The First Four Hours

An evidence based approach to the diagnosis and treatment of overweight and obesity
“Probably nothing in the world arouses more false hopes than the first four hours of a diet.”
The First Four Hours

- The Big Picture
- The case: JS
- The A-Plus Approach to the NIH Guidelines
- Back to the case
The Obesity Epidemic

The Future is Now
Obesity Trends Among U.S. Adults

BRFSS, 1990

[Map showing obesity trends among U.S. adults in 1990, with states color-coded by obesity rate: No Data, <10%, 10%-14%.]
Obesity Trends Among U.S. Adults

BRFSS, 1994
Obesity Trends Among U.S. Adults
BRFSS, 1996

No Data  <10%  10%–14%  15%–19%
Obesity Trends Among U.S. Adults
BRFSS, 2002
Obesity Trends Among U.S. Adults

BRFSS, 2003

No Data <10% 10%-14% 15%-19% 20%-24% ≥25%
Obesity Trends Among U.S. Adults
BRFSS, 2006

[Map showing obesity trends across the United States with different states shaded in various colors indicating obesity percentages.]
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The case

- JS is a 38 yo AA woman with a history of hypertension who comes in with a complaint of L knee pain after a week-long spring cleaning spree
- PMH: HTN
- Meds: HCTZ 25 mg
- SH: Divorced with 2 children, no tobacco, no alcohol, no drugs, works as a kindergarten teacher
The case

Physical Exam

Vitals:
- AF 76 14 140/90
- Wt:205  ht: 66”  BMI: 33

Gen: WD/WN pleasant, normal gait

Ext: Knees symmetrical, mild tenderness at the joint line of L knee

Xray (obtained in ED): no abnormality noted
The case

Underweight      < 18.5 kg/m²
Normal          18.5-24.9 kg/m²
Overweight  25.0-29.9 kg/m²
Obesity I    30.0-34.9 kg/m²
      II     35.0-39.9
Obesity II   > 40 kg/m²
The case

A/P

1. Knee pain: patello-femoral syndrome
   plan: NSAIDS and exercises
2. BP elevated: add Beta blocker
3. Lose weight
The case

A/P

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“LOSE WEIGHT?” she exclaims, “HOW?”
Is there an effective, evidence based approach to the treatment of obesity?
The First Four Hours

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Introduction: The NIH Guidelines

- Published in 1998
- First evidence based treatment guidelines ever developed
- Not widely known or used
Introduction: The NIH Guidelines

- A survey done by the Connecticut Department of Health in 2003
- Two hundred internists and generalists surveyed
  - Less than 10% knew there were guidelines
  - None used them in treating their patients
The NIH Guidelines

Treatment Algorithm*

1. Patient Encounter
2. Hx of ≥25 BMI?
   - No
   - Yes
3. BMI measured in past 2 years?
   - No
   - Yes
4. • Measure weight, height, and waist circumference
   • Calculate BMI
5. BMI ≥ 25 OR
   waist circumference > 88 cm (F) > 102 cm (M)
   - Yes
   - No
6. Assess risk factors
7. BMI ≥ 30 OR
   (BMI 25 to 29.9 OR waist circumference ≥ 88
   cm (F) ≥ 102 cm (M)) AND ≥ 2 risk factors
   - No
   - Yes
8. Clinician and patient devise goals and treatment strategy for weight loss and risk factor control
9. Progress being made/goal achieved?
   - Yes
   - No
10. Assess reasons for failure to lose weight
11. Maintenance counseling:
    • Dietary therapy
    • Behavior therapy
    • Physical activity
12. Does patient want to lose weight?
   - Yes
   - No
13. Advise to maintain weight/address other risk factors
14. Hx BMI ≥ 26?
   - Yes
   - No
15. Brief reinforcement/educate on weight management
16. Periodic Weight Check

* This algorithm applies only to the assessment for overweight and obesity and subsequent decisions based on that assessment. It does not reflect any initial overall assessment for other conditions and diseases that the physician may wish to do.
The A-Plus Approach

1. Assess
2. Ask
3. Advise
4. Assist
5. Arrange follow up
Step 1: Assess

Measure BMI for all patients
Step 1: Assess

Measure BMI for all patients

Odds of diagnosing obesity before a BMI of 40?
Step 1: Assess

Measure BMI for all patients

Odds of diagnosing obesity before a BMI of 40?

Less than 1 in 4
Step 1: Assess

Ruser et al, JGIM 2005
Step 1: Assess

- Measure BMI for all patients
- Measure waist circumference for all normal weight and overweight patients
  - Waist circumference > 40” for men and > 35” for women is an independent predictor for obesity-related morbidity and mortality
Measure waist for non-obese
Step 1: Assess

- Consider advising weight loss for those with:
  - BMI > 30
  - BMI > 25 < 30 with 2 risk factors
  - Waist circumference > 35” for women, 40” for men
Step 2: Ask

“My fat has been with me through good times and bad, it stuck by me when all of my friends turned away. How dare you ask me to go on a diet?”
Obesity - What patients hear
Step 3: Advise

- Negotiate weight loss goals based on patient preference and medical conditions
  - 10% weight loss will produce most of the health benefits of weight loss
Step 3: Advise

- Negotiate weight loss goals based on patient preference and medical conditions
  - 10% weight loss will produce most of the health benefits of weight loss
- Help patient set reasonable weekly weight loss goals
  - 1-2 lbs per week
Step 4: Assist

- Help patients find an appropriate weight loss strategy
  - Lifestyle change alone (BMI >30 or >25 + 2 risk factors)
  - Lifestyle change plus medications (BMI >35 or >30 with 2 risk factors)
  - Lifestyle change plus surgery (BMI >40 or >35 with 2 risk factors)
Medications

Pharmacy

“It’s the most effective diet pill we sell. Chase it around a handball court for an hour a day.”
Step 4: Assist

- Help patients find an appropriate weight loss strategy
  - Lifestyle change alone (BMI >30 or >25 + 2 risk factors)
  - Lifestyle change plus medications (BMI >35 or >30 with 2 risk factors)
  - Lifestyle change plus surgery (BMI >40 or >35 with 2 risk factors)
THE PERFECT FIT DIET

LISA SANDERS, M.D.

COMBINE WHAT SCIENCE KNOWS ABOUT WEIGHT LOSS WITH WHAT YOU KNOW ABOUT YOURSELF
Step 4: Assist

- Help patient find an appropriate weight loss strategy
  - Diet
  - Daily activity and exercise
  - Behavioral changes
Step 4: Assist

Which diet?
Step 4: Assist

Which diet?

No evidence that any single diet is most the effective or the safest
Tufts Study
Tufts Study

- All diets worked about the same
- Mean weight loss over 1 year was 5%
- Clinically significant weight loss in only 25% of dieters - in all 4 diets

Dansinger ML, et al, Jama 2005
Tufts Study

- Also measured adherence (Scale 1-10)
- Average adherence initially 7-8
- After one year average adherence was 4-5

Dansinger ML, et al, AHA 2004
Tufts Study

- The greater the adherence, the greater the weight loss

Dansinger ML, et al, Jama 2005
A to Z Study
A to Z Study

- Women on the Atkins diet lost more weight initially and kept it off longer than women on other diet types

Gardner Jama 2007
Step 4: Assist

Focus on what your patients can eat rather than what they can’t
Step 4: Assist

- Have patient keep a food diary for 7 days
- Document when, what, where, and why
- Use that to make recommendations on how to reduce calorie intake and find a way to eat that fits
Work with the way your patients already eat
Ten Tips that Work (for just about everybody)

1. Keep a food diary - it's crazy but it works!
Keep a food diary

Guare JC, et al.. *Diabetes Care* 1989
Ten Tips that Work (for just about everybody)

1. Keep a food diary - it's crazy but it works!
2. Eat on time
Ten Tips that Work (for just about everybody)

1. Keep a food diary - its crazy but it works!
2. Eat on time
3. Eat when you are hungry - not when you are starving
Ten Tips that Work (for just about everybody)

4. Eat the foods you love
Ten Tips that Work (for just about everybody)

4. Eat the foods you love (moderately)
Ten Tips that Work (for just about everybody)

4. Eat the foods you love (moderately)
5. Be a picky eater
Ten Tips that Work (for just about everybody)

4. Eat the foods you love
5. Be a picky eater
6. Control your own environment
Ten Tips that Work (for just about everybody)

4. Eat the foods you love
5. Be a picky eater
6. Control your own environment
7. Weigh yourself once or twice a week - no more
Ten Tips that Work (for just about everybody)

8. Know your food
Ten Tips that Work (for just about everybody)

8. Know your food
9. Go for the low hanging fruit
Ten Tips that Work (for just about everybody)

8. Know your food
9. Go for the low hanging fruit
10. Reduce your portions
Ten Tips that Work (for just about everybody)

Bonus Tip: Get enough sleep
Get enough sleep

Patel American Journal of Epidemiology 2006
The E word

(exercise)
Exercise

• Exercise is important in weight loss maintenance
• Not an effective weight loss strategy
• On average, exercise was responsible for 1-2 kg of weight loss independent of calorie restriction
Exercise

HERSHEY’S MILK CHOCOLATE

= 

[Image of a woman running]

[Image of a chocolate bar]
Exercise?

- Diet (269): 10.7kg
- Diet + Exercise (90): 11kg
- Exercise (134): 2.9kg

Number of studies in parentheses
Exercise?

- 92% of maintainers exercise regularly
- 34% of regainers exercise regularly
Exercise?

148 overweight women
Assigned to one of 3 exercise groups plus diet
In all groups wt maintenance was a function of amount of exercise
Step 4: Assist

• Exercise? Yes!
  – Start where your patient is
  – Initial goal 30 minutes a day 5-6 days per week
  – Ultimate goal: 60 minutes a day 5-6 days per week (aprox 2100 kcals per week)
Step 5: Arrange for Follow up

- Close follow up is essential during weight loss and maintenance
  - Frequent encounters - defined as more than one per month - are associated with increased weight loss and higher likelihood of weight loss maintenance
Step 5: Arrange for Follow up

- Relapse is inevitable
Relapse is inevitable

“Why does it take 6 weeks to lose 5 pounds, but only 1 day to gain it all back?”
Step 5: Arrange for Follow up

- Relapse is inevitable
- Establish a plan of action when a certain amount of weight is regained
- When you gain 2 lbs and it stays for 2 days, “be good” until you’re back at your target weight
Back to the case

• JS was willing to try to lose weight
  – She started a low calorie/low fat diet
  – She began exercising regularly (5x/wk)
  – She returned to clinic monthly for follow up
Back to the case

- Over the next 6 months, her weight decreased from 205 to 170
- BMI decreased from 32 to 27
Back to the case

• 1 year later wt was 186, BMI 28
• She exercises 1-2 times per week
• She is planning to start behavioral therapy to help her maintain weight loss
Back to the case

- 2 year later weight is 190, BMI 29
- She stopped exercising
- She recently called and wants to try again
The First Four Hours