Obesity in America and Current Treatment Options

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I have no financial disclosures.
Population Health
Introduction

- How Obesity Effects Population Health
- How To Prevent Obesity
- Management of Obesity
  - Medical
  - Surgical
  - What’s next
Disclosures

- Nothing to disclose
Prevalence* of Self-Reported Obesity Among U.S. Adults by State and Territory, BRFSS, 2013

Source: Behavioral Risk Factor Surveillance Systems, CDC.

*Prevalence estimates reflect BRFSS methodological changes started in 2011. These estimates should not be compared to prevalence estimates before 2011.

+Guam and Puerto Rico were the only US territories with obesity data available on the 2013 BRFSS
Figure 1.
Percentage of People in Poverty in the Past 12 Months by State and Puerto Rico: 2009

Prevalence of Self-Reported Obesity Among Non-Hispanic Black Adults by State, BRFSS, 2011-2013
OREGON OBESITY FACT SHEET

OREGON ADULT OBESITY FACTS:

- Obesity affects more than 27.3% of Oregonians.
- Oregon is ranked 28/51 in states impacted by obesity.
- The age group most affected by obesity in Oregon is 45-64 (32%).

27.4% More than 27.4% of male Oregonians are affected by obesity.
27.5% More than 27.5% of female Oregonians are affected by obesity.

OREGON CHILDHOOD OBESITY FACTS:

- Children affected by obesity:
  - 14.9%
  - 9.9%

OREGON ranks 22nd in adults with Type 2 Diabetes (9.9%).

NATIONAL COST OF OBESITY:

- $147-$210 Billion: The cost of obesity-related medical treatment costs.
- 42%: How much more healthcare costs for individuals affected by obesity.
- $14.1 Billion: The direct costs caused by childhood obesity.
- $4.3 Billion: Nationwide annual costs due to obesity-related absenteeism.

Want to learn more about weight and its impact on health?

Weight and health go hand-in-hand. In an effort to raise awareness of weight and its impact on health, the Obesity Action Coalition (OAC) has launched a national campaign, titled Your Weight Matters™. To learn more about weight and health and the Campaign, please visit www.YourWeightMatters.org.

Contact the OAC

If you have any questions regarding the above information or would like to interview an OAC representative, please contact James Zervos, OAC Director of Communications, at jennifer@obesityaction.org.

References:
- Centers for Disease Control
- Trust for America’s Health
- Obesity Action Coalition
Co-morbidity Reduction After Bariatric Surgery

- Migraines: 57% resolved
- Pseudotumor cerebri: 96% resolved
- Dyslipidemia, hypercholesterolemia: 63% resolved
- Non-alcoholic fatty liver disease: 90% improved, 37% resolution of steatosis, 37% resolution of inflammation, 20% resolution of fibrosis
- Metabolic syndrome: 80% resolved
- Type II diabetes mellitus: 83% resolved
- Polycystic ovarian syndrome: 79% resolution of hirsutism, 100% resolution of menstrual dysfunction
- Venous stasis disease: 95% resolved
- Gout: 72% resolved
- Depression: 55% resolved
- Obstructive sleep apnea: 74-98% resolved
- Asthma: 82% improved or resolved
- Cardiovascular disease: 82% risk reduction
- Hypertension: 52-92% resolved
- GERD: 72-98% resolved
- Stress urinary incontinence: 44-88% resolved
- Degenerative joint disease: 41-76% resolved

Quality of life improved in 95% of patients
Mortality: 89% reduction in 5-year mortality

Courtesy Cleveland Clinic
OREGON OBESITY FACT SHEET

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- More than 27.5% of female Oregonians are affected by obesity.
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- Oregon ranks 22nd in adults with Type 2 Diabetes (9.9%).

OREGON CHILDHOOD OBESITY FACTS:

- Oregon is not one of 21 states requiring BMI screenings of students.

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$245 BILLION
TOTAL COST OF DIAGNOSED DIABETES IN THE UNITED STATES IN 2012.

$176 billion
Direct costs

$69 billion
Indirect costs (absenteeism, lost & reduced productivity, etc.)

1 IN 5 HEALTHCARE DOLLARS
spent in the U.S. goes to care for people with diabetes.

62.4%
GOVERNMENT INSURANCE

34.4%
PRIVATE INSURANCE

3.2%
UNINSURED

Who’s paying for diabetics’ medical expenses?

A person with diabetes will spend, on average,
$13,700 per year.

$7,900
of that amount can be attributed to diabetes.

Estimated Direct and Indirect Costs of Major Cardiovascular Diseases, United States, 2010

Coronary Heart Disease
$108.9

Hypertensive Disease
$93.5

Stroke
$53.9

Heart Failure
$34.4

Cost in Billions

What can be done?
Childhood Obesity
Childhood Obesity
Childhood Obesity
Childhood Obesity

Who says our kids don't exercise?

Sprints

Candy

Push-ups

Curls

Chips

Crunches
Childhood Obesity
Michigan kids who eat school lunches
- 38.2% more likely to be overweight or obese
- 19% more likely to have 2 sugary drinks per day
- 39.9% less likely to eat 2 servings of vegetables per day

USDA school lunch guidelines
- No more than 850 calories per lunch
- 1 cup of fruits and vegetables with each meal
- Limit sugary drinks
- No limit to second servings of fruits/vegetables
Signs of Progress

- JAMA 2014. Ogden, CL et al.,
- Prevalence of Childhood and Adult Obesity in the United States, 2011-2012
- Decrease in obesity among 2-5 year old children
- Conclusion: Overall, no significant change in obesity prevalence in youth or adults
Management of Obesity

How to change eating habits?

GO TELL COOKIE I’LL HAVE THE 1190.
WHAT’S THAT STAND FOR?

THE NUMBER OF CALORIES IN MY FAVORITE BREAKFAST!

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Greg & Voyage Walker
Management of Obesity

- Surgical vs. Medical Weight Loss
Medical Management of Obesity

- Diet and Exercise
  - < 1% successful
  - Expensive
  - Feelings of futility
- Weight loss medication
- Behavioral Health
  - Overeaters anonymous
  - Food addiction: Dopamine-reward pathways
Roux-en-Y Gastric Bypass

Sleeve Gastrectomy

Adjustable gastric band
Metabolic and Bariatric Surgery

Seriously?! I thought I just needed to cut out a few cookies.
Metabolic and Bariatric Surgery

- Seriously?! I thought I just needed to cut out a couple cookies.
- Surgery has become the most effective, durable treatment for obesity, diabetes, and other related comorbidities.
  - ~65% sustained weight loss (> 50% EBWL)
- Diabetes
  - 90% improvement in glucose control after gastric bypass
  - On insulin less than 5 years, most likely to improve
Co-morbidity Reduction After Bariatric Surgery

- Migraines: 57% resolved
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Courtesy Cleveland Clinic

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Metabolic and Bariatric Surgery

What about the risks?!
What about the risks?! 
Not everyone is a surgical candidate. 
- Severe cardiopulmonary risk factors 
- BMI >70 
- Ongoing substance abuse 
- Untreated psychiatric illness
What about the risks?!

Not everyone is a surgical candidate.

Mortality of 0.4%
  - Improved from ~5%

Anastomotic/Staple Line Leak
  - 1-3%

Bleeding
  - <5%
Metabolic and Bariatric Surgery

- What about the cost?!
Cost of bariatric surgery

- What about the cost?!
- Fewer prescription drug costs
- Increased utilization of inpatient and outpatient resources
  - Higher utilization of elective or quality of life procedures
  - Decreased costs due to cardiopulmonary, renal, etc...
- Better productivity
Great! It works, it’s safe, and it’s cheap! This must be the magic bullet!! Let’s do it.
Great! It works, it’s safe, and it’s cheap! This must be the magic bullet!! Let’s do it.

Not so fast:

- Recidivism
- Barriers to bariatric surgery
- Social stigma/prejudice
  - Physicians don’t feel comfortable talking about weight with the patients for fear of lowered patient satisfaction scores.
  - Employers refuse to cover surgery
- Insurance
## Estimate of Bariatric Surgery Numbers

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<table>
<thead>
<tr>
<th></th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total</strong></td>
<td>158,000</td>
<td>173,000</td>
<td>179,000</td>
</tr>
<tr>
<td><strong>RNY</strong></td>
<td>36.7%</td>
<td>37.5%</td>
<td>34.2%</td>
</tr>
<tr>
<td><strong>Band</strong></td>
<td>35.4%</td>
<td>20.2%</td>
<td>14%</td>
</tr>
<tr>
<td><strong>Sleeve</strong></td>
<td>17.8%</td>
<td>33%</td>
<td>42.1%</td>
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<tr>
<td><strong>BPD/DS</strong></td>
<td>0.9%</td>
<td>1%</td>
<td>1%</td>
</tr>
<tr>
<td><strong>Revisions</strong></td>
<td>6%</td>
<td>6%</td>
<td>6%</td>
</tr>
<tr>
<td><strong>Other</strong></td>
<td>3.2%</td>
<td>2.3%</td>
<td>2.7%</td>
</tr>
</tbody>
</table>

ASMBS total bariatric procedures numbers from 2011, 2012 and 2013 based on the best estimation from available data (BOLD, ASC/MBSAQIP, National Inpatient Sample data and outpatient estimations)
Where are we going?

Roads?
Where we’re going
we don’t need roads!

BACK TO THE FUTURE II

November 1989
What’s Next

- Intra-gastric balloon
- Vagal Nerve Blockage
- GLP-1 receptor agonists
- Biologically Based Interventions
Conclusion

- Treatment of obesity needs to be a priority.
- Obesity should be treated as a chronic disease.
- Surgery works, it’s safe, and cost effective.
- Multi-modal approach to weight loss.
- Continued research.