Weight Reduction
Why is it so hard???

Topics
- Sources of Confusion
- Popular diets, such as Paleo
- What we do know about weight reduction
- Physiology of hunger
- Case study: Food Bucket Eating Plan
- Case study: Chip-away Reducing Plan

Confusing...
The Diet Industry tells us weight loss is easy...

"FatFoe: an all-natural weight loss compound so powerful, so effective, so relentless in its awesome attack on bulging fatty deposits that it eliminates the need to diet..."

"Lose up to 2 pounds a day without diet or exercise..."

"Allows you to cheat on your diet and still lose fat!"

Diet products are often fraudulent

www.dietpilluniverse.com
"Home of the Results or Money Back Guarantee"

Revolutionary & Advanced
Nighttime weight loss... sleep your way to a great body.

Tired of exercising and achieving no results?... Get an amazing slim body that makes heads turn.

$59.95
30 days

Causes of obesity
Lack of physical activity

Progressive declines in physical activity over 50 years have occurred and have been the primary cause of the obesity epidemic.

Computers and TVs do not help...

Even athletes can be sedentary

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

Be aware of compensatory changes in daily activity!
Sedentary lifestyle + Abundant food

“Faturday” … “Football Sunday”

- Why do you feel like you deserve to splurge on Friday, Saturday, and Sunday?
- What about splurging do you really love?
- What would the weekend look like if you continued your week-day eating habits?
- What if you ate more yummy food during the week?

Lynn Greiger RD, Health Coach

Causes of obesity

Antibiotics in animals

For years, farmers have given antibiotics to cattle and poultry, because the animals gain weight quicker with antibiotics than without them.

Is weight about eating — or about what is eating us?

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

Dr. Mona Villapiano, Therapist

Causes of obesity

Stress and depression

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

What percent of weight issues really have anything to do with food…?

- Stress
- Screens (TV, computer)
- Sexual abuse
- Lack of sleep
- Loneliness
- Antibiotics
- BPA endocrine disruptors
- Gut microbes

Men’s simplified approach to dieting

Weight loss success in overweight or obese men (n=65) was associated with:

- choosing smaller portions
- cutting back on sugary soft drinks
- eating fewer high fat snack foods
- consuming less alcohol

Callister, ACSM 2010

Is weight the problem — or the symptom?
Women’s complex approach to weight loss

• Nature prefers women to have body fat
• Dieting triggers feelings of being denied, deprived…
• PMS cravings for chocolate derail healthy choices…
• Exercise can activate some women’s appetite…

Callister, ACSM 2010

Weight loss success varies from person to person…

Physiologically, some people are “hard losers”

• People with obesity sit 2.5 hours more /day than sedentary lean peers
• Sitting can save people with obesity 350 calories per day
• NEAT: Non-Exercise Activity Thermogenesis
  (Daily activity—working, pushing, moving—apart from purposeful exercise)
• NEAT can vary by 2,000 calories per day

Levine. Arterioscler Thromb 2006

Psychologically, some people are “hard losers”

Q: “Is there something about losing weight that would feel scary to you?”
A. Having excess body fat might—
  -be a good way to rationalize being single.
  -help avoid some real issues and sadness.
  -end the fear of regaining weight and failing (again).

Is the Paleo Diet the solution?

• 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 ???

Is Paleo a way for some people to manage dysfunctional eating?

Comments from an ultramarathoner….

“I love my Paleo Diet. I live on meats, nuts, and fats and eat only a very few low-carb fruits and veggies, such as berries and spinach…
“This keeps me from binging on bagels and crackers and pasta…
“I've lost 8 pounds and I feel great…”
Diets Do Not Work!

- 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"

Teens who diet get fatter

- Survey of Jr and Sr HS students (n = 4,746)
  - 57% of girls and 25% of boys 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

Weight loss research = confusing

- Well controlled studies are not "real life"
- Observational studies are not well controlled
- Self-reported data is questionable
- Short-term studies are too short
- Long term studies are very expensive….

Which diet works best?

- 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

Weight loss: Carbs? Protein? Fat?

- Creating a calorie deficit results in weight loss.
- Dieters should focus on wholesome foods & satiety
- A sustainable reducing program offers:
  - a variety of enjoyable, satiating foods
  - regularly scheduled meals and snacks
  - portions that fit within the calorie budget
**Consensus statement**

**Key messages**

• No one diet is superior for weight loss. A calorie deficit of any kind contributes to fat loss.
• The most effective approach to weight loss includes
  1) eating fewer calories
  2) being more active
  3) changing your lifestyle to make it easier to eat less and move more.
• For health benefits, weight loss of 3% to 5% is meaningful.

**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

**Some exercisers get hungrier than others**

Overweight men & women (n=35) did supervised exercise x 12 weeks

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

Subjects who lost, on average, 14 lbs:
- ate ~130 calories less than baseline; no change in appetite.

Subjects who lost, on average, only 3.5 lbs:
- ate ~270 cals more than baseline; got hungrier

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


**Gender differences: Exercise & appetite?**

18 women burned 350 calories with easy or hard exercise

Researchers monitored their food intake 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


**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 is. 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**

7:00  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)
3:50  “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
Less hunger = Better compliance

193 women and men with obesity (47 y.o.): free-living
1,400-1,600 cals 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

<table>
<thead>
<tr>
<th></th>
<th>B fast</th>
<th>L 16 weeks</th>
<th>D 32 weeks</th>
<th>Total lost</th>
</tr>
</thead>
<tbody>
<tr>
<td>300</td>
<td>-33 lbs</td>
<td>Regained 25.5 lbs</td>
<td>-7.5 lost</td>
<td></td>
</tr>
<tr>
<td>600</td>
<td>-30 lbs</td>
<td>Lost add'1 15.5 lbs</td>
<td>-45.5 lost</td>
<td></td>
</tr>
</tbody>
</table>

Fuel by day & lose weight by night

Do not:
—“Delay eating” until later in the day
— Try to lose weight while exercising

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.

Jakubowicz Steroids 77:323-331 2012

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?

More sleep = Less “junk food”

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

Source of confusion

Gender differences?

Does exercise help men (more so than women) to control / lose weight …?

- Men: High level of physical activity contributes to a lower % body fat.
- Women: No relationship between physical activity and % body fat

With supervised and measured exercise, no gender differences in fat loss

- 12-week study
- 35 male and 72 female subjects with BMI 31 (average age: 41 y.o.)
- Measured changes in body composition, appetite, energy intake
- Males and females both lost 2.5% body fat

“When exercise is supervised and energy expenditure is controlled, there are no gender differences in response to exercise”

Caudwell et al. No sex difference in body fat in response to supervised and measured exercise. Med Sci Sports Exerc Feb 2013
How much is OK to eat...?

What is an appropriate calorie intake that will—
- prevent extreme hunger
- result in loss of body fat, yet
- allow adequate energy to exercise?

Weight-loss Apps...

Helpful aspects
Educational, helps people be more accountable

Harmful aspects...
- Doesn’t help with stress management, problem solving
- Disconnects people from their bodies
- Self-reported input. How accurate are the measurements?

Energy (calorie) needs
The body needs fuel to function—

- Resting metabolic rate
- Daily activities/fidgeting
- Purposeful exercise

<table>
<thead>
<tr>
<th>Calories needed to be alive</th>
<th>Calorie Intake is more</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brain</td>
<td>365</td>
</tr>
<tr>
<td>Heart</td>
<td>180</td>
</tr>
<tr>
<td>Kidney</td>
<td>120</td>
</tr>
<tr>
<td>Liver</td>
<td>560</td>
</tr>
<tr>
<td>Lungs</td>
<td>165</td>
</tr>
<tr>
<td>Total</td>
<td>1,385 calories</td>
</tr>
</tbody>
</table>

(50-65% of daily needs)

Your body is your best calorie counter

Goals: Eat mindfully and intuitively.
Honor hunger—
Eat when hungry; stop when content.

Counting calories
A teaching tool, not an obsession

- Counting calories should become needless
  (Your body can regulate your proper calorie intake)
- Listen to your body to learn about hunger and fullness,
  and your personal hunger spectrum...

<table>
<thead>
<tr>
<th>Starved</th>
<th>Content</th>
<th>Stuffed</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>7</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>10</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

Hunger: a signal the body needs fuel

- Hunger does not mean you will eat & “get fat”
- Prevent yourself from getting too hungry!
- People who get too hungry--
  - tend to crave sweets and/or fats
  - often make unheathful food choices
  - can easily overeat.

Goal: Frontload — eat enough at breakfast & lunch
Hunger is physiological

• If you hold breath for too long, you’ll gasp for air
• If you withhold food for too long, you’ll grab for food

You will never win the war against hunger!

To lose weight without intense hunger

1. Subtract 10 to 20% from total energy needs
2. Divide calories evenly throughout the day
3. Chip away at gradual fat loss

Example: If a person maintains weight on 2,500 calories–
Deduct 250-500 cals = 1,900 - 2,250 cals/day
Divide:
Breakfast 500 -550 calories
Lunch 500-600
Lunch #2 400-500
Dinner 500-600

Case study

Weight-conscious collegiate male rower

“I gained 15 pounds that I just cannot seem to lose …”

Typical day:

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
<th>Calories</th>
</tr>
</thead>
<tbody>
<tr>
<td>7-8:30</td>
<td>Rows</td>
<td>-1,000</td>
</tr>
<tr>
<td>9:00</td>
<td>Oatmeal, melon, scr.eggs</td>
<td>500-600</td>
</tr>
<tr>
<td>11:00</td>
<td>Fruit (+ more)</td>
<td>100 (+)</td>
</tr>
<tr>
<td>1:00</td>
<td>Turkey Wrap, apple</td>
<td>550</td>
</tr>
<tr>
<td>2:00</td>
<td>Coffee</td>
<td>--</td>
</tr>
<tr>
<td>5:00</td>
<td>Fruit (+ more)</td>
<td>100 (+)</td>
</tr>
<tr>
<td>6:00</td>
<td>Chicken, rice, vegetable</td>
<td>600</td>
</tr>
<tr>
<td>PM</td>
<td>Whole jar of PB, box granola, etc…</td>
<td></td>
</tr>
</tbody>
</table>

Attempted intake: 2,000   Estimated needs: 3,600-4,000

The Food Bucket Approach to Wt Loss

Calorie target: 3,200-3,600 per day
Every 4 hours a food bucket with 800-900 calories
3-4 kinds of food/bucket

1. **Protein** - to build and repair muscle, as well as satisfy
2. **Grains** - to fuel muscles
3. **Fruits & Veggies** - for vitamins, minerals
4. **Calcium-rich foods** - for bones, blood pressure

Include healthy fat in each bucket

*Nuts and peanut butter: the best diet food around!*

• Nuts and peanut butter are satiating (protein, fiber)
• Nut-eaters do not have more body fat than nut-avoiders
• Anti-inflammatory (heart disease, diabetes)
• A handful of nuts a day (instead of a less healthful snack) can certainly fit into a winning sports diet

Case study

Collegiate rower

Follow-up one week later —

“I have been letting myself eat a satisfying breakfast with eggs, cottage cheese, oatmeal and fruit … I feel content, not stuffed.

“I have a PB&J for my second lunch…

“I feel calmer, less anxious, and less worried about losing control of food. …

“And I’ve even lost weight. Amazing!”

Jackson NS HU, AJCN July 2014
Collegiate rower

Follow-up four weeks later —

"I keep waiting for a binge to come, and it hasn’t! I have a jar of peanut butter in my room that has lasted 1.5 weeks (instead of 1.5 days). I have a box of granola that I haven’t devoured in one sitting…

"I have lost about 7 pounds — without trying!

"I feel so much better about myself … and I’ve been rowing really well!"

Teaching Points

• Fuel by day, diet by night
• Eat on a schedule, at least every 4 hours
• Prevent hunger
• Eat the foods you truly want to eat in proper portions
• Goal: wake up ready for breakfast!

Case study #2

42 y.o. Dieter who regained 25 lbs.

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”

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

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

Another approach

The Small Changes Approach to Weight Loss
America On the Move: A National Weight-Gain Prevention Program

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

Research with 116 healthy, overweight adults indicates they could successfully follow this plan because it is sustainable!!!

A Small Changes Approach Reduces Energy Intake In Free Living Humans. Stroebele, HE; J Amer Coll Nutr 28(1): 03-08, 2009

Exercise for Enjoyment, not to burn calories

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

Concluding Words of Wisdom

• Eat wisely and exercise enjoyably to enhance your health.
• Be as nice to your body as you are to your car
• Remember: No number on the scale will make you happy.
• Appreciate your body for all the good things it does for you.
• Don’t struggle on your own. Consult with a sports dietitian.

Referral network: www.SCANDpg.org