 (15–20)	17 (14–19)	0.20	17 (12–19)	17 (7–19)	0.83	0.37
Peripheral RPE	15 (8–18)	15 (11–17)	0.45	14 (9–16)	14 (8–18)	0.15	0.14
HRR	39.9±13.1	36.8±15.5	0.39	40.8±11.8	39.2±12.7	0.56	0.82
Rest HR (beats/min)	81.6±18.9	79.6±8.2	0.47	81.3±13.7	78.5±14.5	0.32	0.97
Systolic BP (mmHg)	118.7±5.8	118.3±5.2	0.80	118.9±8.9	117.3±6.3	0.25	0.54
Diastolic BP (mmHg)	76.8±5.9	77.2±7.4	0.73	74.8±5.8	77.8±6.8	0.01 <sup>a</sup>	0.15
MID BP (mmHg)	97.7±4.7	97.8±5.8	0.66	96.8±6.5	97.5±5.9	0.45	0.45
Plasma ApoA1 (g/L)	1.47±0.17	1.55±0.16	0.03 <sup>a</sup>	1.59±0.22 <sup>c</sup>	1.62±0.22 <sup>c</sup>	0.37	0.28
Plasma ApoB (g/L)	0.80±0.14	0.81±0.15	0.65	0.78±0.16 <sup>c</sup>	0.81±0.18 <sup>c</sup>	0.12	0.46
ApoB/ApoA1	0.55±0.12	0.53±0.13	0.28	0.50±0.12	0.51±0.14	0.48	0.20
Blood glycosylated hemoglobin HbA1C (mmol/mol)	32.2±2.9	31.3±3.8	0.07	31.8±2.7	31.8±4.2	1.0	0.22
Serum adiponectin (mg/L)	8.32±3.32	9.68±3.83	0.003 <sup>a</sup>	9.07±3.29 <sup>b</sup>	9.53±3.78 <sup>b</sup>	0.18	0.37
Serum leptin (μg/L)	14.33±11.04	14.63±10.97	0.73	10.19±7.07 <sup>b</sup>	9.43±5.48 <sup>b</sup>	0.59	0.48
Adiponectin/leptin	1.24±1.46	1.33±1.52	0.24	1.39±0.95 <sup>b</sup>	1.51±1.35 <sup>b</sup>	0.59	0.78

Cardiovascular Fitness (Maximal Oxygen Consumption, Cooper Test), Blood Pressure, Apolipoproteins, Glycosylated Hemoglobin, and Adipocytokines at Baseline and After 6 Weeks for the High-Intensity Yoga and Control Groups



# Yoga for Fainting



*There are two mistakes one can make along the  
road to truth:  
not going all the way, and not starting.*

*Buddha*



*Come experience,  
discover and learn.*

Resolve to get

**Healthy**

UNIVERSITY OF  
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Academy of Integrative Health & Medicine

# Importance of Sleep for Health and Longevity

**Dan Asimus, MD**

A Community Day Focused on Integrative Health & Wellness

**Saturday, January 23, 2016**

# GOING TO SLEEP AND STAYING AWAKE

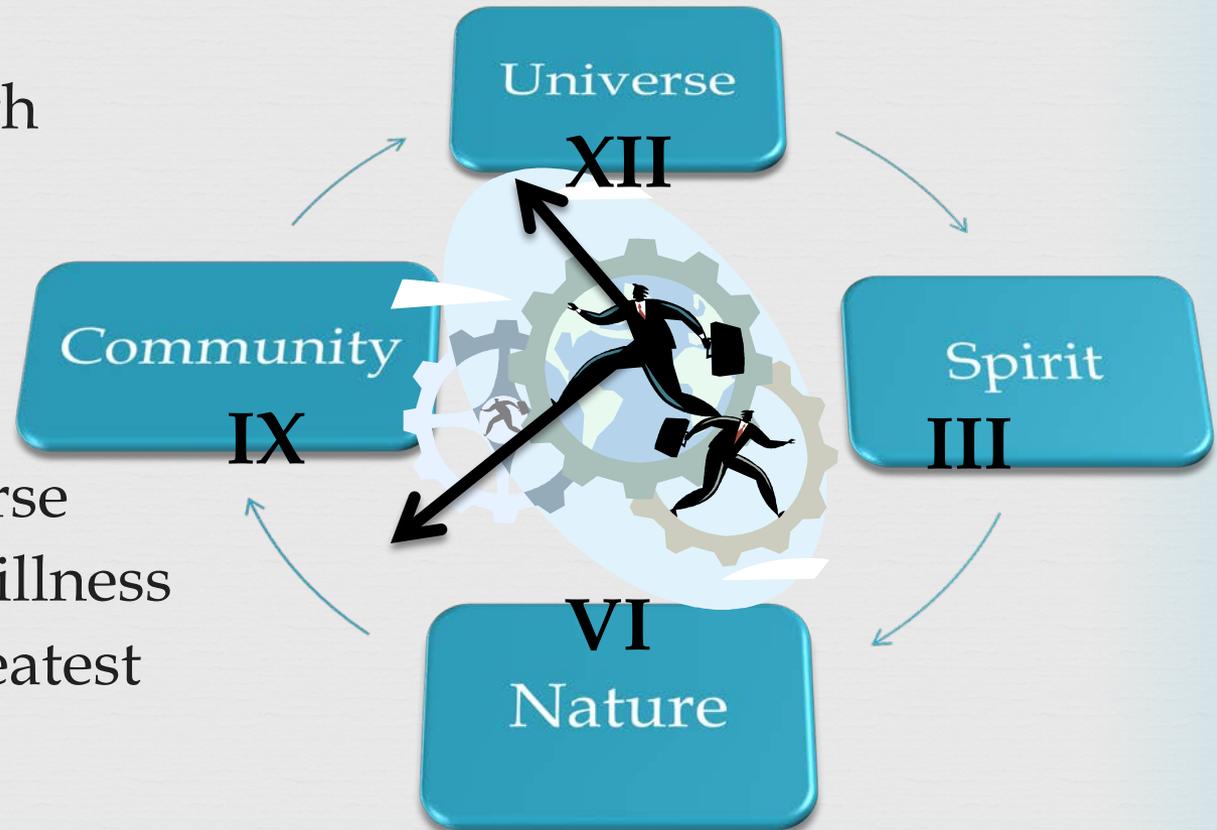


**Daniel M. Asimus M.D., M.S.Ed., ABIHM**  
**LIFE FITNESS CENTER**  
**LOS ANGELES & MAUI**

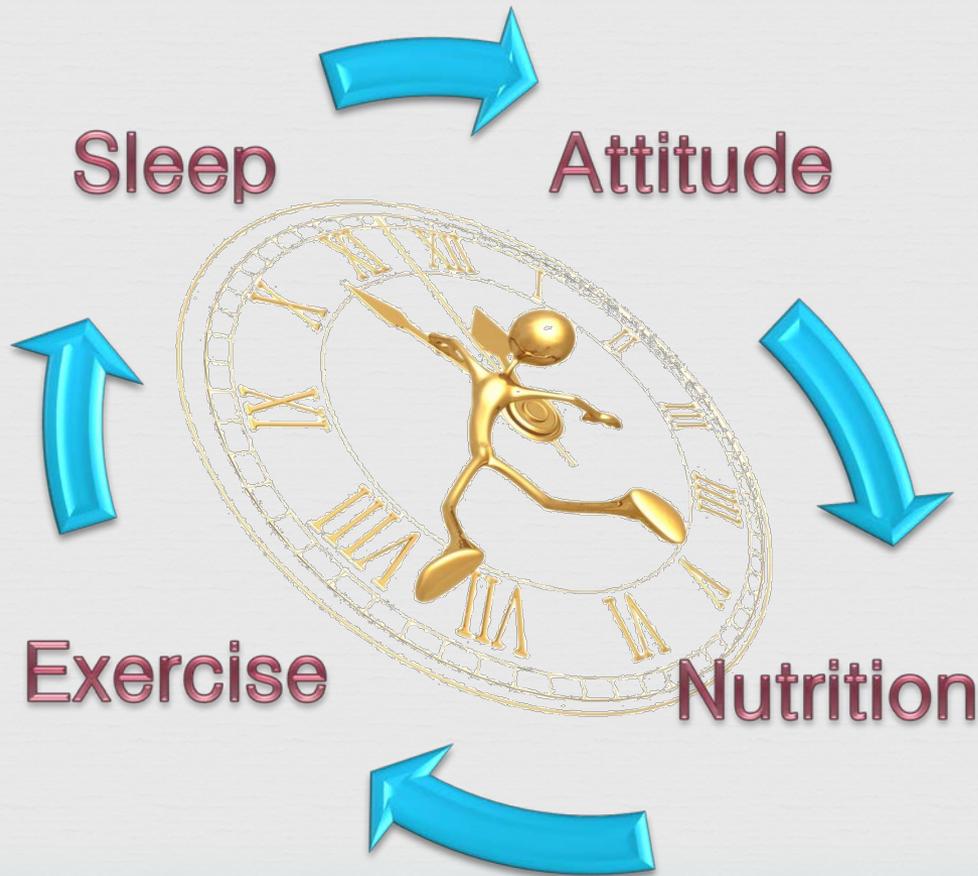
# Goals of Integrative Holistic Medicine



1. Optimal Health
2. Happiness
3. Success
4. Homeostasis with nature and the universe
5. Prevention of illness
6. Love is the greatest healer of all



# Integrative Holistic Sleep Science



Our genetics and our inner and outer environment strongly influence the interactions and results

# What is sleep?



Essential biological drive, need, and requirement for all living beings



The quality and quantity make a big difference in the quality and quantity of our lives

# Healthy Sleep: Goals of this Presentation



**1**

- Help to change your paradigm about sleep

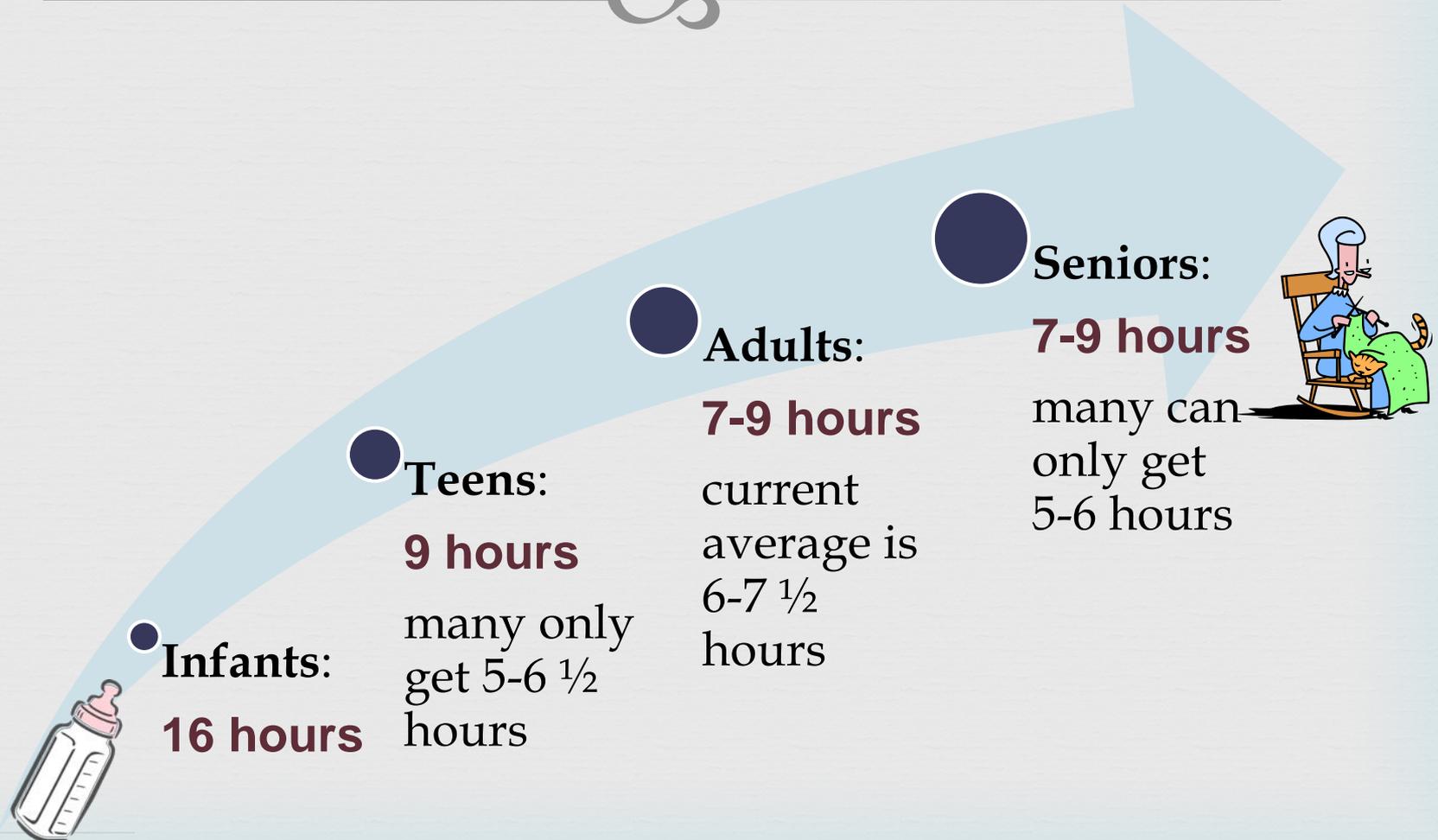
**2**

- Provide suggestions for you to get better sleep

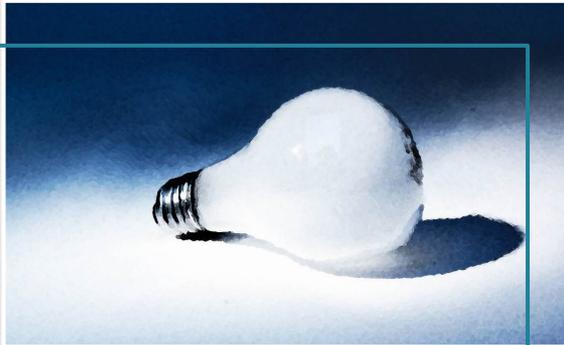
**3**

- Increase the importance of sleep for your health and wellness

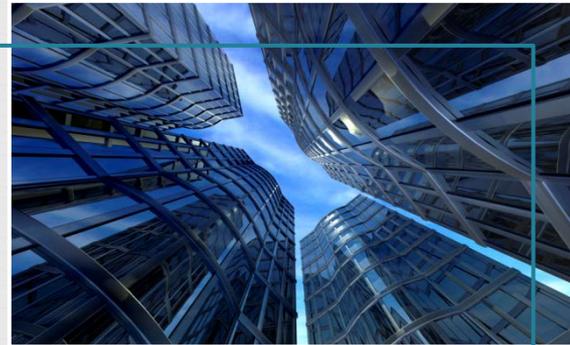
# Healthy Sleep: How much is enough?



# History of Sleep.....What Happened?



Invention of the Light Bulb



Urban-Industrial lifestyle



Electronic world



Cultural shift

# Who said this?



“Sleep is a criminal waste of time...a useless heritage from our cave days.”

**Thomas Edison**

“Sleep is an enemy, a necessary burden, a waste of time.”

**Margaret Thatcher**

# Integrative Sleep and Rhythms



- ☞ We suffer from a darkness deficiency
- ☞ Sleep and dream debt cause dangerous mental smog and daze
- ☞ LAN (light at night) undermines life's fundamental rhythmicity
- ☞ Rush hour, prime time, happy hour, late night TV, drugs/alcohol, 2<sup>nd</sup> wind all interfere with the Yin & Yang of natural sleep and wakefulness



# Integrative Sleep and Rhythms Cont.

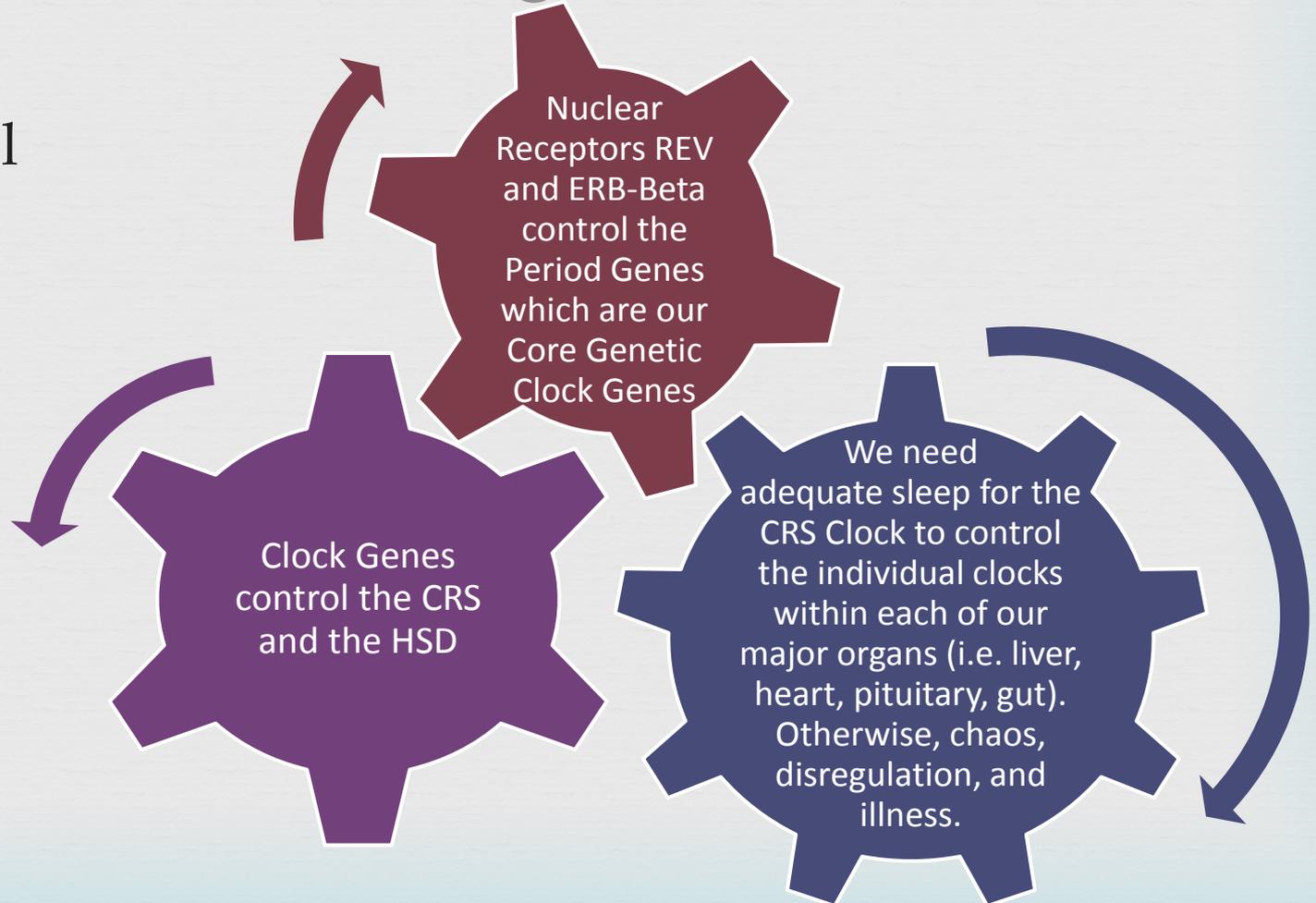


- ∞ Homeostasis requires rhythm, repetition, regularity and routine. Rhythms rule our world; are powerful and healing.
- ∞ Rhythmic activities of our body and mind include our hormones, circulation, digestion, brain waves, and states of consciousness.

# What Helps Regulate All This?



Our  
Biological  
Clocks  
and our  
Genes



# What are the Negative Consequences of Inadequate Sleep?



1

100,000 accidents, 1,500 auto deaths.

4

Structural brain changes-apoptosis, dementias, other NDD.

2

Deficient production of all neurotransmitters.

5

Poor memory, concentration, problem solving, emotional control, creativity, learning, and executive functioning.

3

Decreased dreaming: emotional processing, and less Slow Wave Sleep-Delta Stage 3-4 Sleep.

6

Alteration in at least 117 important genes.

# Negative consequences of inadequate sleep cont.



7

Less AKT, a insulin signaling protein, adipose tissue leading to insulin resistance, poor glucose metabolism, and weight gain, obesity.

10

Increase Ghrelin – hunger.  
Decreased Leptin – satiety.

8

Increases insulin resistance by 30%, equals 10-20 years of metabolic aging.

11

Increased Depression, Anxiety, Bipolar, Suicides, Substance Abuse.

9

Decreased immunity: increased interleukin L6 and CRP and increased autoimmune disorders.

12

Increased Inflammation: CVD, Hypertension, CVA, Diabetes, Cancer.

# What Should our Patients Avoid in the Evenings?



Electronics

Cigarettes



Noise



Stimulants

Alcohol



Light at Night (LAN)



Certain meds



Exercise



Worry



Eating late

# Common Drugs that Cause Insomnia



- Alcohol
- Caffeine
- Chocolate
- Nicotine
- Stimulants
- Beta Blockers
- Antidepressants
- Calcium Channel Blockers
- Bronchodilators
- Corticosteroids
- Decongestants
- Thyroid Hormones
- Anticonvulsants

# Now, what's the treatment for specific and general sleep problems?



*The required foundational treatment for all patients is to teach*

- Living within the Natural Harmonious Rhythms of Nature
- Calm down and slow down in the evenings
- Be thankful and grateful
- No worrying, anger, and chaos

*Your day begins when going to sleep*

- Stop and enjoy the “four seasons” of each 24-hour cycle: dusk, night, dawn, day
- Maintain a healthy BMI, good nutrition, daily exercise, and a spiritual practice
- Love yourself and others
- Do something good for someone else today

# What are my choices of **Substances** (and priorities)?



Substance	Priority	Details
Alcohol	*	Interferes with Stage 3-4 and REM sleep.
Benzodiazepines	*	Interfere with deep sleep, Stage 3-4, and REM.
Trazodone	*	Avoid long term.
Non-benzo GABA meds	**	Occasionally OK, not more than for 1-2 weeks .
Antipsychotics	**	OK as long as manic or psychotic.
OTC meds	**	Benadryl-OK, occasionally develops tolerance and has rebound.
HRT	****	When indicated.

*Continued...*

Substance	Priority	Details
Marijuana	**	Can help for pain, nausea, chronic insomnia.
Melatonin	****	Doses 0.3-8 mg for kids and adults an hour before sleep can help fall sleep. Also, antimitotic, antioxidant, and free radical scavenger.
Chinese Herbs	****	The heart holds the mind at night. Stagnated liver Chi can cause Insomnia. Use Schisandra, Scutellaria, Lavender, Verbena, and Mellisa.
Desmopressin and Imipramine	****	Helpful for child bed wetting. 15-20% of kids at age 5, and 2% of young adults, Cochrane Collaboration. Desmopressin: Dose 0.2 - 0.6 mg hs. Imipramine: dose 10 - 50 mg hs.
Herbs	*****	Natural and helpful. Usually no side effects. Marinate the brain 1-2 hours before sleep. Can use teas, pills, tinctures, aromatherapy. See List. Pycnogenol 30mg (French Maritime Pine Bark) can work quite well for night time "hot sweats." 50% of women on Aromatase have insomnia complaints.

## MELATONIN

- Hormone produced by the Pineal gland from Epinephrine and Serotonin
- Released when dark and calms down the Circadian Rhythm Wakefulness Center
- Dose for Children and Adults: 0.3 - 8mg/night

## HERBS

- **Valerian** - assists GABA calm down catecholamine, 400 - 800mg p
- **Kava** - National Fiji drink, for anxiety and restlessness, 180 - 210mg
- **Chamomile** - good for sleep and to sooth the stomach, essential oil,
- **Passionflower** - good for worry, exhaustion & nightmares, tincture
- **Lavender** - for nervousness and insomnia, as essential oil, teas, baths
- **Lemon Balm** - for depression, tension, and anxiety, as oil, tea, and tin

Herbs Helpful for the  
Adrenals: Exhaustion  
and Insomnia

- Reishi
- Eleuthera
- Rehmannia
- Withania
- Rhodiola

## HERBAL INSOMNIA FORMULA

- Make a Tea by steeping 1 teaspoon to 1 tablespoon of the combined herbs in a cup of boiled water for 20 minutes; strain and drink 1 cup. A little honey, licorice, or stevia for sweetening.
- Valerian 30%                      Linden 20%                      Kava 20%
- Chamomile 20%                      Catnip 10%

# What are my choices in the **Healing Arts** category?



Healing Art	Priority	Details
Acupuncture	**	Cochrane equivocal meta-analysis report. The facial Ghost Points: GV26, LU11, and SP1 can help insomnia with depression.
Biofeedback training	**	Can help if practice self learned biofeedback in the evening.
Healing Touch	**	Helpful. More evidence based studies needed.
Oral Appliances for OSA		Not as helpful as C-Pap, better results than surgery. Use for mild OSA. Ref: Shneerson.
Circadian Rhythm adjustment	***	Using melatonin and/or required daily awakening time are helpful.

*Continued...*

Healing Art	Priority	Details
SHUTi	***	Sleep Healthy internet CBT pre-sleep training and practice can be helpful.
Massage	****	Very helpful before sleep if you are lucky to get one.
C-Pap Machine	*****	OSA can significantly reduce hypertension, insulin resistance, O2 saturation, and next day fatigue and tiredness within 2 weeks. Ref: Parnedi et al.



# What can you suggest for **Mindfulness** therapies?



Mindfulness	Priority	Details
Daily Problem Solving and Worry Sessions	***	About 30 minutes in day light and not at night.
Relaxation Training	****	Trans Med (TM) etc training and practice has shown good results.
CBT and/or psychotherapy	****	CBT as effective as meds, lasting effects longer than meds. Psychotherapies eliminate fears and inner conflicts.
Self Hypnosis	****	Very helpful after learning the technology.
Mindfulness Meditation	*****	8 training sessions and self practice in evening have good results.

# What **Behavioral** suggestions can you recommend?



Behavior	Priority	Details
Sounds and music	***	Synchronized sounds and music before sleep can increase Stage 3-4 Deep Wave Sleep.
Consistent schedule	****	Habit of regular sleep and awaking times.
Lighting exposure	****	Exposure to morning sunlight or bright light.
Exercise	****	Exercise one hour during day or early evening.
Set habits	*****	New habits of working during day and relax at night.
Self-training	*****	Train yourself to just calm the mind, turn off your thoughts, close your eyes and drift off to natural sleep.

*Continued...*

Behavior	Priority	Details
Diet	****	Eat early light evening meals; protein and complex carbs.
Enjoyable activities	****	Practice fun, relaxing, peaceful activities before sleep.
Peace and quiet state	****	Take a warm herbal bath with candles and soft music.
Sexual activity	****	Sex before sleep can be wonderful and hypnotic. Increases dopamine. Ref: Sleep Science, Aug. 2013.



# What **Environmental** suggestions can you recommend?



Environment	Priority	Details
Dimmed	*****	Dim the lights and noise for 2 hours before sleep.
Outside	*****	Go outside and sit quietly in the dark under the stars for 10 minutes one hour before sleep.
Lack of electronics	*****	Eliminate Blue Light and all electronics one hour before sleep.
Promote relaxation	*****	Read, write, draw, meditate before sleep.
State of the bedroom	*****	Keep the bed room cool, dark, quiet, and comfortable.

# Suggest that your patients use these and other **Resources ...**



1. Read *Healing Night*, by Rubin Naimen, PhD. \*\*\*\*\*
2. National Sleep Foundation, website: [sleepfoundation.org](http://sleepfoundation.org). \*\*\*\*\*
3. Medscape Resource Center: Insomnia and Sleep Healthy Patient Education Center. \*\*\*\*\*
4. *Health Sleep*, chapter within the ABIHM Clinical Reference Book, Daniel Asimus, MD, ABIHM. \*\*\*\*\*

# THAT'S ALL FOLKS



Thank you for listening, for not falling sleep, and for helping yourselves and your patients align with the Natural Harmonious Cycles of Nature and getting a healthy good night's sleep

**...Pleasant Dreams!!**

# Good night!!

Oyasaminasai

Bueanos Noches

Laila Tov

Bonne Nuit

Shab Bekheir





*Come experience,  
discover and learn.*

Resolve to get

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# **Integrative Approaches to Depression**

**Eleanor Glass, MD**

A Community Day Focused on Integrative Health & Wellness

**Saturday, January 23, 2016**



*Come experience,  
discover and learn.*

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# **Integrative Cancer Care: More than Traditional Medicine has to Offer**

**Rekha Chaudhary, MD**

A Community Day Focused on Integrative Health & Wellness

**Saturday, January 23, 2016**

# Preventing Cancer with Healthy Living: A Scientific Discussion

**Rekha Chaudhary, MD**

**Associate Professor of Medicine**

University of Cincinnati

Division of Hematology/Oncology

Fellowship Program Director

Faculty UC Brain Tumor Center

Faculty UC Integrative Health Center



**KEEP  
CALM  
IT'S  
ONLY A  
TUMOR**

# Curing

External treatment that removes all evidence of disease

What physicians do

Usually on physical level alone

# Healing

Internal process that through which a person becomes whole

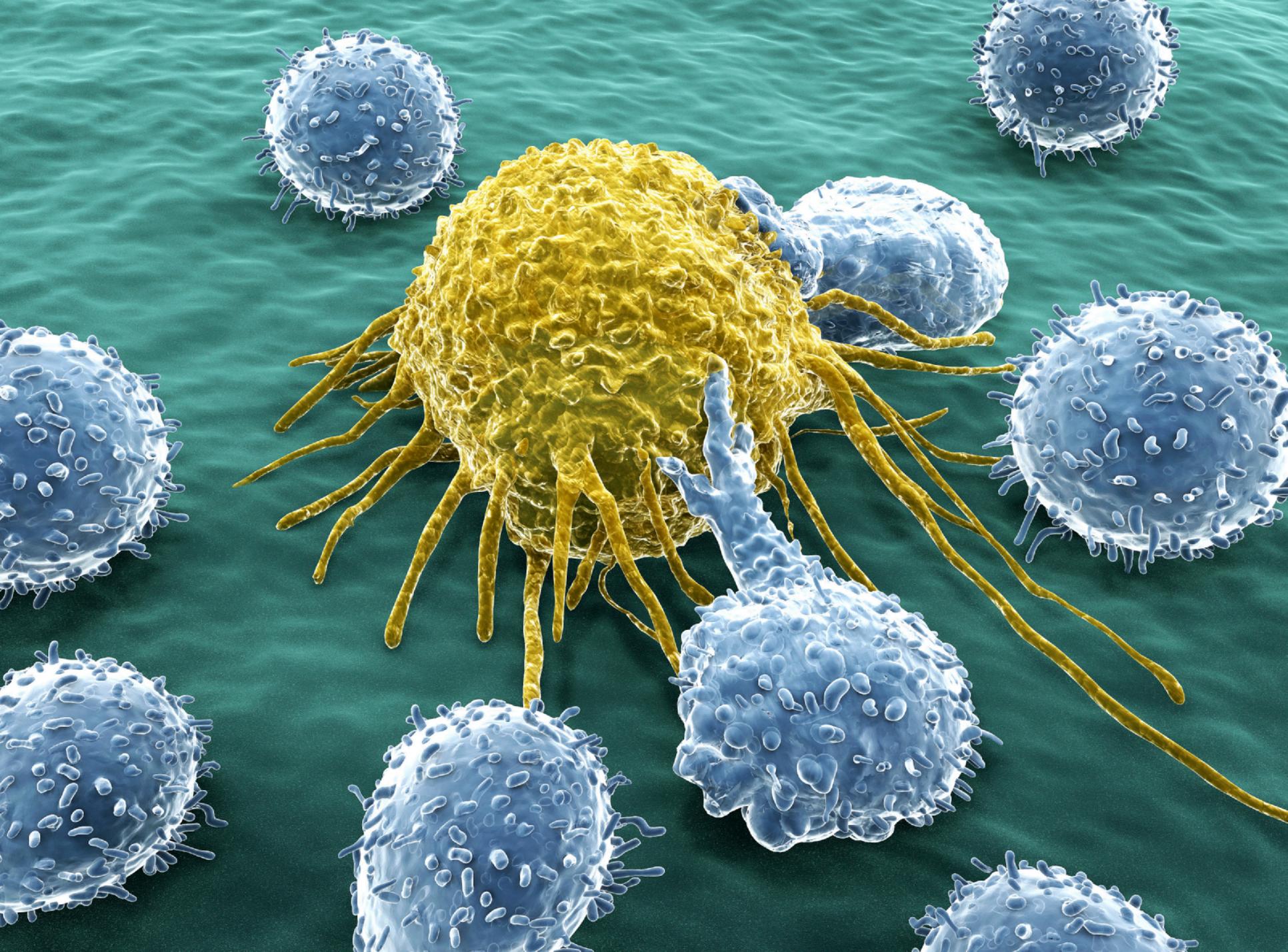
What patients do

Physical, emotional, or spiritual level

“That one can participate in the fight for life with cancer – by working to enhance your own healing is a profoundly important discovery for many people”

*Choices in Healing* by Michael Lerner





# INTEGRATIVE MEDICINE





- Prospective Randomized Double-Blind Placebo Controlled Trials

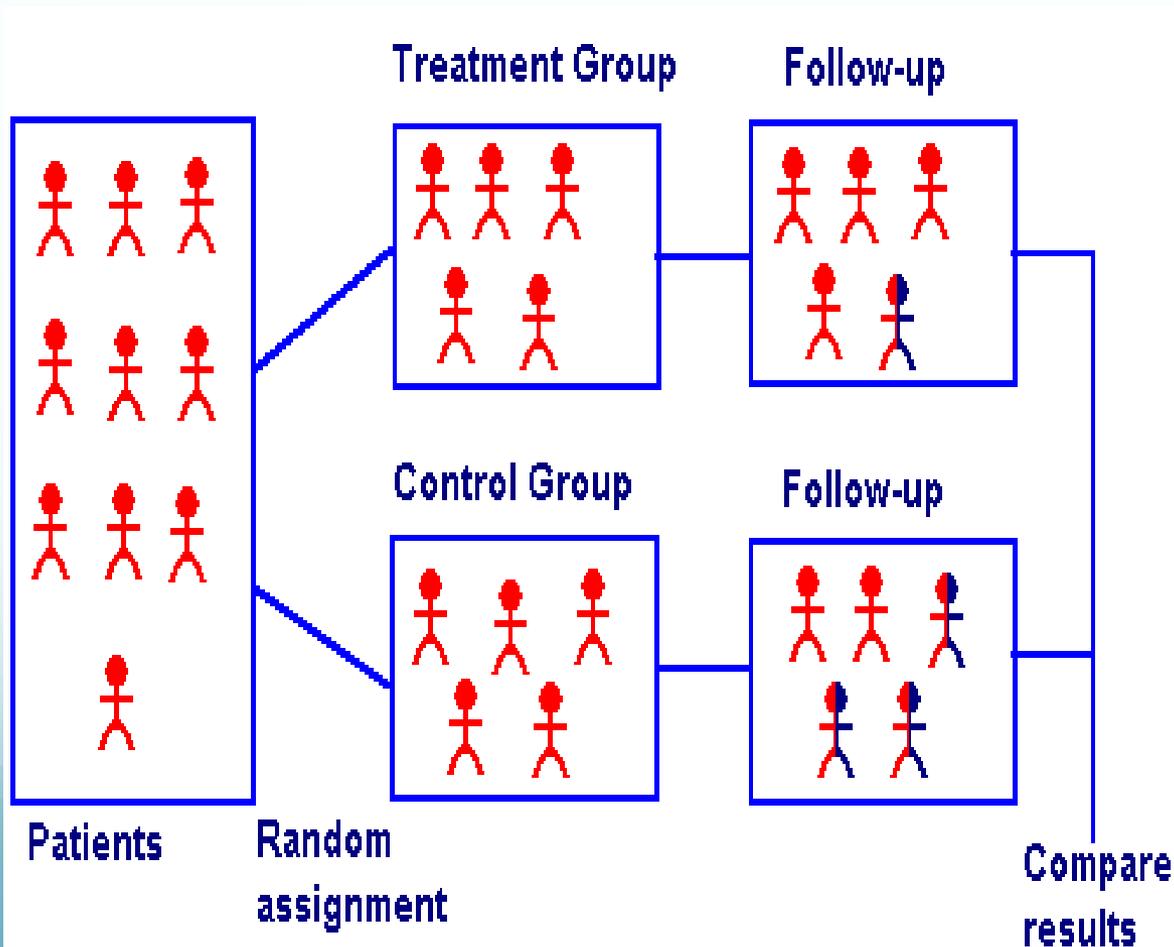


- Prospective Cohort Trials



- Retrospective Trials

# Randomized Control Double-Blind Trial



# Prospective Cohort Trial

Healthy People with  
different experiences

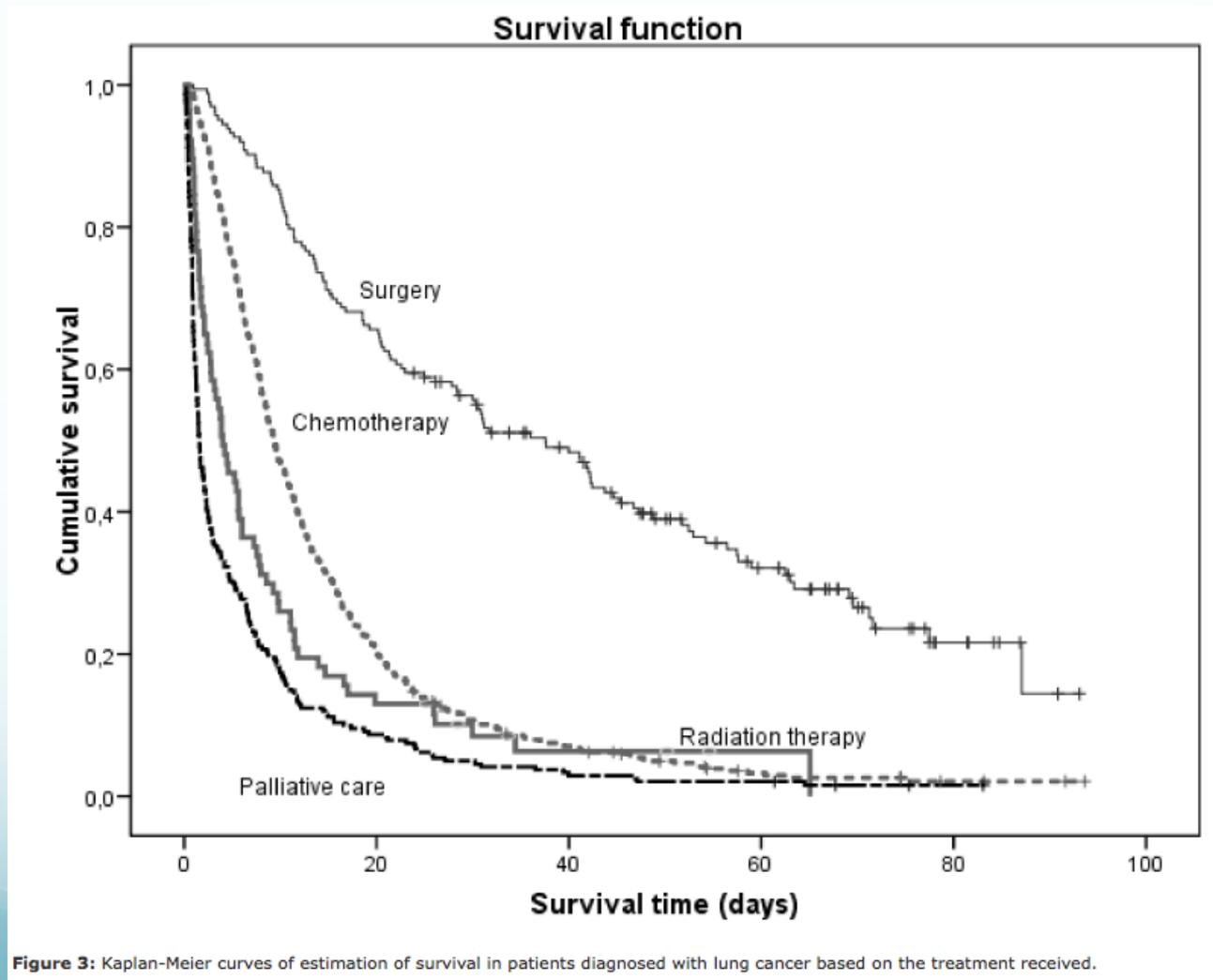


Healthy People  
*and*  
Sick People



**Study Question:**  
Who gets sick and who stays healthy?

# Oncology Randomized Clinical Trials



**Exercise**

**Diet**



**Traditional  
Medical Therapy**

**Stress Reduction**

- Mice inoculated with melanoma in their paws
  - ½ mice were exposed to 14 days of stress regime including periods of
    - Food deprivation
    - 45 degree cage tilt
    - Soiled cage
    - Low-intensity strobe light
    - Overnight illumination
    - Removed bedding
    - Noise emitted from a radio

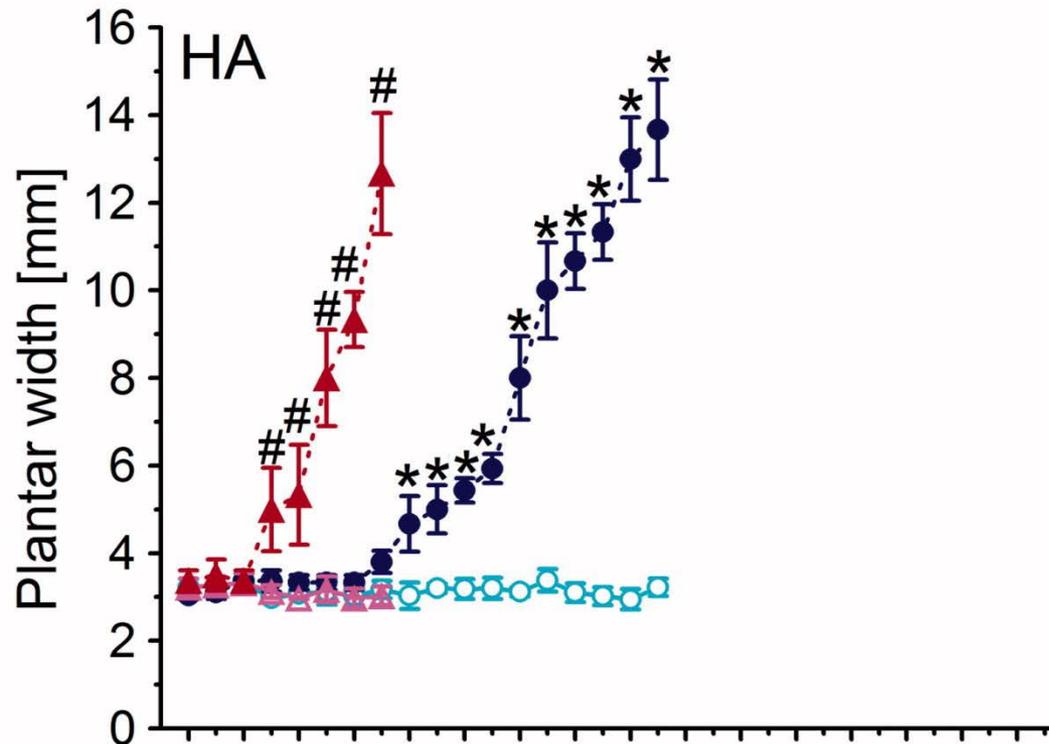






# Stress and Cancer

- NS, PBS
- \* NS, B16F0, No tumor (LA)
- NS, B16F0, Tumor
- △ CMS, PBS
- \* CMS, B16F0, No tumor (LA)
- ▲ CMS, B16F0, Tumor

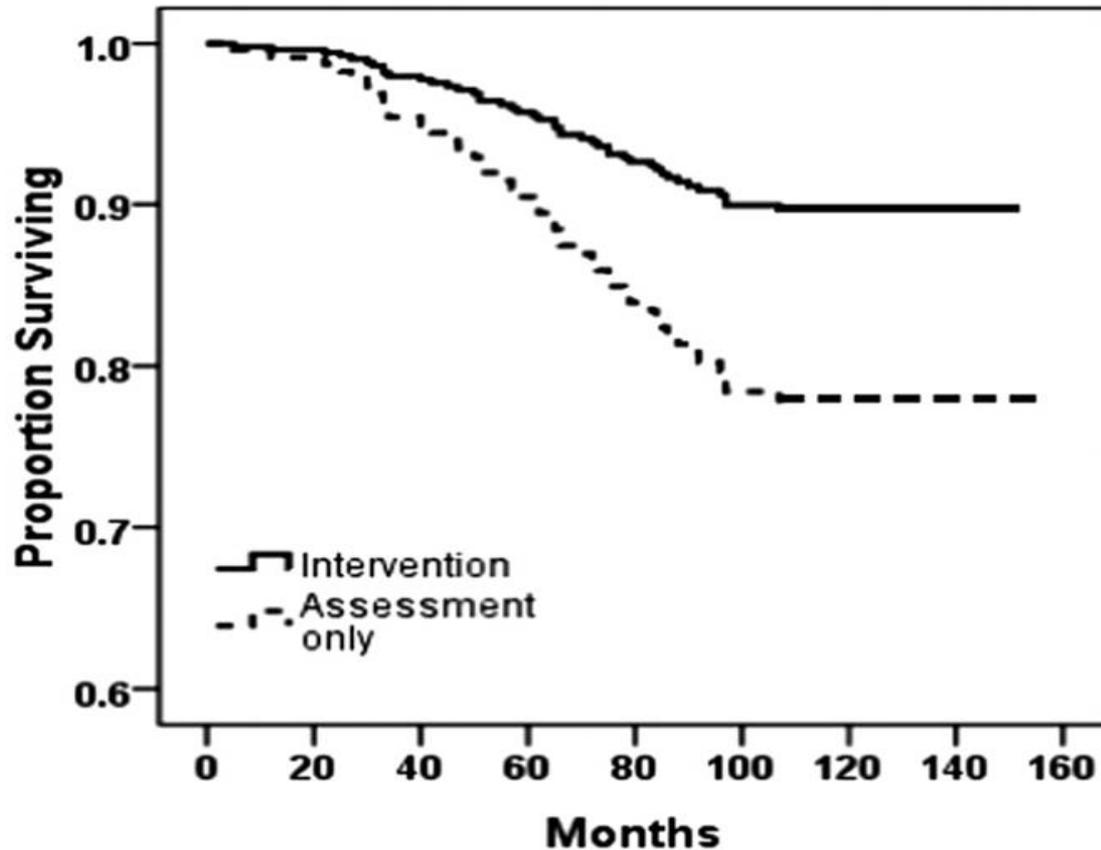


# Counseling and Cancer

- 227 patients treated for breast cancer
  - 1/2 patients randomized to psychological intervention arm
  - 1/2 randomized to regular assessment
- Intervention arm had strategies
  - To reduce stress
  - Improve mood
  - Alter health behaviors

# Counseling and Cancer

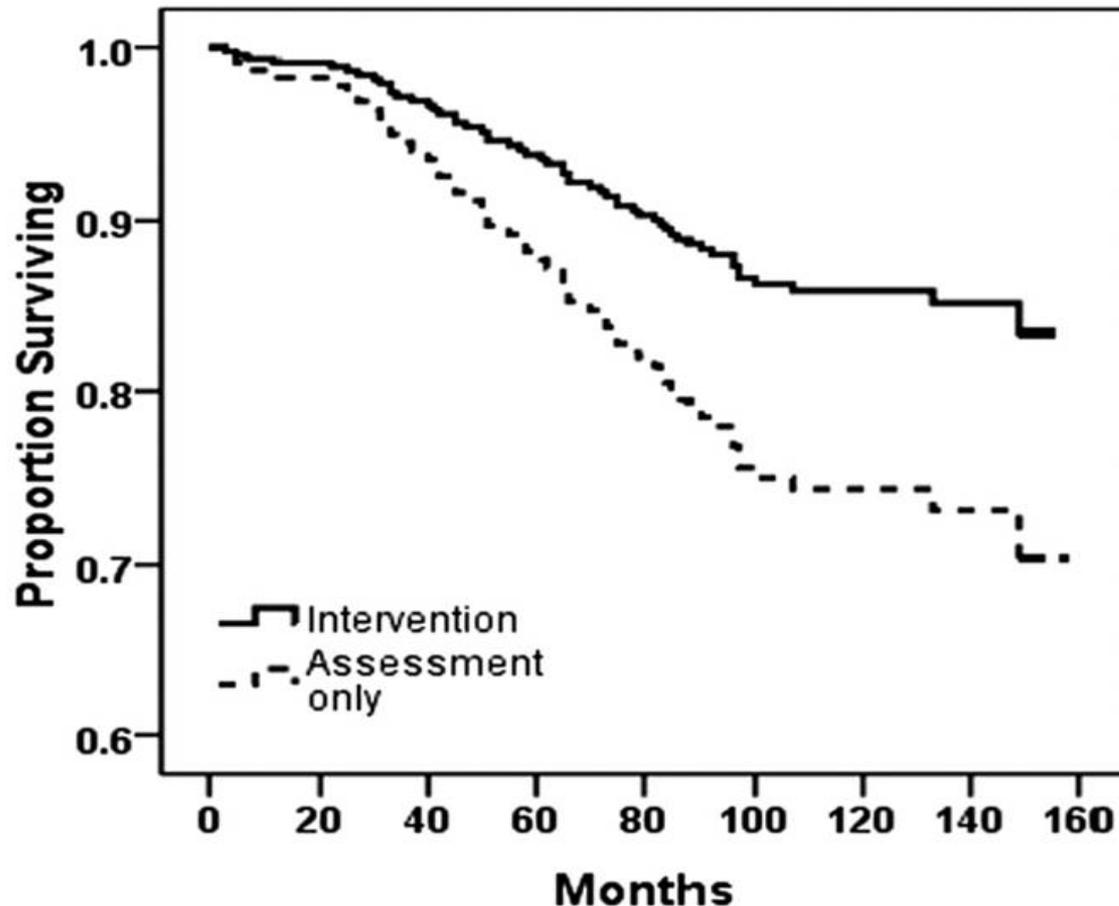
(b) Breast cancer specific survival



Andersen BL et al.. Psychologic intervention improves survival for breast cancer patients: a randomized clinical trial. *Cancer*. 2008 Dec 15;113(12):3450-8.

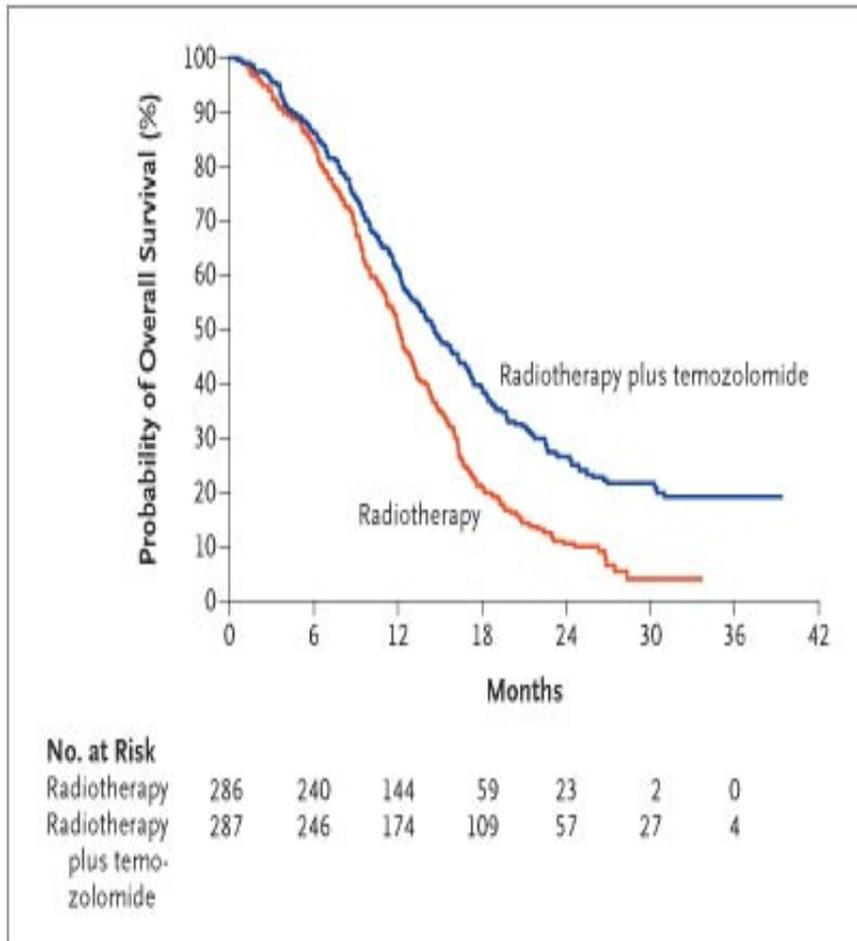
# Counseling and Cancer

(c) Overall survival

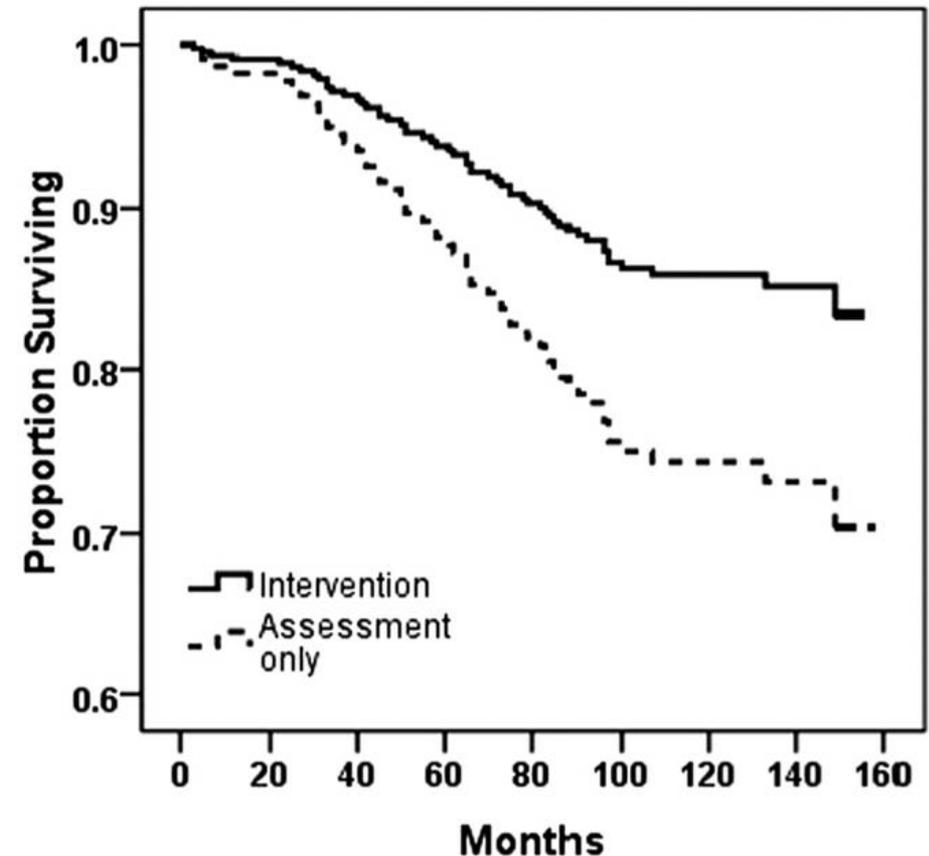


Andersen BL et al. Psychologic intervention improves survival for breast cancer patients: a randomized clinical trial. *Cancer*. 2008 Dec 15;113(12):3450-8.

# Chemotherapy in Brain Tumors



(c) Overall survival



# Counseling and Cancer

- Women with metastatic Stage IV breast cancer randomized to therapy versus no therapy
  - Group therapy was 90 minutes weekly led by a psychiatrist or social worker who themselves had breast cancer in remission
  - Self-hypnosis was taught for pain control and managing side effects of chemotherapy

the infants were at high risk of the HBV carrier state but the effects of breastfeeding on mother-to-infant HBV transmission were not studied.<sup>16</sup> In our study serum from all ten HBeAg-positive, HBsAg-carrier mothers contained HBV DNA; HBV DNA was not detected in the single HBeAg-negative, HBsAg-carrier mother. HBV DNA was found in only one cord blood sample. No HBV DNA was found in the infant's serum after the administration of HBIG, for as long as moderate levels of anti-HBs persisted. As anti-HBs disappeared, both HBV DNA and HBsAg were detected in the serum (9 months of age) despite four doses of hepatitis B vaccine. These findings suggested at least three possible causes of vaccination failure. The first possibility is that HBV infection of the fetus in utero made the child immunologically tolerant to HBV antigens, so that HB vaccine was not effective. Secondly, early administration of HBIG could have protected the child from viraemia, but HRV had already infected leucocytes, liver

## EFFECT OF PSYCHOSOCIAL TREATMENT ON SURVIVAL OF PATIENTS WITH METASTATIC BREAST CANCER

DAVID SPIEGEL  
HELENA C. KRAEMER

JOAN R. BLOOM  
ELLEN GOTTHEIL

*Department of Psychiatry and Behavioral Sciences, Stanford University School of Medicine, Stanford, California; and Department of Social and Administrative Health Sciences, School of Public Health, University of California, Berkeley, California, USA*

**Summary** The effect of psychosocial intervention on time of survival of 86 patients with metastatic breast cancer was studied prospectively. The 1 year intervention consisted of weekly supportive group therapy with self-hypnosis for pain. Both the treatment (n = 50) and control groups (n = 36) had routine oncological

and death records were obtained for the other 83. Survival from time of randomisation and onset of intervention was a mean 36.6 (SD 16) months in the intervention group compared with 18.9 (10.8) months in the control group, a significant difference. Survival plots indicated that

study was supported by grants from Chiyoda Mutual Life Foundation and a local specialised studies subsidy from Yokohama City.

Correspondence should be addressed to S. Y.

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References continued at foot of next column

patients with the cancer and positive psychological and symptomatic effects could occur without affecting the course of the disease; we expected to improve the quality of life without affecting its quantity. Here we describe a 10 year follow-up of the effect of psychosocial intervention on disease progression and mortality.

### Patients

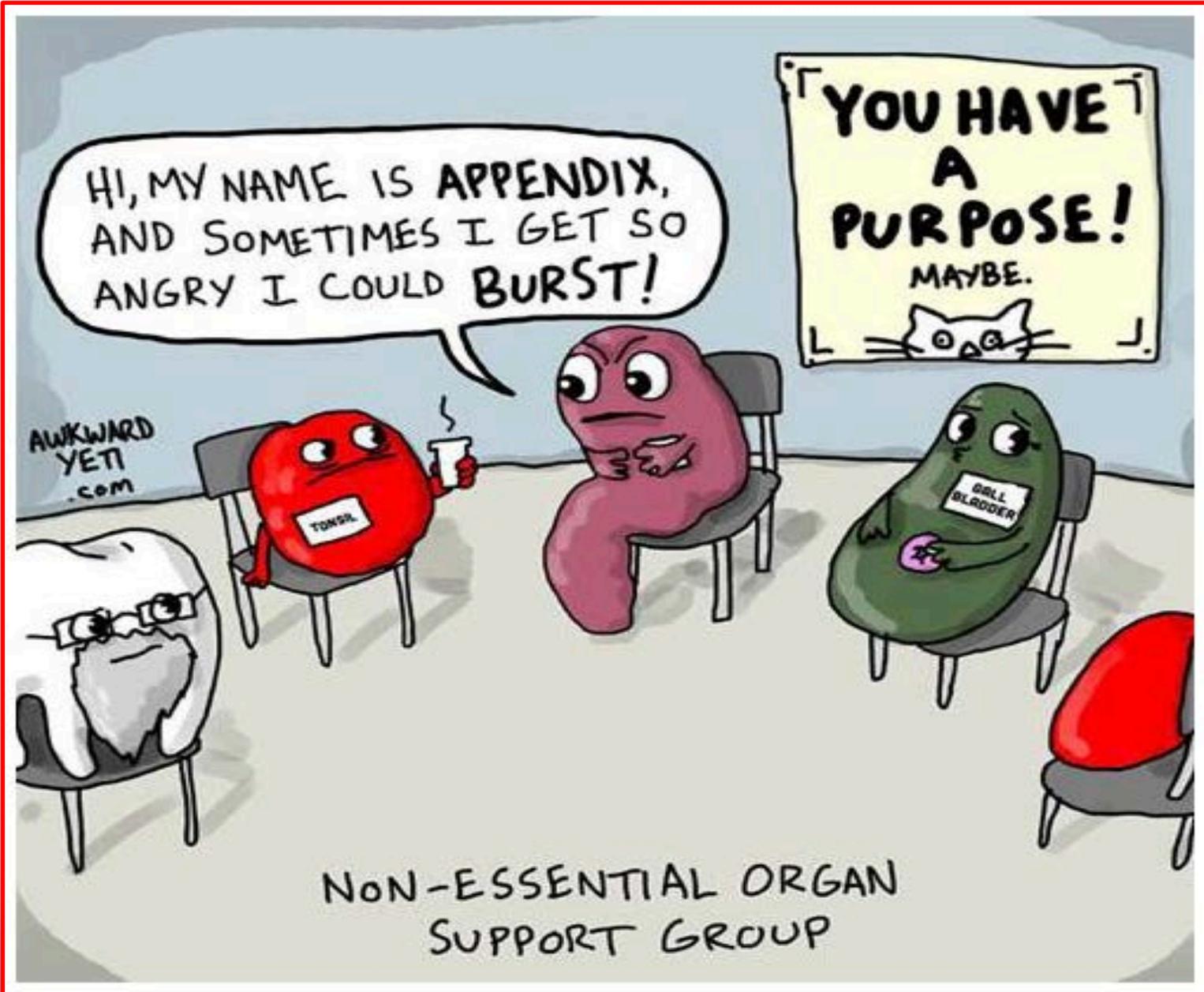
Only sub-  
breast wren  
oncologists.

research interviewer, who told them about the study and invited

# Double Survival!!

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HI, MY NAME IS APPENDIX,  
AND SOMETIMES I GET SO  
ANGRY I COULD BURST!

YOU HAVE  
A  
PURPOSE!  
MAYBE.  


AWKWARD  
YETI  
.COM

TONGUE

GALL  
BLADDER

NON-ESSENTIAL ORGAN  
SUPPORT GROUP

**Exercise**

**Diet**



**Traditional  
Medical Therapy**

**Stress Reduction**

# Exercise and Survival in Recurrent Glioma Patients

- Prospective trial
  - $\geq 9$  MET versus  $< 9$  MET
  - 9 MET = Brisk walking for 30 minutes on 5 days/week
- Results independent of:
  - Performance status
  - Age
  - Number of prior progressions

## Exercise Behavior, Functional Capacity, and Survival in Adults With Malignant Recurrent Glioma

Emily Ruden, David A. Reardon, April D. Coan, James E. Herndon II, Whitney E. Hornsby, Miranda West, Diane R. Fels, Annick Desjardins, James J. Vredenburgh, Emily Waner, Allan H. Friedman, Henry S. Friedman, Katherine B. Peters, and Lee W. Jones

All authors: Duke University Medical Center, Durham, NC.

Submitted January 21, 2011; accepted April 4, 2011; published online ahead of print at www.jco.org on June 20, 2011.

### ABSTRACT

#### Purpose

Identifying strong markers of prognosis are critical to optimize treatment and survival outcomes in patients with malignant recurrent glioma. We investigated the prognostic significance of exercise

total sample). Exercise behavior was an independent predictor of survival ( $P = .0091$ ). Median survival was 13.03 months for patients reporting  $< 9$  MET-h/wk relative to 21.84 months for those reporting  $\geq 9$  MET-h/wk. Exercise behavior added incremental prognostic value beyond that

0732-183X/11/2921-2918/\$20.00  
DOI: 10.1200/JCO.2011.349892

patients reporting  $< 9$  MET-h/wk, the adjusted hazard ratio for mortality was 0.64 [95% CI, 0.46 to 0.91] for patients reporting  $\geq 9$  MET-h/wk. Functional capacity was not an independent predictor of prognosis.

#### Conclusion

Exercise behavior is a strong independent predictor of survival that provides incremental prognostic value to KPS as well as traditional markers of prognosis in malignant recurrent glioma.

*J Clin Oncol* 29:2918-2923. © 2011 by American Society of Clinical Oncology

### INTRODUCTION

Malignant recurrent glioma is a major challenge in the oncology setting, with median survival of only 4 to 6 months.<sup>1,2</sup> Several factors, including age, performance status (PS), tumor grade and histology, and number of prior progressions, are strong independent predictors of survival in this population.<sup>3</sup> Of these factors, PS scoring, either assessed by Karnofsky performance scale (KPS) or Eastern Cooperative Oncology Group (ECOG) scoring systems, is consistently a robust independent prognostic factor.<sup>3,4</sup> Thus, physical functioning plays an integral role in modulation of treatment and disease pathophysiology in malignant glioma. Current subjective PS scoring systems, however, fail to fully characterize physical functioning and lack the sensitivity to accu-

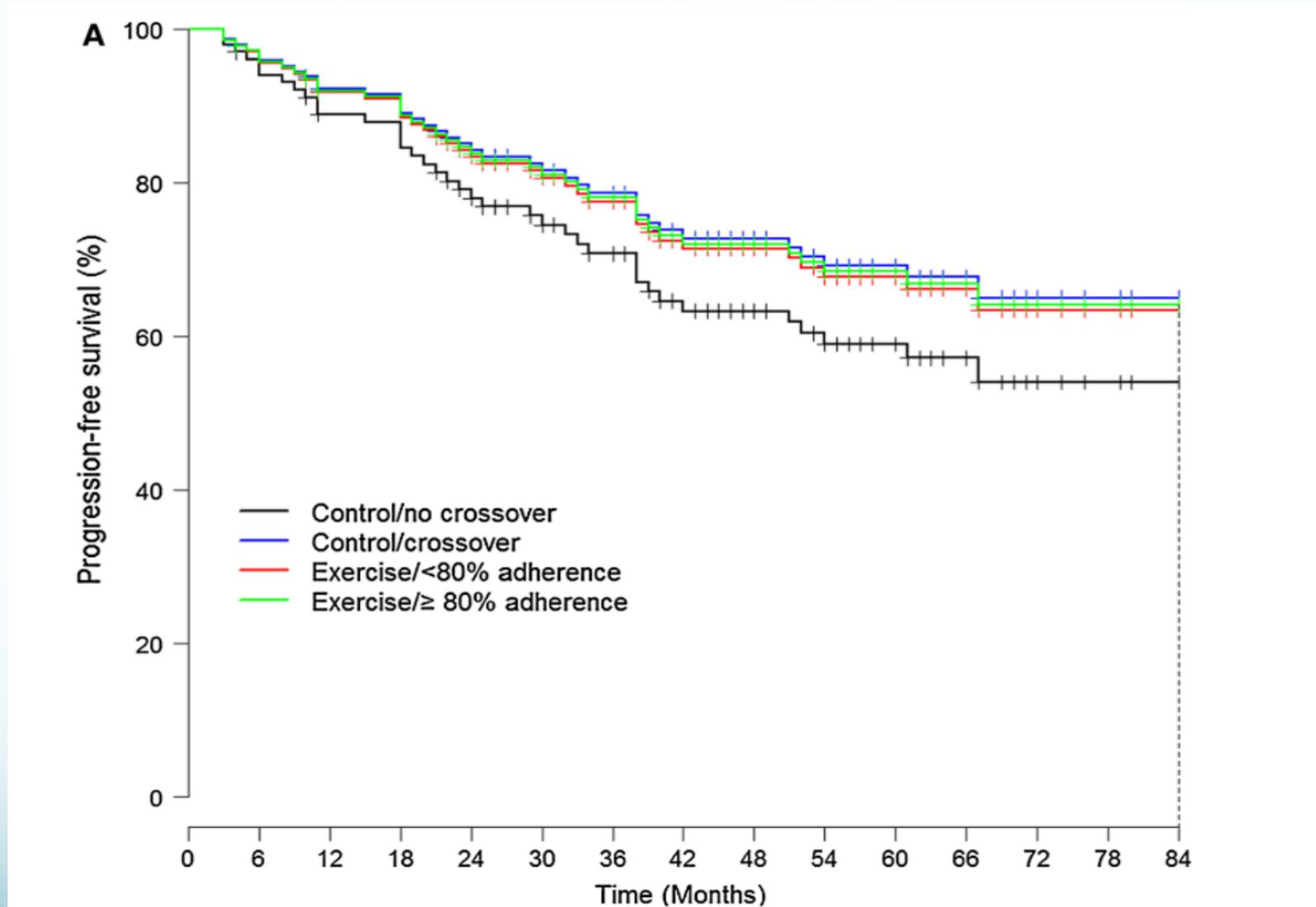
rately discriminate between individuals with good (ie, KPS  $> 70$ ; ECOG 0 to 1) PS.<sup>5</sup> Alternative clinical tools that provide more sensitive and objective assessments of physical functioning may allow for more accurate prognostication and inform therapeutic intervention.

Several methods are available to clinicians that provide objective determinations of physical functioning in the oncology setting.<sup>6</sup> Of these, a 6-minute walk test (6MWT) is a simple and clinically feasible method to evaluate functional capacity and is a robust predictor of mortality in numerous clinical settings.<sup>7-10</sup> Our group previously demonstrated the clinical utility of the 6MWT in patients with recurrent glioma,<sup>5</sup> although the prognostic importance of the 6MWT in the oncology setting outside of a small preliminary study in advanced lung cancer<sup>11</sup> is not known.

# Exercise and Survival in Lymphoma Patients

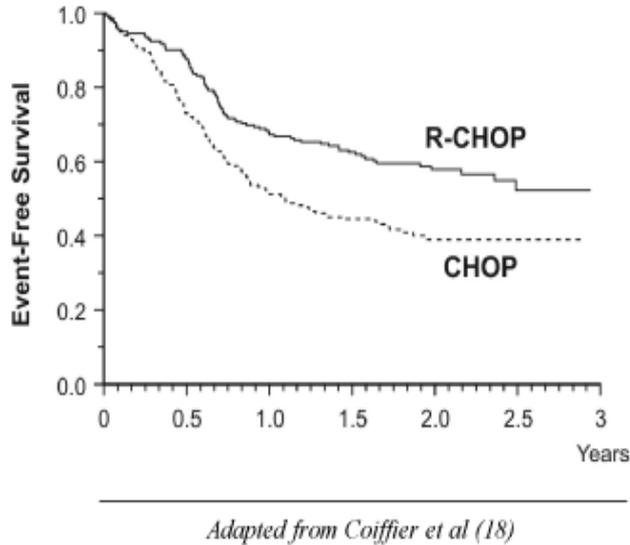
- Prospective trial looking at **exercise 3x a week for 15-45** minutes in patients with lymphoma
- Exercise Group 5-year progression free survival : **69%**
- Control Group 5-year progression free survival : **59%**

# Exercise and Survival in Lymphoma

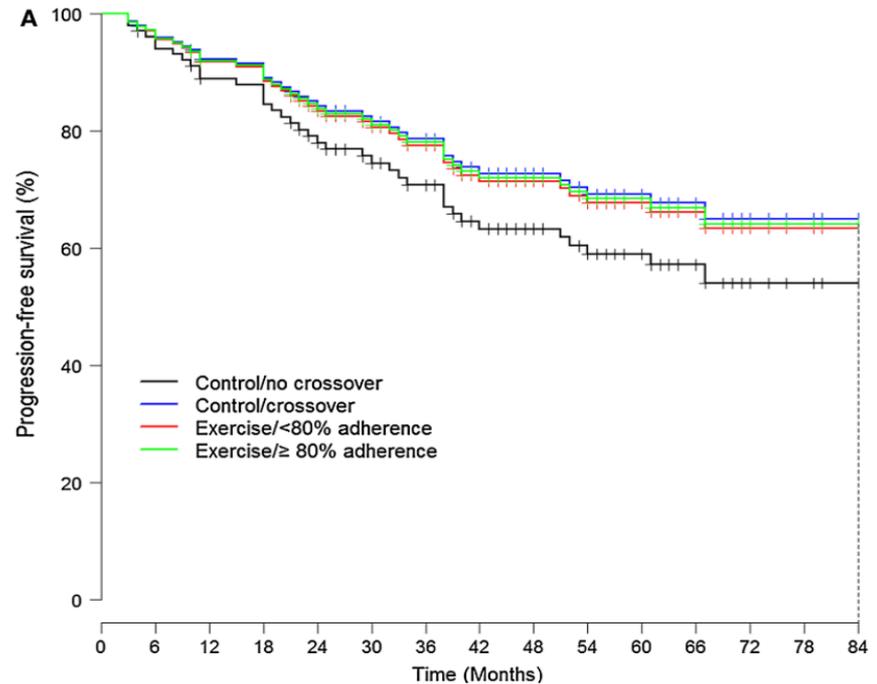


Courneya K et al. Effects of supervised exercise on progression-free survival in lymphoma patients: an exploratory follow-up of the HELP Trial. *Cancer Causes Control*. 2015 Feb;26(2):269-76. doi: 10.1007/s10552-014-0508-x. Epub 2014 Dec 10. PubMed PMID: 25491935

# Exercise and Survival in Lymphoma



**Figure 1.** Event-free survival of the 399 patients entered in the 98.5 study comparing CH regimen to CHOP plus rituximab (R-CHOP) ( $P < 0.001$ )



Coiffier B, Lepage E, Brière J, et al. CHOP Chemotherapy plus rituximab compared with CHOP alone in elderly patients with diffuse large B-cell lymphoma. *N Engl J Med* 2002; 346: 235-242.

**Exercise**

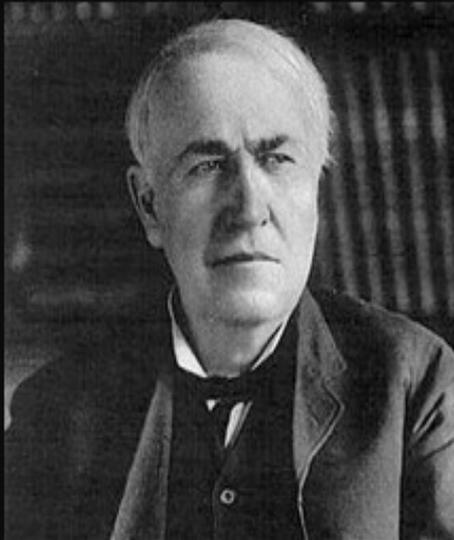
**Diet**



**Traditional  
Medical Therapy**

**Stress Reduction**

Thomas A. Edison



The doctor of the future will give no medication, but will interest his patients in the care of the human frame, diet and in the cause and prevention of disease. ~

AZ QUOTES

- Prospective  
Randomized Double-  
Blind Placebo  
Controlled Trials



- Prospective Cohort  
Trials



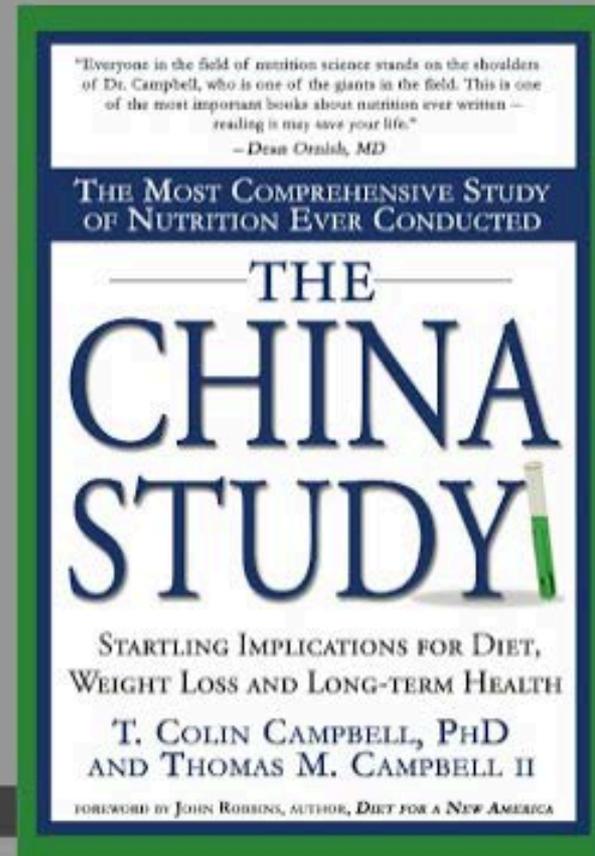
- Retrospective Trials



# China Study?



T. Colin Campbell



# What is the China Study?

- Partnership between Cornell University, Oxford University, and the Chinese Academy of Preventative Medicine.
- Studied mortality rates from cancer and other chronic diseases from 1973–75 in 65 counties in China
- Correlated dietary surveys in 1983-1984 and blood work from 100 people in each county
- included 367 variables and 6,500 adults
- more than 8,000 statistically significant associations

# 6500 people



UAE Flag

# The China Study

- *“Grand prix of all epidemiologic studies”* – New York Times
- *“ Today AICR (American Institute for Cancer Research) advocates a predominantly plant-based diet for lower cancer risk because of the great work Dr. Campbell ...began 25 years ago.”* – Marilyn Gentry, president AICR
- *“The China Study is a well-documented analysis of the fallacies of the modern diet. The lessons from China provide compelling rationale for a plant-based diet to promote health and reduce the risk of diseases of affluence”* – Sushma Palmer, PhD executive director, Food and Nutrition Board, US National Academy of Sciences
- Former President Bill Clinton is plant-based and lost 24 pounds. He singles out the China Study and Dr. Campbell as leaders in the movement.

# Conclusions of China Study

- Whole-food plant-based diet is the best diet for promoting an over-all healthy lifestyle.
  - Prevents cancer and turns off tumorigenesis
  - Decreases cholesterol and heart disease
  - Plants are anti-oxidants that aid in the fight against cancer



# BLUE ZONES

LONGEVITY HOTSPOTS

LOMA LINDA  
CALIFORNIA

NICOYA  
COSTA RICA

SARDINIA  
ITALY

ICARIA  
GREECE

OKINAWA  
JAPAN

## BLUE ZONE LIFE LESSONS



MOVE NATURALLY



RIGHT TRIBE



RIGHT OUTLOOK



EAT WISELY

# Adventist Health Study

**Table 2.** Characteristics of Adventist Mortality Study (AMS), Adventist Health Study-1 (AHS-1), and Adventist Health Study-2 (AHS-2).

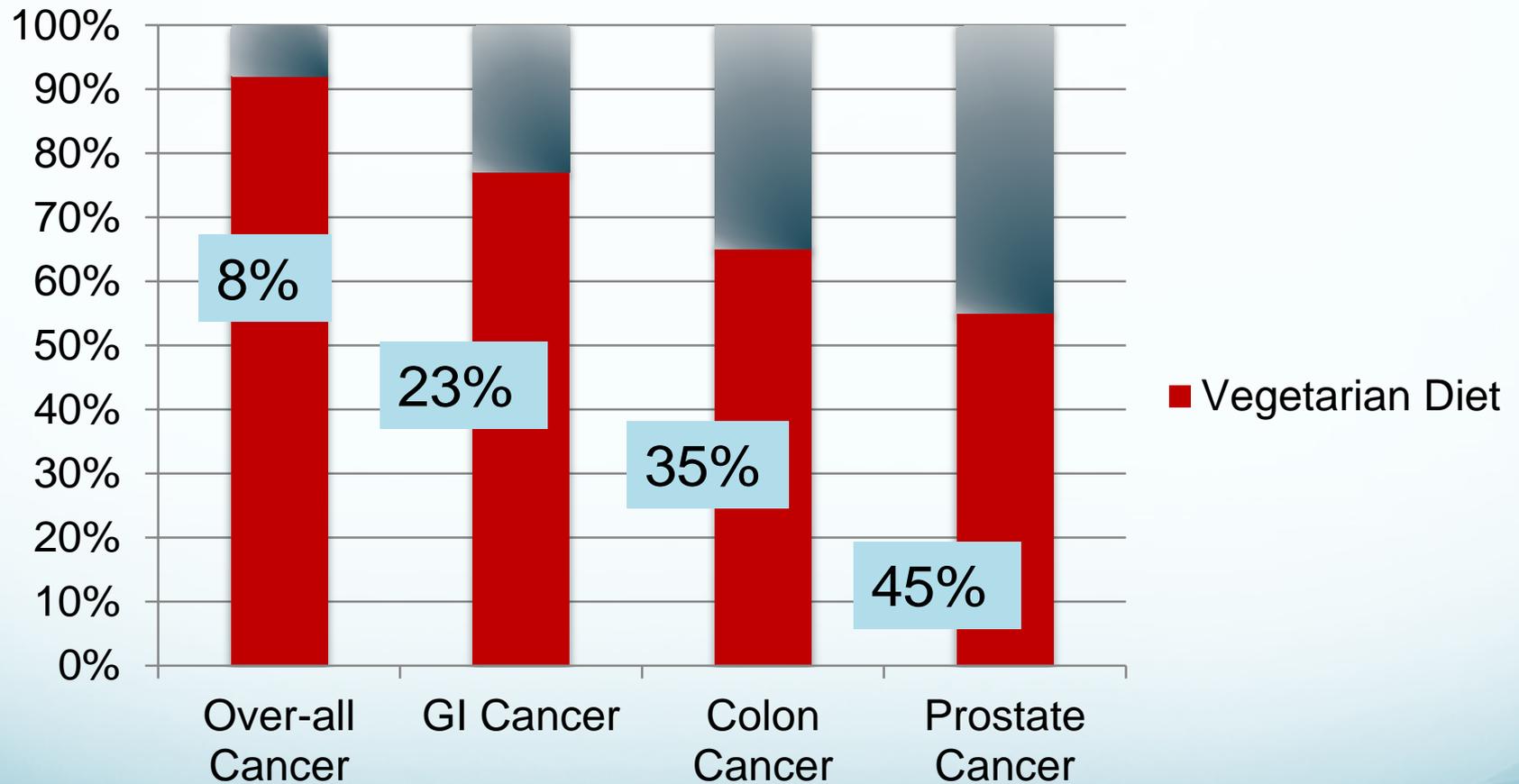
Sources	Location	Number of Subjects ( <i>n</i> )	Age Range (years)	Years of Follow-Up (years)	Outcomes of Interest	Study Design
Adventist Mortality Study (AMS) [16]	California	22,940 64.6% Female	35–90	1960–1976	Disease Mortality	Prospective
Adventist Health Study-1 (AHS-1) [17]	California	34,198 60.1% Female	25–90	1976–1982 (incidence) 1976–1988 (mortality)	Disease incidence & mortality	Prospective
Adventist Health Study-2 (AHS-2) [14]	50 U.S. States & Canada	96,194 65.1% Female	30–112	2002–(ongoing)	Disease Incidence & mortality	Prospective

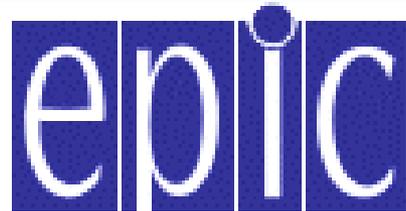
100,000 people



# Risk Reduction

## Adventist Health Study-2





## European Prospective Investigation of Cancer





European Prospective Investigation of Cancer

- 23 Centers and 10 European Countries
  - France, Italy, Spain, Netherlands, United Kingdom, Greece, Germany, Norway, Sweden and Denmark
- Healthy subjects recruited between 1992-2000
- 448,568 study subjects
  - Self-reported heart attacks, stroke or cancer were excluded

Gonzalez CA, Riboli E. Diet and cancer prevention: Contributions from the European Prospective Investigation into Cancer and Nutrition (EPIC) study. Eur J Cancer. 2010 Sep;46(14):2555-62.

# 500,000 people



1991 Protest of Communist Government

# 6500 people



UAE Flag

100,000 people



# 500,000 people



1991 Protest of Communist Government



European Prospective Investigation of Cancer

- **FINDINGS**
  - **Lung Cancer**
    - 40% reduction with fruit intake
  - **Breast Cancer**
    - 13% increase with saturated fat intake
    - Increased BMI significant predictor of breast cancer
  - **Prostate Cancer**
    - High consumption of dairy and calcium leads to increased risk of prostate cancer



European Prospective Investigation of Cancer

- **FINDINGS**

- **Gastric Cancer:**

- Increased with total meat, red meat and processed meat
- Decreased with cereal fiber
- 33% reduction in gastric cancer with Mediterranean diet (high intake of fruit and vegetables, cereals, fish, olive oil, legumes, moderate intake of alcohol and low intake of meat and dairy)

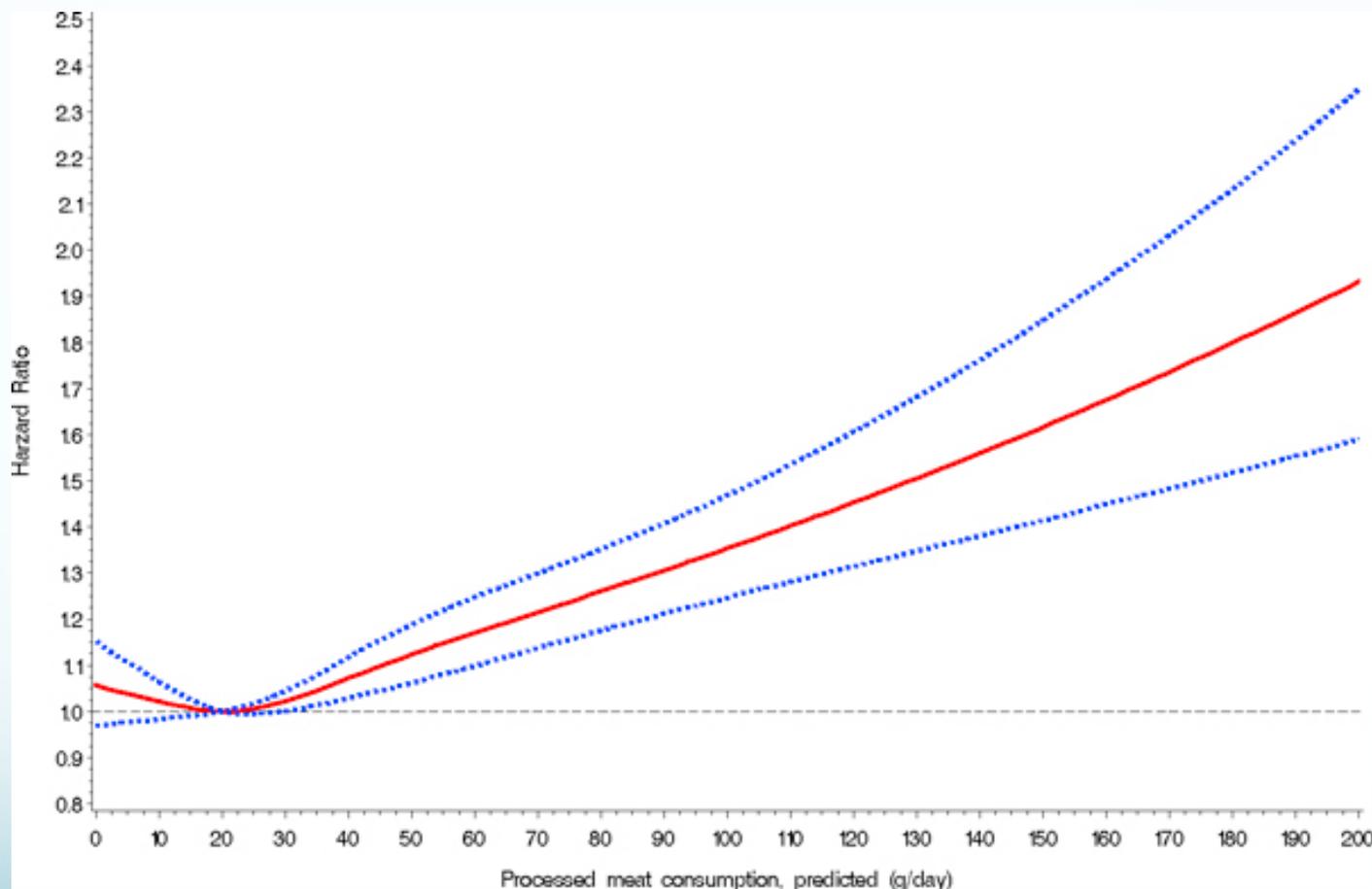
- **Colorectal Cancer**

- 42% reduction in patients with high dietary fiber from cereal, fruits and vegetables
- 35% increase with red meat and processed meat
- 8% increase with more than 15g of alcohol daily (1.5 standard drinks)



European Prospective Investigation of Cancer

# Processed Meat



Rohrmann S et al. Meat consumption and mortality--results from the European Prospective Investigation into Cancer and Nutrition. *BMC Med.* 2013 Mar 7;11:63.

# JAMA Internal Medicine

## Original Investigation

# Mediterranean Diet and Invasive Breast Cancer Risk Among Women at High Cardiovascular Risk in the PREDIMED Trial A Randomized Clinical Trial

Estefanía Toledo, MD, MPH, PhD; Jordi Salas-Salvadó, MD, PhD; Carolina Donat-Vargas, PharmD;  
Pilar Buil-Cosiales, MD, PhD; Ramón Estruch, MD, PhD; Emilio Ros, MD, PhD; Dolores Corella, DPharm, PhD;  
Montserrat Fitó, PhD; Frank B. Hu, MD, PhD; Fernando Arós, MD, PhD; Enrique Gómez-Gracia, MD, PhD;  
Dora Romaguera, MSc, PhD; Manuel Ortega-Calvo, MD; Lluís Serra-Majem, MD, PhD; Xavier Pintó, MD, PhD;  
Helmut Schröder, PhD; Josep Basora, MD, PhD; José Vicente Sorlí, MD, PhD; Mònica Bulló, BSc, PhD;  
Merce Serra-Mir, RD; Miguel A. Martínez-González, MD

# JAMA Internal Medicine

- October 2003 – June 2009
- 7447 participants
- Randomized to
  - Mediterranean diet plus olive oil
  - Mediterranean diet plus nuts
  - Control diet (low-fat)



# Mediterranean Diet Pyramid

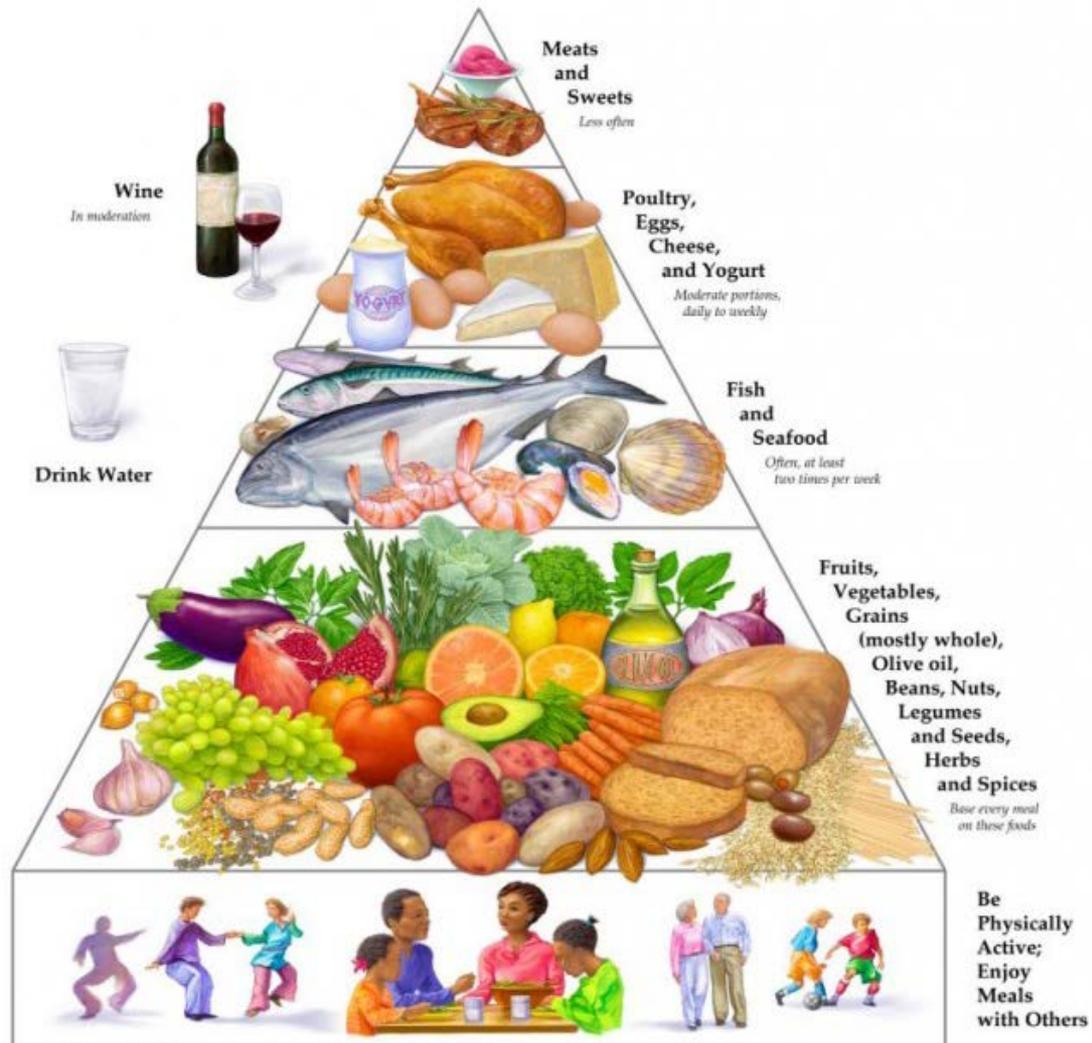


Illustration by George Middleton

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

From: **Mediterranean Diet and Invasive Breast Cancer Risk Among Women at High Cardiovascular Risk: The PREDIMED Trial: A Randomized Clinical Trial**

JAMA Intern Med. Published online September 14, 2015.1-9 doi:10.1001/jamainternmed.2015.4838

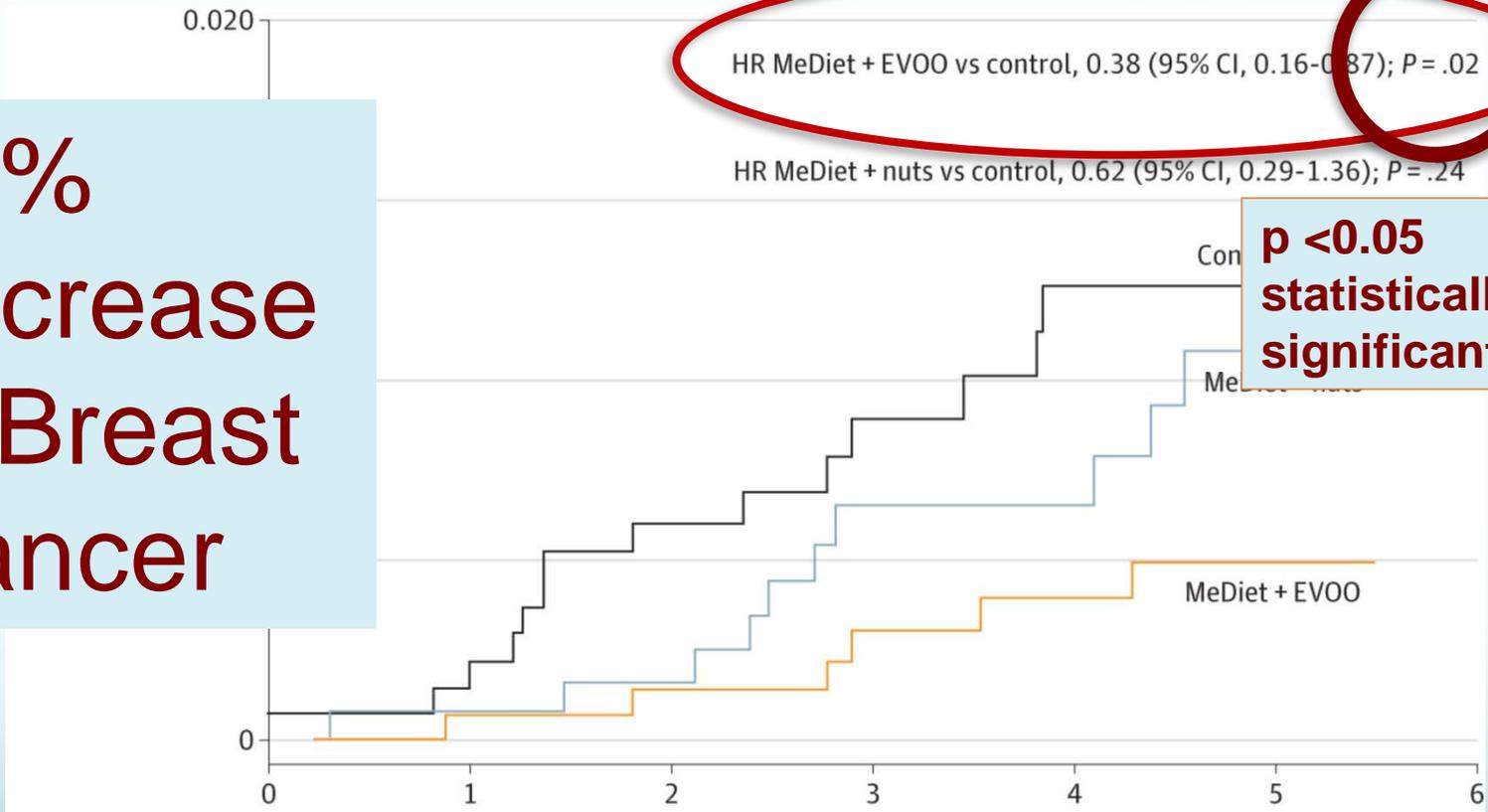
**What was a significant p-value?**

**62% decrease in Breast Cancer**

HR MeDiet + EVOO vs control, 0.38 (95% CI, 0.16-0.87); P = .02

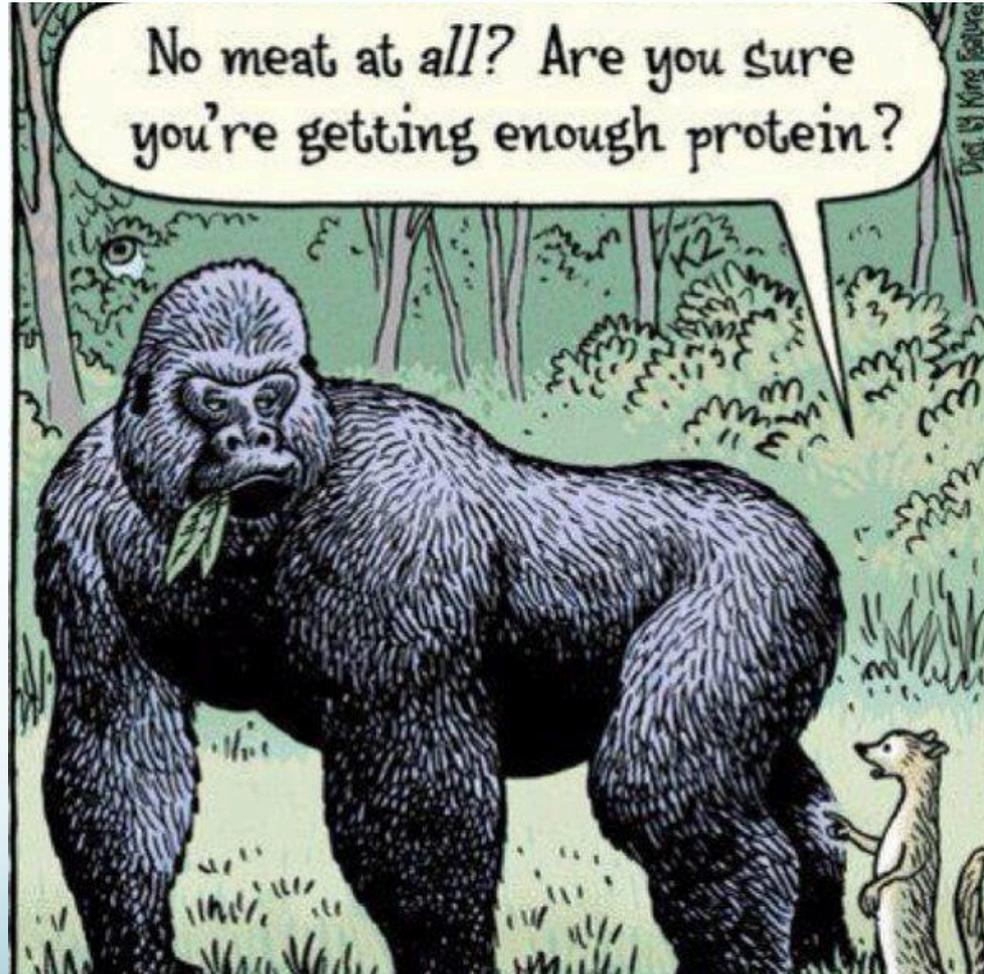
HR MeDiet + nuts vs control, 0.62 (95% CI, 0.29-1.36); P = .24

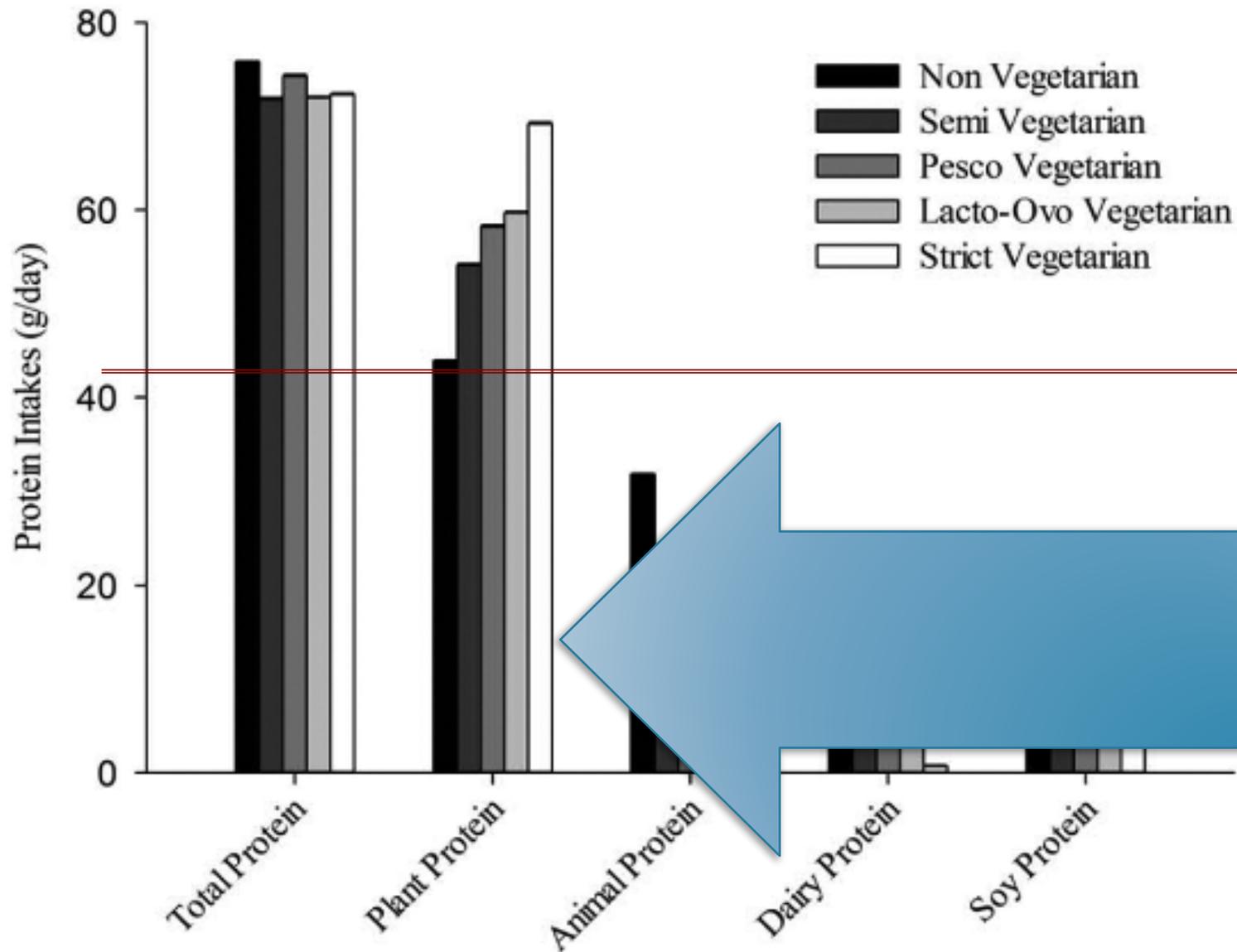
**p < 0.05 statistically significant**



No. at risk	0	1	2	3	4	5	6
MeDiet + EVOO	1476	1463	1369	1184	1013	785	
MeDiet + nuts	1285	1271	1117	879	741	532	
Control diet	1391	1353	1209	940	759	573	

# The Protein Myth





**Gary E. Fraser**

PhD, Professor, Department of Epidemiology, School of Public Health, Loma Linda University, Loma Linda, CA, USA. Tel: +1 909 558 4300. Fax: +1 909 558 4095. efraser@llu.edu

## 500 Calories - Plants vs. Animal-Based Foods

Nutrient	Plant-Based Foods	Animal-Based Foods
Cholesterol (mg)	0	137
Fat (g)	4	36
<b>Protein (g)</b>	<b>33</b>	<b>34</b>
<b>Beta-Carotene (mcg)</b>	<b>29,919</b>	<b>17</b>
Dietary Fiber (g)	31	0
Vitamin C (mg)	293	4
Folate (mcg)	1168	19
Vitamin E (mg)	11	0.5
<b>Iron (mg)</b>	<b>20</b>	<b>2</b>
Magnesium (mg)	548	51
<b>Calcium (mg)</b>	<b>545</b>	<b>252</b>

# Protein?



**Beef**  
6.4 grams  
of protein  
per 100  
calories



**Broccoli**  
11.1 grams  
of protein  
per 100  
calories

**Exercise**

**Whole Food, Plant-based diet**



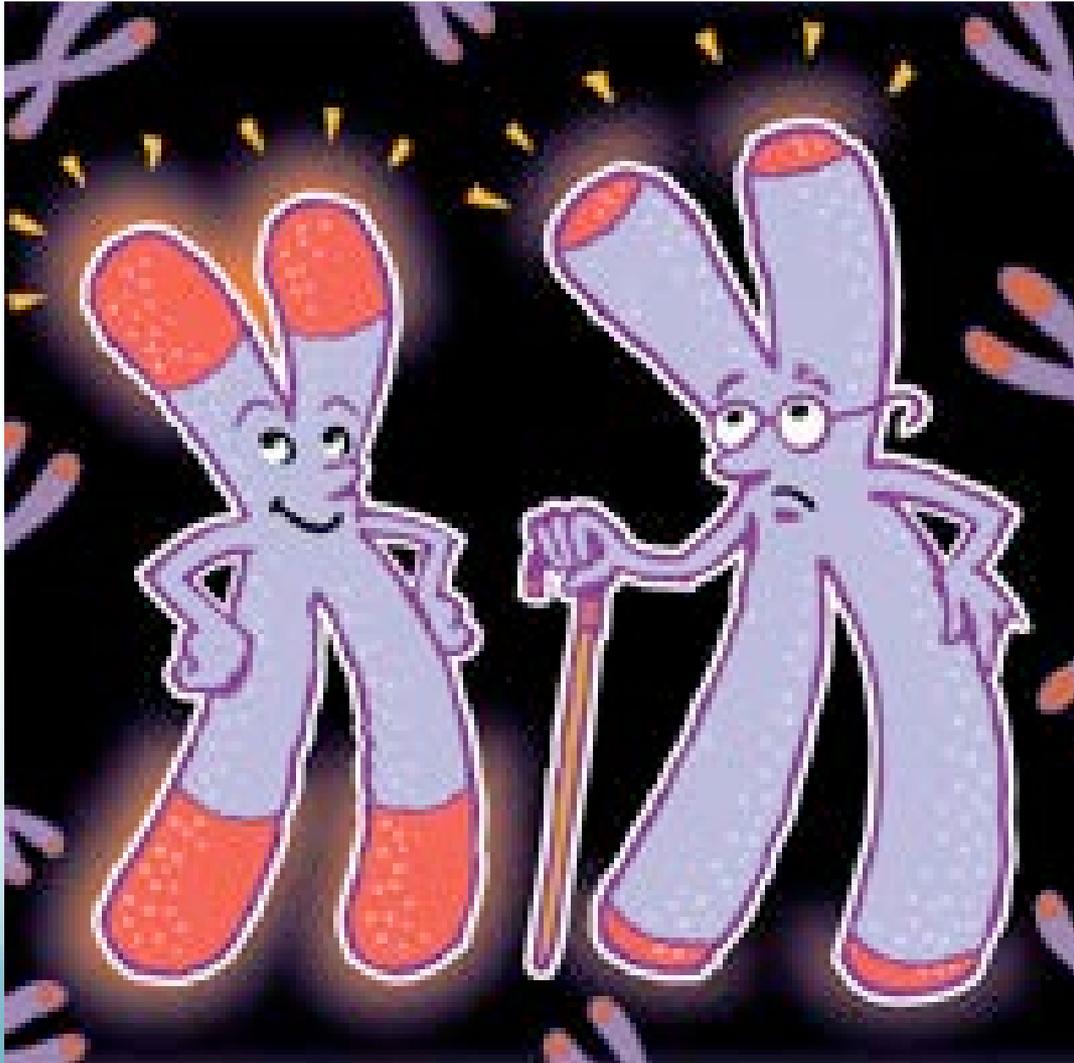
**Traditional  
Medical Therapy**

**Stress Reduction**

# Prostate Cancer and Wellness

- 93 patients with low-risk prostate cancer were on a wait-and-watch treatment
- Patients were randomized to a control arm and a lifestyle arm
- Experimental arm were asked to adopt a *low-fat, plant-based diet, to exercise and to practice stress management, and to attend group support sessions.*
- At 2 years:
  - **27%** of the control arm required surgery
  - **5 %** of the experimental arm required surgery

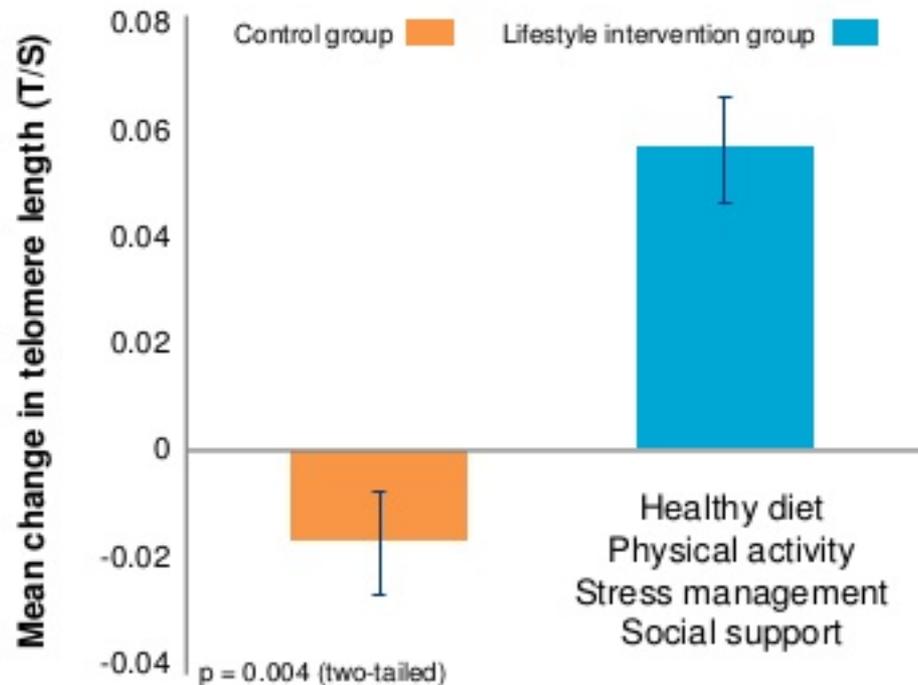
# Telomere length

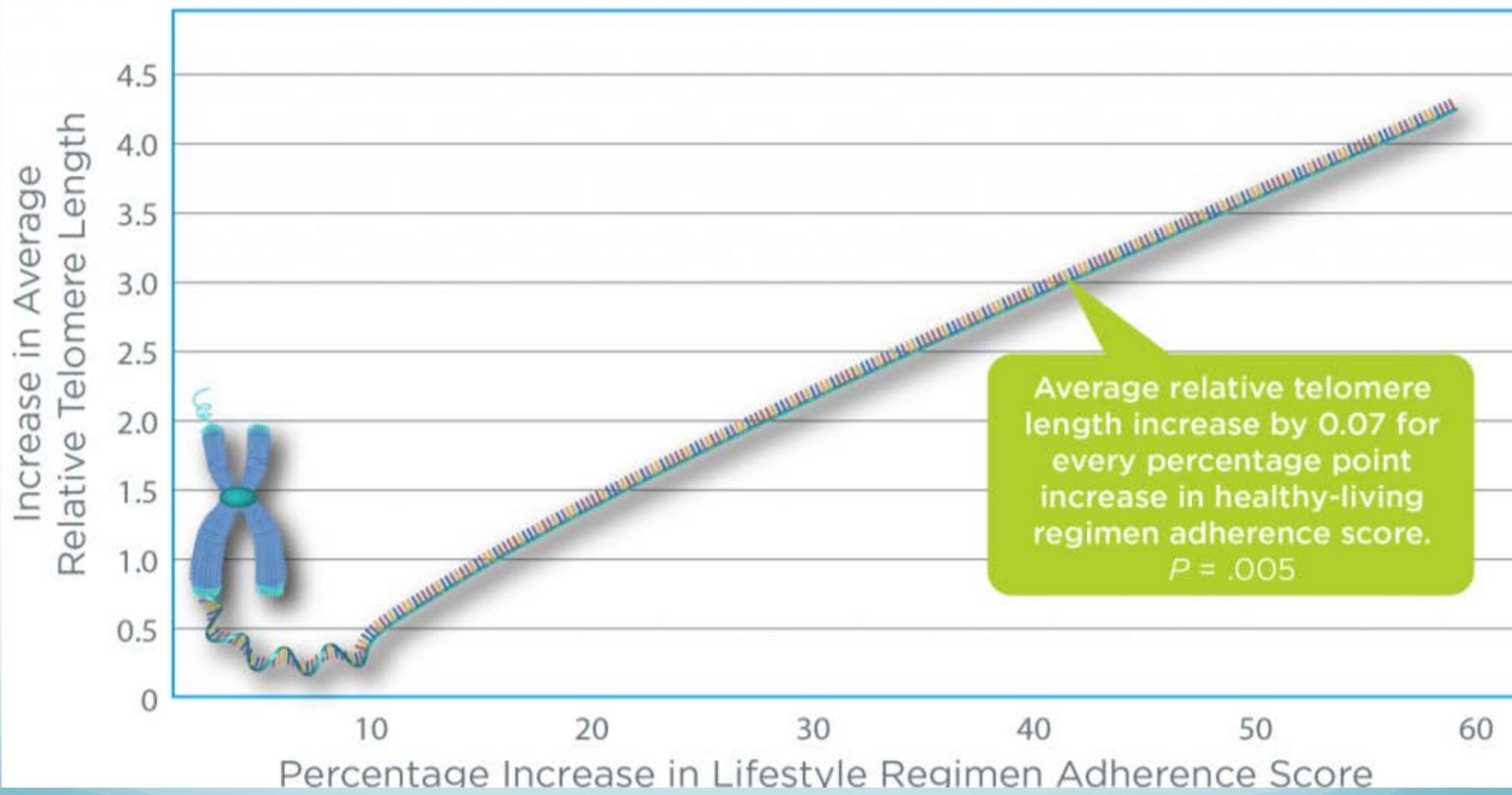


Telomere shortening associated with disease risk and premature death

## Dean Ornish Study: 5-year Lifestyle Changes Correlate with Small Increases in Telomere Length

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# Choose Love, Not Fear

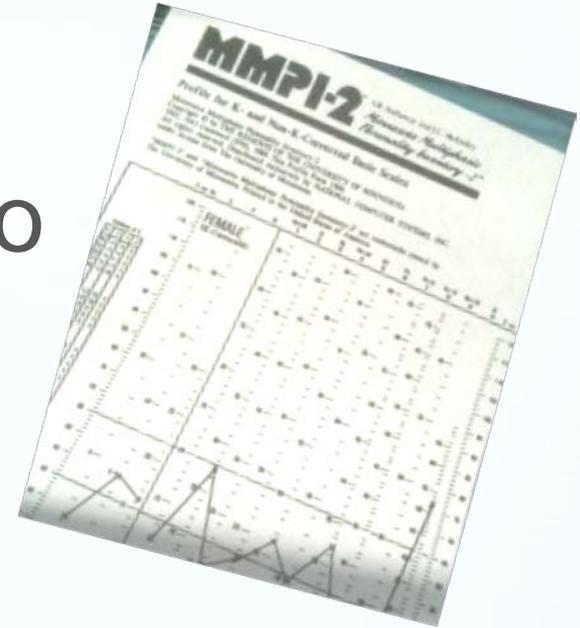


# Living Luxuriously: The Journey



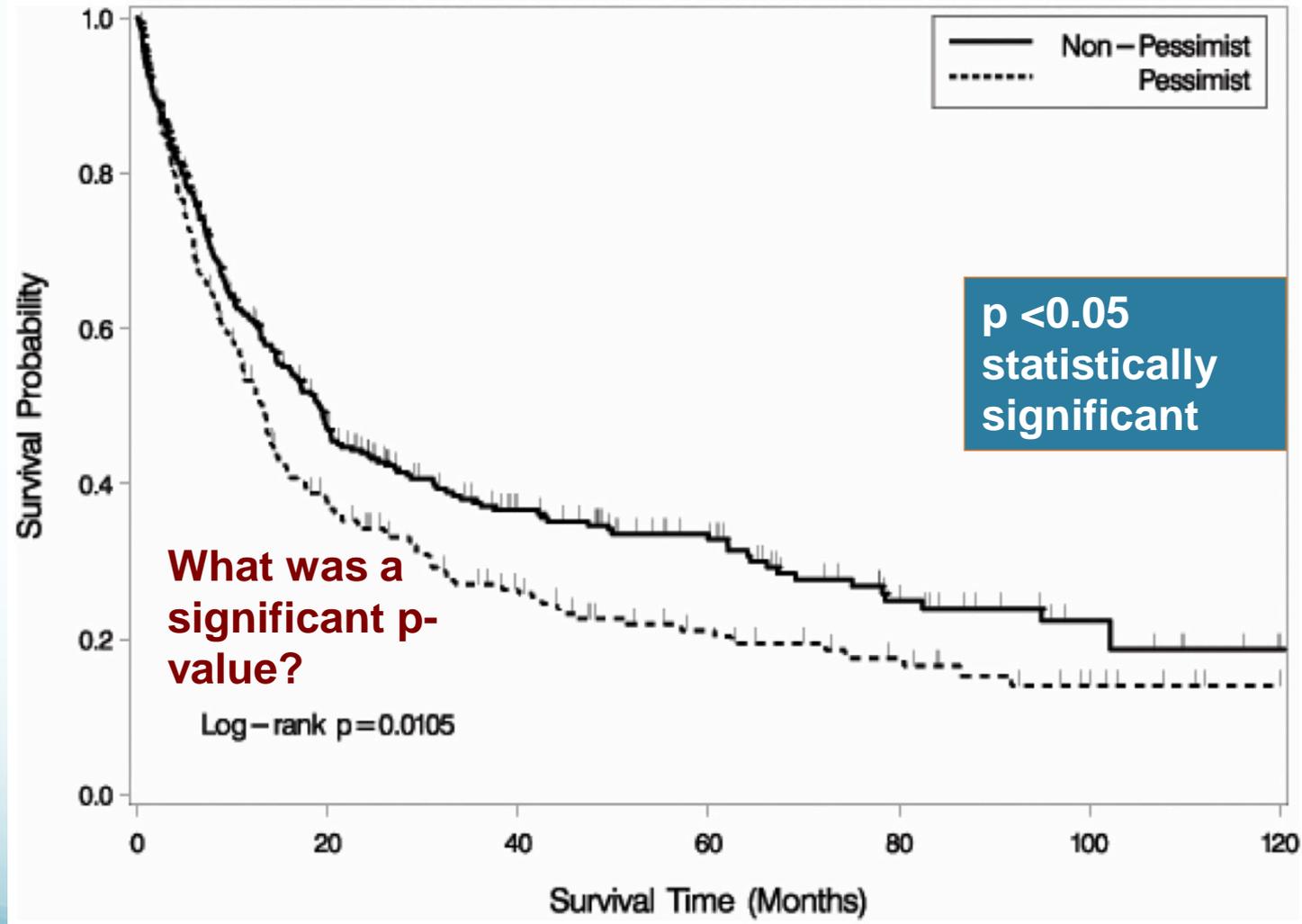
# Optimism?

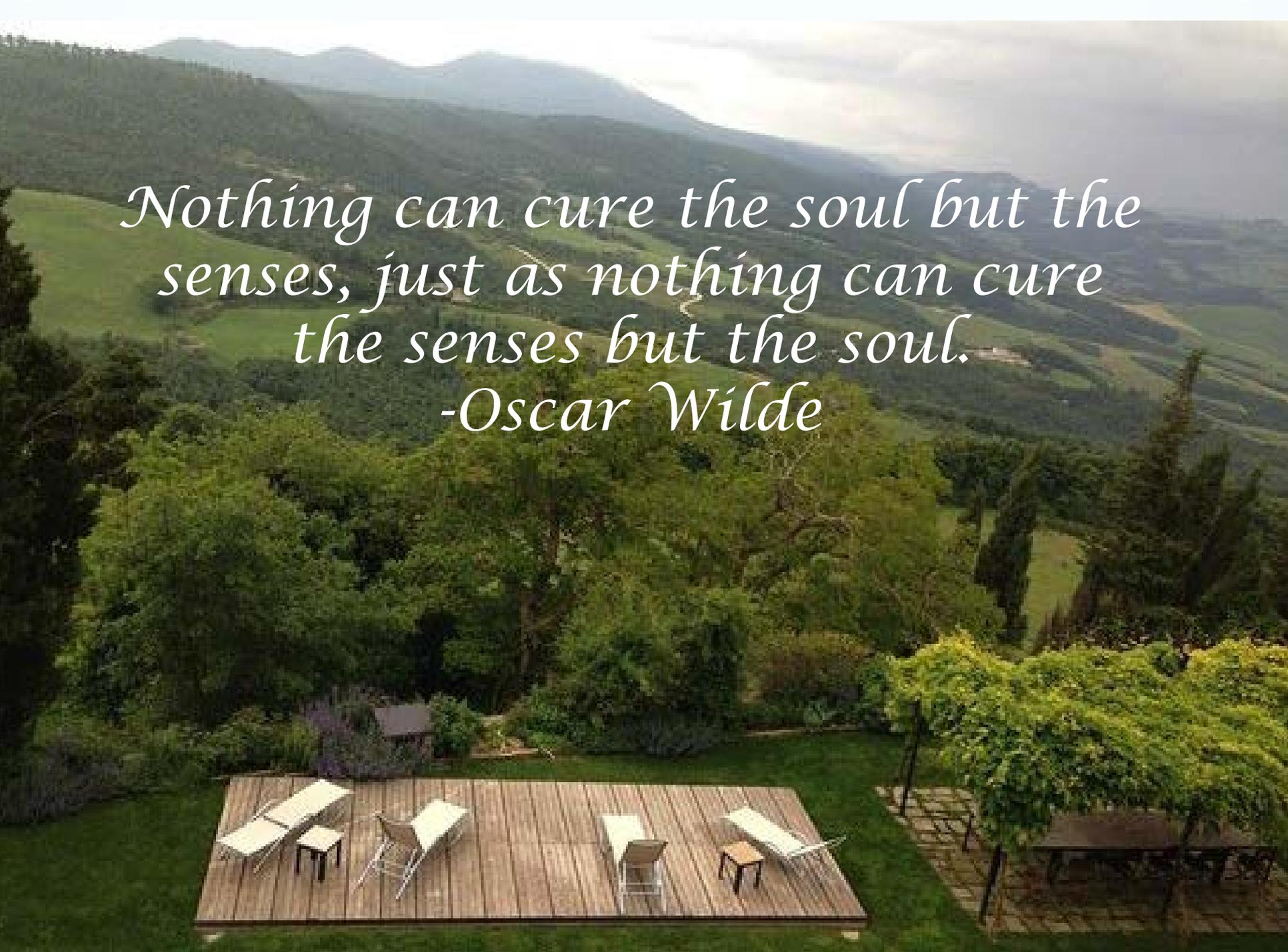
- 10,000 take MMPI group into pessimists and optimists
- 18 years later, 534 developed lung cancer
- Patients divided into optimistic group and pessimistic group



Novotny P, et al. A pessimistic explanatory style is prognostic for poor lung cancer survival. J Thorac Oncol. 2010 Mar;5(3):326-32.

# Optimism improves cancer survival





*Nothing can cure the soul but the  
senses, just as nothing can cure  
the senses but the soul.  
-Oscar Wilde*