SPECIAL CONSIDERATIONS IN CARE FOR OBESE AND POST BARIATRIC SURGERY PATIENTS

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**Total Costs Attributable to Obesity**

*2014, Millions of Dollars*

- Prostate Cancer: $7,260
- Pancreatic Cancer: $777
- Ovarian Cancer: $823
- Liver Cancer: $83
- Gastric Cardia Adenocarcinoma: $1,296
- Urethral Disease: $85,000
- Gallbladder Cancer: $27
- Esophageal Adenocarcinoma: $584
- Endometrial Cancer: $3,515
- Hypertension: $345,676
- Osteoarthritis: $151,597
- Chronic Back Pain: $116,662
- Diabetes Type 2: $116,482
- Chronic Obstructive Pulmonary Disease: $10,975
- End Stage Renal Disease: $20,462
- Chronic Potentially Curable Diseases: $19,914
- Alzheimer's or Vascular Dementia: $81,910
- Asthma: $44,976
- Breast Cancer: $41,795
- Colorectal Cancer: $3,333
- Congestive Heart Failure: $42,509
- Coronary Heart Disease: $27,801

*Total = $1.42 trillion*


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**Economic Effects of Obesity**

- Obesity is a bad health investment, leading to higher medical expenditures and lower earnings.
- Finkelstein and colleagues (2009) report that medical spending for the obese was about 42 percent higher per year when compared to someone of normal weight.
- Cawley (2004) finds that heavier
  - white females, black females, Hispanic females, and Hispanic males tend to earn less,
  - black males tend to earn more, than their less heavy counterparts.
- The effect is particularly strong for white females. A difference in weight of 64 pounds is associated with a wage difference of 9 percent. The magnitude of this difference is equivalent in absolute value to the wage effect of roughly 1.5 years of education or three years of work experience.
ECONOMIC EFFECTS OF OBESITY

Healthcare Costs Due to Obesity
Estimates of what various conditions add to health-care service costs over a 12-month period, based on a survey of 10,000 people

<table>
<thead>
<tr>
<th>Condition</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Obesity</td>
<td>$395</td>
</tr>
<tr>
<td>Smoking</td>
<td>$230</td>
</tr>
<tr>
<td>20 Years’ Aging</td>
<td>$225</td>
</tr>
<tr>
<td>Problem Drinking</td>
<td>$150</td>
</tr>
<tr>
<td>Overweight</td>
<td>$125</td>
</tr>
</tbody>
</table>

Source: Rand
Medical Complications of Obesity

- Pulmonary disease
  - abnormal function
  - obstructive sleep apnea
  - hypoventilation syndrome
- Nonalcoholic fatty liver disease
  - steatosis
  - steatohepatitis
  - cirrhosis
- Gall bladder disease
- Gynecologic abnormalities
  - abnormal menses
  - infertility
  - polycystic ovarian syndrome
- Osteoarthritis
- Skin
- Gout
- Idiopathic intracranial hypertension
- Stroke
- Cataracts
- Coronary heart disease
  - Diabetes
  - Dyslipidemia
  - Hypertension
- Severe pancreatitis
- Cancer
  - breast, uterus, cervix
  - colon, esophagus, pancreas
  - kidney, prostate
- Phlebitis
  - venous stasis

Slide Source: www.obesityonline.org
• Failure to recognize, acknowledge and address mental health issues in patients seeking obesity treatment, as with other chronic disorders, is likely to result in poor compliance and adherence as well as high rates of **Recidivism**.
The defence of body weight: a physiological basis for weight regain after weight loss

INTRODUCTION
Although weight loss can initially be achieved through dietary restriction and increased physical activity, the maintenance of weight loss is less well understood. A recent consensus statement from the American Society of Bariatric Surgery and the American Society for Metabolic and Bariatric Surgery highlights the importance of post-operative lifestyle changes for long-term weight loss. However, weight regain is a common phenomenon, and understanding the physiological mechanisms underlying weight loss and weight regain is crucial for effective weight management strategies.

BACKGROUND
Weight regain is a complex process influenced by both internal and external factors. One of the key factors contributing to weight regain is the physiological response to weight loss. The body has evolved mechanisms to protect itself from potential threats, including weight loss. This protective response, known as the “defence of body weight,” is a physiological basis for weight regain after weight loss.

Mechanisms of Weight Regain
Weight regain involves a series of physiological changes that counteract the initial weight loss. These changes are often referred to as the “weight loss paradox.” The paradox involves a decrease in energy expenditure and an increase in energy intake, which are typical responses to weight loss. However, weight regain also involves changes in body composition, such as a decrease in lean mass and an increase in fat mass, which can further contribute to weight regain.

Conclusion
Understanding the physiological basis for weight regain after weight loss is essential for developing effective weight management strategies. Further research is needed to identify specific interventions that can help maintain weight loss and prevent weight regain.

References
[Provide a list of references related to the topic of weight regain and weight management.]

Keywords: weight loss, weight regain, physiological mechanisms, lifestyle changes, obesity.
“Obese individuals would rather have a normal weight with a severe disability such as be deaf, have heart disease, have an amputation and others rather than be obese without any of these conditions” (Livingston 2003).

THE POSITIVE EFFECTS OF WEIGHT LOSS

- Migraines: 57% resolved
- Pseudotumor Cerebi: 95% resolved
- Dystepsecmenia: 65% resolved
- Hypercholesterolemia: 65% resolved
- Non-Alcoholic Fatty Liver Disease: 90% improved
- Asthma: 90% resolved
- 37% resolution of inflammation
- 20% resolution ofブランド
- Metabolic Syndrome: 85% resolved
- Type II Diabetes Mellitus: 67% resolved
- Polycystic Ovarian Syndrome: 25% resolution of breast disease
- Venous Stasis Disease: 95% resolved
- Quality of Life: improved in 85% of patients
- Obsessive: 85% resolved
- Obstructive Sleep Apnea: 74-89% resolved
- Arthritis: 86% improved
- 30% reduction in mortality
- 30% reduction in mortality
- 30% reduction in mortality
- Degenerative Joint Disease: 44-58% resolved
- Osteoarthritis: 77% resolved
- Mortality: 89% reduction in 5-year mortality
• 2 years after surgery diabetes mellitus was resolved in 83% of pre-operative diabetic patients (Sugerman et. al 2005)

• 2 years following surgery 69% had resolution of hypertension

• 8 years post-surgery there was complete relapse in those with gastric banding

• 25% decrease in total cholesterol and 40% decrease in triglycerides 6 to 12 months after surgery

“Most obese patients consider impaired QOL the most crippling aspect of their disease, and after surgery consider enhanced QOL the greatest benefit” (Puzziferri 2005).
THE FLASHBACK SLIDE

- Adjustable Gastric Band (AGB)
- Roux-en-Y Gastric Bypass (RYGB)
- Vertical Sleeve Gastrectomy (VSG)
- Biliopancreatic Diversion With a Duodenal Switch (BPD-DS)

- Calcium
- Phosphorus
- Magnesium
- Iron
- Copper
- Selenium
- Thiamin
- Riboflavin
- Niacin
- Biotin
- Folate
- Vitamins A, D, E, and K
- Lipids
- Mono-/disaccharides
- Amino acids
- Small peptides

- Vitamins C
- Folate
- Vitamin B₂
- Vitamin D
- Vitamin K
- Magnesium
- Others

- Water
- Vitamin K
- Biotin

- Large Intestine

- Bile salts and acids
- Sodium
- Chloride
- Potassium
- Short-chain fatty acids

- Water
- Ethyl alcohol
- Copper
- Iodide
- Fluoride
- Molybdenum

- Thiamin
- Riboflavin
- Niacin
- Pantothenate
- Biotin
- Folate
- Vitamin B₆
- Vitamin C
- Vitamins A, D, E, and K
- Calcium
- Phosphorus
- Magnesium
- Iron
- Zinc
- Chromium
- Manganese
- Molybdenum

- Lipids
- Mono-/disaccharides
- Amino acids
- Small peptides
COMMON PROBLEMS POST-OP

- Dehydration
  - 8x8 oz glasses of water are encouraged
  - Constipation occurs when added to iron supplements and low fiber

- Nausea and Vomiting
  - Eating regular foods at regular speeds will cause sometimes spectacular results. Slower, smaller, more frequent meals are encouraged
  - Dumping Syndrome (about 15%)
    - Usually about 30 minutes following a meal as sugary/fatty foods are "dumped" into the small intestine. "Flu-like symptoms include nausea, sweating, bloating, abdominal cramps, and diarrhea.

- Diarrhea
  - Secondary to new onset lactose intolerance
COMMON PROBLEMS POST-OP

• Ulceration of Stoma
  • 12%-15% within 2-4 months
  • Presents as GERD, nausea, vomiting
  • Due to
    • Increased Acid production
    • Anastamotic breakdown
    • NSAIDs
  • Tx
    • PPI, carafate
    • Antibiotics H. Pylori
    • Avoidance of causal foods & NSAIDs
    • Referral back to surgeon!!

LAB TESTING FOR THE POST-OP PATIENT

• Vitamin A
• CMP
• CBC
• Mag
• Calcium
• Lipid Iron/TIBC
• Hgb A1c
• LDH
• CPK
• Albumin
• Uric acid
• GGT
• Phosphate
• Vitamin B-1
• Vitamin B-6
• Vitamin B-12
• Folate
• Vitamin D
• Vitamin C
• Zinc
HELPFUL HINTS

• Get 30-45 minutes of moderate intensity exercise “most “ days of the week
• Small bites, chew food well enough to make it a paste, before swallowing
• Take appropriate supplements- chewable or smaller than an “M&M”
• At least 64 oz of fluids daily, but
• NO DRINKING with meals (5 minutes before to 30 minutes afterwards)
• Avoid intake of 2+ gms of sugar in a serving
• Avoid high fat foods
• Eat 6 small high protein meals daily (meet your individualized goal)
IMPROVEMENTS OF CO-MORBIDITIES?

- 2 years after surgery diabetes mellitus was resolved in 83% of pre-operative diabetic patients (Sugerman et. al 2005)
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  - 8 years post-surgery there was complete relapse in those with gastric banding
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IMPROVEMENT – IS IT WORTH IT??

- There is a lack of long term studies which go beyond 2 years.

- Steve’s opinion: There may be long term weight loss to some degree, although there is usually some gain. However the cost is a lifetime of side effects (surgery dependent) and chaos within one’s personal relationships.

- Is there a good weight loss answer?
INTERPERSONAL RELATIONSHIPS

• Individuals who have undergone bariatric surgery have a higher probability of getting married, separating from their partner or getting divorced - JAMA Surgery


That’s all Folks!
DOES ANYONE HAVE ANY
"QUESTIONS?"