

Obesity Wrap Up

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Disclosures

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Objectives

- To identify barriers to weight loss
- To share general information that is proven to work for weight loss

What's a Bariatric Physician?

- American Board of Bariatric Medicine (ABBM)
 - www.abbm.org
- Involves: CME, exam, patient care review
- Cornerstones: nutrition, exercise, behavioral, medications, surgery, individual and group care, lifelong maintenance
- Work individually and/or with a multidisciplinary team



Takeaway Points on Obesity

- Systems review: Obesity is the common denominator in a multitude of common disorders
- BMI J curve of mortality
- Modest weight loss has benefits:
 - CVD risk
 - Even 5-10% weight loss or 10 lbs reduces risk
 - Diabetes Prevention
 - Approx 7% wt loss yields 58% reduction in onset of diabetes

Takeaway Points on Obesity

- Psychosocial issues
 - What changed: Society, food industry, transportation
- Economic Issues
 - Costly in health and dollars
- Treatment Review
 - Multifaceted: Diet, exercise, pharm, surgery, lifestyle
- Systems approach
 - Social, food industry, schools, analogy with tobacco



Bariatric Surgery for Internists

- Method to achieve the most sustainable large amount of weight loss and reducing co-morbid conditions.
- Multidisciplinary team approach: bariatric physician, dietitian, psychologist, surgeon, exercise, support groups
- Adjustable laparoscopic band, laparoscopic sleeve gastrectomy, Roux en Y gastric bypass
- See guidelines: AACE & ASMBS



Bariatric Surgery (2)

- Restriction / Malabsorption
- Restriction
 - GERD, ulcer, epigastric discomfort, food intolerances
 - Pouch subject to stretching
- Malabsorption
 - Dehydration, malnutrition, osteoporosis, stenosis, ulcer, fistula, stricture, secondary hyperparathyroidism, small bowel obstruction, nephrolithiasis , hernias, etoh abuse, etc
- Combined
 - Loose skin, depression/suicide, expectation mismatch, weight regain, other as yet unknown long term issues



Bariatric Surgery (3)

- Buyer's remorse – first 0-6 months
- Unrealistic expectations, depression, suicide
 - What do you expect your life to be like when you lose 100 lbs?
 - What do you see a dinner 1 year from now.
 - Are family/friends knowledgeable and supportive?
- Risk for weight regain after 2 yrs
- Expect Procedures:
 - EGD's, panniculectomy, plastic surgery, revision surgeries
- Lose 10-14 units of BMI with GBP
 - Front load the weight loss so that they 'land' at goal BMI

Bariatric Surgery (4)

- Lost to follow up
 - Surgeon unaware of problems/failures
 - Routine lab monitoring not sensitive enough
 - Nutritional and medical problems – could have been prevented and difficult to ‘catch up’
- Poor adherence with diet, exercise, supplements
 - If they could not adhere prior, what makes you/patient think they will adhere after bariatric surgery?
- Indication for bariatric surgery
 - BMI >35 + 2 co-morbid or BMI >40
 - If failed other methods of weight loss????

Bariatric Surgery (5)

- My Practice
 - Focus is improved health (via weight loss). Surgery is a tool like diet pills, exercise etc. It is NOT a goal.
 - Elective surgery. No one NEEDS bariatric surgery. It's a choice/tool your work WITH. Understand risks/benefits
 - Work with patient for over a year prior to referral for surgery- multi-disciplinary team
 - Approved by each member of my bariatric team: nurse, HT, dietitian LCSW, psychologist before they ever meet the surgeon

Bariatric Surgery (6)

- My Practice
 - BMI <50, demonstrate consistent weight loss, are medically and psychosocially stable, have a pharmacy review.
 - Medical work up is same as for organ transplant.
 - Everyone CAN lose SOME weight. What weight loss are you ready and willing to work for?



Food for Thought (7)

- Post Gastric Bypass / malabsorption / still obese
 - Drug dosing: IBW, TBW, how much absorbed?
 - How to treat osteoporosis? orals risk esophagitis
 - Malnutrition: how to catch up? IV inf or injection
 - How to treat pain? NSAIDS contraindicated
 - Cardioprevention? Asa 325 mg qd vs ulcer risk

Food for Thought (8)

- Post gastric bypass surgery/ malabsorption / still obese
 - Nasogastric tube – use ultrasound guidance
 - D5 ½ ns IV replacement – risk permanent neuro damage if thiamine deficient
 - PPI's to prevent ulcer – but decrease nutrient absorption
 - Transplant candidate? Dosing anti-rejection meds?

Risks vs Benefits of Bariatric Surgery

Benefits/Pros

- Decreased diabetes, htn, lipids, OSA, CVD risks, cancer, other co-morbid conditions
- Polypharmacy
- Diet, Exercise, Behavioral, Support, Adherence, Long term follow up

Risks/Con

- Increased malnutrition, osteoporosis, GI issues, loose skin, procedures, ...
- Supplements , chewable/liquid forms, avoid long acting, avoid NSAIDS, ?absorption
- Diet, Exercise, Behavioral, Support, Adherence, Long term follow up

Barriers to Weight Reduction

Categories of Barriers

- Nutritional
- Inactivity
- Medical Conditions
- Medication weight gain
- Sleep Disorders
- Psychosocial
- Adherence
- Lack of medications for weight loss
- Lack of time, training, and \$reimbursement
- Maintenance, avoiding regain

Nutritional

- Portions
 - Too large (excepts when eating vegetables)
- Calories
 - too many
 - Poor nutrient value
- Macronutrients
 - Too many saturated fats and simple carbs
 - Insufficient fiber
 - Insufficient or Excess protein

Nutritional (2)

- Liquid Calories
 - Soft drinks
 - Juices
 - sports drinks
 - Coffee additives (sugar, syrups, creamers, whip)
 - Alcohol
- Meals Outside the Home
 - Restaurants
 - Fast food
 - Delivery (pizza, etc)

Inactivity

- Job and Home Innovations
 - Plug ins, remotes, computers, phone devices
 - Sedentary jobs and hobbies
- Motor Vehicles
- Screen Time
 - TV, computers (work & home), slot machines
- Lack of time
 - or unwilling to prioritize to make time

Inactivity (2)

- Disability
 - Unable or too complicated
- Overestimated calories burned
 - “I went to the gym so I can eat that dessert”
- Unwillingness / low motivation
 - Lacking priority
 - Lacking knowledge
 - Lacking support
- Inactivity is as dangerous to your health as smoking

Medical Conditions

- Fatigue
 - From illness, deconditioning
- Disability
 - Effects exercise, function, mood, psychosocial
- Hormonal
 - May increase fat storage or appetite, lower metabolism, dysregulation
 - Eg Hypothyroid, Cushings, PCOS, Hypogonadism
- Polypharmacy

Medical Conditions (2)

- Sarcopenia
 - Low lean body mass = low metabolism = easy gain / difficult loss.
 - “I just look at food and I gain weight”
- Genetics
- Competing priorities
 - Too busy treating disease vs prevention
 - ‘Putting out {health} fires’



Medications with Side Effect of Weight Gain

- Hormones
 - Prednisone
 - Oral and depo contraception
- Diabetes Medications
 - Insulin, sulfonyureas
- Psych meds
 - Atypical Antipsychotics (eg olanzapine, quetiapine, ziprasidone)
 - Mirtazepine (Remeron)
- Neuropathy meds
 - Pregabalin (Lyrica) , gabapentin (Neurontin)

Dyssomnia

- Obstructive sleep apnea, Hypoventilation
- Pain
- Noise pollution
- Night shift work (hospital, police/fire, casinos)
- Media
 - TV's, computers, social media in bedroom
- Mental health conditions
 - Depression, anxiety, PTSD

Psychosocial

- Impulse Eating
 - Easy access
 - Lacking restraint
 - Lacking mindfulness
- Stress
- Lacking support / family unit – loneliness, boredom
- Lack of hobbies and coping/de-stressing activities
- Easy and cheap access of food
- ‘Addiction’ to salt, sugar, fat in foods

Psychosocial (2)

- Eating Disorders
 - Bulimia
 - Hallmark: attempts at compensation
 - Vomiting, purging, fasting, exercising, diuretics, etc
 - Binge Eating Disorder (BED)
 - Consume Large amounts of food rapidly in private
 - Very good at 'hiding' the condition
 - Estimated 1/3 of clients at weight loss center
 - Night Eating Syndrome (NES)
 - Over half of daily calories consumed after 5pm
 - Doesn't eat breakfast – not hungry
 - Often professional too busy and stressed to eat by day

Adherence

- High drop out
- Unreasonable expectations
- Weight plateau
- Society / Social
- Where gastric bypass surgery has an advantage

Weight Loss Medications: Where are they?

Available

- Phentermine
FDA restricts to 3 month use.
Often used with consent for off label use – longer time spans

Not Available

- Rimonabant (Acomplia)
- Sibutramine (Meridia)
- Serotonin (Lorcaserin)
- Combination of current meds for weight loss
 - Available 'off label'

Healthcare System

- Time constraints in the office visit
- Lacking insurance reimbursement for dx: obesity.
 - Note Dysmetabolic Syndrome x. ICD-9-CM 277.7 is a billable medical code
 - If prescribing a weight loss drug, then Obesity should be the primary dx.
- Patients typically do not see their primary care provider as a weight loss specialist.

Healthcare System (2)

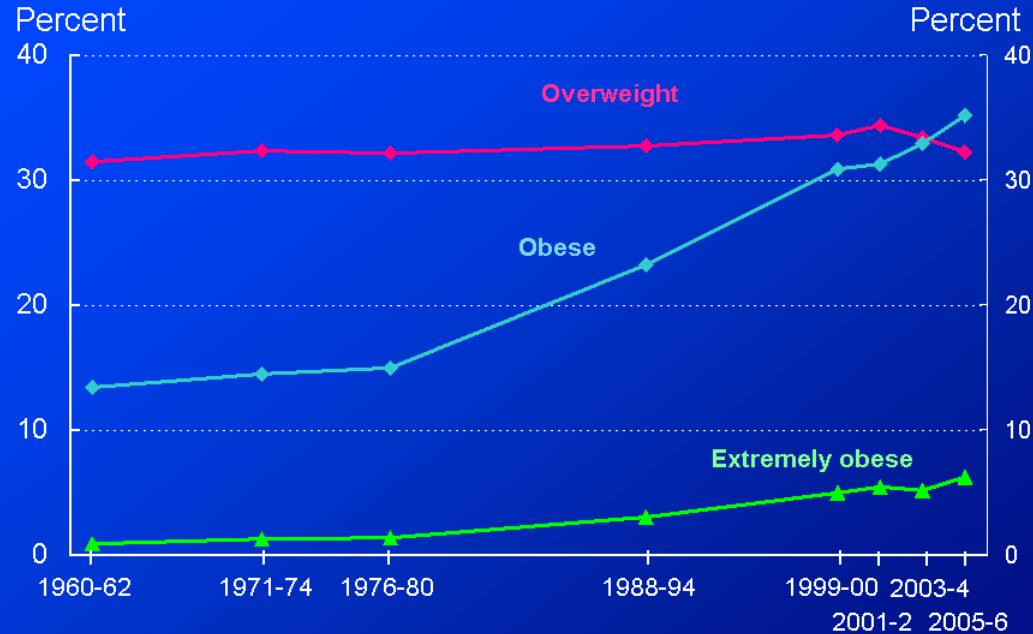
- Bias. Doctors, nurses, medical students
- Discrimination
- Adherence
- Unrealistic expectations
- Obesity is a disease worn on the outside



Measurements

- BMI: populations and research, not individuals
 - Weakness of BMI: Male/female, old/young, muscle vs fat, ethnicity, distribution, not for kids
 - Height and Weight based, variable reporting
 - Definition: BMI >25 overweight BMI >30 obese
- Waist size
 - Goal M <40" F <35"
- Waist to Hip ratio
 - Goal M 1:1 F 0.8
- Body Composition
 - Best means to determine goal weight
- Trend in Weight

Figure 2. Trends in overweight, obesity and extreme obesity, ages 20-74 years



Note: Age-adjusted by the direct method to the year 2000 US Bureau of the Census using age groups 20-39, 40-59 and 60-74 years. Pregnant females excluded. Overweight defined as $25 \leq \text{BMI} < 30$, obesity defines as $\text{BMI} \geq 30$, Extreme obesity defines as $\text{BMI} \geq 40$.

Epidemic Proportions

- Waist, Waist / Hip ratios
- Body fat composition – sarcopenic obesity
- BMI

Epidemic Proportions cont'd

- Bubonic plague
 - killed nearly half the population
- Pandemic 1918 flu
 - killed 25% of U.S population
- Obesity
 - 50-100% increased risk of premature death from all causes compared to normal weight.



How does obesity spiral out of control?

As simple as calories in vs calories out?

As simple as pushing away from the
table?

Your Patient

- Pacifier or bottle, candy for comfort, burger and fries, soft drinks, diet to get into dress / 'diet' to 'make weight' or football team, college 10, stress/study eating, loaded Starbucks, busy job, pregnancy, meals on the run, no time for breakfast, fast food dinner, travel, business lunches, nighttime eating, diabetes, medications, quit smoking, join gym, new diet, sports injury, surgery, DVT, medications (no veg on warfarin), depression, stretchy/loose clothes, infomercial diet pill, doctor visits, neuropathy, more medication, sleep apnea, fatigue/low motivation, car accident, pain, moody/poor sleep, poor self care/hygiene, marital difficulties, sexual difficulties, poor self esteem, job poor performance, loss of job, more depression, financial worries, loss of friends/social isolation, divorce, more doctor appts more meds more procedures more surgery???
- What Next?

What Works

In weight reduction and maintenance

What you can use
in your practice now



What Works

- Bariatric Surgery
- Weight loss medications ‘Diet Pills’
- Monitoring
- Diet / Nutrition
- Behavioral
- Exercise
- National Weight Control Registry data
- 5 P’s



Medically Stabilize

- Complete H & P
- Treat immediate medical issues
- Identify barriers, set realistic expectation
- What can be prevented; What works/assets
- Beware of common medical emergencies during weight loss:
 - Hypoglycemia, Electrolyte abn
 - Hypotension, Dehydration
 - Overmedicated

Doctor, I NEED
that weight loss surgery!





Bariatric Surgery

- Patient selection is the key
- 3 common surgical options

Roux en y Gastric Bypass

- The number one most successful way to lose a large amount of weight and keep it off!
- Patient must fully understand the short and long term risks vs benefits before committing

Adjustable Laparoscopic Banding

- Works in a VERY motivated patient – adherence dependent

Sleeve Gastrectomy

- Lesser known, newest

I need a pill
to make me stop eating!





Weight Loss Medications

- No pill alone is effective in inducing any significant amount of weight loss.
- Commonly used current medications for weight loss

Phentermine (Adipex, Fastin, Ionamin)

- FDA approved for only 3 months
- The most commonly prescribed by bariatric physicians
- Used 'off label' with signed consent for longer than 3 months

Orlistat (Xenical / Alli)

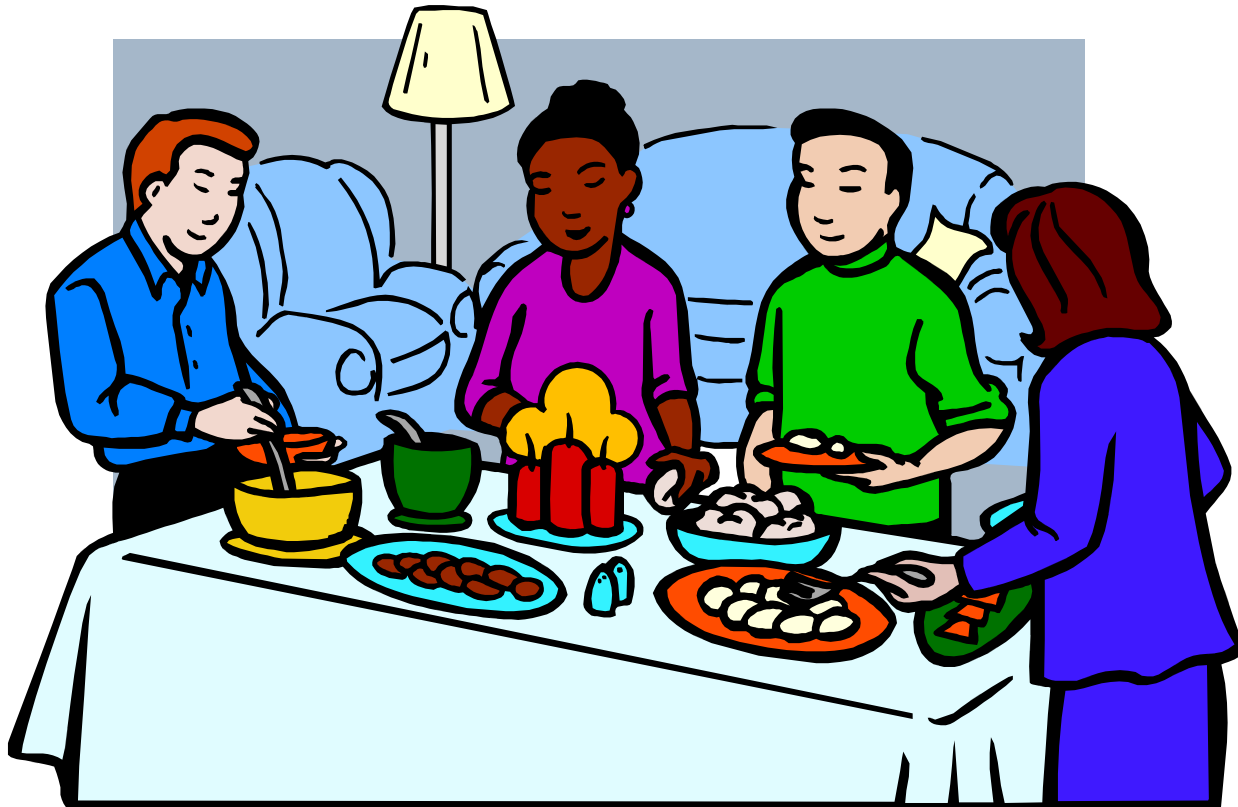
- The only long term FDA approved weight loss medication
- Works well with Low Fat, high fiber, low calorie and small portion diet
- Relieves constipation and aids with triglycerides/lipids
- Provides feedback on diet



Weight Loss Meds (2)

- Diethylpropion (Tenuate)
 - Short acting, tolerance, SE too amphetamine like
- Bupropion (Wellbutrin)
 - not FDA approved for obesity
- Topiramate (Topomax)
 - not FDA approved for obesity
- Exenatide (Byetta)
 - Not FDA approved for obesity
- Metformin
 - Not FDA approved for obesity

I don't eat that much. I'm active.
I just can't lost weight!



Monitoring

- What is really going on in the energy balance equation?
- Paper food journals, on-line program, apps etc

Nutrition

- Calories, points
- Servings
- Meal Frequency

Exercise

- Log exercise sessions per week
- Pedometer steps

Monitoring (2)

Behavioral

- Hunger levels, scale 1-10
- Mood
- Location (dinner table, TV, computer, restaurant...)

Regular office visits

- Accountability, progress, safety

Residential Programs

- The extreme in monitoring and control

I've tried diets, they don't work. What should I eat?



Diet / Nutrition

- What to consume

Protein (1 gram/kg ideal weight)

- Less from saturated (animal)
- Meats, fish, eggs, dairy, beans, nuts/seeds
- SMALL frequent servings – every meal and snack

Fiber (25-35 gram/day)

- Vegetables, fruits, beans, whole grain

Water

- Black coffee and unsweetened tea OK

- Plate method



Diet / Nutrition (2)

- Mini meal concept – 3-6 /day (vs ‘snacks’)
- Limit selection, less quantity, less visibility
- Meal Replacement products
- Label reading
- Low carb, low fat, Mediterranean
 - Mediterranean seems most palatable

The Best Diet

Is the one you can stick with and works!

I'm watching what I eat but the weight's not coming off





Behavioral

- Mindfulness “watching what I eat”
 - What & Why are you eating?
 - When, where, how much ?
- Stages of Change – readiness
 - pre-contemplation -> contemplation -> preparation -> action -> maintenance
- Motivational Interviewing
 - What steps/direction is the patient ready to go?



Behavioral (2)

- Accountability
 - don't expect perfection
 - learn from overeating mistakes
- Goal Setting
 - 0-2 lbs weight loss/week
 - pt to plan the weight loss journey & track it
- Long Term
 - Marathon, not a sprint
 - Lifelong

Encouragement, counseling, understanding, hope

But I'm exercising and I still can't lose weight





Exercise

- People often overestimate the amount of exercise and calories burned with exercise.
- Best means of avoiding weight regain, but alone is not the best way to lose weight.
- Fitness is as important as weight loss for your health
- Burn 50-80 calories in 10 minutes of exercise
 - Fries 350 cal = 70 min of exercise
 - Soft drink 200 cal = 40 min of exercise



Exercise (2)

- Recommendation 30-60 min 5-7 d/wk
 - Very few achieve this level
 - Minimal 150 min/week
 - Build lean body mass (increase BMR cal burn)
 - Successful losers exercise average 60 min/day
- Start with what you know you can do, but do it daily; increase gradually
- Pedometer, stairways, workplace, hobbies
- NEAT (non-exercise activity thermogenesis)



Treatment Guidelines

- Lifestyle is indicated for overweight/obesity prevention and for BMI 25-27
- Lifestyle + diet pills for BMI > 27
- Lifestyle + bariatric surgery for BMI > 35 with 2 or more co-morbid conditions
- Lifestyle + bariatric surgery for BMI >40

If your patient is not ready/willing/able to make lifestyle changes, he/she will not be successful in long term weight loss

Adherence

- Expectations – yours and patients
- Pay backs / rewards
- Call backs
 - telephone / mailings/ newsletters
- Variety of tools
 - Nutrition, exercise, behavioral, meds, surgery
- Variety of methodologies
 - Group, telephone, individual, ?social media
- Welcome the patient back
 - Sensitive patients ?shame ?fear of rejection

Weight Loss Maintenance

- Exercise
- Breakfast
- Continue with what worked in weight loss
- Monitoring
- Lifelong integrated lifestyle changes



National Weight Control Registry

- www.nwcr.ws
- Largest prospective investigation of long-term successful weight loss maintenance.
- NWCR was developed to identify and investigate the characteristics of individuals who have succeeded at long-term weight loss.
- Tracking over 10,000 individuals who have lost significant amounts of weight and kept it off for long periods of time.

National Weight Control Registry

Successful Losers

- 78% eat breakfast every day
- 75% weigh themselves at least once a week
- 62% watch less than 10 hrs of TV per week
- 90% exercise, on average about 1 hr per day



Food for Thought

- Viruses, air pollution as causation for obesity?
- Insulin, hyperglycemia and cancer
- Emergent care: getting out of a burning building, rescue/CPR, emergency IV & airway, radiology and procedures
- Less reliable physical exam & screening
- Less reliable labs? PSA, BNP
- Hormone levels: Sequestered? Diluted?

5 P's

- **P**atience
- **P**ersistence
- **P**lanning
- **P**erspiration (exercise)
- **P**ositive attitude

Wise summary of advice learned from a long time bariatric practitioner.

Other Useful Resources

- Handbook Of Obesity, Second Edition

[George A. Bray](#) (Editor), [W. P. T. James](#) (Editor), [Claude Bouchard](#) (Editor)

- The Obesity Society

– www.obesity.org

- The American Society for Metabolic and Bariatric Surgery

– www.asmb.org

- The American Society of Bariatric Physicians

– www.asbp.org