

## Obesity – What We Know and Don't Know

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From Secrets From  
the Eating Lab  
Traci Mann



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## Health Risk or Weight Bias?



Posted 3/9/2004 2:01 PM

**Obesity on track as No. 1 killer** By Nanci Hellmich, USA TODAY



**AICR Experts Highlight Role Of Diet, Weight, Physical Activity On Cancer Incidence**



**Older, Obese Adults Need To Walk, Lose Weight** 5 Jan 2011

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## BMI

### Overweight Estimates (BMI = 25 – <30) Obesity Estimates (BMI ≥ 30)

Country	Adult Men	Adult Women	Country	
United States	40%	30%	United States	36 %
Canada	44%	30%	Canada	24 %
England	42%	32%	England	26 %

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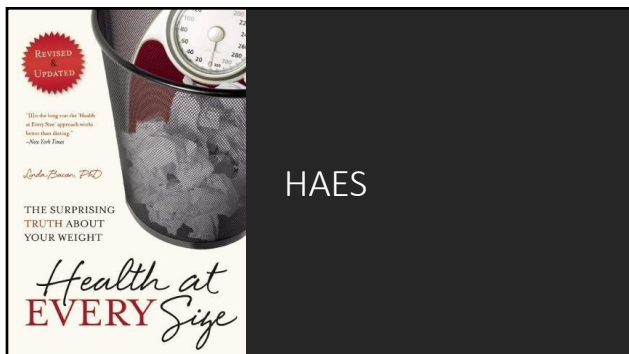
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## HAES

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## What's the truth about health risks of obesity?

- Bacon and Aphramor (Jan 2011): "Although health professionals may mean well when they suggest that people lose weight, our analysis indicates that researchers have long **interpreted research data through a biased lens**," Bacon said. "When the data are reconsidered without the common assumption that fat is harmful, **it is overwhelmingly apparent that fat has been highly exaggerated as a risk for disease or decreased longevity.**"
- Aphramor says, "This means that money would be better spent on campaigns that **help people develop a healthy relationship with food and that advocate respect for every body - fat and thin.**"

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## Truth, cont'd

\* Bacon and Aphramor (Jan 2011)

"The study findings do not support conventional ideas that:

- \* Weight loss prolongs life
- \* Anyone can lose weight and keep it off through diet, exercise and willpower
- \* Weight loss is a practical and positive goal
- \* Weight loss is the only way for overweight and obese people to improve their health
- \* Obesity places an economic burden on society

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## HAES

- **We've lost the war on obesity.** Fighting fat hasn't made the fat go away. And being thinner, even if we knew how to successfully accomplish it, will not necessarily make us healthier or happier. The war on obesity has taken its toll.
- **Extensive "collateral damage" has resulted:** Food and body preoccupation, self-hatred, eating disorders, discrimination, poor health, etc. Few of us are at peace with our bodies, whether because we're fat or because we fear becoming fat.
- **Health at Every Size is the new peace movement.**
- **It supports people of all sizes** in addressing health directly by adopting healthy behaviors. It is an inclusive movement, recognizing that our social characteristics, such as our size, race, national origin, sexuality, gender, disability status, and other attributes, are assets, and acknowledges and challenges the structural and systemic forces that impinge on living well.
- \*An edited excerpt from [\*Health at Every Size: The Surprising Truth About Your Weight\*](#) by Linda Bacon, PhD.

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## Social justice lens

- Thinness is associated with high social status and taken as evidence of moral virtue
- Fatness is linked to low status and seen as a sign of sloth and gluttony
- Media portrayal of Anorexia and Bulimia emphasizes the complexity → young white women as victims
- Media portrayal of overweight and binge eating as due to poor individual choices / ordinary and blameworthy eating
  - **Reinforces notion that fat people, ethnic minorities and the poor are out of control and lazy**

• Saguy and Kjerstin

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Poodle Science



Association of Size Diversity and Health

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## Myths about Obesity

1. Fatness leads to decreased longevity
2. BMI is a valuable and accurate health measure
3. Fat causes disease
4. Exercise and dietary restriction are effective weight-loss techniques
5. We have evidence that weight loss improves health
6. Health is determined by health behaviors
7. Science is value free

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Are health risks really due to weight?

## Health Risks

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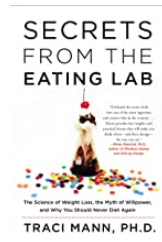
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## Body Size and Health

- Meta-analysis by Flegal:

- Overweight people (BMI of 25-30) were as healthy and in fact had a slightly lower mortality rate as normal weight (BMI of 18.5-25) people (in 93% of studies)
- In 87% of studies on people with obesity class I (BMI 30-35), the majority were just as healthy as normal weight individuals
- Obesity class II and III (BMI 35-40 and >40) – in 67% of studies health risks were same as normal weight individuals




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## Body Size and Health

The topic of the mortality differences between weight categories has sometimes been described as controversial. The appearance of controversy may arise in part because **studies of body mass index** (BMI; calculated as weight in kilograms divided by height in meters squared) **and mortality have used a wide variety of BMI categories and varying reference categories**, which can make findings appear more variable than when standard categories are used and also can make it difficult to compare and synthesize studies.

Flegal, et al. 2013

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## Body Size and Health (cont'd)

### Mortality

- Obesity class II **and up** who were under age 65 – risk ratio was 1.3
- When separated, it is obesity class III and up (not class II) that has highest health risk.
- Obesity class III and up = **only 6% of the US population**
- People categorized as **underweight** (BMI < 18.5) **have a higher risk for death than normal-weight people**

### Morbidity

- Overweight and obese people having higher risk of diabetes and heart disease
  - Prevalence of DM and CVD is not tracking at same rate as obesity
    - Obesity doubled
    - DM increased from 9-11%
    - CVD decreased from 12-11%
- Once diagnosed with a disease, overweight and obese people have better prognosis than normal-weight people – “The Obesity Paradox”

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## Is obesity the source of ANY health risk?

- Even if people with obesity are more likely to die or develop certain diseases OR have better prognoses for better diseases....it does not mean that weight is the CAUSE of those effects. (Mann, Traci)
- In a 15 year \$15 million (NIH) study – unable to prove that a therapeutic diet and weight loss could reduce risk for strokes, heart attacks and cardiovascular disease.
  - Participants were able to keep off **6% of their weight**
  - Diabetics were more able to manage their diabetes without medications

## Body Size and Health

- Goel, et al. - Central adiposity and fitness level increased mortality in Coronary Artery Disease.
  - The association of BMI with mortality is complex and altered by fitness levels.
  - Normal weight-low fitness and overweight-low fitness had increased mortality
- Flegal, et al. 2005 – Underweight and obesity (esp. higher levels of obesity) had increased mortality vs. normal weight
  - The impact of obesity on mortality may have decreased over time, perhaps because of improvements in public health and medical care.

## Body Size and Health

- Greater satisfaction with one's weight was associated with positive health behaviors and health outcomes in both men and women and across weight status groups
  - Sul, et al. 2013
- Weight cycling is more prevalent in obese individuals and may account for any differences in health between obese and non-obese

## Body Size and Health

- \* Metabolic Syndrome improves with moderate weight loss
- \* Risks of metabolic syndrome in the obese are more related to *cardiorespiratory fitness than weight*
- \* **5-10% of initial body weight lost can improve Cardiovascular risk factors, reduce mortality in those with history of previous heart attack and reduce risk of Type 2 Diabetes-associated death rate**

\* Katzmarzyk PT, et al. Diabetes Care 2005

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## BMI

- Does not take into account muscularity
- Originally data showed that health decrement didn't occur until BMI of 40 even though the standards were set at a lower BMI (no supporting research)

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## Weight Loss and Health

- Most studies that show health improvements from weight loss are short term using diet changes and exercise, which by themselves improve health independent of weight loss
- Liposuction study – controlled for behavioral change → no improvement in health problems usually associated with obesity
  - Health improvements can occur independent of weight change
  - The pursuit of weight loss leads to health decrements

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## Energy balancing promotes weight loss

- Calories in vs. calories out
- There is no research to support long term maintenance of weight loss from lifestyle change except for a small minority
- AHEAD study
- Dieting causes reduction in leptin that increases appetite. Chronic dieting results in chronically less leptin release → weight gain over time

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## Size and Health may be affected by lifestyle

### Obese individuals

- eat more unhealthy trans fats and less fiber, fruit and vegetables
- Consume more artificial sweeteners (ex. Diet sodas)
- More likely to use diet drugs
- More likely to be lonely and socially isolated

### Studies on obesity and health (Flegal)

- Less than 50% controlled for physical activity
- 16/97 included SES
- 1/97 controlled for weight distribution (apple/pear)
- 0/97 controlled for weight cycling

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## Heart Disease

### To lower risk:

- Decrease cholesterol / increase HDL
- Increase physical activity
- Decrease blood pressure
- Stop smoking

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## Factors contributing to health

**Cancer risks** more related to what you eat than what you weigh.  
Regular physical activity can decrease risk of breast and colon cancer.

(Vainio, et al. 2002)

To lower risk of Diabetes

- Diet and exercise lower risk even without weight loss
- For every 1 kg (2.2 lb) lost by overweight persons, risk decreases by 16% (independent of diet and exercise)

Hamman RF, 2006

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## Contributing Factors

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## ACE study

- First phase were people seeking weight loss
- Dr. Fellitti noted more dropouts in those who were LOSING weight
- *Dr. Fellitti learned that many had been unconsciously using obesity as a shield against unwanted sexual attention, or as a form of defense against physical attack, and that many of them had been sexually and/or physically abused as children. That is to say, although obesity was conventionally viewed as the problem, it was often found to be the unconscious solution to other, far more concealed, problems.*

– [acestudy.org](http://acestudy.org)

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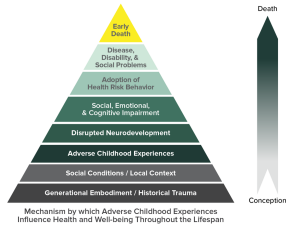
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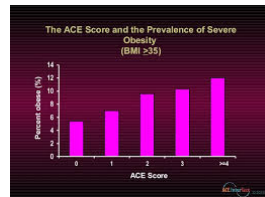
## Trauma and weight



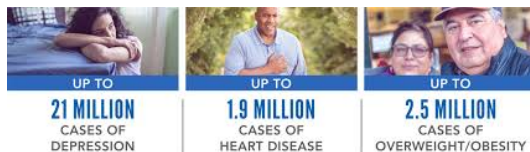
- ACEs were significantly associated with having overweight, obesity, or severe obesity, but not underweight. ... For example, youth with a single ACE were more than 1.5 times as likely and those with 2 ACEs were 1.7 times as likely to have severe obesity than youth with no ACEs.

• Oct 1, 2018  
<https://www.iaeds.com>

## ACEs and Obesity



## ACEs



Health has more to do with your level of fitness than your weight.



- Exercise lowers health risks even without weight loss (TM 48)
- Active obese people have lower rates of sickness and mortality than non-obese sedentary people (49)
- **Aerobic exercise** improves BP even without weight loss (NIH 1998)

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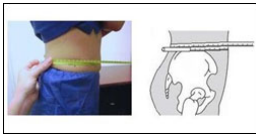
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## Waist circumference



- Waist circumference matters more than weight for health
- Highest risk of mortality – people with high WC and “healthy” weight (TM 63)
- Useful measure of body composition
  - Pear vs. Apple
  - Apple – Belly fat
  - Pear shape with more Subcutaneous fat which is not related to health risks

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## Socioeconomic Status and Health

- People with low SES have worse health vs. those with high SES
  - Shorter lifespans
  - Higher rates of CVD, DM, HTN, Respiratory disease
- Low SES is associated with:
  - Reduced access to health care
  - More stress
  - Food access
  - Live in more dangerous neighborhoods
  - Have more dangerous jobs
  - Trauma history

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## Medical Care

- Health care professionals are #2 source of weight stigma (TM 66-69)
- The more discrimination people suffer, the worse their health
- Weight stigma can make you ill
  - May keep people from accessing medical care
- Obese people less likely to be screened for cervical cancer, colorectal cancer, breast cancer or to get flu shot
- Survey of 600 doctors – 50% report viewing obese people as:
  - Awkward
  - Noncompliant
  - Unattractive
- 30% rated obese people as
  - Weak-willed, sloppy and lazy (TM 70)
- When given identical medical charts with different weights: doctors were less interested in helping obese patients

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## Fat shaming reduces quality of life and may inadvertently worsen weight-related health outcomes

- Increases risk for depression, anxiety, LSE, poor body image, SUD and suicidal thoughts and behaviors
- Increases risk for binge eating, unhealthy weight control behaviors, increased calorie intake and increased stress
- Increases the odds of becoming obese
- Removes responsibility from the food industry and government to create an environment that is health promoting for the US public

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## Weight Stigma

1. Have you made negative comments about your or others' weight?
2. Thought fat people were lazy, lack self-control or are unloved?
3. Assumed someone should lose / gain weight?
4. Thought skinny was the ultimate goal?
5. Thought a skinny person had an eating disorder?

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## Fitness vs. Weight

- Regular physical activity attenuates health risks of overweight and obesity
- Active obese individuals have **lower** morbidity and mortality than normal weight sedentary individuals
- Inactivity/low cardiorespiratory fitness are as important as weight as mortality predictors

• Blair et al. Med Sci Sports Exerc 1999; 31(11 Suppl):S646-662.

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## Common deficiencies in obese individuals

- \* Fat soluble vitamins: D, E, and A
  - \* Loss of antioxidant function, lowers inflammation
  - \* Decrease vision
  - \* Vitamin D - immunity, mood, obesity
- \* Folate, B1, B6 and B12
  - \* Increased risk for mood disorders, cardiovascular disease
- \* Vitamin C
  - \* Important antioxidant functions, lowers inflammation, improves insulin sensitivity

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## Nutritional deficiencies in overweight and obese

- \* Cause:
  - \* Higher intake of higher calorie processed foods with low nutritional quality
  - \* Lower intake of nutrient dense foods
  - \* Higher fat diets (>30% of total caloric intake) is associated with lower intake of vitamins A, C and folate
  - \* Increased consumption of sweetened beverages is associated with less dairy intake
  - \* Reduced physical activity/sun exposure leads to less vitamin D

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POOR SLEEP is associated with increased risk of:

- Diabetes
- High blood pressure
- **Obesity**
- Headaches
- **Addictions**




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## Sleep – Are you getting enough?

- In contrast to just feeling tired, how likely are you to doze off in the following situations: (0=no chance, 1=slight chance, 2= moderate chance, 3 high chance of dozing)

1. Sitting and reading \_\_\_\_\_
2. Watching TV \_\_\_\_\_
3. Sitting inactive in a public place (ex. Movies) \_\_\_\_\_
4. As a passenger in a car for 1 hour \_\_\_\_\_
5. Lying down to rest in the afternoon \_\_\_\_\_
6. Sitting and talking to someone \_\_\_\_\_
7. Sitting quietly after lunch w/o alcohol \_\_\_\_\_
8. In a car, while stopping for a few minutes in traffic \_\_\_\_\_

Score < 8 = normal sleep function; 8-10 = mild sleepiness; 11-15= moderate sleepiness; 16-20 = severe and 21-24 = excessive sleepiness

(Epworth Sleepiness Scale)

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## Sleep and Weight

- Sleep duration at age 7 may significantly predispose to obesity

• Reilly J J, Armstrong J, Dorosty A R, et al Early life risk factors for obesity in childhood: cohort study. *BMJ* 2005; 330:1357.

- In 18 y.o.'s, sleep duration associated with decreased risk for obesity

• Chen M Y, Wang E K, Jeng Y J. Adequate sleep among adolescents is positively associated with health status and health-related behaviors. *BMC Public Health* 2006; 659.

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### Bottom Line

"Even with all the statistical flaws in obesity studies, the actual difference in life expectancy between people who are obese (class I) and people with "normal" weight is one year."

This difference goes away after age 65

Your life expectancy is about 6 years shorter if you have the initials F.A.T. than if you ARE fat (class I obese)"

Traci Mann

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### The Solution

- Active Living / Taking care of the body
- Eat nutritious food / Intuitive eating / Listening to body wisdom
- Avoid weight cycling
- Get good quality medical care
- Shield yourself from weight stigma
- Body acceptance and respect

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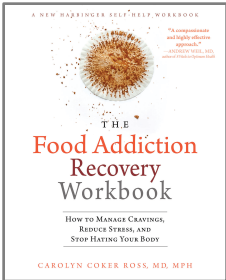
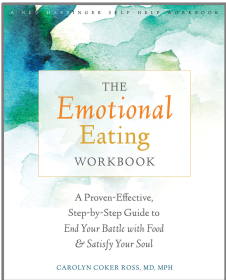
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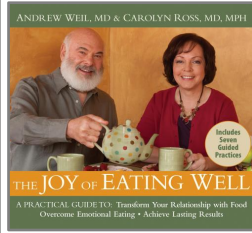
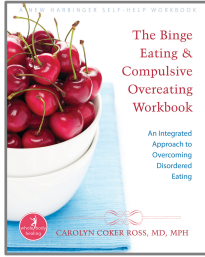
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## Approach, cont'd

- Sleep – how much sleep do you get per night
- Stress –
  - How would you rate your level of stress?
  - How do you manage stress?

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## Approach, cont'd.

- Step 3:
  - Simple dietary recommendations that keep blood sugar stabile
    - WHOLE grains
    - Increase fruits and vegetables
    - Plate Method
  - At same time recommend Exercise – not just aerobics!!
    - Zumba, biking, swimming, yoga, tai chi

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## Plate Method

[illegible]

## Approach, cont'd

- Step 4 – Positive Reinforcement
  - Most Important Goal should be to improve cardiometabolic fitness, increase and sustain physical activity and lose moderate amount of weight
  - *Work on weight maintenance as much as you work on weight loss*
- Give positive feedback for losing weight and keeping it off even if not at “ideal” weight

[illegible]

## Integrative Approach

- Assess motivation for change
  - Goal setting
    - NHLBI guidelines (*Category A*):
      - Initial goal should be to reduce weight by 10% over 6 months
      - Next goal - maintaining weight lost
- PATIENTS MAY LOSE AS MUCH WITH CHANGING CONSTITUTION OF THEIR DIETS VS. DIETARY RESTRICTION**

[illegible]

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