

Fitness Vs Weight: *What's More Important to Your Health?*



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***Every Body* WALK!**
The Campaign to Get America Walking

Exercise
is **Medicine™**

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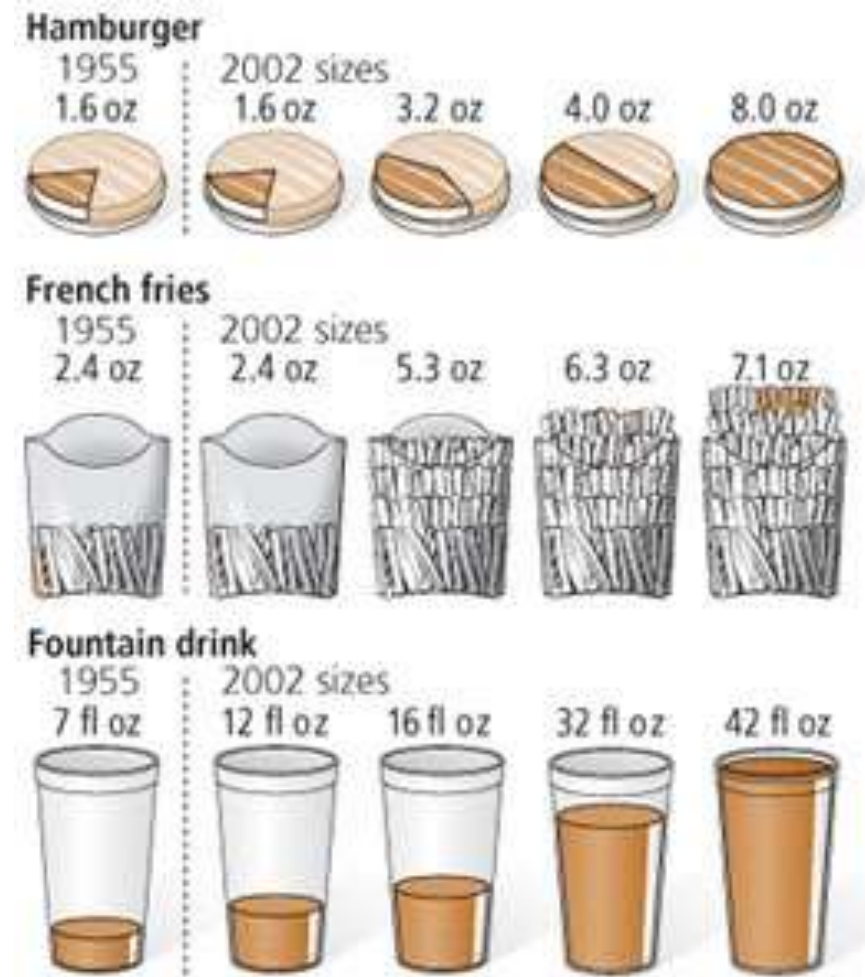
Past century has seen paradigm shift in our diet and activity level

- Over the same period of time;
 - Portion sizes have dramatically increased.
 - Activity levels have dramatically decreased
- Resulting in unintended, but predictable, consequences that are gravely affecting our health and longevity.



The Growth of Fast Food Portion Sizes Over 60+ yrs

- Between 1971 and 2012:
 - Average man added 168 calories to his daily diet.
 - Average woman added 335 calories a day.



The Growth of Portion Sizes; 40 years & 210 calories later

- The Average Bagel:



**3-inch
diameter
140 calories**



**6-inch
diameter
350 calories**

The Growth of Portion Sizes; 40 years & 360 calories later

- The Average Large Size Theatre Popcorn:



5 cups
270 calories



11 cups
630 calories

The Growth of Portion Sizes; 40 years & 270 calories later

- The Average Hamburger:



**333
calories**



**590
calories**

Changes to the US Labor Force

- Over past century, shift from industries dominated by primary production
- 1900 Most Common Occupations:
 - Farm workers
 - Forest workers
 - Mine workers
- 2000 Most Common Occupations:
 - Professional workers
 - Technical workers
 - Service workers



Then Exercise Didn't Matter: Unintended Consequences of Technology

**Lumberjack;
Then**



Now Exercise Matters: Unintended Consequences of Technology

**Lumberjack;
Now**



Then Exercise Didn't Matter: Unintended Consequences of Technology

**Farmer;
Then**



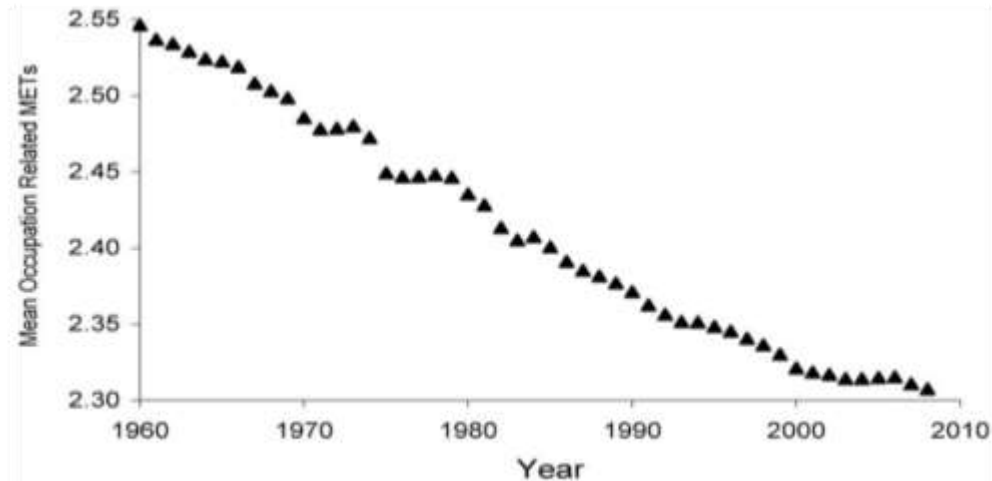
Now Exercise Matters: Unintended Consequences of Technology

**Farmer;
Now**

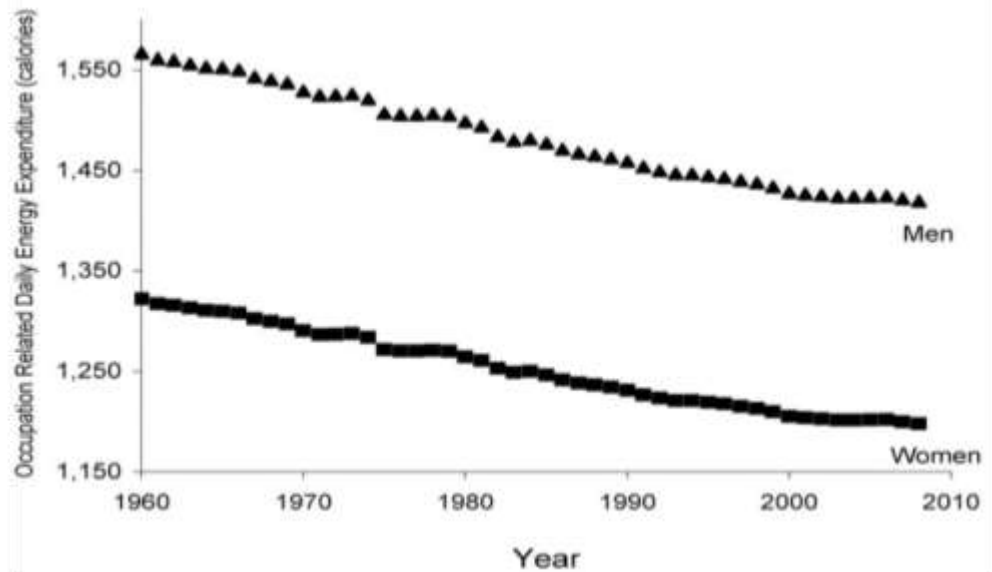


Energy Expenditure at Work Over 5 Decades

METs
Expended



Calories
Burned



Then Exercise Didn't Matter: Unintended Consequences of Technology

**Play time;
Then**



Now Exercise Matters: Unintended Consequences of Technology

**Play time;
Now**



Everywhere We Look; Now Exercise Matters!

At home and at work;
Now

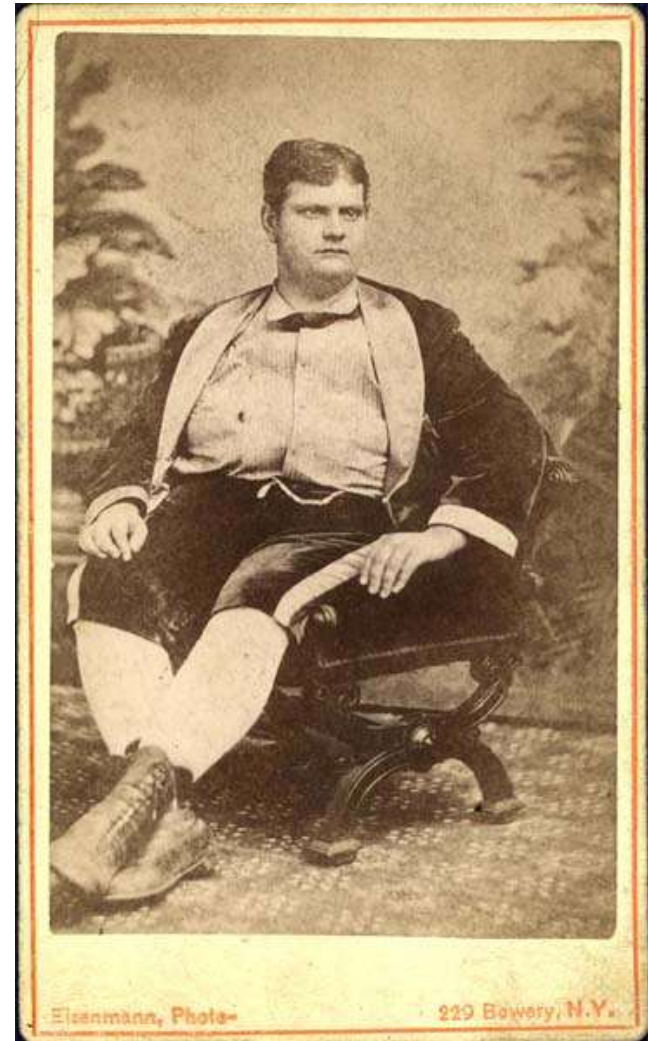


Bottom Line – We have systematically worked physical activity out of our daily routine



The results have been catastrophic

- Can you guess the occupation of these people from the early 1900's?
 - They are circus performers.
 - Often called “fat folks”, who were so unusually large that people actually paid to see them!



Are you kidding? Compare with today's standards



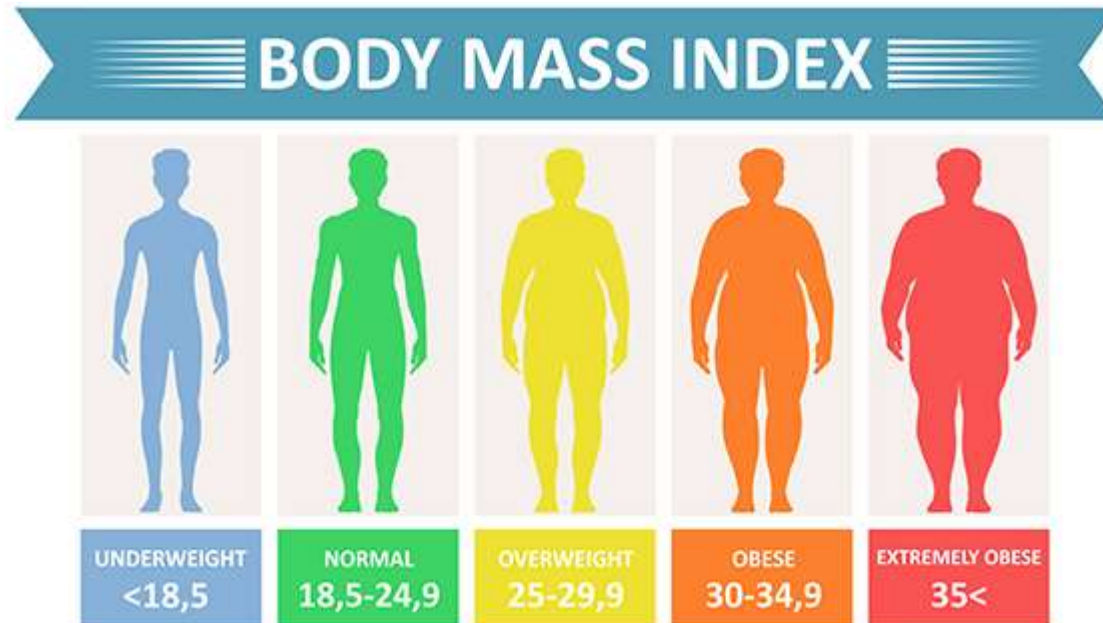
This is NOT a genetic problem

- Humans have not experienced significant genetic change in the past 50 years.
- Look at “old” pictures!
- Basic Law of Thermodynamics
 - To maintain metabolic balance:
 $\text{kcal in} = \text{kcal burned}$



What is BMI?

Body Mass Index

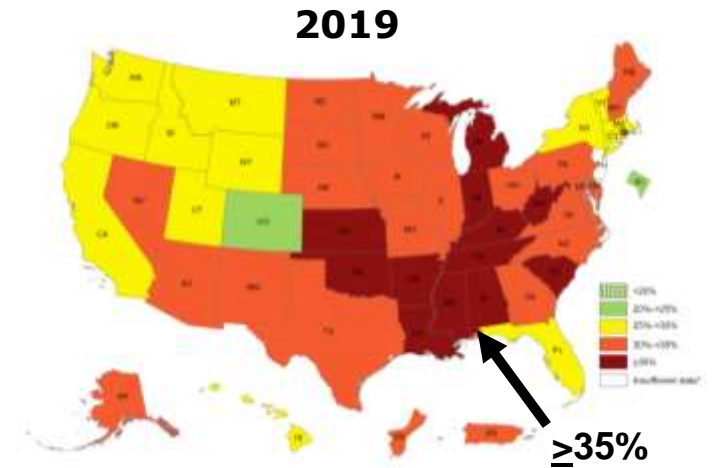
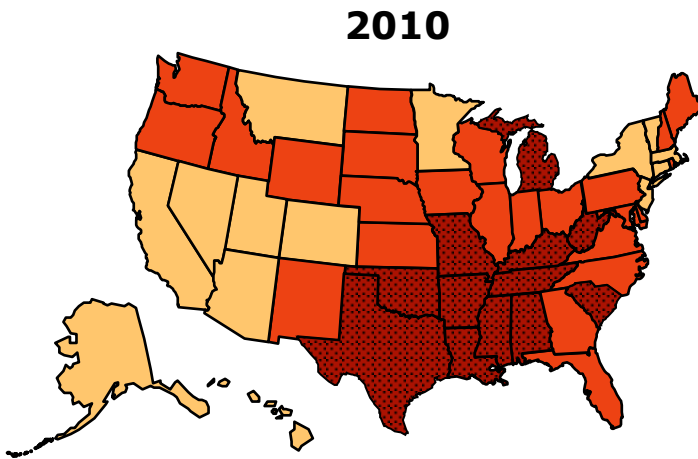
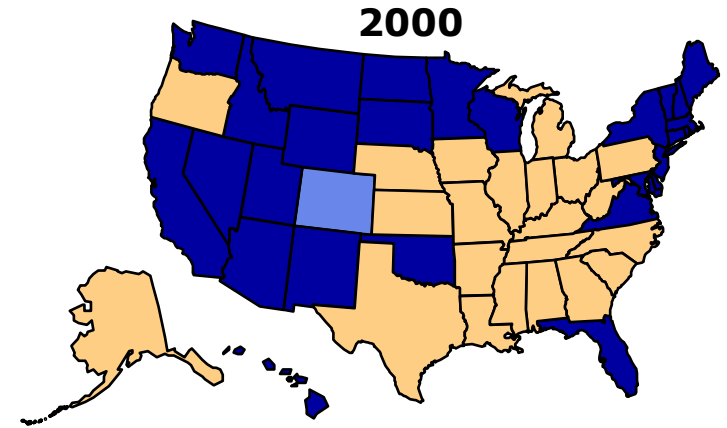
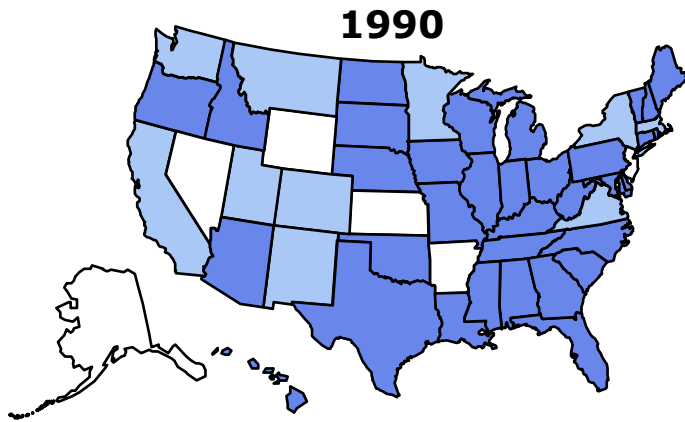


- *Ranges of BMI*
 - 18.5 – 25; Normal (for someone 5'9" weigh 125-168)
 - 25-29; Overweight
 - 30 – 39; Obese (30-34 is class 1; 35-39 is class 2)
 - >40; Severe Obesity

Obesity Trends* Among U.S. Adults

BRFSS, 1990, 2000, 2010, 2019

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

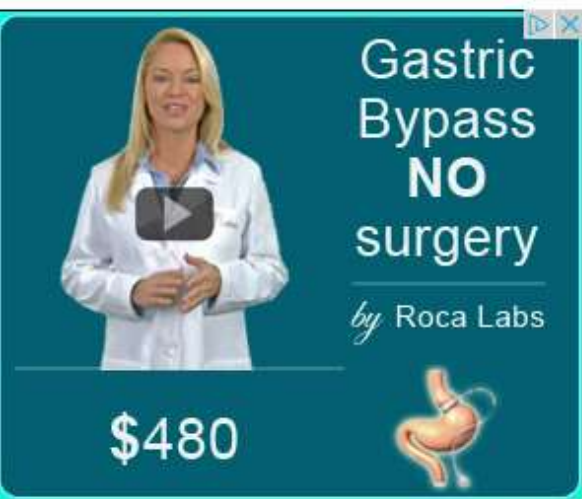


No Data <10% 10%–14% 15%–19% 20%–24% 25%–29% $\geq 30\%$



AMA Votes that Obesity is a Disease

June 18, 2013



Gastric Bypass
NO surgery
by Roca Labs
\$480

AMA declares obesity a disease

The move by the American Medical Assn. board means that one-third of adults and 17% of children in the U.S. have a medical condition that requires treatment.

June 18, 2013 | By Melissa Healy and Anna Gorman, Los Angeles Times

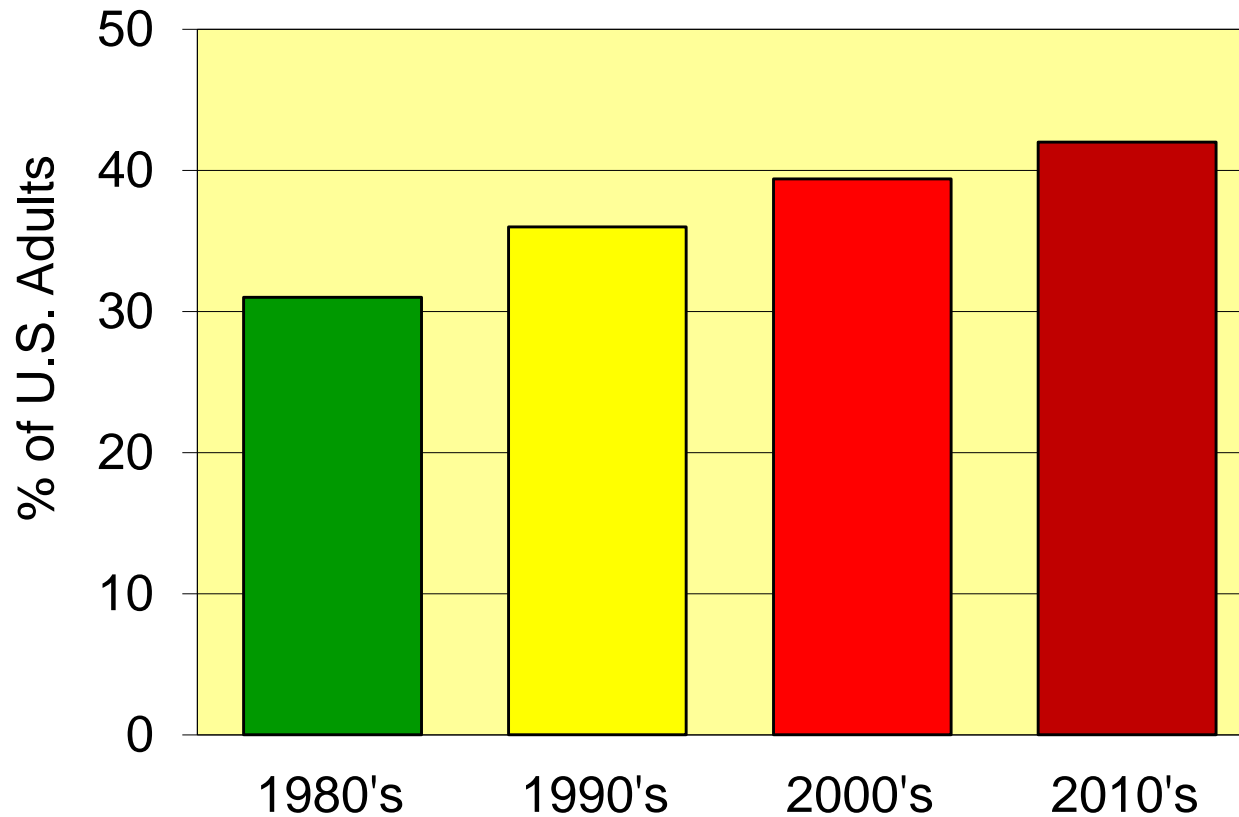
  Email  Share  +1 96  Tweet 0  Recommend 1

The American Medical Assn. voted Tuesday to declare obesity a disease, a move that effectively defines 78 million American adults and 12 million children as having a medical condition requiring treatment.



The move by the American Medical Assn. board means that one-third of adults and 17% of children in the U.S. have a medical condition that requires treatment.

Prevalence of Weight Loss Attempts 1980's – 2000's



Santos et al, *Obes Rev*; 2017

Yaesmiri et al, *Int J Obes* 2011; Bish et al, *Obes Res* 2005;

Serdula et al, *JAMA* 1999; Serdula et al, *Am J Publ Health* 1994





Comeback Kids:
Clinton Brings
Them Home

Why Health Care
Reform Is
A Hard Sell



The White House's
Race to Stop
A Flu Pandemic

TIME



The Myth About Exercise

Of course it's good for you,
but it won't make you
lose weight. Why it's
what you eat that
really counts.

BY JOHN CLOUD

Physical activity, obesity and health

BJSM

It is time to bust the myth of physical inactivity and obesity: you cannot outrun a bad diet

A Malhotra, T Noakes and S Phinney

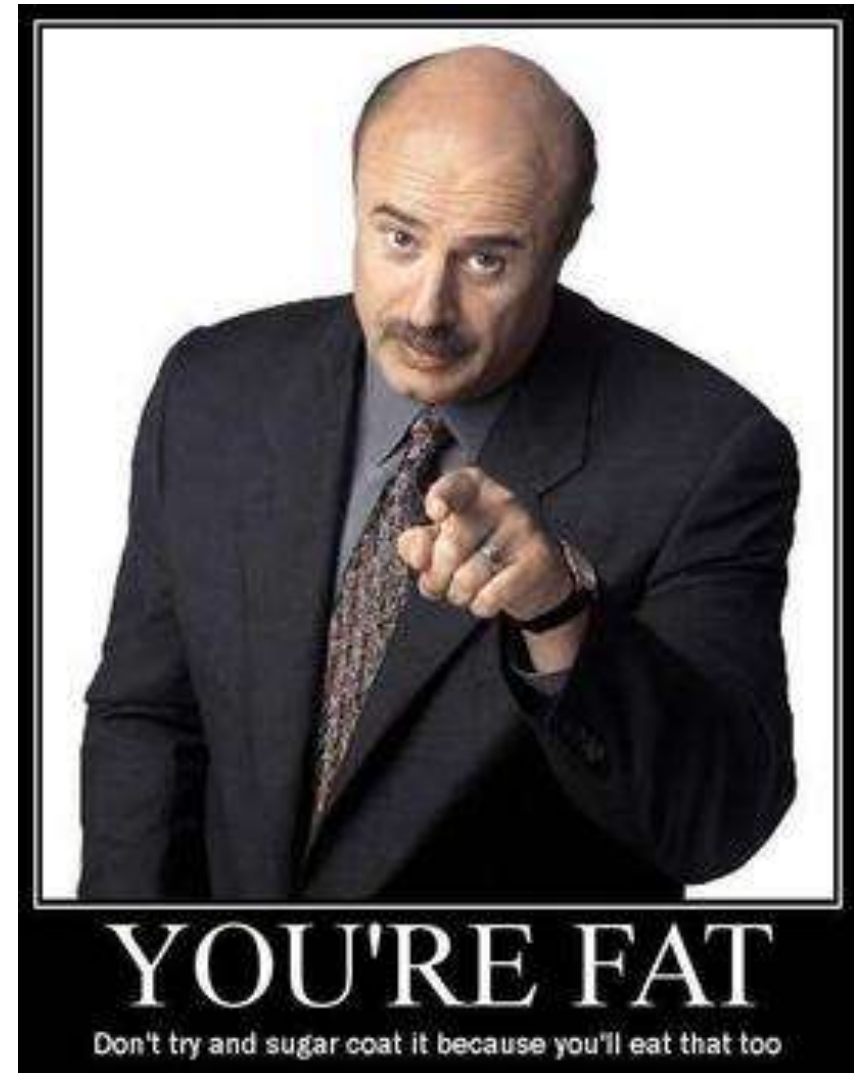
Br J Sports Med 2015 49: 967-968 originally published online April 22, 2015

doi: 10.1136/bjsports-2015-094911

- Written by folks trying to sell diet books about virtues of a low carb – high fat diet.
- We have heard this for years – obviously you can eat more calories in 10 minutes than you can burn off in 2 days.
- ***It's time to bust the myth that you can diet away the risks of being sedentary?***

Obesity Hysteria

- The world has now been sufficiently alerted to the global problem of obesity.
- Patients have been labeled and stigmatized.
- Assigned lots of blame.
- Spent lots of *money*.
- ...and gotten nowhere.

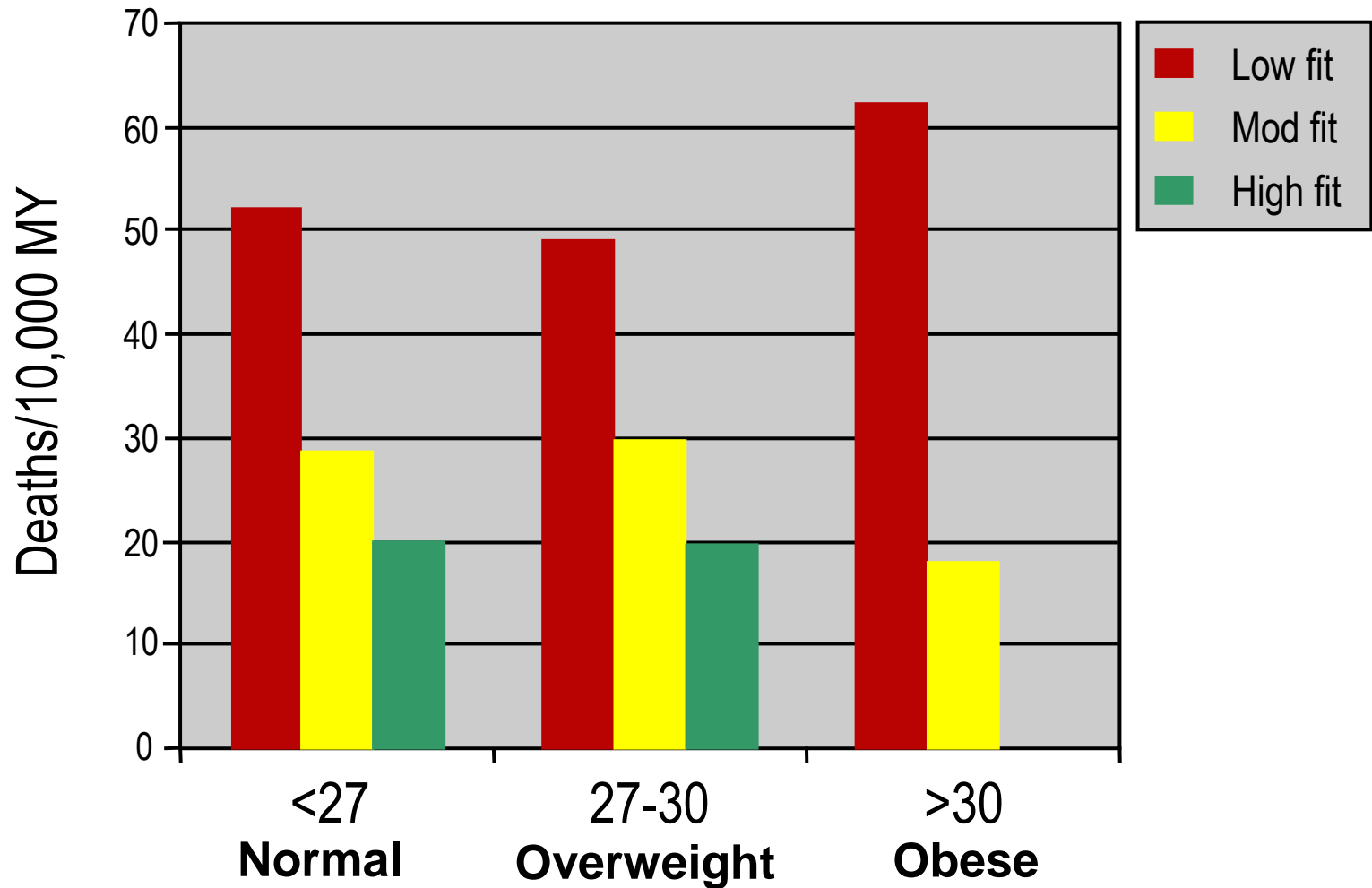


We need a new (and fresh) approach!

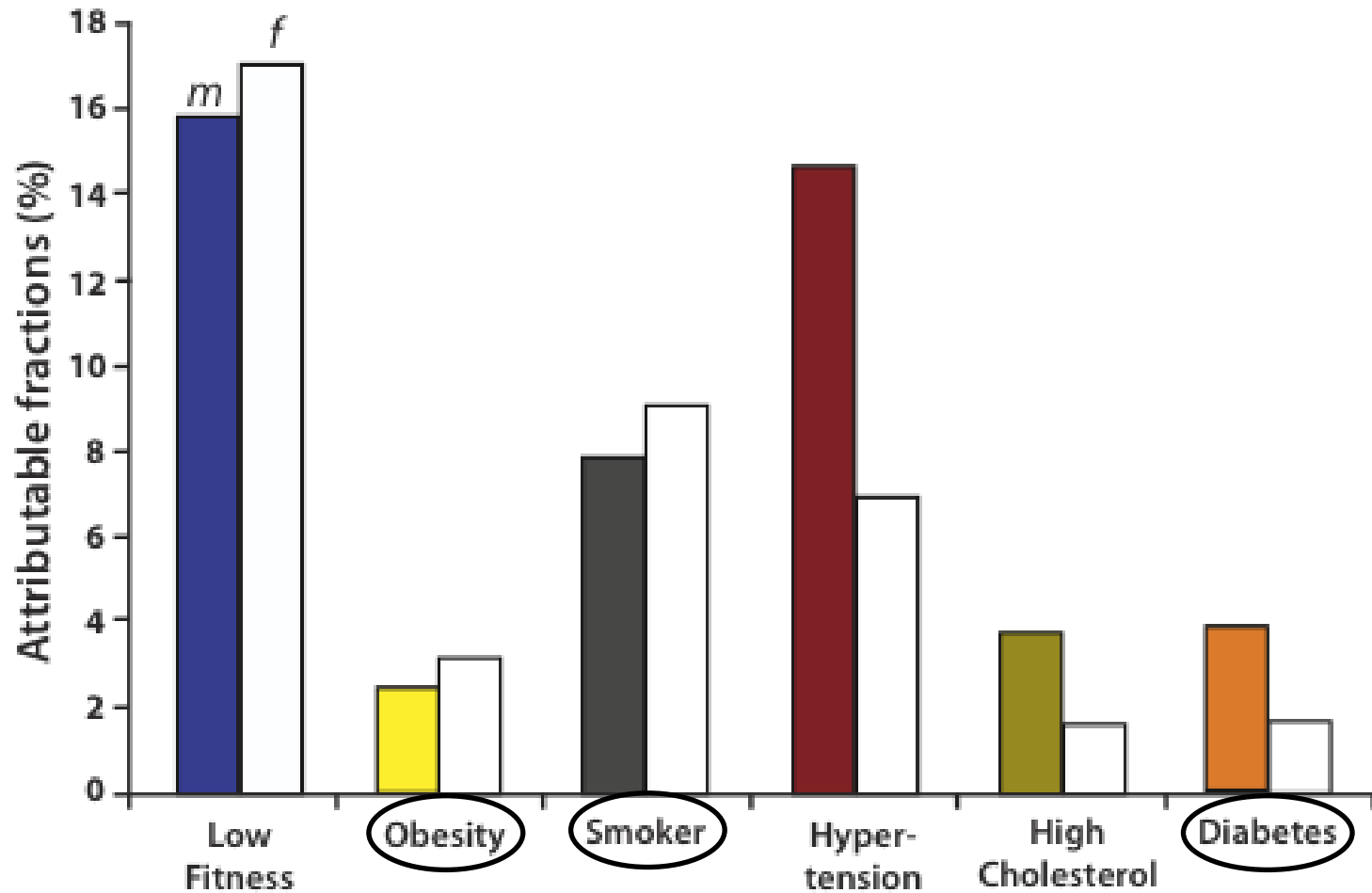
- We need to let overweight and obese patients know they can still be healthy!
- Shift focus off of BMI and onto physical activity.
- Health At Every Size
 - Focus on broader health.
 - 95% regain lost wt. in 3-5 yrs.
 - Change in BMI is not a success measure for an exercise program.



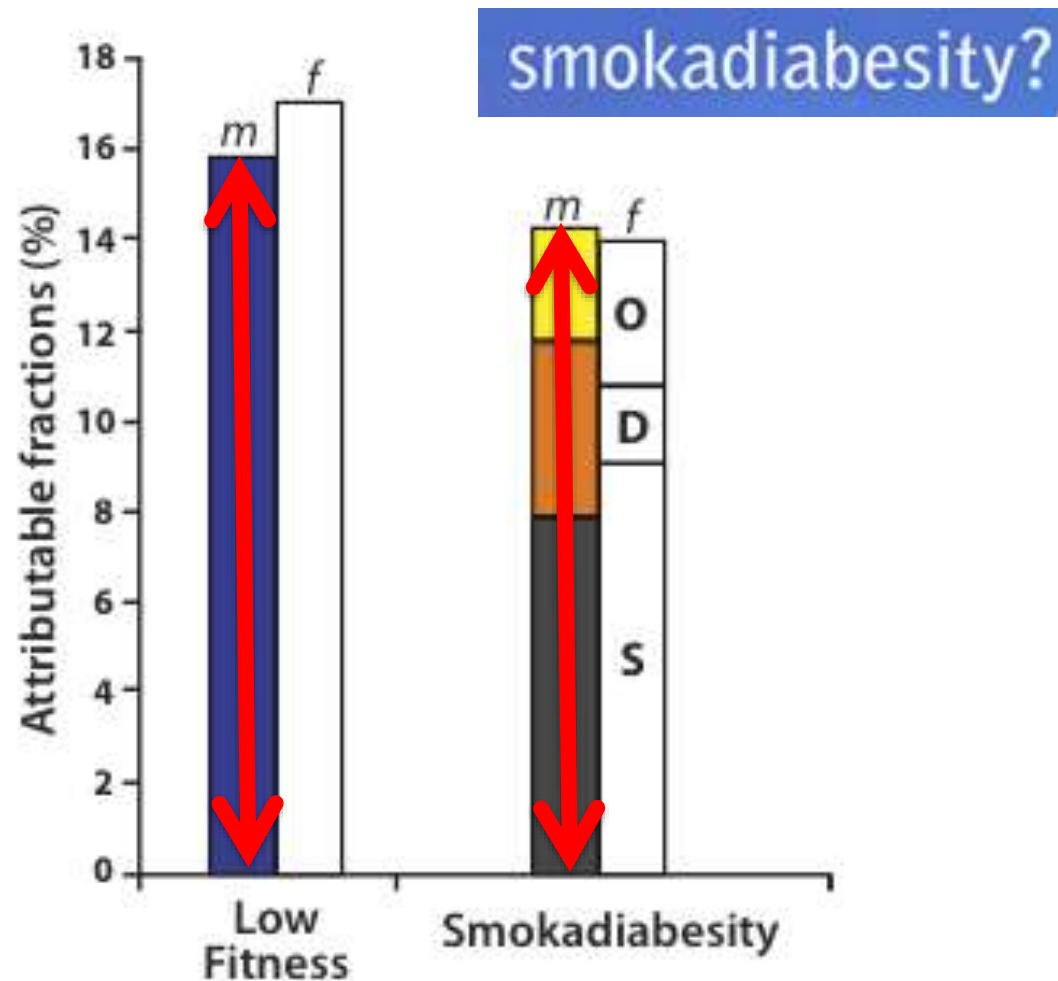
Death Rates by Fitness & BMI Categories



Which kills more *people*?



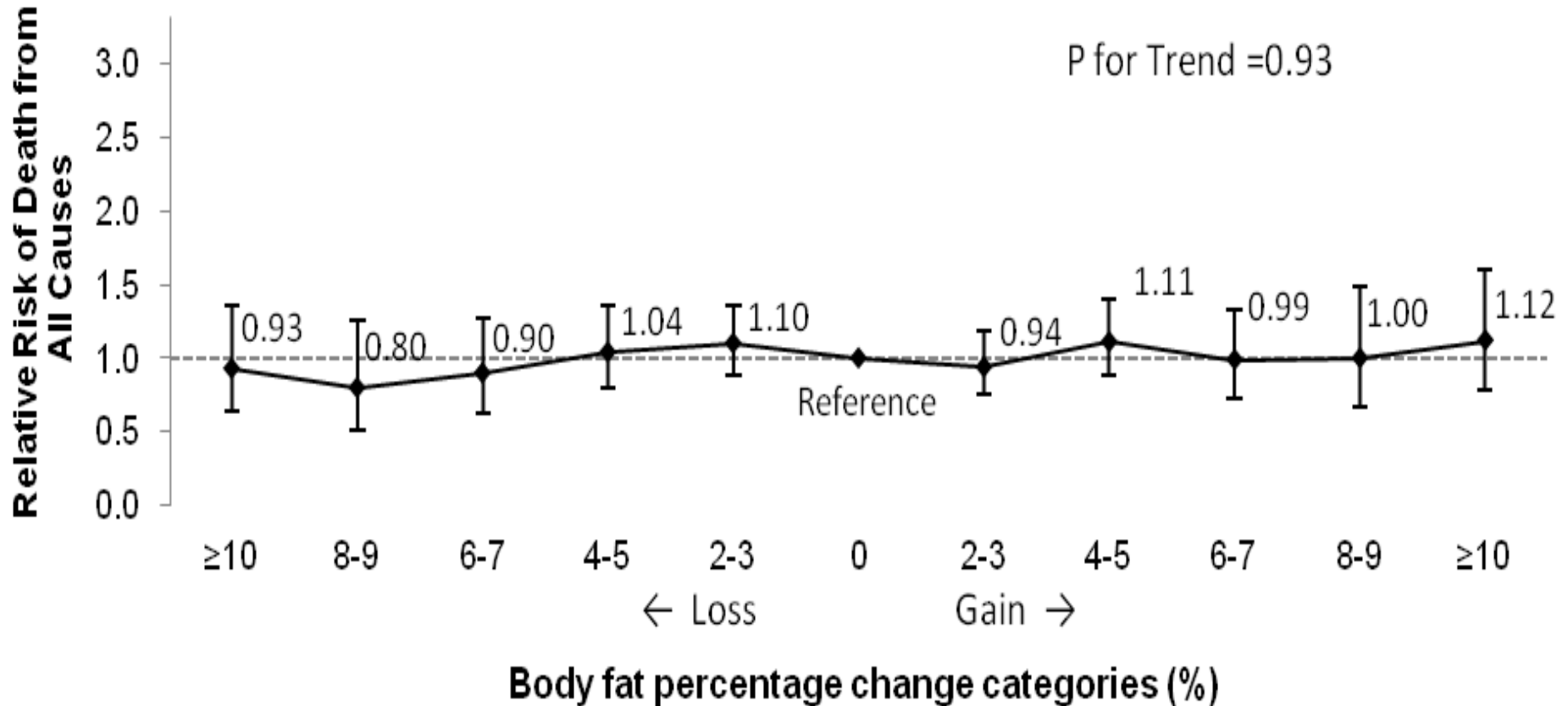
Low Fitness Kills More *People than Smokadiabesity!*



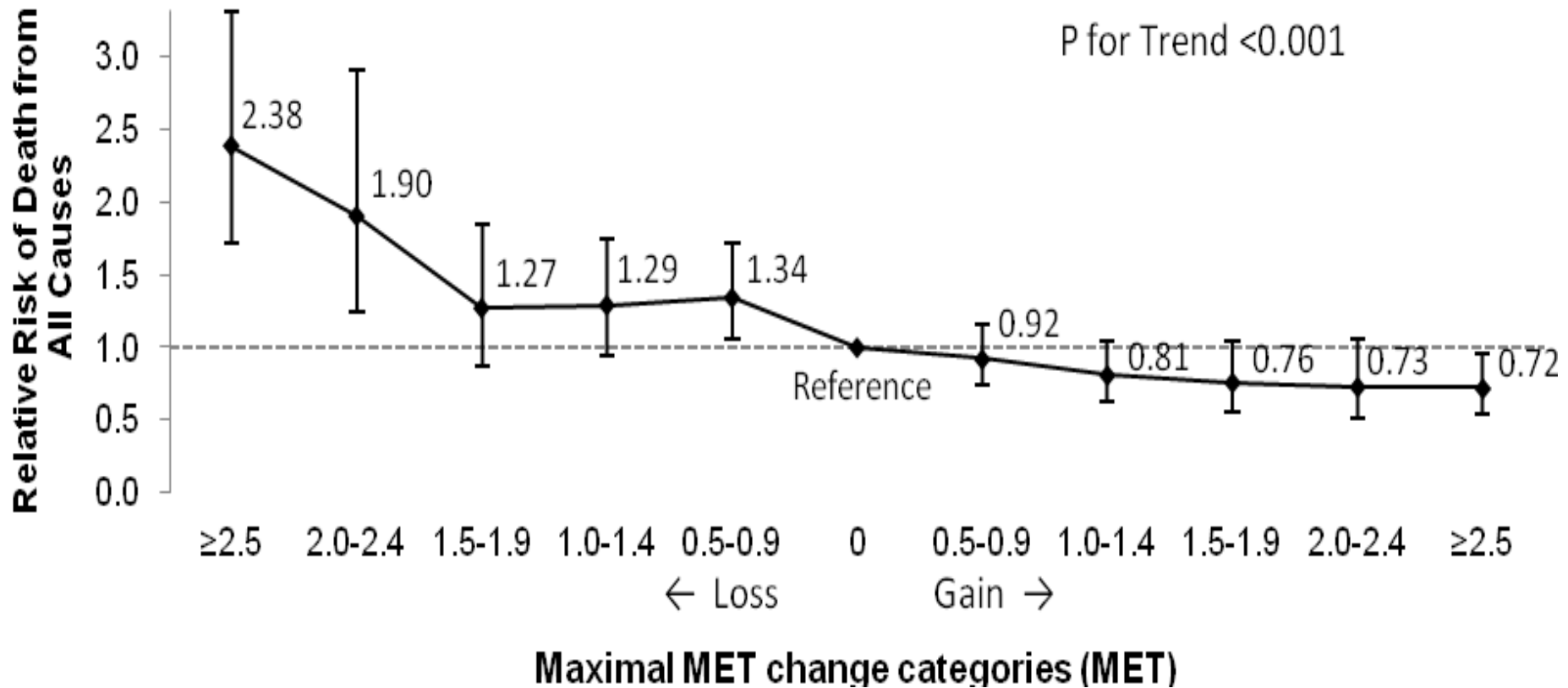
Is Mortality Risk Reduced More by Weight Loss or Increasing Fitness?

- 14,345 mostly middle-aged men; All had 2 or more exams at the Cooper Clinic
- Over 11.4 years of follow-up (165,186 man-years)
914 all cause deaths (300 CV deaths)
- Excluded those with chronic disease, <1 year of follow-up, or BMI <18.5 BMI
- Evaluated changes in fitness and body fat in relation to all-cause mortality

Change in Percent Body Fat



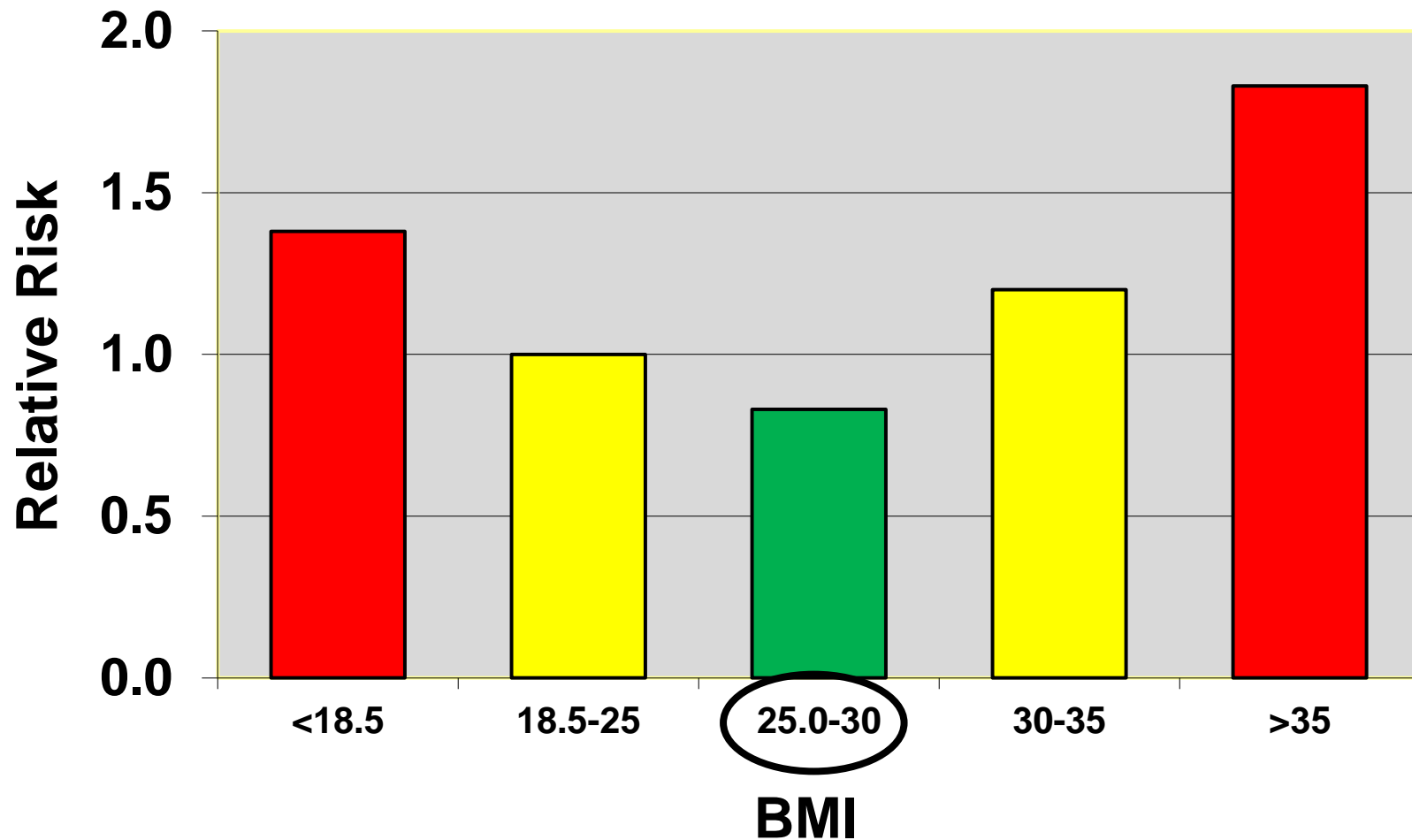
Change in Fitness Level (Maximal METs)



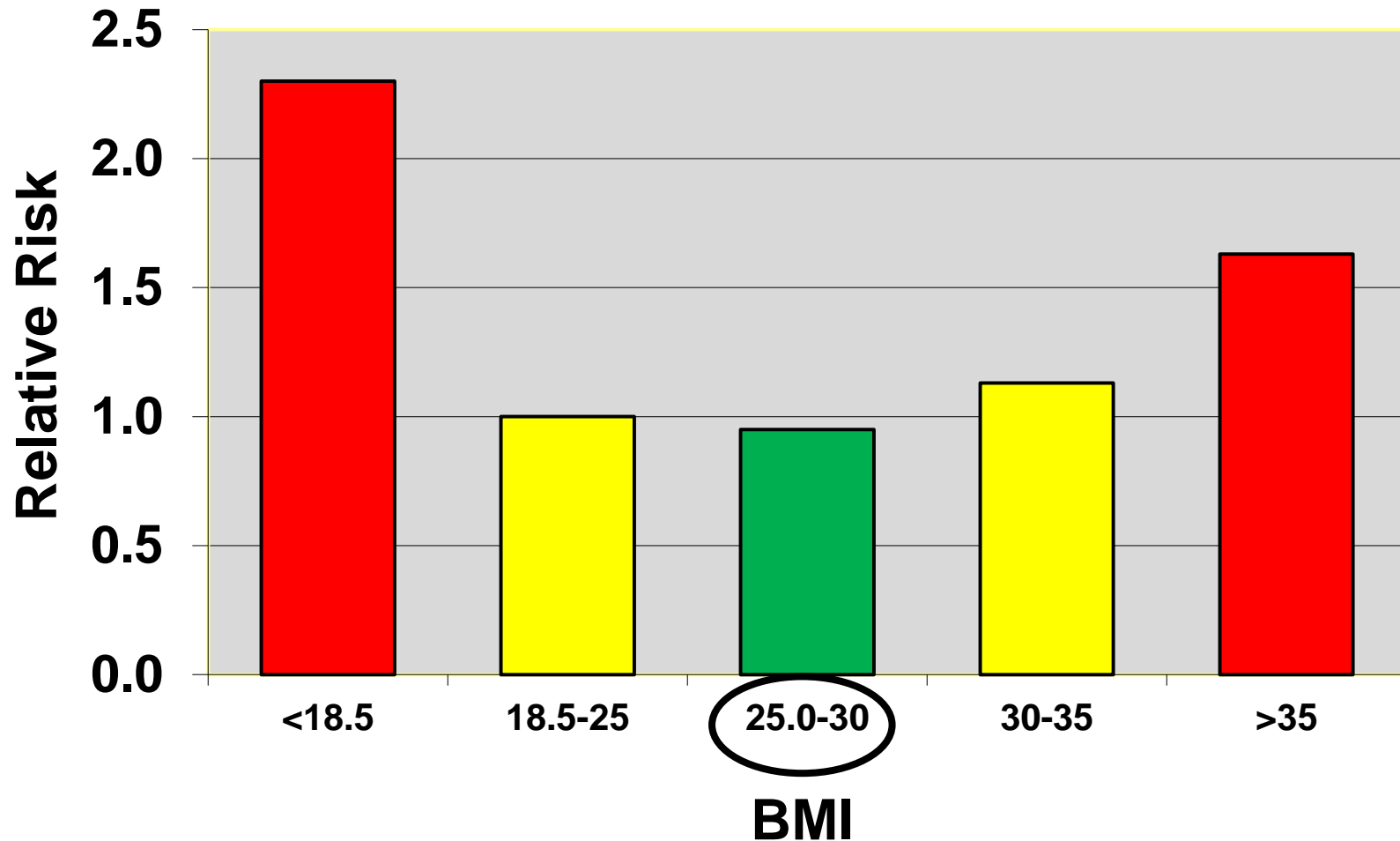
Where should our Focus be to Lower Mortality? Fitness vs BMI vs Smoking

- Fit and normal BMI (non-smoker)
- Fit and elevated BMI (non-smoker)
- Fit, normal BMI, & smoker.
- Unfit and normal BMI (non-smoker)
- Unfit and abnormal BMI (non-smoker)
- Unfit, abnormal BMI, & smoker.

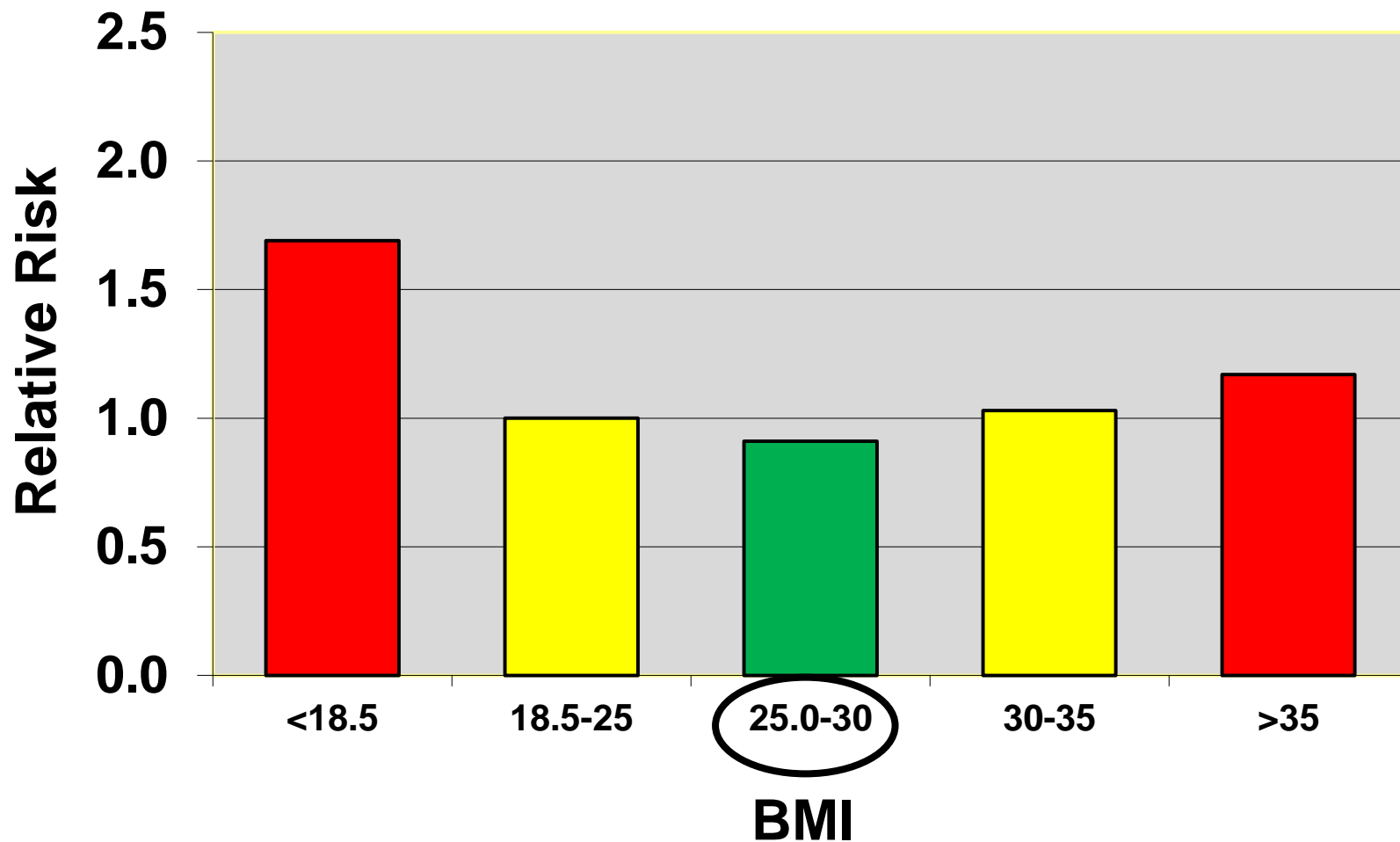
All-Cause Mortality, Relative Risk, Age 25-59 NHANES Data



All-Cause Mortality, Relative Risk, Age 60-69 NHANES Data



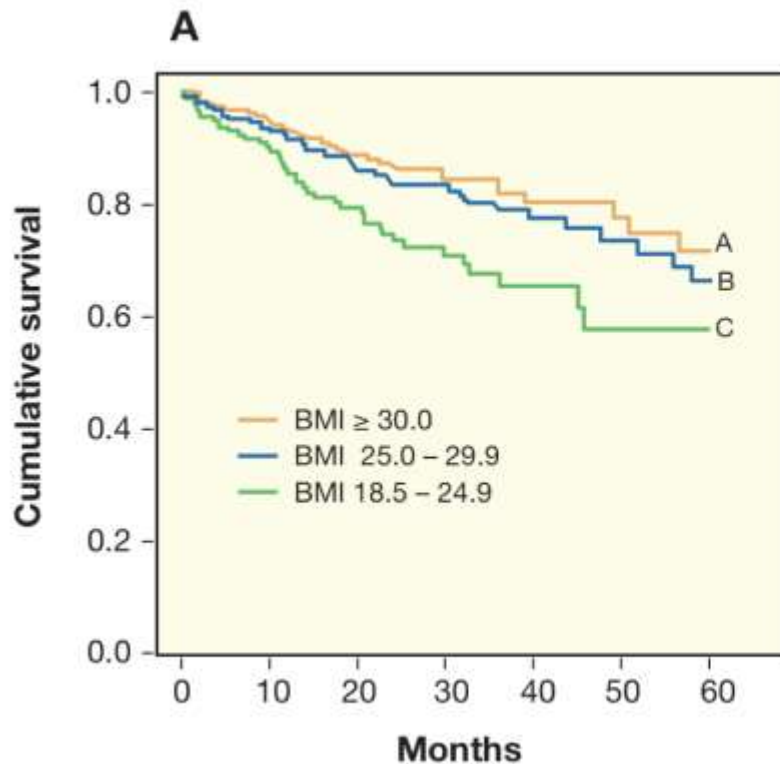
All-Cause Mortality, Relative Risk, Age ≥ 70 NHANES Data



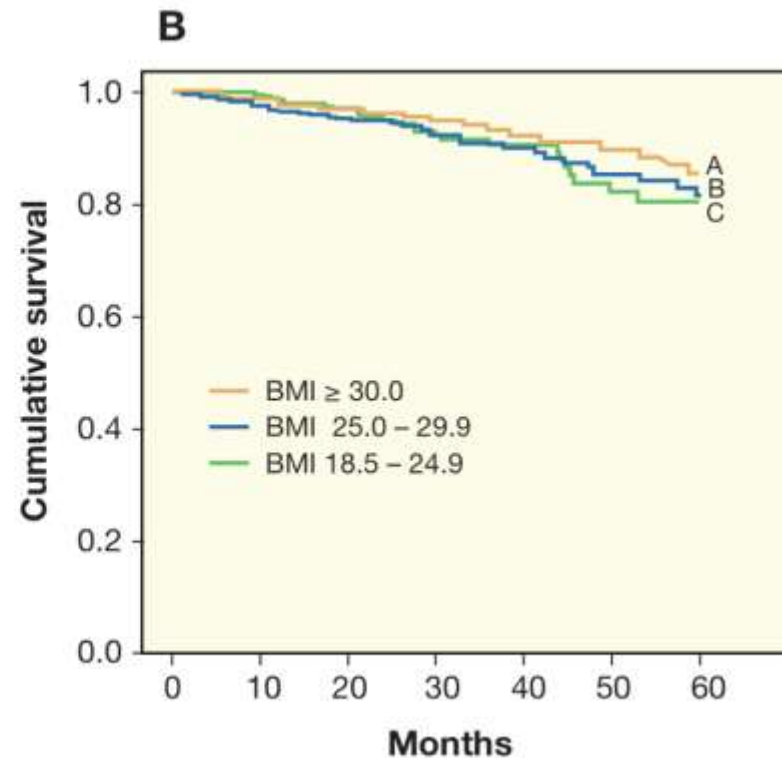
The Obesity Paradox

Heart Disease Patients With Lower BMI Do Worse!

Low Fitness



Higher Fitness



*The Obesity Paradox is seen with various other chronic diseases as well.

Physical Inactivity and Severe COVID-19 Risk

Original research

Physical inactivity is associated with a higher risk for severe COVID-19 outcomes: a study in 48 440 adult patients

Robert Sallis ¹, Deborah Rohm Young,² Sara Y Tartof,² James F Sallis,³ Jeevan Sall,¹ Qiaowu Li,² Gary N Smith,⁴ Deborah A Cohen²

First published April 13, 2021

British Journal of
Sports Medicine

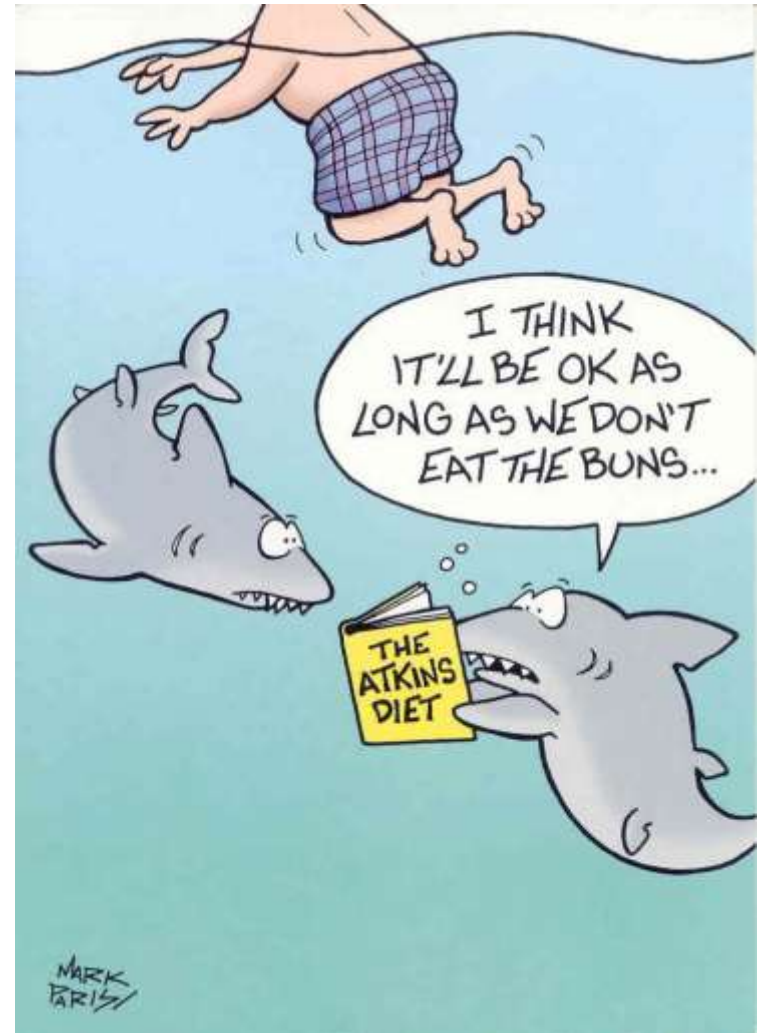
Odds Ratios for COVID 19 *Deaths*

Obese patients less likely to die!

Effect	Odds Ratio	95% CI
Age >60	4.01	3.06 - 5.25
Gender M vs F	1.72	1.46 - 2.01
Hx of Organ Transplant	4.25	2.37 - 7.62
Race (B vs W)	1.18	0.91 - 1.54
A1C >= 8%	1.64	1.27 - 2.12
BMI 30-40	0.89	0.72 - 1.10
BMI >40	1.90	1.43 - 2.54
Smoker	1.24	1.05 - 1.47
COPD	1.28	1.06 - 1.53
Kidney Disease	1.50	1.24 - 1.81
Cancer	1.04	0.75 - 1.44
Hypertension	1.30	1.06 - 1.60
Inactive vs Active	2.49	1.33 - 4.67
Inactive vs Some Activity	1.32	1.09 - 1.60

Fitness vs. Fatness

- Better to be fat and fit, than skinny and un-fit.
- Low level of fitness is a bigger risk factor for mortality, than mild to moderate obesity.
- Benefits of physical activity are the same, regardless of how much you weigh.



The Walking Prescription



Name: John W. Smith Age: 30

Walking **R_x** Date: _____

Recommended activity level: Moderate

Minutes per day: 30 minutes

Number of days per week: 5 or more

Intensity: Hard enough that you can't sing,
but not so hard you can't talk during exercise.

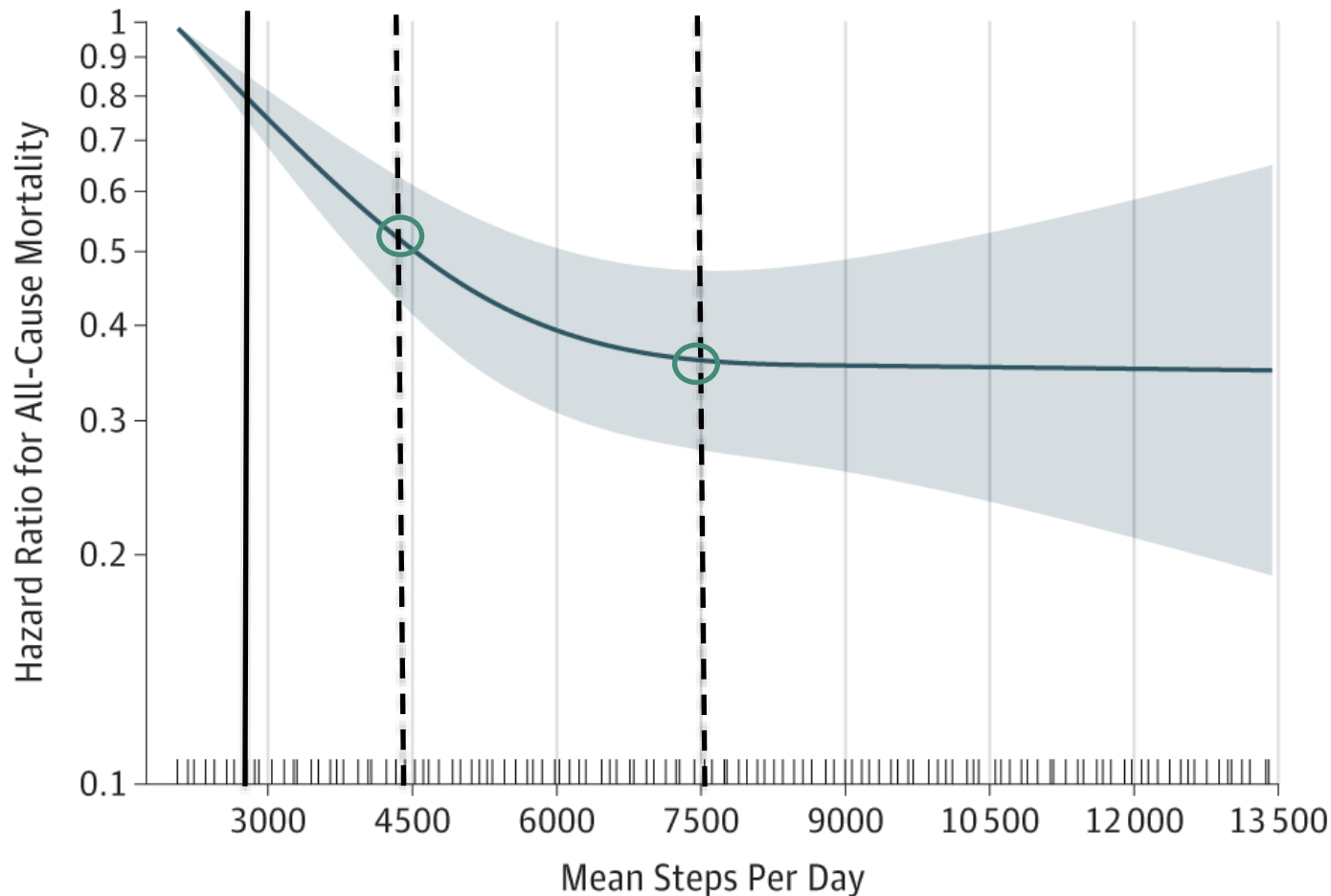
Stop: If you experience chest pain,
excessive shortness of breath or feel ill.

Signature: Robert Sallis, MD

Every Body
WALK!
www.everybodywalk.org



It Doesn't Take a lot of Steps!



- 16,741 women
- Mean age of 72 yrs followed 4.3 yrs.
- Those averaging **~4400 steps/d** had significantly lower mortality compared with those who took **~2700 steps/d**
- Mortality rates progressively decreased before leveling at approx **7500 steps/d**.
- Step Intensity not related to mortality

A Tale of 2 Male Patients; *Which one has Heart Disease?*



A Tale of 2 Male Patients; *Which one has Heart Disease?*

Patient #1

- **5'8" Tall**
- **158 lbs.**
- **Never drank alcohol**
- **Low Fat/High Fiber Diet**
- **Marathon Runner**
- **Former smoker**

Patient #2

- **5'8" Tall**
- **270 lbs.**
- **Heavy drinker**
- **High Fat/Low Fiber Diet**
- **Sedentary**
- **Heavy cigarette and cigar smoker**

Jim Fixx; died age 52 while jogging

- **5'8" Tall**
- **158 lbs.**
- **Never drank alcohol**
- **Low Fat/High Fiber Diet**
- **Marathon Runner**
- **Former smoker**



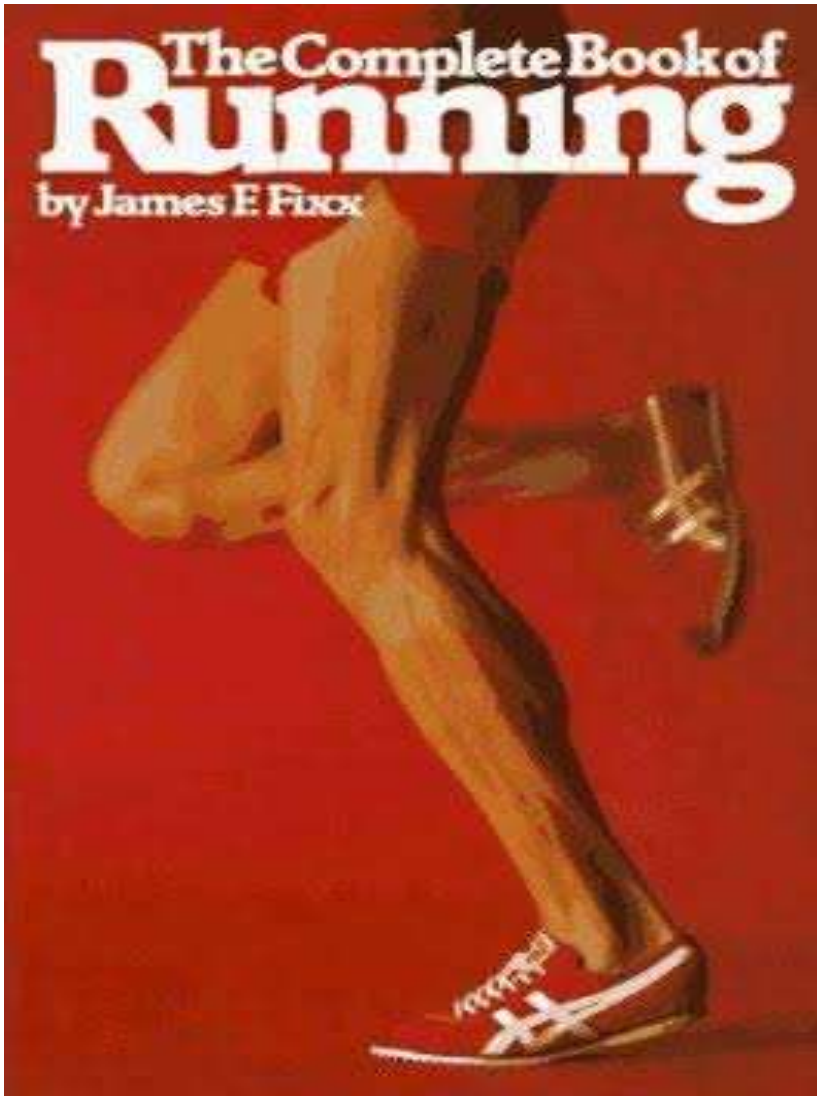
Winton Churchill; died age 90 at home



- **5'8" Tall**
- **270 lbs.**
- **Heavy drinker**
- **High Fat/Low Fiber Diet**
- **Sedentary**
- **Heavy cigarette and cigar smoker**

Jim Fixx

Author and Marathon Runner

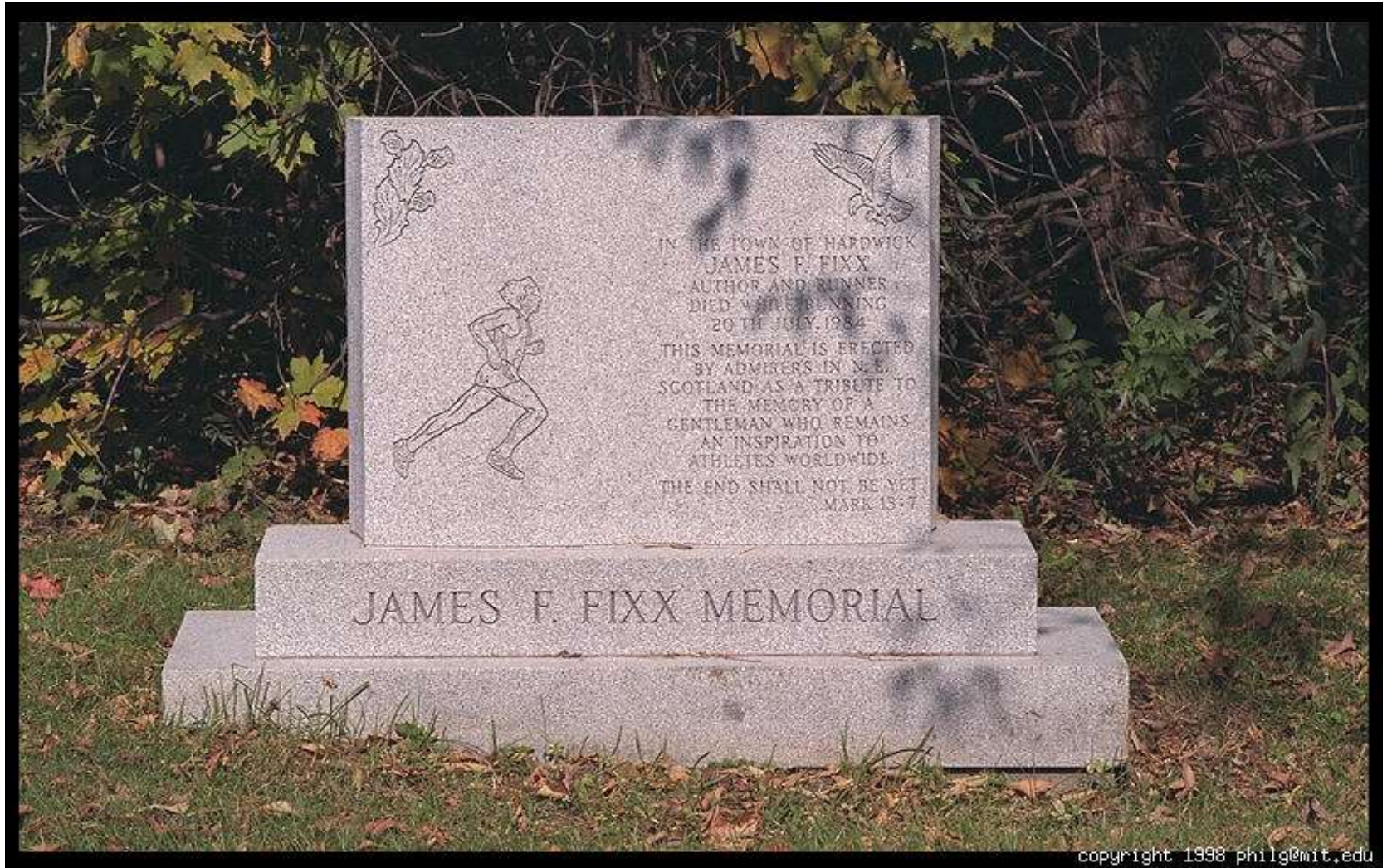


The Truth About Jim Fixx

- Former 2 pack per day smoker.
- Overweight much of his life (lost 70 lbs. in his late 30's).
- Strong family history of heart disease (father died of heart attack at age 43).
- Died of triple vessel coronary artery disease.



Sometimes you cannot outrun (or out-diet) your genes!



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Summary

- Strong evidence suggests that you CAN outrun a bad diet.
- Multiple studies have proven that you are better off being Fat & Fit than Skinny & Unfit
- For this reason, the promotion of PA should be placed on at least equal footing with weight mgmt.
- You should always ask your doctor if the condition they are treating you for can be helped by exercise (and diet).

It's time to get off the couch...



My Final Presentation

Robert Sallis, MD

- ***Friday @ 3 PM; “Managing Chronic Musculoskeletal Pain: What are the Best Non-Drug Options?”***

Thank You!



RANCHO LA PUERTA

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Questions?