

Dieting, Weight & Exercise

Managing a huge problem



Nancy Clark MS RD CSSD

**“I know what I *should*
do to lose weight,
I just don’ t do it...”**

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Media teaches the wrong message

- Food is fattening ... Don’ t eat, diet.
- People who diet become thin.
- Exercise builds the perfect body.
- Indulge...you deserve a reward today.

No wonder so many people struggle with food!

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MEDIA’ S MESSAGE:

Food is fattening. Don’ t eat ... diet!



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MEDIA’ S MESSAGE: Indulge...You deserve a reward!



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MEDIA’ S MESSAGE : **People who diet become thin.**



Jared and the
Subway Diet



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Is Paleo a better way to diet?

- A set of rules with *good* and *bad* foods
--No refined sugar, white flour, grains, dairy foods....
- Do you really want to *never* eat pasta or birthday cake ever again?
- *What's this all about:* You can buy Paleo Protein Powder at www.PaleoProducts.com ???



Weight loss: Carbs vs Protein vs Fat

Q: What types of foods enhance loss of body fat?

*A: Creating a **calorie deficit** results in weight loss.*

Ideally, your reducing program offers--



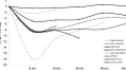
- a variety of enjoyable, satiating foods
- regularly scheduled meals and snacks
- portions that fit within your calorie budget

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Which diet works best?

Weight Loss outcomes: A Systematic Review and Meta-Analysis of Weight-Loss Clinical Trials with a Minimum 1-Year Follow-Up. Franz M. et al.; 2007 (10); 107:1755-1767

- No difference in weight loss based on type of diet (low carb, high pro, low fat)
- At 6 months, weight loss tends to stop
- Exercise alone: no weight loss at 12 months
- Rate of weight regain is slower with professional counseling



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No one diet program fits everyone

National Weight Control Registry

- People who have lost >30 lbs x >1 year
- Success associated with breakfast, exercise, consistent eating patterns, 24% fat diet, food and weight records
- No one dieting program emerged as “the best”

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Wing, 21:323, 2001

Different types of obesities need different types of treatments

Obesity should be treated as a medical (not a personal) problem

High insulin secretion	High protein diet works well
Low response to fullness (genetic)	Pre-portioned food
High response to food cues	Keep food out of sight
Learned preference for junk food	Unlearn them! (starts early in life)
Binge eating	Tailor treatment to the cause
Dislike of exercise	Find pleasurable movement

MEDIA'S MESSAGE: Exercise builds the perfect body.



“A small price to pay for perfection...”

Stairmaster Ad

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Weight loss success varies from person to person...

Some people are “easy gainers”

Overfeeding study with identical twins

- 8 sets identical twins
- Overfed by 1,000 calories/day for 100 days
- Sedentary lifestyle in metabolic ward
- Weight gain range: 9 - 29 lb Average 18 lb (12 lbs. Fat, 6 FFM)
- Similar response within each twin pair (genetic influence)

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Bouchard, NEJMed 322:1477, 1990

NEAT: Non-exercise activity thermogenesis

- Daily activity (working, playing, dancing -- not purposeful exercise)
- NEAT can vary by 2,000 calories per day
- Obese sit 2.5 hours more /day than sedentary lean peers
- Sitting can save obese people 350 calories per day

(Do we need to re-engineer our environment?)

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Levine Arterioscler Thromb 2006

MYTH: People who exercise become thin

TRUTH: Exercise enhances weight loss *if* it contributes to a calorie deficit.

TRUTH: 30 minutes of exercise = 300 calories
3 minutes of “rewards” = 300+ calories

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What are you doing with the other non-exercise hours in your day?

The sedentary athlete syndrome....



Be aware of compensatory changes in daily activity!

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Marathon training ≠ Weight Loss!

Among 64 novice runners (55% women) in a 3-month marathon-training program:

Range of weight changes: -27.5 lbs to +12 lbs

11% lost weight (n=7) due to change in eating habits

11% gained weight (6 of the 7 were women)

78% stayed about the same weight (n=50)

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Kennedy, ACSM 2010

Some exercisers get hungrier than others

Overwt/obese men & women (n=35) did supervised exercise x 12 weeks

Weight changes ranged from losing 32 lbs to gaining 4 lbs!

Subjects successful with weight-loss lost, on average, 14 lbs:

-ate ~130 calories *less* than baseline; no change in appetite.

Less-successful subjects lost, on average, only 3.5 lbs:

-ate ~270 calories *more* than baseline; got hungrier

CONCLUSION: *The subjects who got hungrier with exercise ate more and lost less weight!*

King. Individual variability following 12 weeks of supervised exercise: identification and characterization of compensation for exercise-induced weight loss. *Int J Obes* 2006; 32(1):177-84

Gender differences: exercise and appetite

18 Women did 350 cal of low or high intensity exercise

Their food intake was monitored for 3 days

Conclusion:

--Hard exercise does not suppress hunger the same way for women as for men.

--Hard exercise increases attractiveness of food for women

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Pomerleau,

2004; 80:1230-6

Exercise + obese women = weight loss

Three trials (19 days each)

1. Sedentary (baseline): maintained energy balance
2. Light exercise: burned 10% more cal; ate -114 fewer cal
3. Moderate ex: burned 25% more cal; ate -370 fewer cal

No compensation in energy intake

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Woo, Pi_Sunyer *Am J Clin Nutr* 1982; 36:470

The E in Exercise is for Enjoyment

Exercise = to train, improve athletic performance

= to feel good, relieve stress,
improve health, build muscles



Exercise ≠ punishment for having body fat

≠ motivated by the desire to burn calories

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Myth: People who diet become thin

Truth: Dieting does NOT work.

If diets worked, all dieters would be thin.

Truth: Eating works!

People who eat appropriately tend to be thin.

Question: *Does dieting precede the onset of obesity and disordered eating?*

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Teens who diet get fatter

- Survey of Jr and Sr HS students (n= 4,746)
 - 57% of females and 25% of males reported dieting
- Five years later (n = 2,516) –
 - Dieting was associated with weight gain, overweight status, disordered eating, and eating disorders
 - None of the weight control behaviors had any benefits

Obesity, Disordered Eating, and Eating Disorders in a Longitudinal Study of Adolescents: How Do Dieters Fare 5 Years Later?
D. Neumark-Sztainer. April, 2006

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Eating appropriately works better than dieting

- Going on a diet does not teach people how to manage food, stress, and today's food supply.
- For people who go on a diet, the only way to enjoy treats is to cheat

Getting more sleep works!

Three-week study with tired, overweight adults

Slept for 1.5 hours more per night x 3 weeks:

- Cravings for sweet, salty “junk food” dropped 62%
- Overall appetite declined by 14%

Tasali E., *Appetite* Sept 2014

Sleep Deprivation = Weight Gain

- Sleep deprivation and obesity are concurrent issues
- Nearly 30% of adults report sleeping <6 hours/day
- Sleep deprivation affects —
 - appetite hormones; more grehlin (feel hungry)
 - the brain; food excites the brains' pleasure centers
- Sleep deprivation erodes well-being (Db, CVD, HBP)
- Sleep is restorative and needed to align circadian rhythms

Dieters: How can you make sleep more of a priority?

“Overweight people lose body fat not because they go on a diet, but because they feed their souls and take care of their bodies.”

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Dr. Mona Villapiano
Eating disorders specialist

Stress and depression take a toll

- Are you happy?
- Do you feel successful?
- Are you accomplishing what you want in your life?



To manage weight, you have to be able to manage your life...

People with weight issues need to learn how to —

- manage to get enough sleep
- manage feelings without food
- manage to have the right food available at the right times
- manage to keep focused on their goals

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Myth: Diets start at breakfast

- Special K, Kashi Go Lean
- Cottage cheese, egg white omelet
- Diet Coke
- “I’m so good at breakfast. I don’t eat...”



Truth: **Successful diets start at dinner!**

Fuel by day; diet (eat less) by night

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Front-load calories

*Do not “delay eating” or “diet” during the day
to try to reduce body fat*

Eating patterns of elite runners and gymnasts

Athletes who routinely under-ate during the day
had higher body fat than those who fueled evenly
throughout the day.

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Deutz, Benardot

32:695, 2000

To lose weight and keep it off...

- **FUEL during the day**
 -
 -
- **EAT LESS (diet) at night**
 -
 -

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Goals of weight counseling

My job is to teach dieters to–

- **EAT** healthfully and appropriately, even when they are under stress.
- **TRUST** that appropriate eating leads to an appropriate weight.

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How many calories are OK to eat...?

What is an appropriate energy intake that will–

- prevent extreme hunger
- result in loss of body fat, yet
- allow adequate energy to exercise?

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Your body is your best calorie counter

- **Hunger** is a signal the body needs fuel
- **Hunger** does *not* mean you will eat & “get fat”

Goal:

Eat like a child: Eat when hungry, stop when content.

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The Hunger Spectrum

Starved _____ *Content* _____ *Stuffed*

2 **3** 4 6 7 8 9

3 = Cold, tired, bored, moody, unable to focus, easily irritated...

Don't get too hungry!



People who get too hungry--

- tend to crave sweets and/or fats
- often make unhealthy food choices
- can easily overeat.

Goal: Prevent hunger by eating enough at breakfast & lunch

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High hunger = Poor compliance

193 women and men with obesity (47 y.o.); free-living
1,400-1,600 cal x 16 weeks supervised; then follow-up at 32 wks

Calorie Distribution: **B 600** L 500-600 D 300-400

B 300 L 500-600 D 600-700

Bigger breakfast: more satisfied, less hungry; sustainable

Fewer cravings for sweets, starches, fast foods

B ¹ fast	16 weeks	32 weeks	Total lost
300 calories	-33 lbs	Regained 25.5 lbs	-7.5 lost
600 calories	-30 lbs	Lost add'l 115.5 lbs	-45.5 lost

Jakubowicz 77:323-331 2012

Energy needs

The body needs fuel to function--

- Resting metabolic rate
- Daily activities
- Purposeful exercise

Energy needs to be alive	
Organ	Cals/day/154 lb man
Brain	365
Heart	180
Kidney	120
Liver	560
Lungs	160
Total	1,385

(50-65% daily needs)

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How to estimate calorie needs (for 160 lb person who wants to lose 20 pounds to get to healthier weight)

RESTING METABOLISM:	Multiply HealthyWt (lbs) x 10 cal/lb $140 \text{ lb} \times 10 \text{ cal/lb} = 1,400 \text{ cal}$
+ DAILY ACTIVITIES: (light daily activity)	Add about 30% of RMR $30 \times 1,400 = 400$
+ PURPOSEFUL EXERCISE:	Add ± 400-600 cal/hour $1 \text{ hour} = 400$
APPROX. TOTAL CALORIE NEEDS to maintain wt	= 2,200

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To lose weight appropriately

1. Subtract 10 to 20% from total calorie needs
2. Divide calories evenly throughout the day

Example: If you maintain weight on 2,200 calories--

Deduct ~200 - 400 = 1,800 - 2,000 calories/day

Breakfast	500 calories
Lunch	500
Lunch #2	300-400
Dinner/Sn	500-600

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CASE STUDY:

Dieter who gains weight with exercise

Email: "I am 53 and have been struggling with my weight my entire life. About 5 years ago, I started doing triathlons with my sister. I enjoy them, but find it stressful and demanding. I *gain* weight while training and I am overweight as it it. I am looking for a healthy way to train, lose weight, and not always be hungry..."

5' 8" 210 lbs Her goal: 180 lbs

Mother of 3 teens Taking 2 classes for graduate school

Trains 7:00-8:00 a.m.

Afternoon "snack attacks" Has a bad "sweet tooth"

Typical daily intake

7-8:00 Run, bike or swim
 8:00 Breakfast: Special K, skim milk, berries
 11:00 Snack Granola bar ("I'm hungry!")
 2:00 Lunch Turkey wrap, potato chips (100-cal bag)
 3-5:00 "Snack-attack": Almonds, hummus, candy, cup cakes...
 7:00 Dinner: Chicken, veggies, 1-2 glasses wine, fat-free fro-yo...

Attempts only ~1,500 calories • Deserves about ~2,600 calories
 Consumed only 800 calories between 6:00 a.m.-3:00 pm

Improved daily intake

7-8:00 Banana and PB before Run, bike or swim
 8:00 Breakfast: Raisin Bran, 2% milk + almonds
 11:00 Lunch #1 Turkey+ cheese wrap, trail mix
 3:00 Lunch #2 PB & J sandwich
 7:00 Dinner: Chicken, rice, veggies

42 y.o. Dieter who has regained weight.

Height: 5' 5" Highest wt: 242 lbs (4 years ago)

"I dropped to 185 lbs two years ago with a low-carb Atkins diet and no exercise. I've regained some weight; I'm now 210 lbs..."

"I recently started doing CrossFit 6 days a week so I can lose fat and get rid of my bulges—but I am struggling..."

"I've been trying to eat 1,300 calories. I am starving all the time. I get so cold that I wrap myself in a blanket at work..."

Dieter who regained weight

Current Wt: 210 lbs BMI: 36 ("Obese!!!")

Her goal: 150 lbs (college weight) BMI: 26

Sedentary phone job (7:00 am- 6:00 p.m) + Grad school on weekends

Exercise: CrossFit 6:30-7:30 pm ("I've gotten a lot stronger!!!")

Dad's side of the family: morbidly obese ("I take after my Dad")

Has dieted "all of her life" • Attends Overeater's Anonymous

Dieter's Typical (gluten-free) food plan

"I'm hungry all the time" "I drink a lot of coffee"

	Calories
5:30 Wakes up	
6:00 Cornmeal (1/2 c uncooked) + 2 scr eggs	300
9:30 13 cheese cubes + 24 grapes	200
12:00 1.5 c broccoli + 3 oz. turkey burger	200
2:00 13 cheese cubes + 24 grapes	200
4:00 1 c almond milk + chia + Pro Powder	200
6:30 CrossFit	-500
8:00 Turkey burger + broccoli	200 (plus more...)

Attempted: 1,300 cals • Estimated energy needs: 2,500-2,800 cals

Teaching points

- Eating a semi-starvation is abusive. Stop!
- Allow appropriate intake; eat just a little less food

B/Sn: 700

L/Sn: 700

D/Sn: 700±

- You are lean for your genetics

“Yes, I am lean compared to my Dad ... “but my skinny mom has always told me that no one likes fat people, so I’ve always tried very hard to not be fat.”

Follow-up: One week later

“I feel like a dog who has been let out of a cage.”

“I’m eating 700 calories more than I was and I’m not hungry and cold all the time!”

“Reading the article about starvation was really helpful. I am eating more -- but I am not overeating! I even enjoyed just one slice of pizza!!”

“I am so happy to discover I am not a compulsive overeater...”



Discussion points

- Keep experimenting and learning from each day
- Keep practicing eating intuitively
- Enjoy appropriate portions of any food you want — including “trouble foods” (to take the power away from them.)

Second Follow-up

“I’m doing great!!!”

“I’m trying to get more sleep. I’m more relaxed about food.”

“I haven’t lost weight, but I feel so much better.”

Teaching points:

Appreciate your body for all the good things it does for you.

Stop comparing and despairing.

Read books on body image (www.Edcatalogue.com)

The Small Changes Approach to Weight Loss

American On the Move: A National Weight-gain Prevention Program

- Walk a little more; add 2,000 steps a day
- Eat 100 calories less a day

Study with 116 healthy, overweight adults indicates they could successfully follow this plan. *It’s sustainable!!!*

A Small Changes Approach Reduces Energy Intake In Free Living
Humans. Stroebele, Hill. 28(1): 63-68, 2009

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Eating healthfully takes practice

- Plan ahead--have the right foods handy
- Visualize yourself eating appropriately
- Learn from your “bad days”
- Be patient...Practice makes perfect.

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