

Management and Treatment of the Bariatric Surgical Patient

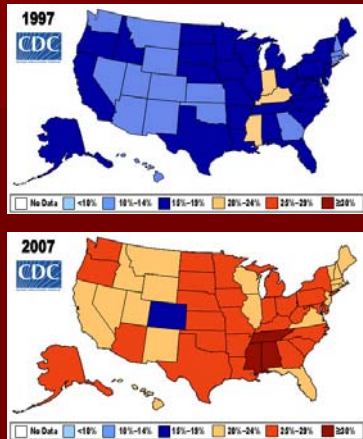
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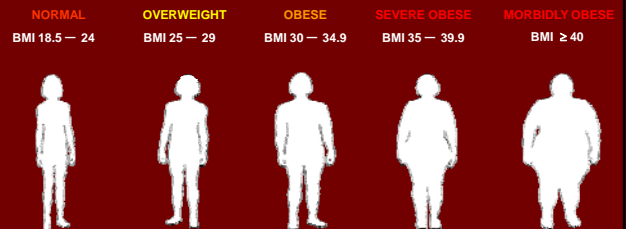
Overview

- Introduction to weight loss surgery
- Preparing patient for success
- Lab testing and why
- Complications that can occur
- Follow-up

Obesity Trends in the US



Degrees of Obesity



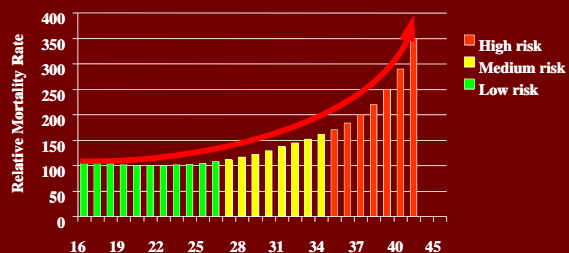
Health Risks Associated With Obesity

- Coronary heart disease
- Type 2 diabetes
- Cancers (endometrial, breast, and colon)
- Hypertension
- Dyslipidemia
- Stroke
- DVT/PE
- Hypertension
- Stroke
- Diabetes
- Urinary Incontinence
- Venous insufficiency
- Pseudotumor cerebri
- Joint and Back Pain
- Skin ulcers & infections
- Hypoventilation Syndrome
- Depression Liver and gallbladder disease
- Sleep apnea
- Osteoarthritis
- Gynecological problems (abnormal menses, infertility)
- GERD

(CDC, 2009)

BMI vs. Mortality

Exponential Increase in Risk



Success With Diet and Exercise

- The first-line treatment for obesity is
 - Diet
 - Exercise
 - Behavioral modifications
- Typical weight loss for the obese patient with these measures is 5-10% of excess body weight

GOAL of Bariatric Surgery

- Significant and Sustained Weight Reduction
- Improve Health
- Improve Quality of Life
- Increase Lifespan
 - Not Cosmetic—this is only a desired additional effect

Criteria for Surgery

- BMI > 40 kg/m²
- BMI 35 - 40 kg/m² with co-morbidities
- Patient has made attempts at non-operative weight loss
- Patient willing to make healthy lifestyle changes

Higher Risk Candidates

- Super obese
- Multiple comorbidities
- Smokers
- Drinkers
- Hx of poor compliance
- Patients with no support system
- Revisional surgery – evaluate for failure due to behavior
- Psychiatric disorders
- Consideration of risks/benefits in very young/very old

United Approach to the Bariatric Patient

- Primary MD
- Literature provided
- Bariatric Surgeon
- Bariatric Nurse coordinator
- Dietician
- Pharmacist
- Exercise Physiologist
- Monthly Bariatric Support Group Meetings

Getting Started

- Attend seminar
- Make appointment for consultation
- Discuss surgical options
 - risks/benefits
 - advantages/disadvantages
- Insurance approval
- Pre-op teaching and testing
- Schedule surgery

Pre-operative Assessment

- Medically optimize
 - Diabetes control
 - Hgb A1C <7
 - Pulmonary
 - Sleep apnea/hypoventilation syndrome
 - CXR, ABG and PFTs, Benefit of CPAP
- Cardiovascular risks
 - EKG, stress test
- H. Pylori evaluation/eradication
- Preop nutritional evaluation/education
- Mental health eval

Most Common Procedures



Adjustable Band
(Restrictive)



Sleeve Gastropasty
(Restrictive)



Duodenal Switch
(Malabsorptive)



Roux-En-Y Gastric Bypass
(Combination)

Lap-Band



- Band attached to tubing connected to a port
 - Adjusted by accessing the port
- Restriction results in
 - Early satiety
 - Decreased appetite
 - Behavior modification
 - Dietary modification
- Minimal dissection



Lap-Band

- 40-55% excess body wt loss
 - gradually over 3 years
- Outpatient or Overnight stay
 - Return to work < week
- Some foods not tolerable
 - Breads, rice, pasta, some meats
 - MUST avoid calorie containing liquids
- Reversible
 - May deflate in pregnancy
- Requires adjustments

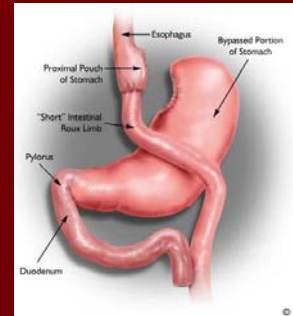


Lap Band Adjustments

- Port is palpated and accessed with non-coring (Huber) needle
- Bands hold 4, 10, or 14 cc, depending on type of band placed
- Frequent adjustments until restriction optimal

Laparoscopic Roux-En-Y Gastric Bypass

- 20 cc gastric pouch
- 75-150cm Roux limb
- Intra-operative Ultrasound of Gallbladder
- "Gold Standard"



Laparoscopic Roux-En-Y Gastric Bypass

- 60-80% EWL over 18 months
- 1-2 days in hospital
- Return to work in 1-2 weeks
- Tolerate most foods
- Very effective for sweet-eaters
- Cure for reflux
- Must take vitamins lifelong
 - Multivitamin with iron
 - B12
 - Calcium
- Long track record



Sleeve Gastrectomy

- Removal of 75% of the stomach leaving a tube-shaped stomach or "sleeve"
- Restriction leads to satiety & prompt substantial weight loss
- No long term reliable data on success



Resolution of Comorbidities

All comorbidities improved or resolved with weight loss surgery:

- Hypertension
- Sleep Apnea
- Osteoarthritis
- Hyperlipidemia
- Diabetes Mellitus
- Infertility
- GERD
- Urinary Incontinence
- Blood Clots
- Venous insufficiency
- Joint and Back Pain
- Skin ulcers & infections
- Hypoventilation Syndrome
- Depression

Effects of RYGB on Co-morbidities

- Type 2 Diabetes 87% resolve
- Hypertension 70% resolve
- GERD > 95% improvement or resolution
- Sleep Apnea 86% resolve
- Hypertriglyceridemia 60% resolve

Discharge Instructions and Expectations

- NO NSAIDs, Avoid PLAVIX, STEROIDS
 - high incidence of marginal ulcer, bleeding, band erosion, or perforations
 - gastric protection w PPI if above unavoidable
- No Smoking
 - risk of stricture, anastomotic ulcer, DVT, etc
- Answering questions and defining expectations before discharge decreases anxiety.

Dumping syndrome
Driving
Avoid heavy Lifting
Return to work: When?
Hair loss

Walking
Pregnancy
Lactose Intolerance
Meals - Stage diet review
Protein Supplementation

Dietary Supplements and Nutrition

- FE deficiency- identify and treat, Prescription FE replacement
- CA- citrate is more readily absorbed
- B-12, B-1
- Multivitamins
- Protein – 75 grams a day (eat your protein first)
- Liquids- non-carbonated, non calorie, not with meals
- Carbohydrates- 100 grams a day
- Meals, not snacks

Management and Treatment of the Bariatric Surgical Patient

Yearly labs

- CBC
- PTH
- CMP
- Folate
- Ferritin
- Vitamin B12
- Total Iron
- Prealbumin

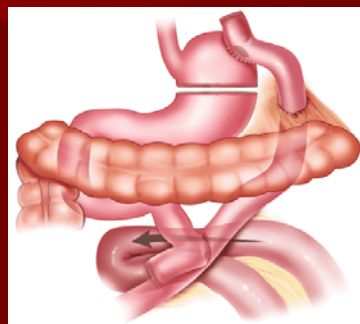
Why Test?

- **CMP/Pre-Albumin**
 - Protein Metabolism, Liver Stress, General Health
- **PTH Intact**
 - Measure of calcium mobilization from bone
Serum calcium not a reliable measure
- **Ferritin**
 - Marker of iron absorption
- **Folate**
 - Marker for water soluble vitamin absorption (ADEK)

Recognizing Complications

- **Over Medication (HTN, DM)**
 - Hypoglycemia and hypotension are no fun
- **Dehydration**
 - Most common first two weeks after surgery
 - Lack of hunger=lack of thirst
- **Small Bowel Obstruction**
 - Same as any other GI procedure
 - Potential for difficult to diagnose internal hernias

Internal Hernia



Recognizing Complications

- Thiamine Deficiency
 - More common with restrictive procedures, especially in the setting of nausea and vomiting
 - Treatment: withhold dextrose, administer 100mg Thiamine IV or IM
 - Treat on presentation not on symptoms
 - Leg parathesias may be only symptom
- Malnutrition
 - Intake versus absorption?
 - Treatment: Dietary counseling, pancreatic enzyme replacement, TPN

Recognizing Complications

- Stricture
 - Most common in gastric bypass, less common in DS
 - Most common 4-8 weeks post-op
 - Related to scar formation
 - Treatment: endoscopic dilatation, surgery rarely indicated
- Marginal Ulcer
 - Most common in gastric bypass
 - Related to "margin" between stomach pouch and intestine
 - Treatment: PPIs, Carafate, smoking cessation, surgical revision sometimes indicated

Roux-En-Y Gastric Bypass Complications

- According to the literature:

– Operative mortality	0.5%
– Anastamotic leakage	2%
– Wound infection	1%
– Incisional hernia	1%

Lap Band Complications

- Band erosion – rare, chronic problem
- Prolapsed band – surgical intervention necessary
 - Evidenced on UGI
- Food bolus
 - Remove all fluid from band



Lap-Band Complications

- Acute
 - Obstruction 1%
 - Perforation
- Delayed
 - Prolapse/slip 24%
 - Port migration or infection 0.8%
 - Tubing disconnect/leak 0.8%
 - Erosion 0.6%
- Removal/revisional surgery up to 30%
- Mortality rate* 0.1%

*Buchwald H. JAMA, 2004;292:1724

Emergency Care of the Post-op Bariatric Patient

- Most common emergencies: bleeding, leaks, obstruction, PE
- Tachycardia (>120 x4 hours) single best indicator that something is wrong
- Vomiting/abd pain >4 hours – send pt. to ER
- If something is wrong – OPERATE
- Best to contact bariatric surgeon that did procedure, or bariatric surgeon on call – anatomy can be confusing
- Abdominal series not helpful – CT with oral contrast of abd + CT chest with IV contrast – rule out leaks and PE

Emergency Care of the Post-op Bariatric Patient

- Bowel will die in 6 hours
- Post-op bleeding can present as obstruction R/T clots
- Hypotension – give 1L NS, check CBC, CXR, CT chest/abd
- Leak management – drains, broad coverage ABX
- Bladder pressure >25mm HG – compartment syndrome
- FAST HUG pneumatic
 - Food: G-tube or hyperal
 - Analgesia control
 - Sedation for safety while intubated
 - Thromboembolic prophylaxis
 - HOB >30 degrees
 - Ulcer prevention
 - Glucose control <150

Signs of sepsis/leak until proven otherwise

- Fever >101 F
- Pulse >120 for 4 hours
- Decreased UO
- Tachypnea
- Hypoxia
- ❖ May be subtle at first – need to rule out hypovolemia, atelectasis, bleeding, PE, obstruction, and leak

Things to be aware of in post-op bariatric patients

- Never access adjustable band port with regular needle – must use Huber non-coring needle like for port-a-cath: the system is under pressure and will leak
- Bariatric patients can only drink a few ounces of contrast for CT or UGI due to the small pouch (6-8 oz)
- Caution when placing NG

Emergency Care of the Post-op Bariatric Patient

Poster of emergency care algorithm:

www.drchampion.com/our-practice/professional-education

Follow Up

- Gastric Bypass
 - 2 weeks
 - 6 weeks
 - 4 months
 - 6 months
 - 12 months
 - Yearly for life
- Lap Band
 - 2 weeks
 - 6 weeks
 - first adjustment
 - Approximately every 3 months for life



Long Distance Follow-Up

- Many patients will have their PCP coordinate their long term follow up with their surgeon
 - Lab results
 - Weighing patients
 - Prescriptions

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