Keynote Speaker

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Building a Consensus: Evidence-Based Long-Term Weight Management

AACE/ACE Consensus Conference on Obesity
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Disclosure

No conflicts of interest
Obesity is a Growing Global Epidemic

Source: EuroMonitor, 2010; WHO Statistics
# Lifestyle Risk Factors

Ranked within each Country

<table>
<thead>
<tr>
<th>Lifestyle Risk Factors</th>
<th>Stress</th>
<th>Lack of physical activity</th>
<th>Obesity</th>
<th>Poor nutrition</th>
<th>Tobacco use</th>
<th>Presenteeism</th>
<th>Substance Abuse</th>
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<tbody>
<tr>
<td><strong>United States</strong></td>
<td>1</td>
<td>3</td>
<td>2</td>
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<td><strong>Asia Pacific</strong></td>
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<td><strong>India</strong></td>
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<td>*<em>Southeast Asia</em></td>
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<td>2</td>
<td>3</td>
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<tr>
<td><strong>Singapore</strong></td>
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<td>2</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>3</td>
<td>7</td>
</tr>
</tbody>
</table>

* South East Asia includes Malaysia, Philippines and Singapore

Note: Rankings based on companies responding 5, 6 or 7 on a 7-point extent scale.
What is Successful Weight Loss?

• Institute of Medicine’s definition of success: ≥5% reduction in baseline weight at ≥1 year follow-up of initial treatment

• Its clinical significance is ultimately determined by long-term rather than short-term outcomes

• If the reduction is not maintained, it is unlikely that the health benefits will be sustained

Institute of Medicine. *Weighing the options: Criteria for evaluating weight management programs*. 1995
What is Successful Weight Loss?

- “Sustained weight loss of 3%-5% produce clinically meaningful reductions in triglycerides, blood glucose, HbA1C, and the risk of developing type 2 diabetes”
- “Larger weight losses produce greater benefits”
- “The Panel recommends as an initial goal the loss of 5% to 10% of baseline weight within 6 months”

“Those who complete weight-loss programs lose approximately 10% of their body weight, only to regain two-thirds of it back within one year and almost all of it back within 5 years”

Institute of Medicine. *Weighing the options: Criteria for evaluating weight management programs*. 1995
What is the Most Effective Behavioral Weight Loss Treatment?

• “The most effective behavioral weight loss treatment is in-person, high-intensity (i.e., >14 sessions in 6 months) comprehensive weight loss interventions provided in individual or group sessions by a trained interventionist”

• Its components include “a moderately-reduced calorie diet, increased physical activity, and behavior therapy”

What is the Most Effective Moderately-Reduced Calorie Diet for Weight Loss?

• For weight loss, they are all the same
• It’s the calories
• All calories count
• Prescribe a 500 k/cal/day or 750 k/cal/day energy deficit
• Prescribe 1200-1500 k/cal/day for women and 1500-1800 k/cal/day for men (adjusted for body weight)
Weight Reducing Diets
Comparison of Weight Loss Diets with Different Macronutrient Compositions

Aim

• To compare the effects of 4 diets of differing macronutrient compositions on body weight after 2 years

Weight Reducing Diets
Comparison of Weight Loss Diets with Different Macronutrient Compositions

• N: 811 overweight adults (BMI= 25-40) randomized to diets with a deficiency of 750 kcal/day & addition of 90 min/wk exercise

• Outcome : Comparison of low fat (20%) vs. high fat (40%) & average PRO (15%) vs. high PRO (25%), & highest (65%) and lowest (35%) CHO

Weight Reducing Diets: Comparison of Weight Loss Diets with Different Macronutrient Compositions

Results

• Satiety, hunger, satisfaction with the diet & attendance at sessions were similar for all diets

• Behavioral factors (attendance, contact, commitment, engagement, etc.) rather than macronutrient metabolism were the main influences on weight loss

Weight Reducing Diets
Comparison of Weight Loss Diets with Different Macronutrient Compositions

Results

• Reduced calorie diets result in meaningful weight loss regardless of which macronutrients they emphasize
• Participants tended to revert to their customary macronutrient intakes over time but were able to maintain weight loss

Weight Reducing Diets
Comparison of Weight Loss Diets with Different Macronutrient Compositions

Conclusion

• Any type of diet, when taught for the purpose of weight loss with enthusiasm & persistence, can be effective

• Dietary counseling and attention were the same for all diet groups

Weight Reducing Diets
Comparison of Weight Loss Diets with Different Macronutrient Compositions

Conclusion

- Successful diets can emphasize a range of fat, protein, & carbohydrate composition & have beneficial efforts on risk factors for CVD & diabetes
- Diets can be tailored on the basis of personal & cultural preferences and & therefore have the best chance for long-term success

Low-carbohydrate, higher protein diets oftentimes produce superior weight losses at 6 months compared to conventional low-fat diets.

Generally (with some exceptions) there are no differences at 12 months.

Individuals tend to gravitate to their original baseline dietary patterns.
Low-Fat (25%) vs Low-Carb Diet for Obesity: Randomized Controlled Trial

Low-Carb vs. Low Fat Diets

• No significant differences in weight losses at 12 months
• Low-carb diet had better changes in HDL-C and triglycerides ($p < .04$)
• Both groups decreased diastolic blood pressure and insulin response to an oral glucose load
• Adherence was poor and attrition high in both groups

Foster et al., *NEJM*, 2003
Meta-analysis of Randomized Controlled Trials
Low-Carb vs. Low-Fat

- Low carb diets are generally associated with unfavorable changes in total cholesterol and LDL-C levels & favorable changes in triglycerides & probably HDL-C
- Both diets produce equivalent weight losses up to one year

Nordmann et al., Arch Int Med, 2006
What is the Most Effective Exercise for Weight Loss?

“In general, for weight loss, exercise is pretty useless.”

Eric Ravussin, Ph.D. (2013)
Director, Nutrition Obesity Research Center
Pennington Biomedical Research Center
Editor-in-Chief, *Obesity*
“Will I still be able to not exercise?”
Exercise and Obesity

“Exercise and diet go together. Weight management is most successful when careful attention is given to both physical activity and proper nutrition.”

American College of Sports Medicine, 2013
Behavior Therapy:
Habits are Tough to Change

“Habit is habit, and not to be flung out of the window, but coaxed downstairs a step at a time.”

Mark Twain
Adherence is the Real Issue: Adherence to Medical Procedures

• Adherence is the extent to which patients follow the instructions given to them for prescribed treatment.
• Research on adherence has studied a range of behaviors from pill-taking to following a prescribed diet or exercise program.
• Rates of adherence vary from 33% for acute conditions to 50% for chronic medical conditions.

Williamson et al J Beh Med 2009
Why Use Behavioral Strategies?

- Behavioral strategies are used to help obese individuals increase their adherence to their dietary and exercise prescriptions.
- The ultimate goal is better adherence to diet and exercise through the use of the behavioral strategies.
What are the most effective behavioral strategies for changing habits?

- Self-Monitoring
- Stimulus Control
- Cognitive Restructuring
- Stress Management
- Social Support
### Behavioral Methods for Weight Loss: The Patient Diary

<table>
<thead>
<tr>
<th>LUNCH</th>
<th>TIME</th>
<th>FRAME OF MIND</th>
<th>ACTIVITY</th>
<th>CALORIES</th>
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<tr>
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<td>12:30</td>
<td>Hurried</td>
<td>Office Work</td>
<td>241</td>
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<tr>
<td>Ritz Crackers, 6</td>
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<td></td>
<td></td>
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<tr>
<td>Hot Cocoa, 1 cup</td>
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<table>
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<td>Relaxed</td>
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<tr>
<td>Carrot-Raisin Salad</td>
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<td>310</td>
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<tr>
<td>Cauliflower, 1 cup</td>
<td></td>
<td></td>
<td></td>
<td>28</td>
</tr>
<tr>
<td>Skim Milk, 1 cup</td>
<td></td>
<td></td>
<td></td>
<td>88</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td></td>
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<td>971</td>
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</table>

**PHYSICAL ACTIVITY**

Walking TIME 10 min.

HOW YOU STAND MAKES NO DIFFERENCE!
SELF-MONITORING
(Raising awareness of the behaviors to be changed)
Examples

- Food Record
- Activity Record
- Weight Record
LUCkily, RHODA WAS SAved FROM oVEr-eAtING BY HER REFRIGERATOR'S AIRBAG.

POOF!
STIMULUS CONTROL
(Controlling the triggers leading to non-adherence)

Examples

• Shop from a list
• Lay out exercise clothes
• Walk with a friend
COGNITIVE RESTRUCTURING
(Changing thought patterns and expectations)

Examples

• Set realistic goals & expectations
• Focus on making small changes
• Get a life
STRESS MANAGEMENT

“If a problem is fixable, if a situation is such that you can do something about it, then there is no need to worry. If it’s not fixable, then there is no help in worrying. There is no benefit in worrying whatsoever.”

H.H. The Dalai Lama
THE NEXT INCARNATION

As the Dalai Lama turns seventy-five, what is Tibet's future?

BY EVAN OSNOS
STRESS MANAGEMENT
(Managing the emotional aspects of behavior change)
Examples

- Physical Activity
- Meditation
- Progressive Relaxation
Operator, get me WeightWatchers—this is an emergency!
SOCIAL SUPPORT
(Developing and maintaining a support system)
Examples

• Family
• Peer
• Health Care Professional
• Community
What are the Long-Term Outcomes of Behavioral Weight Loss Studies?

Types of Studies

- Observational (non-randomized, longitudinal, & cross-sectional) studies
- Randomized controlled studies
Results of Behavioral Interventions for Weight Loss

Non-randomized, longitudinal, and cross-sectional studies

• Non-randomized, longitudinal, and cross-sectional studies are difficult to interpret because they do not meet the Bradford-Hill criteria for inferring causation

• Randomized controlled trials are the “gold standard”
Results of Behavioral Interventions for Weight Loss

Bradford-Hill Criteria for Inferring Causation

- Strength
- Consistency
- Specificity
- Temporality
- Biological Gradient
- Plausibility
- Coherence
- Experiment
- Analogy

Results of Behavioral Interventions for Weight Loss

Randomized Behavioral Intervention Studies

• There have been about 30 randomized behavioral intervention studies with follow-ups of ≥ 2 years.
• Initial treatment period was ≥ 12 weeks
• Initial mean weight loss was ~8 kg
• Using behavioral intervention plus VLCD (<800 kcal/day) initial mean weight loss was ~18 kg

Anton, Foreyt, Perri, 2014
Results of Behavioral Interventions for Weight Loss
Randomized Behavioral Intervention Studies

- Across all behavioral studies ($\geq 800$ kcal/day), with follow-ups 2-12 years after initial treatment, mean long-term weight loss was 4.4 kg.
- Behavioral studies with VLCD ($<800$ kcal/day), mean weight loss was 6.4 kg.
Results of Behavioral Interventions for Weight Loss

Long-term Maintenance of ≥5kg and 10kg (5%-10%)

• ≥2 year interventions with the best results include continuous contact (monthly or bi-monthly meetings) throughout the entire 2 or more years

• Limitation: high attrition rates at 2 years (mean 39%; range 20-65%). Worse at >2 years
Results of Behavioral Interventions for Weight Loss

Long-term Maintenance of $\geq 5$kg and $\geq 10$kg (5%-10%)

- Interventions have improved over time
- Extended treatments can help individuals maintain modest but clinically significant losses (5-10kg) for $\geq 2$ years
- Important to consider what happens without intervention
- Natural course in untreated individuals is about 0.6kg gain per year
Results of Behavioral Interventions for Weight Maintenance

- Extended Interventions
- Skills Training
- Provision of Portion-Controlled Foods
- Social Support
- Exercise/Physical Activity
- Monetary Incentives (weight & exercise)
- Pharmacotherapy
- Multi-Component Programs
Results of Behavioral Interventions for Weight Maintenance

Extended Treatments

- 17 studies in which behavioral treatment was extended >6 months using weekly or biweekly group sessions
- Extended treatment improves adherence and long-term outcomes
- Following conclusion of extended contact, individuals begin to regain weight
Results of Behavioral Interventions for Weight Maintenance
Telephone Prompts

• Perri compared extended intervention through telephone counseling vs face-to-face counseling

• Following 6 month intervention, subjects were randomized to 26 biweekly sessions of telephone vs face-to-face counseling

• Results showed both were equally effective but telephone was less costly

Perri et al., 2008
Results of Behavioral Interventions for Weight Maintenance

Internet & Email

• Some Internet-based interventions produce about half as much weight loss as traditional interventions; others produce no significant change above usual care

• Tate compared Internet vs Internet plus behavioral E-counseling (Subjects received feedback through emails)

• At one year, E-counseling had lost 4.4kg vs 2.2kg for basic Internet (p=.04)

Tate et al 2003
Results of Behavioral Interventions for Weight Maintenance

Internet
Results of Behavioral Interventions for Weight Maintenance

Food Provision

• Meta-analysis of partial meal replacements showed weight losses at 1-year in 4 of 5 studies.

• Flechtner-Mors provided monthly clinical contacts plus 7 meals and 7 snacks per week with excellent results.

• External validity questioned since the meal replacements were provided at no cost (not “real world”).

Flechtner-Mors et al 2000
Long Term Maintenance Strategies
Meal Replacements

aPhase I: for the first 3 months: Group A, conventional diet; Group B, a diet with replacements for 2 meals and 2 snacks daily.

4-year Results: Mean Percent Weight Loss\(^1,2\)

Results of Behavioral Interventions for Weight Maintenance

Peer Support

• Review of 11 studies showed that guided group support produce greater weight losses over one year than interventions that do not include group contact during follow-up period (7.3kg vs 5.3kg)

• Group support does not prevent weight regain

• Group support results in regain of about 25% of the weight lost during treatment (at 1-year following intervention)
Results of Behavioral Interventions for Weight Maintenance
Physical Activity

• Association between weight loss and physical activity is a common finding in correlational studies
• Similarly, physical activity is associated with maintenance of weight loss
• About 200-300 min/wk (>2,000 kcal/wk) to improve weight loss outcomes
• Need ≥60 min/day for weight maintenance
Results of Behavioral Interventions for Weight Maintenance

Physical Activity

Given its potential, how can adherence to physical activity be improved?

• Home based exercise
• Personal trainers
• Use of short bouts of exercise
• Incentives for exercise
• Post-treatment programs focused exclusively on exercise
Long Term Maintenance Strategies
Pharmacotherapy

• Studies generally show that pharmacotherapy can help sustain weight loss
• Follow-up rates are low (40-60% at 1-year)
• Absence of data on side effects beyond 2 years
• Critical need for safe & efficacious anti-obesity drugs
Xendos Results

Effect of Orlistat on Body Weight

![Graph showing change in weight over weeks for Placebo + lifestyle and Xenical + lifestyle groups.](image)

- Placebo + lifestyle: Change in weight from 0 kg at week 0 to -4.1 kg at week 208.
- Xenical + lifestyle: Change in weight from 0 kg at week 0 to -6.9 kg at week 208.

*P* < 0.001 vs placebo

Torgerson et al., *Diabetes Care*, 2004
Results of Behavioral Interventions for Weight Maintenance

Post-Treatment Programs

- Multi-component post-treatment programs have shown long-term efficacy
- Continual Care model of intervention
- Look AHEAD study has completed the longest, largest randomized intervention trial with outcome data showing significant efficacy
The Look AHEAD Study
An Example of a Behavioral Intervention for Long-Term Weight Maintenance

Does Weight Loss Reduce Cardiovascular Disease and Death in Individuals with Diabetes?
Fig S1. Consort Diagram

28622 underwent prescreening

13061 (45.6%) ineligible at prescreen (major reasons: age [13.5%], no diabetes mellitus [8.6%], likely type 1 diabetes mellitus [4.4%])

15561 (54.4%) eligible at prescreen

6516 (41.9%) declined further screening

9045 (58.1%) attended clinic screening examinations

1481 declined further participation
2419 ineligible (major reasons: staff judgment [7.6%], high blood pressure [7.0%], behavioral run-in [4.8%])

5145 (56.9%) randomized

2570 assigned to Intensive Lifestyle Intervention

89 Lost to follow-up, refused, moved or not active

2570 included in primary analysis

2575 assigned to Diabetes Support and Education

99 Lost to follow-up, refused, moved or not active

2575 included in primary analysis
# Look AHEAD

## Participants

<table>
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<tr>
<th></th>
<th>Lifestyle (N=2630)</th>
<th>DSE (N=2574)</th>
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<tbody>
<tr>
<td>Women</td>
<td>59%</td>
<td>60%</td>
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<tr>
<td>Minority</td>
<td>37%</td>
<td>37%</td>
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<tr>
<td>Age (years)</td>
<td>58.6</td>
<td>58.9</td>
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<tr>
<td>Insulin Users</td>
<td>14%</td>
<td>15%</td>
</tr>
<tr>
<td>Baseline BMI</td>
<td>35.9</td>
<td>36.0</td>
</tr>
<tr>
<td>Baseline weight (kg)</td>
<td>100</td>
<td>101</td>
</tr>
<tr>
<td>Attended 1 year exam</td>
<td>97%</td>
<td>96%*</td>
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</table>

* p ≤ .0004
Look AHEAD

Lifestyle Intervention

Goals:

• 7% weight loss for the group (10% for individual)
• 175 minutes of moderate intensity activity
Look AHEAD
Lifestyle Intervention

• Diet
  – ADA, NCEP (< 30% fat, < 10% sat fat, >15% protein)
  – 1200-1500 (if weight <250lbs)
  – 1500-1800 (if weight >250lbs)
  – During first 4 weeks to 4 months, portion control (liquid meal replacements or structured meal plan)
Look AHEAD
Lifestyle Intervention

• Physical Activity
  – unsupervised
  – 175 minutes moderate intensity/week
  – 5 days/week
  – walking
Look AHEAD
Behavioral Strategies

• Self monitoring
• Stimulus control
• Cognitive restructuring
• Stress management
• Social support
Look AHEAD
Continual Care Model of Lifestyle Intervention

- Months 1-6
  - Weekly face-to-face contacts
- Months 7-12
  - Minimum of 3 face-to-face contacts/month
- Months 13-48
  - Minimum of 2 contacts/month, at least 1 face-to-face
- Months 48-120
  - Minimum of 3 contacts/year
Look AHEAD
Diabetes Support and Education (Comparison Group)

• 3 group educational/social support sessions/year; attendance encouraged

• 1 session = diet and nutrition,
  1 = exercise

• 1 = support session
% Weight Loss at 1-Year

The Look AHEAD Research Group, Diabetes Care, 2007
Fitness Change (%) at 1-Year

Mean % Fitness Change

- Unadjusted P<0.001
- Adjusted for 1 Year Weight Change P<0.001

The Look AHEAD Research Group, Diabetes Care, 2007
Look AHEAD

Weight Loss Success Factors

At one year, the three significant weight loss success factors were:

• Self-reported physical activity (mean=137 minutes/wk)
• Treatment attendance (mean=35 sessions/yr)
• Meal replacements (mean=361/yr)

1-Yr Weight Loss (ILI) Based on Quartiles of Weekly Physical Activity

Meal Replacement Options

2 MR per day
1-Year Weight Loss (ILI) Based on Quartiles of Meal Replacements (MR) Used

<table>
<thead>
<tr>
<th>Quartile</th>
<th>MRs</th>
<th>% Reduction in Initial Weight</th>
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<tbody>
<tr>
<td>1st</td>
<td>117</td>
<td>5.9%</td>
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<tr>
<td>2nd</td>
<td>277</td>
<td>7.2%</td>
</tr>
<tr>
<td>3rd</td>
<td>406</td>
<td>9.4%</td>
</tr>
<tr>
<td>4th</td>
<td>608</td>
<td>11.2%</td>
</tr>
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</table>

1-Yr Weight Loss (ILI) Based on Quartiles of % of Visits Attended

<table>
<thead>
<tr>
<th>Quartile</th>
<th>% Reduction in Initial Weight</th>
</tr>
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<tr>
<td>1st</td>
<td>51.3%</td>
</tr>
<tr>
<td>2nd</td>
<td>82.0%</td>
</tr>
<tr>
<td>3rd</td>
<td>92.5%</td>
</tr>
<tr>
<td>4th</td>
<td>99.4%</td>
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Cardiovascular Effects of Intensive Lifestyle Intervention in Type 2 Diabetes

The Look AHEAD Research Group*

ABSTRACT

BACKGROUND
Weight loss is recommended for overweight or obese patients with type 2 diabetes on the basis of short-term studies, but long-term effects on cardiovascular disease remain unknown. We examined whether an intensive lifestyle intervention for weight loss would decrease cardiovascular morbidity and mortality among such patients.

METHODS
In 16 study centers in the United States, we randomly assigned 5145 overweight or obese patients with type 2 diabetes to participate in an intensive lifestyle intervention that promoted weight loss through decreased caloric intake and increased physical activity (intervention group) or to receive diabetes support and education (control group). The primary outcome was a composite of death from cardiovascular causes, nonfatal myocardial infarction, nonfatal stroke, or hospitalization for angina during a maximum follow-up of 13.5 years.

RESULTS
The trial was stopped early on the basis of a futility analysis when the median follow-up was 9.6 years. Weight loss was greater in the intervention group than in the control group throughout the study (8.6% vs. 0.7% at 1 year; 6.0% vs. 3.5% at study end). The intensive lifestyle intervention also produced greater reductions in glycated hemoglobin and greater initial improvements in fitness and all cardiovascular risk factors, except for low-density-lipoprotein cholesterol levels. The primary outcome occurred in 403 patients in the intervention group and in 418 in the control group (1.83 and 1.92 events per 100 person-years, respectively; hazard ratio in the intervention group, 0.95; 95% confidence interval, 0.83 to 1.09; P=0.51).

CONCLUSIONS
An intensive lifestyle intervention focusing on weight loss did not reduce the rate of cardiovascular events in overweight or obese adults with type 2 diabetes. (Funded by the National Institutes of Health and others; Look AHEAD ClinicalTrials.gov number, NCT00017953.)
Look AHEAD
Year 10

• The intervention was stopped about a year early (September 14, 2012) based on a futility analysis when median follow-up was 9.6 years (rather than 10.5 years)

• When the intervention was stopped at year 9.6, the loss to follow-up was fewer than 6% of the randomized participants (>94% assessed)

• Weight loss was significantly greater in ILI vs. DSE every year of the intervention: 8.6% vs. 0.7% at year 1; 6.0% vs. 3.5% at end of intervention (year 9.6)

• The primary outcome of cardiovascular events (mortality & morbidity) did not differ significantly between groups
Cumulative Hazard Curves for the Primary Composite End Point

Patients with End Point (%)

Years

Control

Intervention
A Weight

Main effect, -4 (95% CI, -5 to -3)  
P<0.001
Look AHEAD Update
The Future

• The Look AHEAD trial has received NIH support for two more years through 2015 as an observational study (no intervention)

• The trial is focusing on assessing differences in physical and cognitive decline between ILI and DSE along with changes in cardiovascular outcomes

• The trial is collecting new outcome data on these physical and cognitive declines in order to submit a 5 year extension to study these changes in detail
Building a Consensus
Preventing the Regaining of Lost Weight

Conclusions

- Extended treatments have beneficial impact on maintenance
- Extended contact shows greater maintenance of behavioral change
- Continued adherence to prescribed eating & activity likely responsible for outcomes
Building a Consensus
Preventing the Regaining of Lost Weight
Conclusions

• Extended treatment is not a panacea for the problem of weight regain
• Continuing treatment is labor intensive and expensive
• We must weigh its cost against the otherwise inevitable weight regain that follows intervention
Building a Consensus Practical Clinical Directions

To Improve Adherence

• Comprehensive Initial Assessment
• Use Multiple Indicators of Success
• Focus on Maintenance of Behavior Change
• Adopt a Continuous Care Approach to Management
Building a Consensus
Practical Clinical Directions

Comprehensive Initial Assessment

- Assess risk factors for disease (blood pressure, glucose tolerance, dyslipidemia, etc.) and quality of life (emotional state, body image, binge eating, etc.)
- Assess expectations regarding weight loss and personal goals
- Assessment may reveal behavioral and emotional targets for intervention that need addressing regardless of whether weight loss becomes an objective of intervention
Building a Consensus
Practical Clinical Directions
Focus on Multiple Indicators of Success

• Reduced cardiovascular risk factors
• Improved quality of life
• Improved dietary pattern (lower saturated fat, etc.)
• Improved physical activity and reduced sedentary lifestyle
Building a Consensus
Practical Clinical Directions
Focus on Maintenance of Behavior Change

• Frame goals for post-treatment in terms of behaviors that can be controlled (quality & quantity of food & physical activity)

• Inform individuals of the significant health benefits that accrue from modest weight losses
Building a Consensus
Practical Clinical Directions
Adopt a Continuous Care Approach

• View obesity as a chronic disease requiring continuous care
• View short term interventions to achieve an “ideal weight” as doomed to long term failure
• A continuous care approach focused on achievement of realistic long term objectives appears appropriate for most individuals
Building a Consensus
Practical Clinical Directions

Adopt a Continuous Care Approach

• Extended treatments have shown promise in promoting adherence to the behaviors required for long term maintenance

• Newer intervention methods, like the Internet and other delivery systems, may offer the ability to intervene at lower costs than traditional treatments to extend the reach of future treatments and maintenance programs
Building a Consensus
Best Strategies for Improving Weight Loss and Maintenance

Summary

• Extend treatment beyond 6 months through weekly, bi-weekly, or monthly sessions
• Provide multi-component programs (relapse prevention training, skills training, etc.)
• Use a multi-disciplinary team of interventionists
• Maintain professional contact with individuals in person or via telephone, Internet, mail, etc.
• Provide a continuous care approach

Anton, Foreyt, & Perri, 2014
Building a Consensus
Long Term Weight Management

Summary

• “The most pressing challenge facing researchers is the improvement of programs for the long-term management of obesity”

• “The greatest practical challenge is to convince health care professionals, obese individuals, and the general public that obesity is a complex, chronic condition that can be managed effectively through intensive programs of ongoing care”

Anton, Foreyt, & Perri, 2014
NATURE VS. NURTURE

“The Current Epidemics of Chronic Diseases are a Result of Discordance Between Our Ancient Genes and Modern Lifestyle.”

Eaton et al., The Paleolithic Prescription, 1988
NATURE VS. NURTURE

“Accuse not nature.
She has done her part.
Do Thou but Thine.”

John Milton, *Paradise Lost*, 1687
Fat for Life?

Six Million Kids Are Seriously Overweight. What Families Can Do.

By Geoffrey Cowley & Sharon Begley
PREVENTION
Thank You