



SPRING SEMINAR SERIES

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An Integrative, Family-based Approach to Childhood Obesity

- Associate Professor, Pediatric, Harvard Medical School; Director, Optimal Weight for Life (OWL) Program
- World leading expert in nutrition and obesity; does both treatment and prevention research
- Book: “Ending the Food Fight: Guide Your Child to a Healthy Weight in a Fast Food/ Fake Food World” –science based
- Obesity is a problem that occurred rapidly. In the 1980s suddenly something happened that caused a 50% increase in prevalence.
- There are 4 phases. We are in phase 1. We are just at the tip of the iceberg.
 - Increase in prevalence of obesity: hasn’t been around long enough to translate into weight-related complications
 - Complications
 - Life-threatening events
 - Transgeneration effect: obese moms grow fetus in abnormal circumstances which increases the risks of the next generation
- Health and psychosocial wellbeing
 - Stigmatization that overweight are less educated and have higher poverty
- Anti-fat bias: 5th and 6th graders chose obese child as the last out of a group of children whom they would want to be friends with
- One-third to one-half of Americans are trying to lose weight (includes both overweight and normal weight). How well is it working?
- In 1959 a literature review looked at weight loss papers over a 30-year span and found that weight loss programs don’t work.
- Today the findings are the same: there are modest weight loss characteristics and people regain the weight
- **Why does the conventional approach fail?**
 - **Biology:** we have thrifty genes. In the past they held extra weight to survive during a famine. We had steady body weight a long time after WWII even when there was lots of food. Obesity didn’t go up

until the late 70s, the 90s in Europe, and this decade in Japan. Our genes haven't changed.

- **Environment:** Our environment has changed. We live in a toxic environment which undermines our biology and over mines our behavior. It's a vicious cycle.
- **Nature of obesity treatment is inherently ineffective:** We need science-based innovative approaches (e.g. diets that emphasize quality, age appropriate parenting practices, etc.).
- **Integrative Approach:** synergy of biology and behavior
- Low fat diet was enshrined in the food guide pyramid – carbs good and fats bad. People decreased fat intake and obesity increased (not causality, but...).
- What if fat doesn't make you fat? A low carb diet caused greater weight loss long term. However, after 12 months most people regain their weight.
- Important to understand the biological significance of saccharide chain length
- **The Glycemic Index (GI):** gave 50g portion of carbs from food and watched how blood glucose changed
- **The Glycemic Load (GL):** takes into account the amount, therefore a potato blasts blood sugar off the scale where a watermelon is lower
- Most studies favor a low GI diet
- **Could GI affect metabolism?**
- Took a random assessment of overweight adults in a weight loss program who were given diets with different GL. After 10 weeks they had the same % weight loss, but the metabolic rate of those in the low GL diet group dropped half as much, meaning they have less metabolic stress and therefore are happier, more likely to get up and do physical activity, etc.
 - This could explain why people succeed or fail at long term weight loss.
- **Effect of GI in animals:** animals were fed identical diets with low and high GL. If given diet with high GL they had 75% adiposity. Low GL diet had adiposity and were more lean.
- Look at insulin secretion: we know that insulin secretion predicts weight gain in a high GI diet; therefore we can neutralize it with a low GI diet.
- Duplicate in humans: there is no evidence of weight regain after 16 months
- People with a high GI diet had twice the amount of liver fat. Your liver should have no fat.
- **Low Glycemic Load Pyramid:** current food guide pyramid doesn't do anything, so they created a low glycemic load pyramid which emphasizes whole grains, healthy oils, vegetables, fruits, and legumes
- **Physical Activity:** Americans are sedentary
- In 1998, 28.6% of Americans were inactive; worse among kids
- Teens spend 6 hours sedentary and only 13 minutes doing vigorous activity per day
- Need to get off the couch and onto the treadmill – even that's not working
- Exercise alone is not a good way to lose weight

- Need to focus on activities throughout the day, not on exercise. Make being active convenient and fun. Discourage TV during meals. Remove the TV from children's rooms. Watch 2 hours maximum or ideally zero hours.
- Play – it's the natural way kids amuse themselves- put them outdoors!
- **Child Development:**
 - We have an innate preference for sweets, salt and fat.
 - Kids learn new foods by watching adults. Older kids are more influenced by their peers.
 - Parents have become too permissive. They let their kids eat what they want. Instead they need to establish clear boundaries so kids learn how to eat, otherwise they'll learn from the media and their peers and will develop atrocious eating habits.
 - Need to raise kids with a parent-directed system that transitions into a child-directed system by the time children are adolescents
 - Authoritative parenting style is the best!
- **Protect the home environment:** if it doesn't promote health then don't buy it
- **Modeling:** if you do it they will. If you don't then they won't.
- **Praise:** it's the most underused parenting practice considering it is free.