

Separating Fat from Fiction: Exploring Myths, Realities, and Assumptions



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The Situation



- Food environment
 - Decreased food prices
 - Increased portion size
 - Increased eating out
 - Snacking
- Physical environment
 - Remote controls, cell phones, garage door openers, leaf blowers, lawn mowers
 - Screen time=video games, computers, TV
 - Urban sprawl; need for car to get anywhere
- Society that worships thinness and abhors fat

Is Obesity a disease? Is body fat pathological?

- Who benefits from the concept of obesity being considered a disease?
 - Scientists researching obesity
 - Pharmaceutical companies
 - Bariatric surgeons
 - Public health establishment
- 50 Billion Dollar Diet Industry

New Year's Resolutions

- #1 wish every year-to lose weight



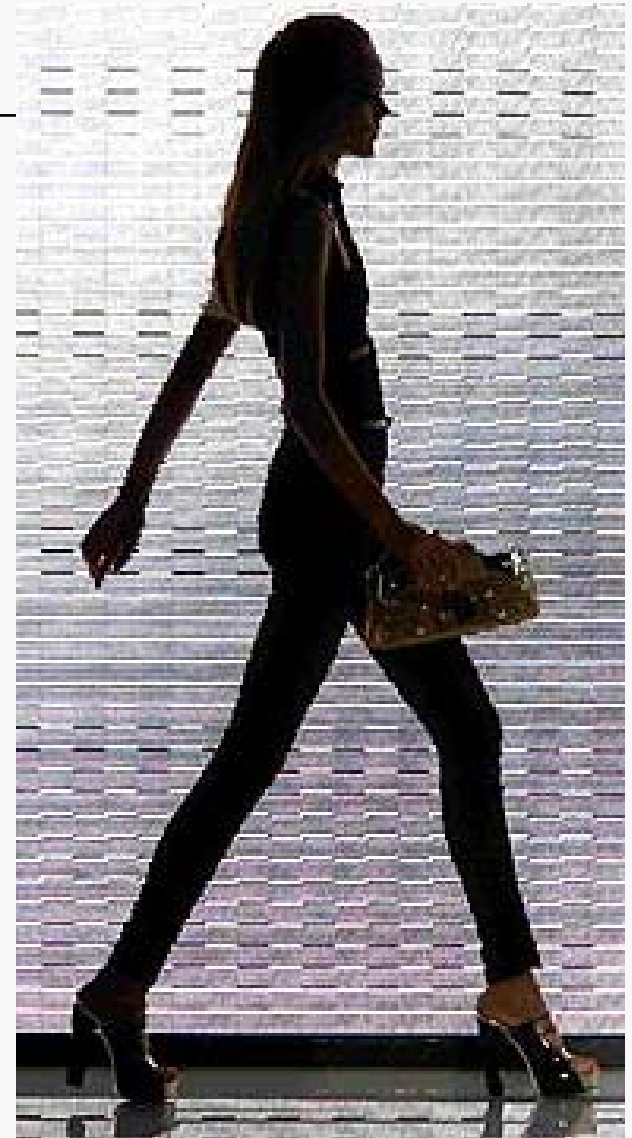
Sobering Statistics

- 116 million adults dieting at any given time
- 80% of teenage girls in the US have been on a diet
- by age 13, approx. 1/2 of girls said they were unhappy with their bodies



Sobering Statistics Continued

- The average model, dancer, or actress is thinner than 95% of the population
- A generation ago fashion models weighed 8% less than the average woman; today, 23% less
 - <http://demo.fb.se/e/girlpower/retouch/>
- Women, weight, and feminism



Fat Phobic Society

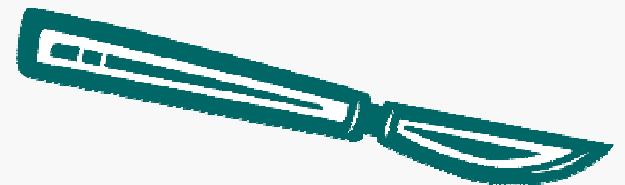


○ Diet Drugs

- usage among female adolescents
- Fen-Phen Fiasco

○ Bariatric Surgery (liposuction and gastric bypass)

- Liposuction. JAMA (Oct. 2005). Mortality rates: 30 day follow-up (2%), 90 day (2.8%), and 1 year (4.6%). As elective surgery, high mortality rate.
- Complications 1 in 347. Hospitalization rate doubled in the year post-surgery compared to year prior to surgery. At least 20% will need further surgery.
- Health benefits?



Myths and Misconceptions



- People can control their body size
- You will lose weight when you exercise
- People are thin or fat based on a simple relationship between calories in and calories out (expended calories)
- Obesity causes poor health and increased mortality



Obesity is a poor predictor of:

- Hypertension. 96 obese women per group:
 - no history of dieting; 125/79
 - history of yo-yo dieting (5 or more weight losses of at least 10 pounds in the last 5 years); 147/90
- High cholesterol
 - Low fat diet (6 weeks) and weight loss resulted in improved cholesterol levels. (National Public Health Institute)
 - Exercise or weight loss? 31 obese women were put on a 6 month aerobic program. (Laval University, Canada)
 - most lost weight; average of 6 pounds
 - 11 gained 6 pounds during the program

Obesity is a poor predictor of: (continued)



- Atherosclerosis (“clogged arteries”)
 - 1960 (Int’l Atherosclerosis Project). 23,000 autopsies; concluded “no association”.
 - 1984 (NIH). Autopsies of morbidly obese (300-500 lbs.). Found they had the same coronary vessels of non-obese, same age.
 - 1991. 4,500 angiograms of middle aged and elderly....
- Type II diabetes: condition markedly improves with changes in diet and exercise, independent of weight changes
- Dr. Glenn Gaesser “...**it is absolutely unjustifiable to equate behavioral patterns (poor diet and physical inactivity) with a physical characteristic (obesity).**”

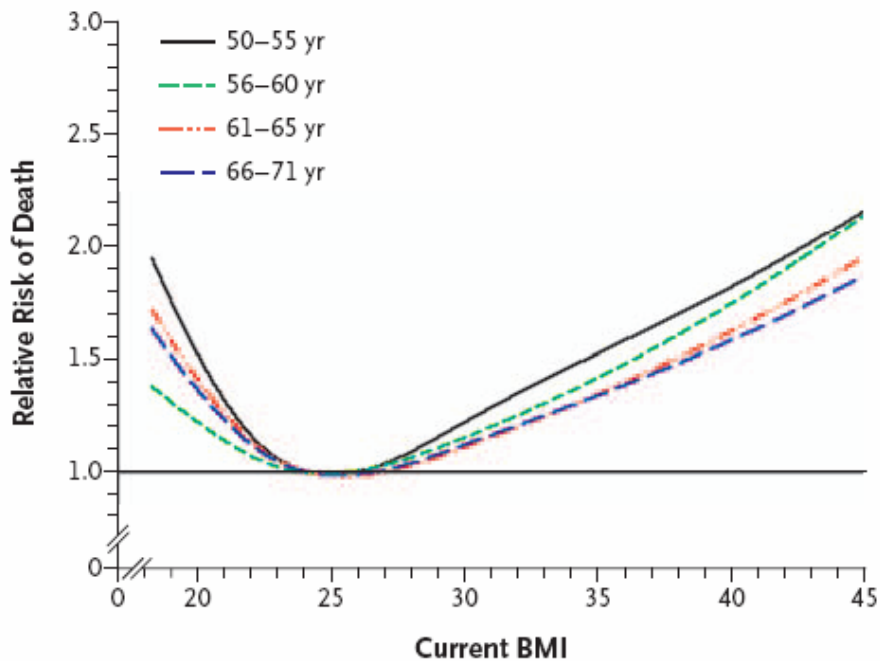
Fat and Fit



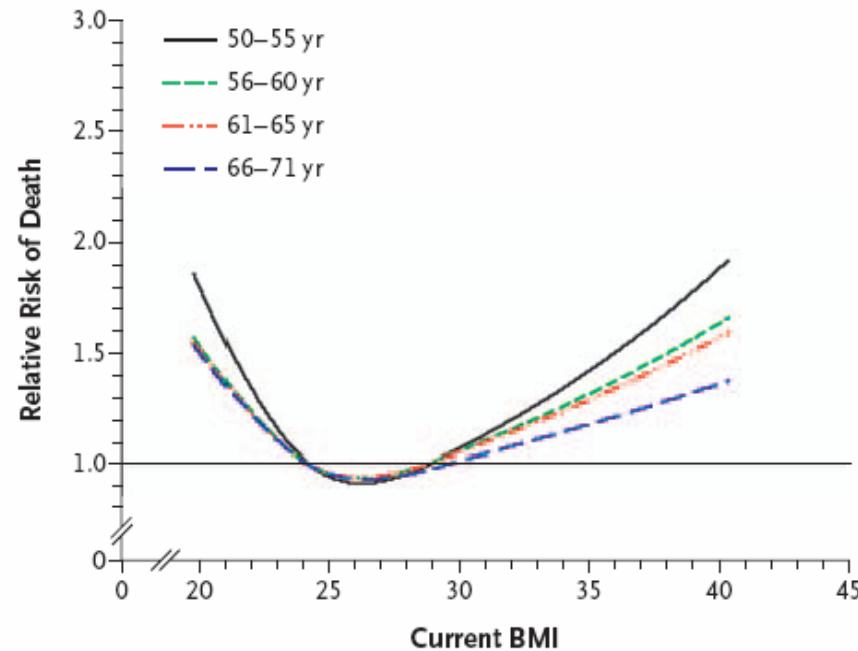
- Cooper Institute for Aerobics Research
 - 1970. 26,000 men; 8,000 women (ages 20-90)
 - being heavy did not increase the risk of premature death
 - when you consider fitness levels, being overweight seemed to be better than being underweight
 - obese fit men and lean-fit men had similar low death rates and death rates 1/2 that of lean-unfit men
- Harvard Alumni Study
 - 17,000 men who attended Harvard between (1916-1950)
 - Who has the best chance of living a long life?

BMI vs. Relative Risk of Death

B All Women According to Age (N=214,218; 19,144 deaths)



B Men According to Age (N=313,047; 42,173 deaths)



DIETS: Atkins to Zone


No carbs

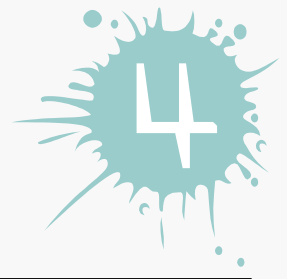
Lose weight but
still eat what you
want

Lose 20lbs
in 3 weeks

20 day trial,
money back,
guarantee

- Dieters are 18x more likely to develop an eating disorder than non-dieters.
- Recidivism rate ranges from 90-98%
- Needs deprivation leads to overcompensation
 - Dieting begets bingeing.
 - Dieting intensifies preferences for high-fat and sugar-loaded foods.
 - Starving..... Stuffed.

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- Keys Study (1944)
 - 32 conscientious objectors
 - 24 weeks of caloric restriction/one-half of what they were used to eating
 - All lost weight, all gained it back plus some, and all in the form of fat.
 - Men were irritable, depressed, apathetic, and preoccupied with food.
 - What to Treblinka and Jenny Craig have in common?



Diet is a four letter word

Emotional toll. Leaves one disheartened, disillusioned, and depressed.

- Body conserves energy/survival mechanism
 - BMR (basal metabolic rate) accounts for 60-70% of total energy used by body
 - BMR drops within 24 hrs. of food deprivation, may reduce a full 20% in 2 weeks
 - Burner analogy

DIETS

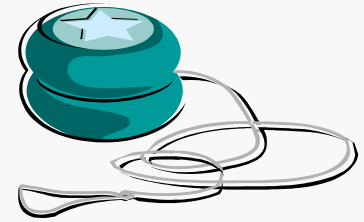
- Dieting improves your body's ability to store fat and limits your ability to burn it
 - Increases lipogenic (fat-storage) enzymes
 - Decreases lipolytic (fat-releasing) enzymes
 - decreased muscle-used for energy and reduced to lower metabolism
- Ideology of a diet reinforces the split between the dieter's mind and her body.

How to weigh yourself and get the most accurate result. I can't believe I have been doing it wrong all these years!



We must get the word out!

Yo-Yo, Uh Oh



- Weight loss begets weight gain - with serious health consequences
- Framingham Heart Study.
- Harvard Alumni Study (follow-up 1998)
 - compared with men who maintained fairly stable weights, those who had lost and gained the most total pounds:
 - 80% higher risk of heart disease
 - 123% higher rate of type II diabetes
 - alumni who dieted frequently (compared to non-dieters):
 - 2x risk of diabetes, hypertension, and coronary heart disease

Consequences of weight loss/gain cycling

- Just one weight-loss/gain cycle can impair glucose metabolism and elevate cholesterol, triglycerides, and blood pressure, even if the weight regain takes up to 4 years. (Big Fat Lies)
- Leningrad, before and after the siege of 1941
- “Weight cycling is associated with lower HDL cholesterol in women of a magnitude ... associated with an increased risk of cardiac event”. (Journal of the American College of Cardiology, November 2000)



Athletics

- Scales are scarce
- Educate the coaches/staff
- Programming for athletes
- No weigh-ins or % body fats

SCALES ARE FOR FISH NOT WOMEN!

DON'T WEIGH YOUR SELF ESTEEM.

The poster features a central illustration of a balance scale. Both the left and right pans contain several fish. The scale is perfectly balanced. The background is a collage of newspaper text, with some words like 'FISH' and 'WOMEN' appearing in large, bold letters. The overall message is a critique of the societal pressure to weigh women.

Change the rules... NOT your body!

Five circular icons are arranged horizontally, each showing a different body part being touched or measured. From left to right: hands touching a chest, hands touching a stomach, hands touching feet, hands touching a waist, and hands touching a scale.

Break the barriers. Voice your opinion. Make room for every body. Get physical for fun. Be a role model.

DON'T WEIGH YOUR SELF-ESTEEM

Sponsored by Five College Positive Body Image Campaign with support from...

Ready, Set Point, Go



- “home” weight; where your body feels at home
- natural weight “when you are not doing anything to control your weight, but are eating a relatively low-fat, fiber-rich diet abundant in fruits, veges, and whole grains, and being physically active” (Big Fat Lies)
- 70% of our weight is genetically determined

Location, location, location



- more upper-body accumulation of fat (abdominal area)
- more prevalent in males
- visceral (or deep) body fat-metabolically hyperactive, results in high levels of FFA (free fatty acids) released in the bloodstream, etc.
- associated with increased risk for atherosclerosis and diabetes.

Location, location, location



- lower body accumulation of fat (hips and thighs)
- more prevalent in females
- subcutaneous fat
- associated with a lower risk of heart disease and diabetes
- Stanford University, 1991. 133 men and 130 women, ages 25-49. The fatter the thighs, the lower their heart disease risks (low LDL, high levels HDL, i.e. blood fat profiles).



20/20

(Dr. Glen Gaesser, PH.D. Big Fat Lies)

- Fat intake: *20% of diet* (% of daily caloric consumption)
 - 2,500 calorie-per-day diet=56 grams of fat
 - 2,000 calories=44 grams of fat
- Mediterranean Diet: fruit and vegetables, whole grains, olive oil, seafood, nuts, lean meats (small portions), red wine. Eat slowly and pleurably.
 - Compared to typical American Diet: 2x the fruit and seafood, 2/3 more veges, 1/5 more grains and beans, and only 1/2 as much meat
 - High fiber

20/20 Fitness



- CARDIOVASCULAR
- 60 minutes
- “no pain, no gain”
- “working out”/exercise
- how well your body can deliver O₂ to the muscles
- structured activities, often at a gym (aerobic classes, stairmaster,...)
- METABOLIC
- *20 min./day average (140 min./week)*
- physical activity
- spontaneous, unstructured (natural part of daily life)
- increases insulin sensitivity, thereby reducing blood insulin levels

One Voice

"That weight figure is a guess, because I haven't actually been on a scale in 10 years or so. I was a fat baby, a fat kid, a fat teen, a fat adult, and now I'm nearing my dotage as a fat old bat. I no longer attempt to lose weight. At this point in my life I am unapologetically and unrepentantly fat....It's what I am –but not who I am."

Cynthia, 52 yrs. old, weight 375. (The Obesity Myth)

HAES (Health At Every Size)

- People who engage in normal healthy eating (balanced diet; eat in response to hunger; stop eating when satiated) and who are physically active- vary enormously in weight
- 1990. Journal of NE Medicine.
 - overfed 12 sets of identical twins 1,000 cal./day, 6 days/week
 - identical levels of physical activity
 - 7 weeks later; weight gain among 24 men varied 300%, from 9-30 lbs.

Suggestions, Solutions, Solace



- Marcia Germaine Hutchinson, “Feminist Perspectives on Eating Disorders”, “So what does it mean to have a healthy body image?....”
- What if? What if women collectively woke up one morning and felt good about themselves, and were happy and content with their bodies?

More Suggestions, Solutions, Solace

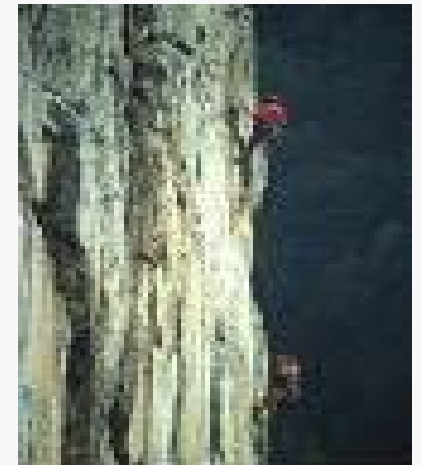


- Substance over image.
- Redefine beauty.
- Challenge the images/media.
- Be critical consumers of information.
- Avoid mentioning weight.



Peace with food

- Shift focus from weight and dieting to enhancement of quality of life and health.
 - Healthy foods. Listen to your body.
 - Honor your hunger. Recognize satiety.
(www.intuitiveeating.org)
 - Set point theory (role of genetics)



Resources



- Campos, Paul. The Obesity Myth: Why America's Obsession with Weight is Hazardous to Your Health. New York, New York: Gotham Books, 2004.
- Flum, DR, Salem L., Broeckel Elrod, JA, Dellinger P., Cheadle A., Chan, L. : Early Mortality Among Medicare Beneficiaries Undergoing Bariatric Surgical Procedures. *Journal of American Medical Association.* 2005; 294:1903-1908.
- Gard, Michael and Jan Wright. The Obesity Epidemic: Science, morality, and ideology. New York, New York: Routledge, 2005.
- Gaesser, Glenn A. Big Fat Lies: The Truth about Your Weight and Your Health. Carlsbad, CA: Gurze Books, 2002.

Resources (Continued..)



- Kater, Kathy. An Effective Model for Preventing the Full Spectrum of Body Image, Eating, Fitness and Weight Problems. The Renfrew Center Foundation Perspective. Winter 2006: pgs. 15-18.
- Klein, Samuel, M.D., Luigi Fontana, M.D., Ph.D., V. Leroy Young, M.D., Andrew R. Coggan, Ph.D., Charles Kilo, M.D., Bruce W. Patterson, Ph.D., and B. Selma Mohammed, M.D., Ph.D. Absence of an Effect of Liposuction on Insulin Action and Risk Factors for Coronary Heart Disease. *The New England Journal of Medicine*. June 17, 2004. Vol. 350: 2549-2557.
- Kratina, K. A Compassionate Alternative to the 'War on Obesity: Clinical Applications of Health At Every Size (HAES). Lecture: *Feminist Perspectives and Beyond: Hungers, Health, and Healing*. Renfrew Center Foundation Conference for Professionals. Philadelphia, PA. November 4-7, 2004.

Resources (Continued..)



- Lewis, Katharine, Man, Lynne. Overweight and Obesity in Massachusetts: Epidemic, Hype or Policy Opportunity? The Massachusetts Health Policy Forum. 2007.
- Oliver, Eric. Fat Politics: The Real Story Behind America's Obesity Epidemic. New York, New York. Oxford University Press, Inc. 2006.
- Seid, Roberta Pollack. Never Too Thin: Why Women Are at War with Their Bodies. New York, New York. Prentice Hall, 1989.
- Spake, Amanda. Stop Dieting. *US News and World Report.* January 16, 2006: 61-66.
- Waterhouse, Debra. Outsmarting the Female Fat Cell. New York. Hyperion, 1993.
- Yoho RA, Romaine JJ, O'Neil D. Review of the liposuction, abdominoplasty, and face-lift mortality and morbidity risk literature. *Dermatol Surgical.* 2005 Jul;31(7 Pt 1):733-43; discussion 743.