



# Medical Weight Loss – What to Do in the Office

3500 Reasons Weight Loss “Counts”

Timothy Fignar, MD FAAFP

# Disclosures

- ▶ Nothing to Report

# Learning Objectives

- ▶ Understand the obesity epidemic and the role PCPs play in the evaluation, treatment and management of obese patients.
  - ▶ Realize the breadth of medical complications associated with this chronic medical illness and that early intervention is important for the prevention of long-term complications and other co-morbid conditions.
  - ▶ Review insurance coverage and coding for BOTH obesity screening and obesity treatment in the office setting.
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# Pre-Session Questions



1. Do health care providers have an ‘obesity bias’ greater than, equal to or less than the general population?
2. How many calories does it take for a patient to lose 1 pound?
3. What are the male and female cutoffs for body fat percentage in obesity?
4. How many intensive behavioral sessions does Medicare allow for in the first year of treatment?
5. Describe how modifier –33 from the CPT handbook is useful for obesity billing?

**BONUS:** Which healthcare providers are best suited to help overweight and obese patients in the office?



Food expenditure for one week  
\$341.98



# Case Presentation

54 year old female patient with Type 2 DM (+retinopathy +neuropathy) on long-term insulin therapy, morbid obesity, hyperlipiemia, hypertension, arthralgias, depressed mood and sleep difficulties. Past surgical history for D&C x2. She presents to the office for a discussion of weight reduction.

MEDS: Actos 45mg, Lantus 30u, Januvia 100mg, Glucophage-XR 500mg x4/day, ASA 81mg, Zocor 20mg, Lisinopril 5mg, Aleve PRN

Allergies: NKDA

Social Hx: Never smoked, rare alcohol intake.

Vital Signs: BP 134/86, P 66, RR 12, Ht 66.5", Wt 317#

# Case Presentation

- ▶ What else would you like to know?
  - Complete History
    - Weight loss history (attempts, successes, failures)
    - Weight loss expectations (?realistic)
    - Family History (comorbid conditions, weight issues)
    - Diet history (recall, assessments)
    - Physical activity (assessments, limitations)
  - Physical Exam
  - Lab Testing

# Magnitude of Obesity Today

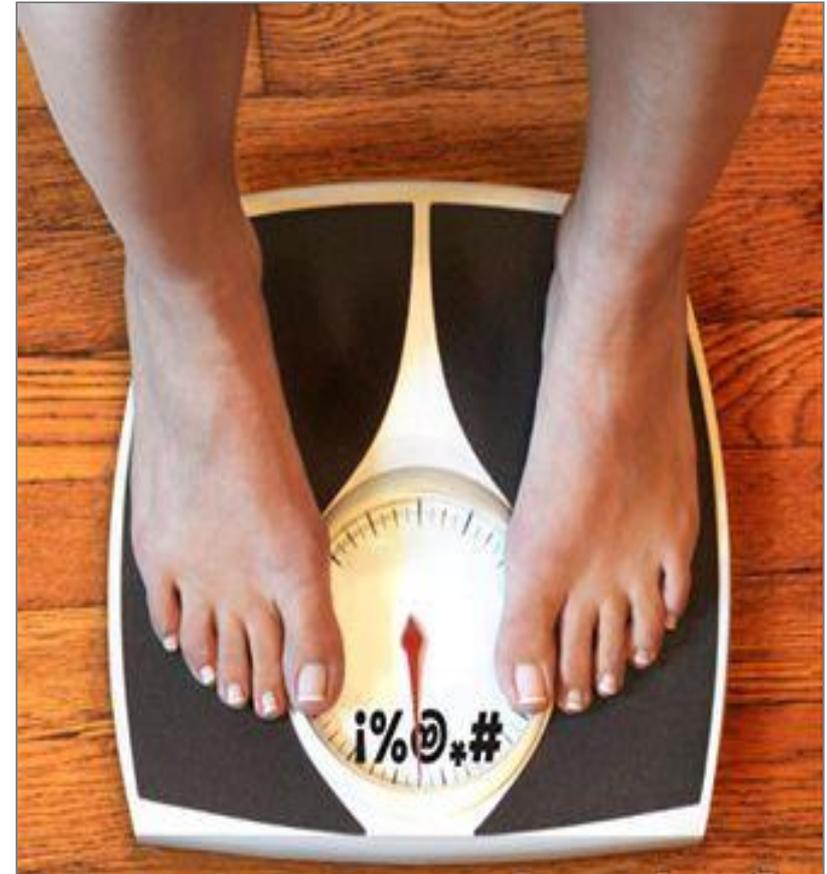
- ▶ US – #1 \$ of GDP
- ▶ Health Rank=37 in world
- ▶ Genetics vs. Lifestyle
- ▶ Behavior choices
- ▶ Weight gain
  - 2–3 pounds/year
  - 80% gain, 20% maintain



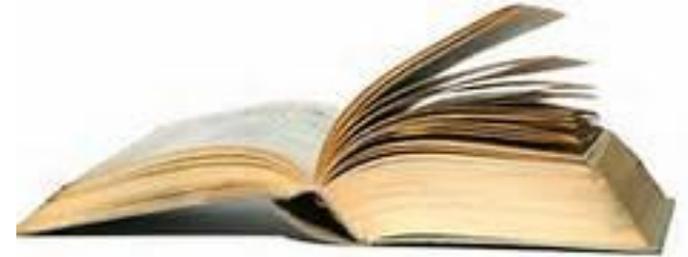
# what is obesity?



- ▶ Obesity is the combination of genetics and environment contributing to dietary and exercise habits.
- ▶ Consuming more calories than you burn causes an “energy imbalance” and the accumulation of fat is not always simply a behavioral issue.
- ▶ Obesity is a disease in which excess body fat has accumulated to such an extent that health may be negatively affected.



# Obesity Definition



- ▶ Definition of Obesity
  - BMI = body mass index
- ▶ Body composition breakdown
  - Body fat, water and muscle mass
- ▶ “Metabolism” definition
  - BMR=body composition, age and M/F

# determining risk



<u>Classification</u>	<u>BMI (kg/m<sup>2</sup>)</u>	<u>Comorbidity Risk</u>
Underweight	< 18.5	Low*
Normal range	18.5 to 24.9	Average
Overweight	25.0 to 29.9	Increased
Obese class 1	30.0 to 34.9	Moderate
Obese class 2	35.0 to 39.9	Severe
Obese class 3 (Morbidly obese)	40.0	Very severe

\*risk of other clinical problems increased

# determining risk



- ▶ **Waist circumference**—an expanding phenomena in the U.S.—is another tool used to determine risk for disease.
- ▶ A waistline larger than **40 inches for men and 35 inches for women** is considered unhealthy and a risk factor for disease.



# Obesity Trends Among U.S. Adults Between 1985 and 2010

## *Source of the data:*

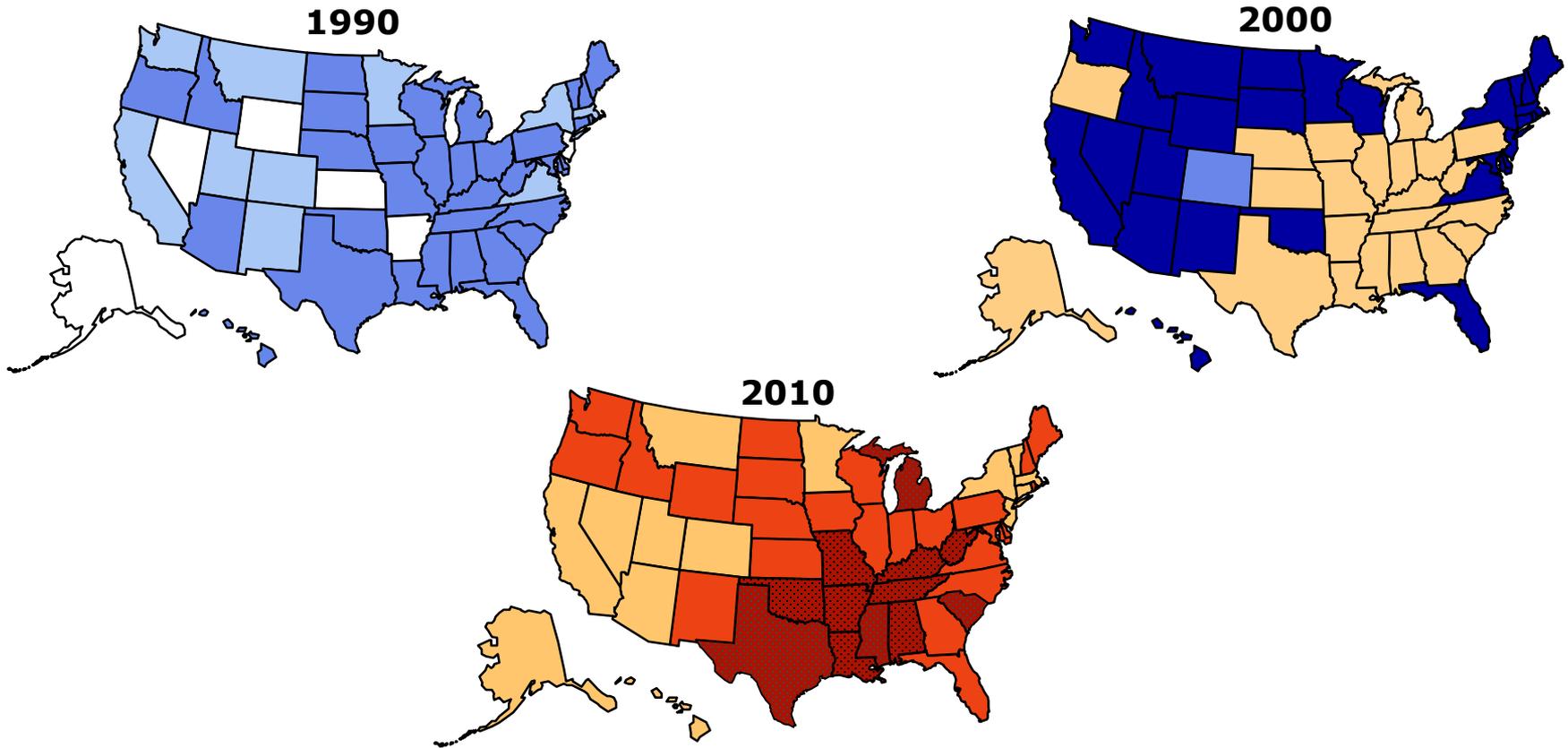
- ▶ The data shown in these maps were collected through CDC's Behavioral Risk Factor Surveillance System (BRFSS). Each year, state health departments use standard procedures to collect data through a series of telephone interviews with U.S. adults. Height and weight data are self-reported.
- ▶ Prevalence estimates generated for the maps may vary slightly from those generated for the states by BRFSS (<http://aps.nccd.cdc.gov/brfss>) as slightly different analytic methods are used.



# Obesity Trends\* Among U.S. Adults

## BRFSS, 1990, 2000, 2010

(\*BMI  $\geq 30$ , or about 30 lbs. overweight for 5'4" person)



# Case Presentation

- ▶ What is the patient's BMI?  
Waist Circumference?
  - Height – 66.5”
  - Weight – 317#
  - BMI = weight/(height x height)
  - BMI = 50
  
  - WC >35cm
  - Body Fat % = 48.1%
  - BMR = 2090 cal/day (resting)

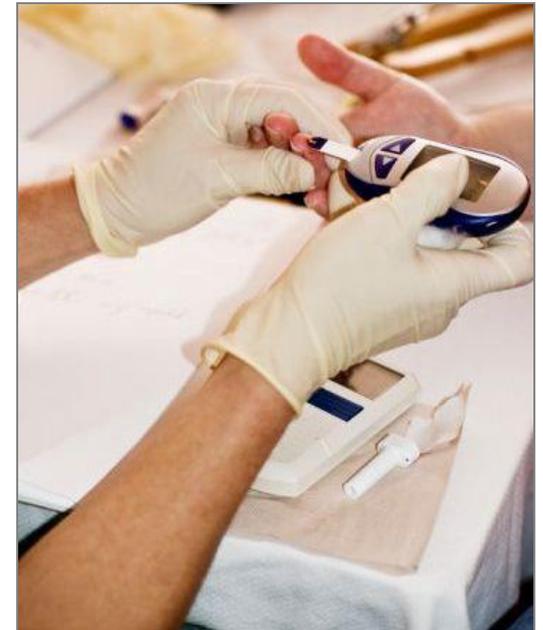
**Class III,  
morbid obesity,  
very severe risk**



# 53+ diseases are directly caused by obesity



- Hypertension (high blood pressure)
- Type 2 diabetes
- Coronary heart disease
- Stroke
- Gallbladder disease
- Cancer (endometrial, breast, esophagus, and colon)
- Additional: sleep apnea, osteoarthritis, respiratory problems, infertility, pancreatitis, liver disease, etc.



Source: American Obesity Association

# Why NOT medical weight loss in the office?





## Weight Stigma: Doctors Guilty of Prejudice Against Obese, Too

Lisa Nainggolan June 05, 2014

SOFIA, Bulgaria — A new survey of almost 700 healthcare professionals in a large German university hospital that specializes in research and treatment of obesity has found that almost 60% of staff there expressed negative attitudes toward the condition, a figure not dissimilar to that found among the general public.

"We expected that healthcare professionals would have a better understanding of the causes of obesity, but that was not true," psychologist Claudia Sikorski, PhD, of Leipzig University, Germany, told the [European Congress on Obesity](#) in Sofia last week.

Asked to comment on the findings, psychologist Jason Halford, PhD, of the University of Liverpool, United Kingdom, and chair of the UK Association for the Study of Obesity, said, "We should not be surprised. Doctors and other healthcare professionals are not different from any other section of society — negative attitudes toward obesity persist."

Research has shown "that obese people get a rougher ride than any other patient whose condition is behavior-related, including drug addicts and HIV-infected individuals. Physicians tend to view them less kindly," Dr. Halford noted. And this is despite the fact that "most of the adult population is overweight or obese themselves, including these healthcare professionals, so there is another paradox."

# Physician Barriers to Evaluation and Treatment of Obesity

- ▶ Lack of payment by most health-insurance and managed-care plans for obesity-related treatment programs
- ▶ Lack of time for dedicated patient education and counseling on weight loss and weight maintenance
- ▶ Lack of recognition of obesity as a chronic condition that is difficult to treat, requires continuous and long-term management, and has high recidivism rates
- ▶ Insufficient data on the effectiveness of physician weight loss counseling and skepticism about the success of any medical treatment of obesity
- ▶ Lack of data on the long-term safety and efficacy of pharmacotherapeutic agents for obesity
- ▶ Lack of patient interest or readiness for treatment
- ▶ Negative and unsympathetic perceptions that obesity represents a lack of patient discipline, self-control or will power rather than a chronic disease
- ▶ Inadequate training and lack of training mechanisms for physicians in the medical management of obesity

# MD Goals for Obese Patients

- ▶ Sensitive to weight bias /ID personal attitudes
- ▶ Use desired terms to describe weight
  - YES: Weight, excess weight, BMI, weight problem
  - NO: Fatness, obesity, excess fat, large size, heaviness, unhealthy BMI, unhealthy weight
- ▶ Promote a positive office environment
- ▶ Have appropriate medical equipment
- ▶ Adopt sensitive weighing procedures
- ▶ Involve office staff in team approach

*Obes Res* 2003 Sep; 11(9):1140-6.



# Why MEDICAL WEIGHT LOSS in the Office?

How the **comprehensive algorithm** developed by obesity medicine specialists will teach physicians what they didn't learn in medical school.

## DOES YOUR DOCTOR KNOW HOW TO TREAT OBESITY?



What is Obesity?

**FAT** >25% 32%  
PERCENTAGE MEN WOMEN

**WAIST** >40" 35"  
CIRCUMFERENCE MEN WOMEN

**BMI** >30

- ✓ Presence of Risk Factors
- ✓ Presence of Chronic Disease
- ✓ Organ Damage
- ✓ Severe Disabilities from Chronic Disease

Associated Conditions

- Type 2 Diabetes
- Sleep Apnea
- Heart Disease
- Depression
- High Blood Pressure
- Certain Cancers

Prevalence of Self-reported Obesity Among U.S. Adults in 2012

20% to <25% 25% to <30% 30% to <35%

States with Essential Health Benefits Benchmark Plan Coverage for Weight-Loss Programs beginning 2014

YEAR THAT THE AMERICAN MEDICAL ASSOCIATION OFFICIALLY RECOGNIZED OBESITY AS A CHRONIC DISEASE STATE: **2013**

What That Means:

Your doctor can treat you for obesity... **BUT does your doctor know how?**

- You have affordable care options available at your doctor's office.
- Your evaluation by an obesity medicine specialist may include a history, physical exam, lab tests and diagnostic testing.
- An obesity medicine specialist can create an individualized treatment plan for you.

- DIET**
  - Very Low-Calorie • Carb Restriction
  - Calorie Restriction • Food Journaling
- ACTIVITY**
  - Exercise Prescription • Activity Monitors
  - Set Specific Goals for Aerobic & Resistance Exercise Each Week
  - Limit Sedentary Activities
- COUNSELING**
  - Eliminate Provider Bias/Stigma
  - Identify Self-Sabotaging Behavior • Stress Management
  - Sleep Optimization • Psychological Support
- MEDICATION**
  - Prescribe Medications to Curb Appetite & Promote Weight Loss

The American Society of Bariatric Physicians Obesity Algorithm helps navigate how physicians provide optimal care for patients affected by obesity! Learn more at [www.ObesityAlgorithm.org](http://www.ObesityAlgorithm.org)

References: CMS Consumer Information & Insurance Oversight summary of EHB benchmark plans based on 2012 benefits, CDC Behavioral Risk Factor Surveillance System 2012, American Society of Bariatric Physicians (www.asbp.org), ASP Obesity Algorithm: Adult Adiposity Evaluation & Treatment, 2013 (www.obesityalgorithm.org)

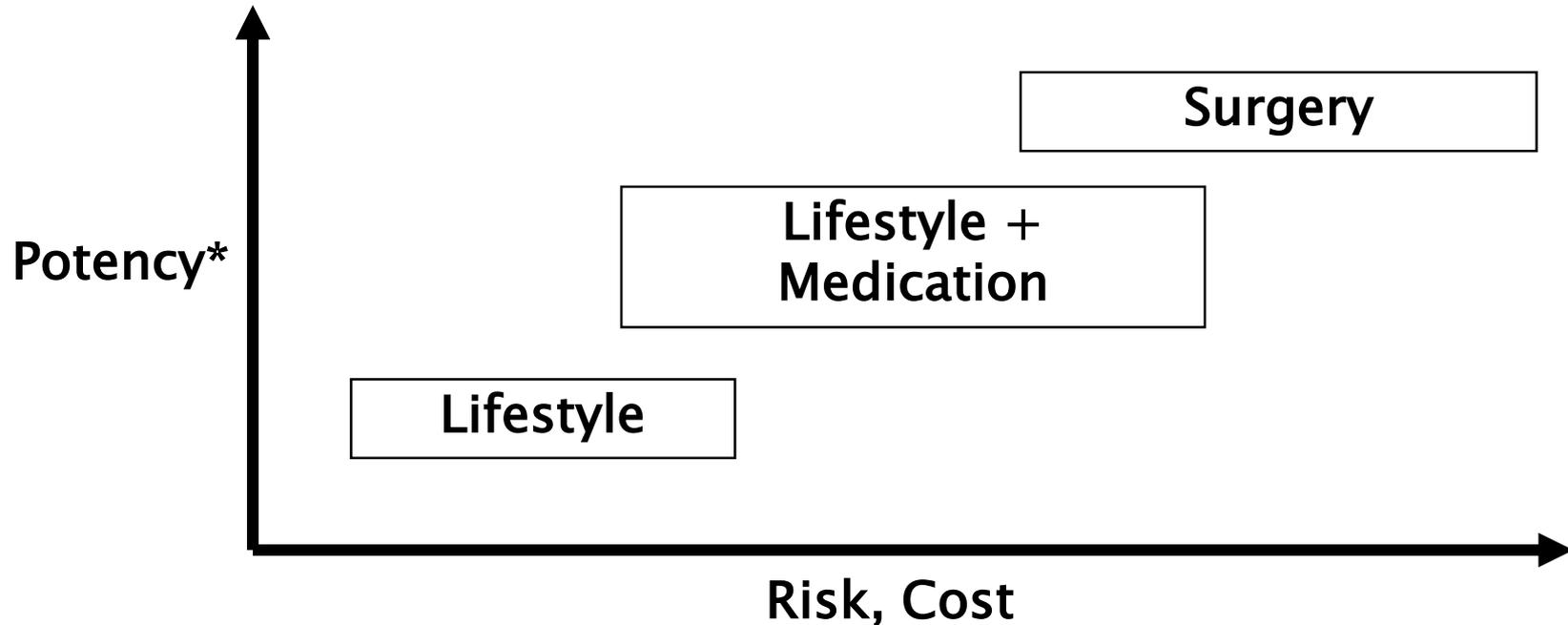
# American Society of Bariatric Physicians® (ASBP®)

## Obesity Algorithm®

### **Citation:**

Seger JC, Horn DB, Westman EC, Lindquist R, Scinta W, Richardson LA, Primack C, Bryman DA, McCarthy W, Hendricks E, Sabowitz BN, Schmidt SL, Bays HE. Obesity Algorithm®, presented by the American Society of Bariatric Physicians®. [www.obesityalgorithm.org](http://www.obesityalgorithm.org) (Accessed = [insert date])

# Current Treatment Options for Obesity



**Lifestyle**: Includes nutrition, exercise, behavioral programs

**Lifestyle + Medication**: May include Lifestyle, VLCDs w supplements, and weight loss medications

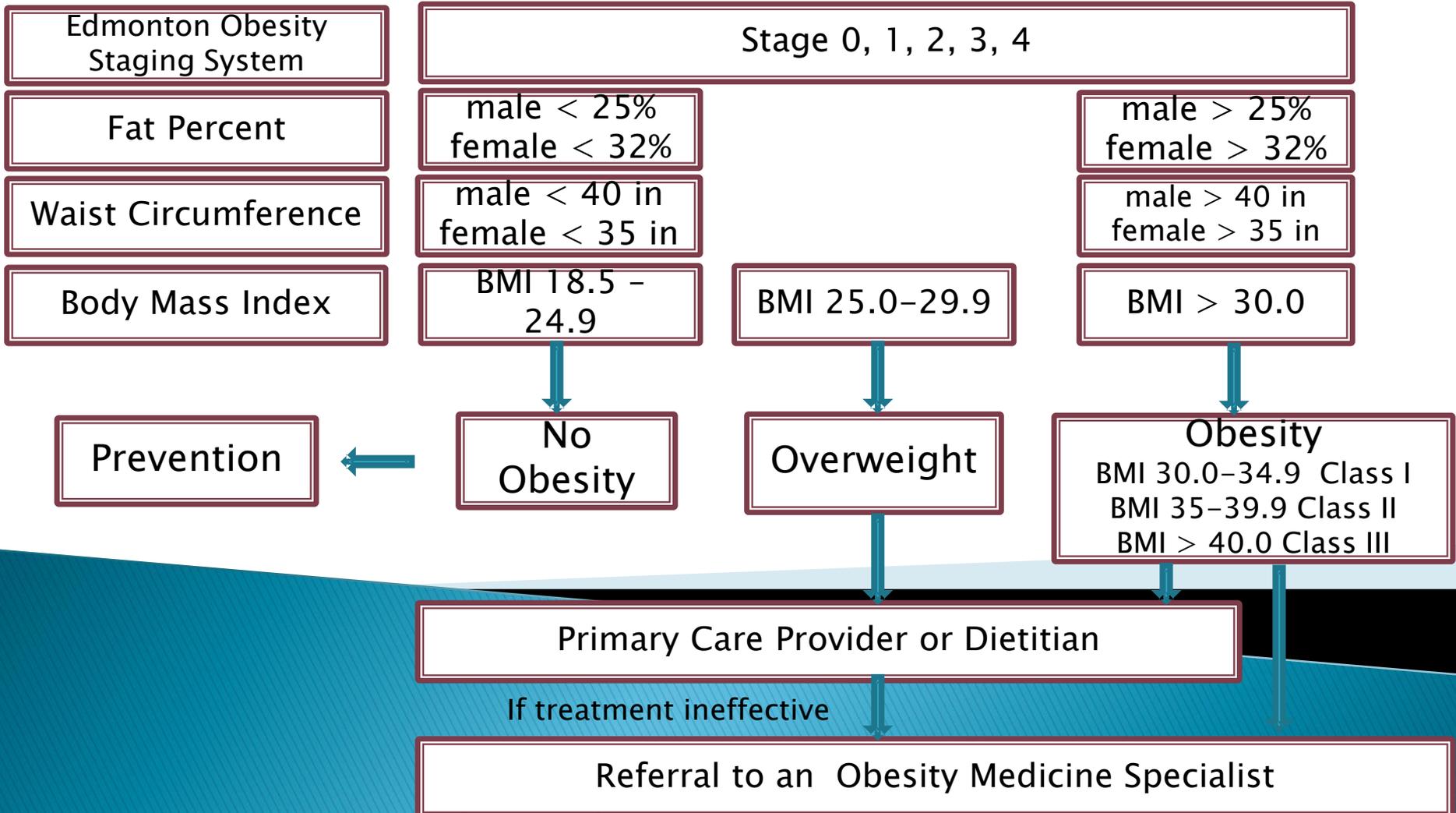
**Surgery**: (in order of lowest risk/cost and potency): Gastric Banding < Gastric Sleeve < Gastric Bypass (Roux-en-Y)

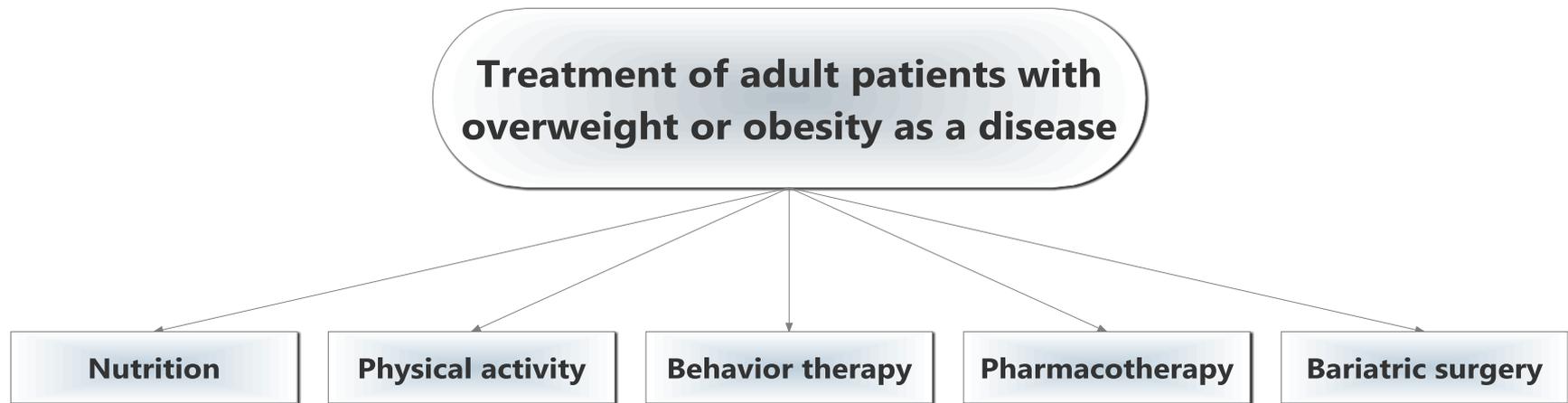
\* Potency includes many factors such as the amount, rate and sustainability of weight loss, and long-term resolution of adipose pathology and fat mass disease. Potency varies greatly for each individual: long-term adherence to a lifestyle program can be as potent as gastric bypass surgery.

Assess for the Presence of Obesity, Adiposopathy, Fat Mass Disease

Obesity may be assessed using several criteria: presence of adiposity-related disease, fat percent, waist circumference or body mass index. Thresholds vary based on ethnicity.

## Criteria



**Treatment**



# AACE COMPREHENSIVE DIABETES MANAGEMENT ALGORITHM 2013

## TASK FORCE

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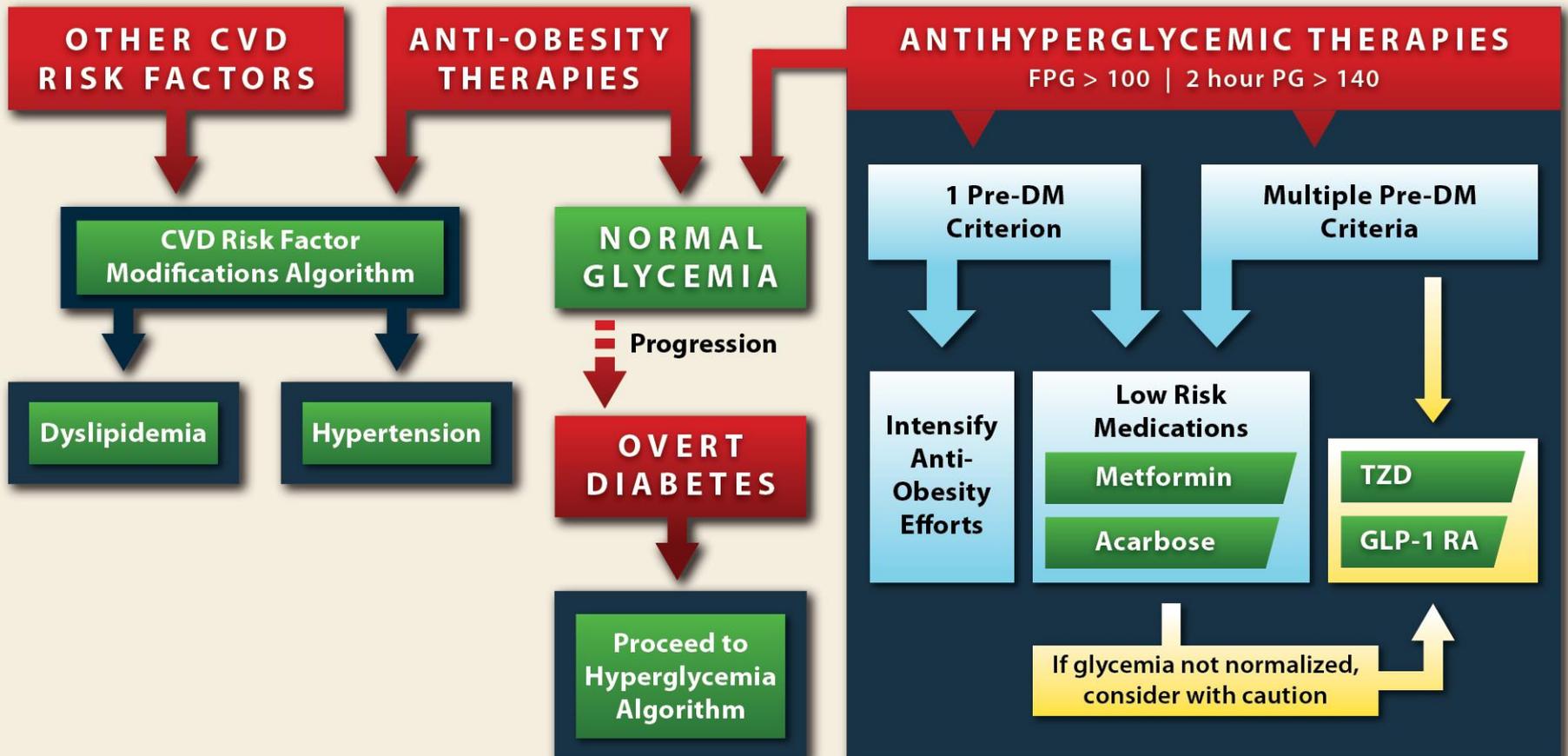


# PREDIABETES ALGORITHM

IFG (100–125) | IGT (140–199) | METABOLIC SYNDROME (NCEP 2005)

## LIFESTYLE MODIFICATION

*(Including Medically Assisted Weight Loss)*





# GLYCEMIC CONTROL ALGORITHM

## LIFESTYLE MODIFICATION

(Including Medically Assisted Weight Loss)

ENTRY A1c < 7.5%

ENTRY A1c ≥ 7.5%

ENTRY A1c > 9.0%

### MONOTHERAPY\*

- ✓ Metformin
- ✓ GLP-1 RA
- ✓ DPP4-i
- ✓ AG-i
- ⚠ SGLT-2\*\*
- ⚠ TZD
- ⚠ SU/GLN

If A1c > 6.5% in 3 months add second drug (Dual Therapy)



### DUAL THERAPY\*

- GLP-1 RA ✓
  - DPP4-i ✓
  - TZD ⚠
  - \*\* SGLT-2 ⚠
  - Basal insulin ⚠
  - Colesivelam ✓
  - Bromocriptine QR ✓
  - AG-i ✓
  - SU/GLN ⚠
- MET or other first-line agent

If not at goal in 3 months proceed to triple therapy



### TRIPLE THERAPY\*

- GLP-1 RA ✓
  - TZD ⚠
  - \*\* SGLT-2 ⚠
  - Basal insulin ⚠
  - DPP4-i ✓
  - Colesivelam ✓
  - Bromocriptine QR ✓
  - AG-i ✓
  - SU/GLN ⚠
- 2ND LINE AGENT
- MET or other first-line agent

If not at goal in 3 months proceed to or intensify insulin therapy



NO SYMPTOMS

SYMPTOMS

DUAL THERAPY OR TRIPLE THERAPY

INSULIN ± OTHER AGENTS

ADD OR INTENSIFY INSULIN

\* Order of medications listed are a suggested hierarchy of usage

\*\* Based upon phase 3 clinical trials data

### LEGEND

✓ = Few adverse events or possible benefits    ⚠ = Use with caution

PROGRESSION OF DISEASE →



# CVD RISK FACTOR MODIFICATIONS ALGORITHM

## DYSLIPIDEMIA

## HYPERTENSION

### THERAPEUTIC LIFESTYLE CHANGES (See Obesity Algorithm)

#### LIPID PANEL: Assess CVD Risk

Statin Therapy

If TG > 500 mg/dL, fibrates, omega-3 ethyl esters, niacin

If statin-intolerant

Try alternate statin, lower statin dose or frequency, or add nonstatin LDL-C-lowering therapies

Repeat lipid panel; assess adequacy, tolerance of therapy

Intensify therapies to attain goals according to risk levels

RISK LEVELS	MODERATE	HIGH
	DM but no other major risk and/or age <40	DM + major CVD risk(s) (HTN, Fam Hx, low HDL-C, smoking) or CVD*
	DESIRABLE LEVELS	DESIRABLE LEVELS
LDL-C (mg/dL)	<100	<70
Non-HDL-C (mg/dL)	<130	<100
TG (mg/dL)	<150	<150
TC/HDL-C	<3.5	<3.0
Apo B (mg/dL)	<90	<80
LDL-P (nmol/L)	<1200	<1000

If not at desirable levels:

Intensify TLC (weight loss, physical activity, dietary changes) and glycemic control; Consider additional therapy

To lower LDL-C:  
To lower Non-HDL-C, TG:  
To lower Apo B, LDL-P:

Intensify statin, add ezetimibe &/or colesvelam &/or niacin  
Intensify statin &/or add OM3EE &/or fibrates &/or niacin  
Intensify statin &/or ezetimibe &/or colesvelam &/or niacin

Assess adequacy & tolerance of therapy with focused laboratory evaluations and patient follow-up

\* even more intensive therapy might be warranted

GOAL: SYSTOLIC ~130, DIASTOLIC ~80 mm Hg

ACEi or ARB

For initial blood pressure >150/100 mm Hg: Dual therapy

ACEi or ARB	+	Thiazide ✓
		Calcium Channel Blocker ✓
		β-blocker ✓

If not at goal (2–3 months)

Add β-blocker or calcium channel blocker or thiazide diuretic

If not at goal (2–3 months)

Add next agent from the above group, repeat

If not at goal (2–3 months)

Additional choices (α-blockers, central agents, vasodilators, spironolactone)

Achievement of target blood pressure is critical

# AAFP Endorses Guideline on Identifying, Treating Adult Obesity

## Recommendations Address Counseling, Diet, Weight Management

August 19, 2014 09:19 am [Chris Crawford](#) – In the United States, 69 percent of adults age 20 and older are overweight or obese, according to the most recent numbers from the CDC's [National Center for Health Statistics\(www.cdc.gov\)](#).

To aid family physicians on the frontlines of fighting this public health battle, the AAFP [recently endorsed](#) a [guideline\(circ.ahajournals.org\)](#) for identifying, evaluating and treating obesity in adults that was developed by the American College of Cardiology (ACC), the American Heart Association (AHA) and the Obesity Society.



# 2013 AHA/ACC/TOS Guideline for the Management of Overweight and Obesity in Adults

*by Michael D. Jensen, Donna H. Ryan, Caroline M. Apovian, Jamy D. Ard, Anthony G. Comuzzie, Karen A. Donato, Frank B. Hu, Van S. Hubbard, John M. Jakicic, Robert F. Kushner, Catherine M. Loria, Barbara E. Millen, Cathy A. Nonas, F. Xavier Pi-Sunyer, June Stevens, Victor J. Stevens, Thomas A. Wadden, Bruce M. Wolfe, and Susan Z. Yanovski*

*Circulation*  
*Volume 129(25 suppl 2):S102-S138*  
*June 24, 2014*

# Summary of Recommendations for Obesity.

Recommendations	NHLBI Grade	NHLBI ES	ACC/AHA CDR	ACC/AHA LOE
<b>Identifying Patients Who Need to Lose Weight (BMI and Waist Circumference)</b>				
1a. Measure height and weight and calculate BMI at annual visits or more frequently.	E (Expert Opinion)	C02	I	C
1b. Use the current cutpoints for overweight (BMI 25.0–29.9 kg/m <sup>2</sup> ) and obesity (BMI ≥30 kg/m <sup>2</sup> ) to identify adults who may be at elevated risk of CVD and the current cutpoints for obesity (BMI ≥30 kg/m <sup>2</sup> ) to identify adults who may be at elevated risk of mortality from all causes.	A (Strong)	C02	I	B
1c. Advise overweight and obese adults that the greater the BMI, the greater the risk of CVD, type 2 diabetes, and all-cause mortality.	A (Strong)	C02	I	B
1d. Measure waist circumference at annual visits or more frequently in overweight and obese adults. Advise adults that the greater the waist circumference, the greater the risk of CVD, type 2 diabetes, and all-cause mortality. The cutpoints currently in common use from either NHLBI or WHO <sup>10</sup> may continue to be used to identify patients who may be at increased risk until further evidence becomes available.	E (Expert Opinion)	C02	Ia	B
<b>Matching Treatment Benefits With Risk Profiles (Reduction in Body Weight Effect on Risk Factors for CVD, Events, Morbidity and Mortality)</b>				
2. Counsel overweight and obese adults with cardiovascular risk factors (high BP, hyperlipidemia, and hyperglycemia) that lifestyle changes that produce even modest, sustained weight loss of 3%–5% produce clinically meaningful health benefits, and greater weight losses produce greater benefits. a. Sustained weight loss of 3%–5% is likely to result in clinically meaningful reductions in triglycerides, blood glucose, hemoglobin A <sub>1c</sub> , and the risk of developing type 2 diabetes. b. Greater amounts of weight loss will reduce BP, improve LDL-C and HDL-C, and reduce the need for medications to control BP, blood glucose, and lipids as well as further reduce triglycerides and blood glucose.	A (Strong)	C01	I	A
<b>Diets for Weight Loss (Dietary Strategies for Weight Loss)</b>				
3a. Prescribe a diet to achieve reduced calorie intake for obese or overweight individuals who would benefit from weight loss, as part of a comprehensive lifestyle intervention. Any one of the following methods can be used to reduce food and calorie intake: a. Prescribe 1200–1500 kcal/d for women and 1500–1800 kcal/d for men (calorie levels are usually adjusted for the individual's body weight). b. Prescribe a 500-kcal/d or 750-kcal/d energy deficit, or c. Prescribe one of the evidence-based diets that restricts certain food types (such as high-carbohydrate foods, low-fiber foods, or high-fat foods) in order to create an energy deficit by reduced food intake.	A (Strong)	C03	I	A
3b. Prescribe a calorie-restricted diet, for obese and overweight individuals who would benefit from weight loss, based on the patient's preferences and health status, and preferably refer to a nutrition professional <sup>11</sup> for counseling. A variety of dietary approaches can produce weight loss in overweight and obese adults, as presented in CO3, ES2.	A (Strong)	C03	I	A
<b>Lifestyle Intervention and Counseling (Comprehensive Lifestyle Intervention)</b>				
4a. Advise overweight and obese individuals who would benefit from weight loss to participate for ≥6 months in a comprehensive lifestyle program that assists participants in adhering to a lower-calorie diet and in increasing physical activity through the use of behavioral strategies.	A (Strong)	C04	I	A
4b. Prescribe on-site, high-intensity (i.e., ≥4 sessions in 6 mo) comprehensive weight loss interventions provided in individual or group sessions by a trained interventionist. <sup>12</sup>	A (Strong)	C04	I	A
4c. Electronically delivered weight loss programs (including by telephone) that include personalized feedback from a trained interventionist <sup>13</sup> can be prescribed for weight loss but may result in smaller weight loss than face-to-face interventions.	B (Moderate)	C04	Ia	A
4d. Some commercial-based programs that provide a comprehensive lifestyle intervention can be prescribed as an option for weight loss, provided there is peer-reviewed published evidence of their safety and efficacy.	B (Moderate)	C04	Ia	A
4e. Use a very low-calorie diet (defined as <800 kcal/d) only in limited circumstances and only when provided by trained practitioners in a medical care setting where medical monitoring and high-intensity lifestyle intervention can be provided. Medical supervision is required because of the rapid rate of weight loss and potential for health complications.	A (Strong)	C04	Ia/c	A
4f. Advise overweight and obese individuals who have lost weight to participate long term (≥1 year) in a comprehensive weight loss maintenance program.	A (Strong)	C04	I	A
4g. For weight loss maintenance, prescribe face-to-face or telephone-delivered weight loss maintenance programs that provide regular contact (monthly or more frequently) with a trained interventionist <sup>14</sup> who helps participants engage in high levels of physical activity (ie, 200–300 min/wk), monitor body weight regularly (ie, weekly or more frequently), and consume a reduced-calorie diet (needed to maintain lower body weight).	A (Strong)	C04	I	A
<b>Selecting Patients for Bariatric Surgical Treatment for Obesity (Bariatric Surgical Treatment for Obesity)</b>				
5a. Advise adults with a BMI ≥40 kg/m <sup>2</sup> or BMI ≥35 kg/m <sup>2</sup> with obesity-related comorbid conditions who are motivated to lose weight and who have not responded to behavioral treatment with or without pharmacotherapy with sufficient weight loss to achieve targeted health outcome goals that bariatric surgery may be an appropriate option to improve health and offer referral to an experienced bariatric surgeon for consultation and evaluation.	A (Strong)	C05	Ia/g	A
5b. For individuals with a BMI <35 kg/m <sup>2</sup> , there is insufficient evidence to recommend for or against undergoing bariatric surgical procedures.	N (No Recommendation)	C05	—	—
5c. Advise patients that choice of a specific bariatric surgical procedure may be affected by patient factors, including age, severity of obesity/BMI, obesity-related comorbid conditions, other operative risk factors, risk of short- and long-term complications, behavioral and psychosocial factors, and patient tolerance for risk, as well as provider factors (surgeon and facility).	E (Expert Opinion)	C05	Ib	C

<sup>11</sup>Nutrition professional: In the studies that form the evidence base for this recommendation, a registered dietitian usually delivered the dietary guidance; in most cases, the intervention was delivered in university nutrition departments or in hospital medical care settings where access to nutrition professionals was available.

<sup>12</sup>Trained interventionist: In the studies reviewed, trained interventionists included mostly health professionals (eg, registered dietitians, psychologists, exercise specialists, health coaches), or professionals who adhered to formal protocols in weight management. In a few cases, by persons never used as trained interventionists; they received instruction in weight management protocols (designed by health professionals) in programs that have been validated in high-quality trials published in peer-reviewed journals.

<sup>13</sup>If there is strong evidence that if a provider is going to use a very low-calorie diet, it should be done with high levels of monitoring by experienced personnel; that does not mean that practitioners should prescribe very low-calorie diets. Because of concern that an ACC/AHA Class I recommendation would be interpreted to mean that the patients should go on a very low-calorie diet, not the consensus of the Expert Panel that this may more closely to an ACC/AHA Class IIa recommendation.

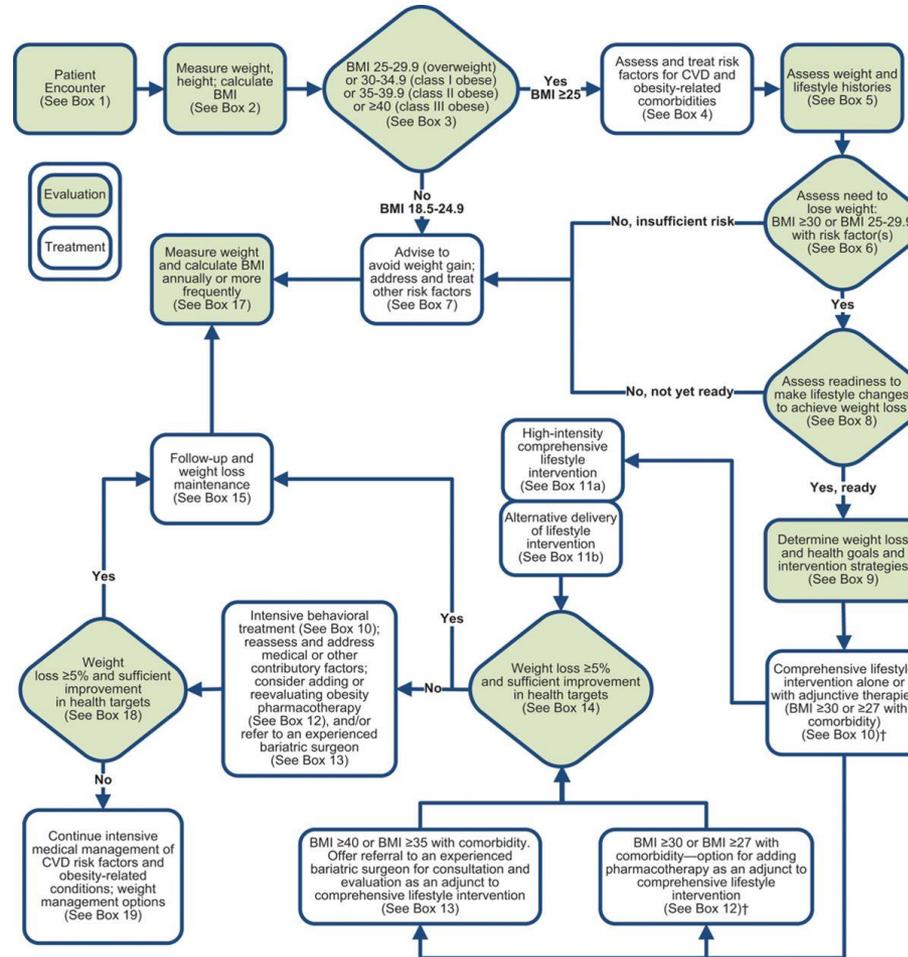
<sup>14</sup>There is strong evidence that the benefits of surgery outweigh the risks for some patients. These patients can be offered a referral to discuss surgery as an option. This does not mean that all patients who meet the criteria should have surgery. This decision-making process is quite complex and is best performed by experts. The ACC/AHA criterion for a Class I recommendation states that the treatment/procedure should be performance-based. This recommendation is stated does not meet the criterion that the treatment should be performed. Thus, the ACC/AHA classification criteria do not directly map to the NHLBI grade assigned by the Expert Panel.

ACC indicates American College of Cardiology; BMI, body mass index; BP, blood pressure; CDR, Class of Recommendation; CVD, cardiovascular disease; ES, evidence statement; HDL-C, high-density lipoprotein cholesterol; HF, International Diabetes Federation; LDL-C, low-density lipoprotein cholesterol; LOE, Level of Evidence; NHLBI, National Heart, Lung, and Blood Institute; NH, National Health Institute; WHO, World Health Organization; and —, not applicable.

Jensen M D et al. *Circulation*. 2014;129:S102-S138



# Treatment Algorithm—Chronic Disease Management Model for Primary Care of Patients With Overweight and Obesity\*. \*This algorithm applies to the assessment of overweight and obesity and subsequent decisions based on that assessment.



Jensen M D et al. *Circulation*. 2014;129:S102-S138

# Overview of Recommendations

- ▶ Overweight is defined as body mass index (BMI) of 25–29.9 kg/m<sup>2</sup> or greater, and obesity is defined as BMI of 30 kg/m<sup>2</sup> or greater.
- ▶ Overweight and obese individuals should be advised that the greater their BMI, the greater the risk of cardiovascular disease (CVD), type 2 diabetes and all-cause mortality.
- ▶ Overweight and obese adults with CVD risk factors (high blood pressure, hyperlipidemia and hyperglycemia) should be counseled that lifestyle changes that produce even modest sustained weight loss of 3 percent to 5 percent produce clinically meaningful health benefits, and greater weight loss produces greater benefits.
- ▶ Overweight and obese adults should be prescribed a diet to achieve reduced calorie intake.

# Overview of Recommendations

- ▶ Overweight and obese individuals who would benefit from weight loss should be advised to participate for six months or more in a comprehensive lifestyle program that assists participants in adhering to a lower-calorie diet and in increasing physical activity through use of behavioral strategies.
- ▶ Overweight and obese individuals who have lost weight should be advised to participate long-term (one year or more) in a comprehensive weight loss maintenance program.
- ▶ Adults with BMI of 40 kg/m<sup>2</sup> or greater or BMI of 35 kg/m<sup>2</sup> or greater with obesity-related comorbid conditions who are motivated to lose weight but have not had a sufficient response to behavioral treatment with or without pharmacotherapy should be informed about bariatric surgery and offered a referral for consultation and evaluation.
- ▶ The evidence for the benefits and risks of pharmacotherapy for weight loss was not reviewed for this guideline.

# Why MEDICAL WEIGHT LOSS?



- ▶ Evaluate Health Risks
- ▶ Adjust Current Medications
- ▶ Recommend Caloric Intake
- ▶ Build Safe Exercise Program
- ▶ Behavioral Counseling
- ▶ Prescription / Supplements
- ▶ Routine Monitoring
- ▶ Long-term Relationship

# Why MEDICAL WEIGHT LOSS?

- ▶ **INSURANCE COVERAGE**
  - Screening (Annually)
    - USPSTF Class B Recommendation
    - Part of the Accountable Care Act
  - Treatment (Varies by Plan)
    - Medicare was the FIRST to include coverage
    - Sets number of visits, sets weight loss goals
- ▶ Referral for Surgical evaluation, if needed



# Why MEDICAL WEIGHT LOSS?



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# Evaluate Health Risks

What are the patient's health risks?

- ▶ **Emphasis on EARLY INTERVENTION**
  - Disease remission, reversal
  - Avoidance of complications
  - Health Care cost savings
  - Improved morbidity, mortality and quality of life

# Why MEDICAL WEIGHT LOSS?



- ▶ Evaluate Health Risks
- ▶ **Adjust Current Medications**
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# Adjust Current Medications

Which patient medications are of concern?

CNS	Endocrine	Misc
Atypical antipsychotics (Olanzapine)	Glucocorticoids (Prednisone)	Beta-blockers (Metoprolol)
Anti-epileptics (Valproate)	Hormonal Contraceptions (Depo-Provera)	Antihistamines (Zyrtec)
Lithium	Anti-diabetic agents (Insulin, Sulfonylureas, TZD)	Sleep medications (Ambien)
Anti-depressants (SSRI, TCA, SNRI)		

# Why MEDICAL WEIGHT LOSS?



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# Recommend Caloric Intake

What range of calories would you prescribe the patient for weight loss? What 'diet'?

- Diet assessment (24hr recall, Food records 3d, food frequency questionnaires)
  - 'Diet' types – calorie vs. content, glycemic load vs. glycemic index
  - Meal replacements – strongest evidence
- 

# Recommend Caloric Intake



5 cups  
270 calories



Tub  
630 calories



3-inch diameter  
140 calories



5-6-inch diameter  
350 calories



333 calories



590 calories



Original 8-ounce bottle  
97 calories



20-ounce bottle  
242 calories

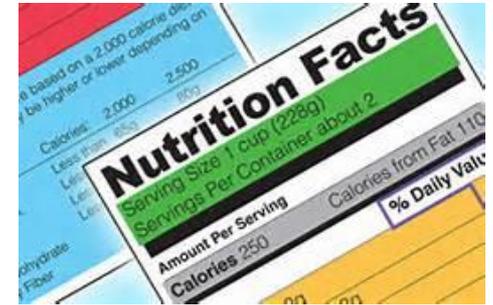
# Advertising QUIZ



# Recommend Caloric Intake

## ▶ Count Calories

- Why calories?
- How to count?
  - Food labels, Portion control, Exchanges
  - Keep Track --- write it down!
- Tips for Success
  - Slow down eating
  - Drink more water
  - Don't skip meals - "kindling"



# Recommend Calorie Intake

## ▶ Any particular problem foods?

### ◦ ADDED SUGAR

- 16% of current calories (2x from 10 years ago)
- 22.2 teaspoons of added sugar daily
- High-fructose corn syrup & others
- Obesity increase 1%/yr, Diabetes increase 4%/yr
- 150cal – 0.1% inc DM, Sugar inc. 11x higher (1.1%)

## ▶ Any particular helpful foods?

### ◦ FIBER and WATER (Yummm)



# Know Thy Metabolism

- ▶ **Body Composition**
  - Fat weight (%)
  - Water weight (%)
  - Muscle mass (predicted)
- ▶ **Changes with Age, Male/Female**
- ▶ **“Metabolism” vs. metabolize**
- ▶ **How many calories should I have?**
  - Range of Calories  
(Starvation–Wt Loss–Wt Gain)



# Know Thy Metabolism

Average American diet = ??? (cal/day)

3000–3500 cal/day

How many calories in 1 pound?

3500 calories

*If your BMR (metabolism) is = 2000 cal/day*

# Know Thy Metabolism

What happens if you take in 3000 cal/day and burn 500 cal/day in activity?

Energy Balance is ???  
2500 cal/day

BMR (metabolism) = 2000 cal/day  
+500 calories

Weight GAIN = 1 pound each week (+500 cal x 7 days)

# Know Thy Metabolism

What happens if you take in 2500 cal/day and burn 500 cal/day in activity?

Energy Balance is ???

2000 cal/day

BMR (metabolism) = 2000 cal/day

ZERO calories (BALANCE)

Weight GAIN = 0 pound each week (0 cal x 7 days)

# Know Thy Metabolism

What happens if you take in 1500 cal/day and burn 500 cal/day in activity?

Energy Balance is ???

1000 cal/day

BMR (metabolism) = 2000 cal/day

-1000 calories

Weight LOSS = 2 pounds each week (-1000 cal x 7 days)

# Why MEDICAL WEIGHT LOSS?



- ▶ Evaluate Health Risks
- ▶ Adjust Current Medications
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- ▶ **Build Safe Exercise Program**
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# Build Safe Exercise Program

What exercise recommendations should be given? What? For how long?



**"What fits your busy schedule better, exercising one hour a day or being dead 24 hours a day?"**

# Build Safe Exercise Program

- ▶ Increased mortality with SITTING!
  - Any Level of Fitness
  - Walking <1 mi/day – 2x mortality risk
- ▶ UN-Fitness
  - “Crystal Ball” for chronic disease risk
    - HIGH FIT + RF 2-3 = LOW FIT + RF 0
  - Increased health care costs

\*\*\* IMPROVE FITNESS LEVEL \*\*\*



# Build Safe Exercise Program

- ▶ Types of Exercise
  - Aerobic (Cardiovascular)
    - Walking, biking, swimming
  - Anerobic (Muscle toning)
    - Weights, resistance bands



Age (yrs)	Cardiovascular	Muscle Toning
<30	25%	75%
30-50	50%	50%
>50	75%	25%

# Build Safe Exercise Program

- ▶ Too Much Exercise?
  - Make sure SAFE enough for exercise
  - Start slow and increase
  - Cumulative Effect (25¢ x4 = \$1)
  - Avoid “RISKY” activities
    - Racket sports
    - Snow removal
    - Deer hunting



# Build Safe Exercise Program

## Composition of Exercise Training Session

- ▶ Warm-up (5–10 min)
- ▶ Conditioning (20–60 min)
- ▶ Cool-down (5–10 min)
- ▶ Stretching (10 min)

\*Adopted from ACSM

## FITT-VP – Resistance Training frequency

- ▶ 2–3 days / week
- ▶ 48 hour separation of same muscle groups

# Exercise 'Prescription'

**EXERCISE PRESCRIPTION & REFERRAL FORM**



PATIENT'S NAME: \_\_\_\_\_ DOB: \_\_\_\_\_ DATE: \_\_\_\_\_  
 HEALTH CARE PROVIDER'S NAME: \_\_\_\_\_ SIGNATURE: \_\_\_\_\_

PHYSICAL ACTIVITY RECOMMENDATIONS		
Type of physical activity:	Aerobic	Strength
Number of days per week:		
Minutes per day:		
Total minutes per week:		

\*PHYSICAL ACTIVITY GUIDELINES  
 Adults aged 18-64 with no chronic conditions: Minimum of 150 minutes of moderate physical activity a week (for example, 30 minutes per day, five days a week) and muscle-strengthening activities on two or more days a week (<http://www.pcm.org/physicalactivity>).  
 For more information, visit [www.pcm.org/physicalactivity](http://www.pcm.org/physicalactivity).

REFERRAL TO HEALTH & FITNESS PROFESSIONAL

Name: \_\_\_\_\_  
 Phone: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 Web Site: \_\_\_\_\_  
 Follow up Appointment Date: \_\_\_\_\_  
 Notes: \_\_\_\_\_

**EXERCISE PRESCRIPTION & REFERRAL FORM**



PATIENT'S NAME: \_\_\_\_\_ DOB: \_\_\_\_\_ DATE: \_\_\_\_\_  
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 Adults aged 18-64 with no chronic conditions: Minimum of 150 minutes of moderate physical activity a week (for example, 30 minutes per day, five days a week) and muscle-strengthening activities on two or more days a week (<http://www.pcm.org/physicalactivity>).  
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 Follow up Appointment Date: \_\_\_\_\_  
 Notes: \_\_\_\_\_

Moderate-intensity Physical Activity (Approximately 3-6 METs)	Vigorous-intensity Physical Activity (Approximately >6 METs)
Requires a moderate amount of effort and noticeably accelerates the heart rate.	Requires a large amount of effort and causes rapid breathing and a substantial increase in heart rate.
Examples of moderate-intensity exercise include:	Examples of vigorous-intensity exercise include:
<ul style="list-style-type: none"> <li>• Brisk walking</li> <li>• Dancing</li> <li>• Gardening</li> <li>• Housework and domestic chores</li> <li>• Traditional hunting and gathering</li> <li>• Active involvement in games and sports with children / walking domestic animals</li> <li>• General building tasks (e.g. roofing, thatching, painting)</li> <li>• Carrying / moving moderate loads (&lt;20kg)</li> </ul>	<ul style="list-style-type: none"> <li>• Running</li> <li>• Walking / climbing briskly up a hill</li> <li>• Fast cycling</li> <li>• Aerobics</li> <li>• Fast swimming</li> <li>• Competitive sports and games (e.g. Traditional Games, Football, Volleyball, Hockey, Basketball)</li> <li>• Heavy shovelling or digging ditches</li> <li>• Carrying / moving heavy loads (&gt;20kg)</li> </ul>

Activity	MET Value	Calories Burned in 30 Minutes*	Calories Burned in 60 Minutes*
Light Weight Lifting	3	107	215
Water Aerobics	4	143	286
Step Aerobics, low impact	5	179	358
Step Aerobics, high impact	7	251	501
Stationary Cycling (moderate effort)	7	251	501
Lap Swimming (light to moderate effort)	7	251	501
Outdoor Cycling	8	286	573
Running 5 mph	8	286	573
Running 6 mph	10	358	716
Jumping Rope**	10	358	716
Running Up Stairs**	15	537	1074

# Why MEDICAL WEIGHT LOSS?



- ▶ Evaluate Health Risks
- ▶ Adjust Current Medications
- ▶ Recommend Caloric Intake
- ▶ Build Safe Exercise Program
- ▶ **Behavioral Counseling**
- ▶ Prescription / Supplements
- ▶ Routine Monitoring
- ▶ Long-term Relationship

# Behavioral Counseling

- ▶ Start with a behavioral assessment
  - Look for co-morbid conditions
    - Mood, Anxiety, ADHD, smoking
- ▶ Disordered eating patterns
  - Anorexia/Bulemia
  - Binge Eating Disorder (BED)
  - Night-time eating
  - Emotional eating
  - Sleep related (parasomnia)



# Behavioral Counseling

## ▶ Evaluate Stress Levels

- Work stress
  - Obesity OR 1.73
  - Visceral adiposity 1.61

## ▶ Disrupted Sleep

- Rhythmic oscillations of hormones
  - Glucagon, insulin, ghrelin, leptin, cortisol
- Shift-workers
  - Increased risk of Obesity, HTN, and High Cholesterol

SLEEP TIME	INCREASE RISK OF OBESITY
7+ hours	---
6 hours	23% elevated risk
5 hours	50% elevated risk
<4 hours	73% elevated risk

# Behavioral Counseling

- ▶ How many food decisions do we make each day?

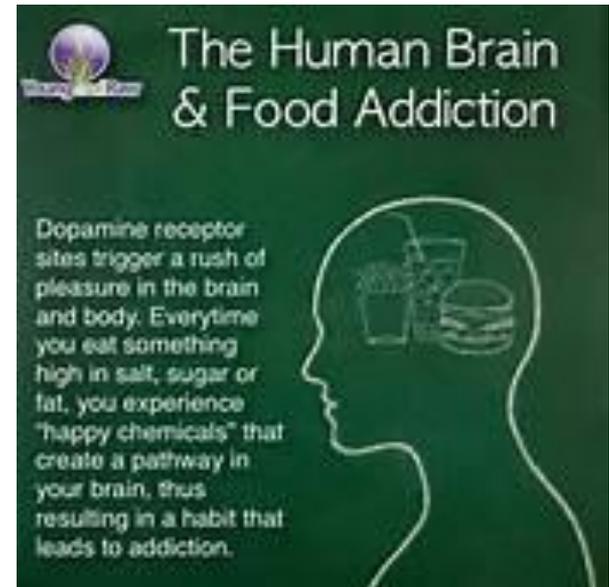
## *FOOD/EATING AS AN ADDICTION?*

- ▶ Hardest Addiction to break
  - “Cravings”
  - Willpower
  - Self-control



# Behavioral Counseling

- ▶ DSM–V Criteria for Addictions
  - Tolerance
  - Withdrawal
  - Use More
  - Failed Attempts to Quit
  - Social Relationship
  - Use Regardless of Consequences



# Behavioral Counseling

## SOCIAL SUPPORT

- ▶ Family
- ▶ Friends
- ▶ Co-workers
- ▶ Physicians
- ▶ Counselors / Therapists
- ▶ Online groups



## MAKE PROGRESS

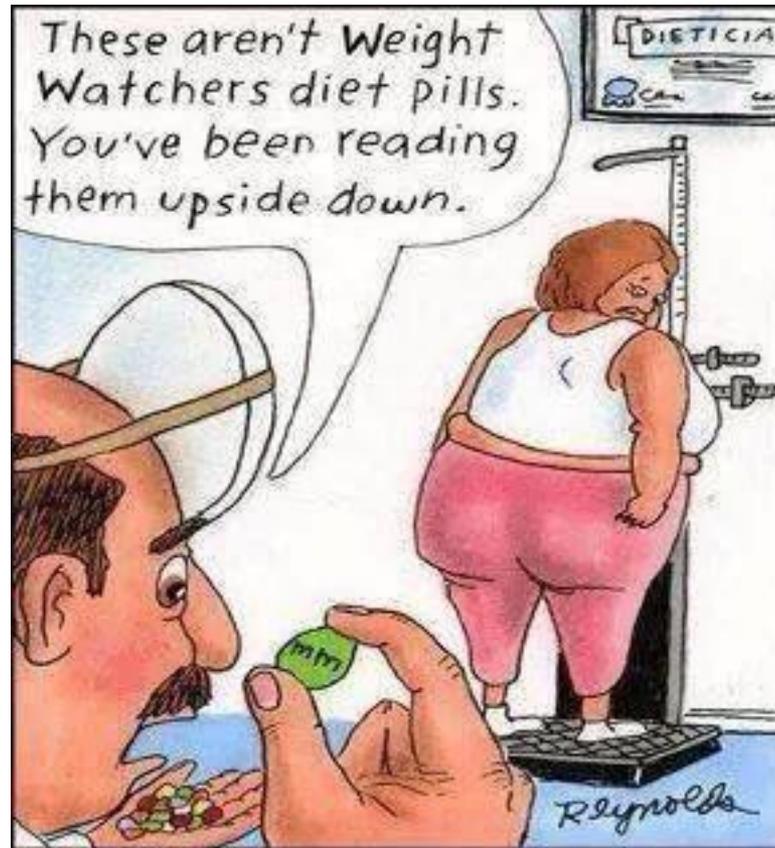
- ▶ Change social 'norms'
  - Rewards
  - Events
  - Toys in foods
- ▶ Avoid temptations
  - Willpower, Self-control
- ▶ Use Statements
  - I WILL...
  - I WON'T...
  - I WANT...

# Why MEDICAL WEIGHT LOSS?



- ▶ Evaluate Health Risks
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# Prescription / Supplements



# Prescription / Supplements

- ▶ Lifestyle modifications are essential for BOTH prevention AND management of obesity
- ▶ Pharmacotherapy may be considered with:
  - BMI > 30 (obese) or
  - BMI > 27 with co-morbidities (T2DM, HTN, etc.)
- ▶ HOWEVER – Most approved and marketed Rx's are now withdrawn due to serious side effects.

# Prescription / Supplements

- ▶ Rodgers et al., 2010 – “The history of anti-obesity drug development is far from glorious, with transient magic bullets and only a handful of agents currently licensed for clinical use.”
  - ▶ Following PRE-clinical identification of new agents
    - Phase I – Tolerability, Safety, Pharmacokinetics
    - Phase II – Mechanism, Efficacy, Safety
    - Phase III – Multi-center trials to confirm efficacy & SE\*
    - Phase IV – Long-term monitoring & Data collection
- \* application for approval made after this step (FDA, EMA)

# Anti-Obesity Drugs

- ▶ The Good
  - Phentermine & Diethylpropion
- ▶ The Bad
  - Orlistat
- ▶ The Ugly
  - Fenfluramine & Dexfenfluramine
  - Sibutramine
  - Rimonabant\* EMA only



# Anti-Obesity Drugs

- ▶ The “New”
  - Lorcaserin (2012)
  - Phentermine/Topiramate (2012)
- ▶ The Future???
  - Cetilistat \*Phase III
  - Tesofensine \*Phase III
  - Biologic signal hormones
    - GUT – CCK, ghrelin, GLP-1, glucose-dependent insulinotropic polypeptide, oxyntomodulin, PYY
    - PANCREAS – insulin, amylin, pancreatic polypeptide
    - ADIPOSE TISSUE – leptin, adiponectin
  - Cannabinoids / CB1 receptor (partial agonists, modulators, polymorphisms)
  - Polytherapies



**Table 1. Current status of anti-obesity drugs and drug combinations**

Name or code	Company	Type of agent or combination	Current status
<b>Monotherapies</b>			
Lorcaserin (ADP359)	Arena Pharma	5-HT <sub>2C</sub> receptor agonist	FDA approved 2012, following re-file
ATHX-105	Athersys	5-HT <sub>2C</sub> receptor agonist	Phase II
BVT.74316	Biovitrum	5-HT <sub>2C</sub> receptor antagonist	Phase I
PRX-07034	EPIX Pharma	5-HT <sub>2C</sub> receptor antagonist	Phase I
S-2367	Shinogi	Neuropeptide Y5 receptor antagonist	Phase II; abandoned 2011
TM30339	7TM	Neuropeptide Y4 agonist	Phase I
Cetilistat	Alizyme/Takada	Lipase inhibitor	Phase III; abandoned?
Amylin analogue	Amylin	Amylinomimetic	Phase I
KRP-204	Kyorin	Selective $\beta$ 3-adrenoceptor agonist	Phase II
Remoglofozin etabonate (GSK 189075)	GlaxoSmithKline	Sodium glucose transporter-2 (SGLT-2) antagonist	Phase I; abandoned 2010
TKS 1225	Thiaktis	Oxyntomodulin analogue	Phase I; sold to Wyeth 2008*
SLX-4090	Surface Logix	Mitochondrial transfer protein inhibitor	Phase II; abandoned 2010
<b>Polytherapies</b>			
Tesofensine	NeuroSearch	5-HT/DA/NA reuptake blocker	Phase III
Dov 21947	Dov Pharmaceuticals	5-HT/DA/NA reuptake blocker	Phase II
Obinipitide	7TM	Neuropeptide Y2 + Y4 receptor agonist	Phase II
Contrave	Orexigen	Bupropion + naltrexone	Declined FDA 2011; cardiovascular concerns; company re-file probable
Empatic	Orexigen	Bupropion + zonisamide	Phase II
Qnexa	Vivus	Phentermine + topiramate	FDA approved 2012, following re-file
Pramlintide/metreleptin	Amylin	Amylinomimetic/leptin	Phase II; programme terminated 2011; antibody generation

Based on previous research (Cooke and Bloom, 2006; Wilding, 2007; Heil et al., 2009; Sargent and Moore, 2009; Vickers et al., 2011). This table is not intended as an exhaustive list of all agents in development.

\*Wyeth have since been bought out by Pfizer; plans for molecule unknown.

DA, dopamine; NA, noradrenaline; 5-HT, 5-hydroxytryptamine.

# Phentermine



- ▶ Centrally acting sympathomimetics (amphetamine derivatives)
- ▶ Appetite Suppressant
- ▶ Dosing: 15, 30, 37.5 mg
- ▶ Approved for 12 weeks use (SHORT-TERM)
- ▶ FDA 1959
- ▶ Little data in RCT and none since 1999
  - 12.2kg Phentermine vs. 4.8kg Placebo ( $P < 0.001$ )
  - Meta analysis (2–24wks) – 3.6kg loss on Phentermine above Placebo
- ▶ SE: dry mouth, insomnia, palpitations, tachycardia, elevated BP

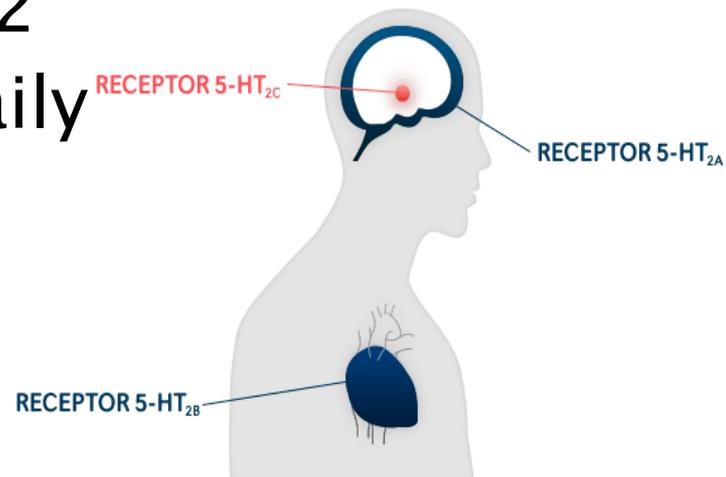
# Orlistat

- ▶ Inhibits pancreatic and gastric lipases, thereby reducing fat absorption in gut by 30% (Bergstrom, 1988) – LIPASE INHIBITORS
- ▶ FDA 1998 / OTC version 2007
- ▶ Duration of use → Long-term approval
- ▶ Dosing: 120mg three times daily / during or up to 1 hr after the meal
- ▶ RCTs up to 4 years
  - Meta-Analysis -2.59kg (6mo), -2.9kg (12 months) over placebo
- ▶ Improved cardio-metabolic parameters
  - Decreases in total cholesterol (11mg/dL), LDL levels (8mg/dL) over 2 yrs
  - Reduced T2DM 9.0% to 6.2% (HR 0.63, CI, 0.46-0.86)
- ▶ SE: diarrhea, fecal incontinence, oily spotting, flatulence, bloating and dyspepsia (?early, avoid fat-rich diets). Rx-interaction blood-clotting
- ▶ May 2010 – product label revision to add warning of severe liver injury (1999-2008 – 32 reports, 6 liver failure – review was 13 cases in 40 million users)



# Lorcaserin

- ▶ Selective serotonin 2C (5-HT<sub>2C</sub>) receptor agonist
- ▶ Reduces intake – “Satiety”
- ▶ Not thought to activate 5-HT<sub>2B</sub> receptor associated with cardiac valvulopathy
- ▶ FDA Approval June 2012
- ▶ Dosing: 10 mg twice daily
  - With or without food
  - No titration
  - Evaluate at 12 weeks



The exact mechanism of action is not known. At the recommended daily dose, BELVIQ selectively interacts with 5-HT<sub>2C</sub> receptors as compared to 5-HT<sub>2A</sub> and 5-HT<sub>2B</sub> receptors.<sup>1</sup>

# Phentermine/Topiramate

- ▶ FDA Approval July 2012
- ▶ Phentermine – appetite suppressant
- ▶ Topiramate – anti-epileptic
- ▶ Change of name from Qnexa to Qsymia
- ▶ SE: Teratogenic effects in pregnancy (CatX) plus others



STARTING  
3.75 mg/23 mg



RECOMMENDED  
7.5 mg/46 mg



TITRATION  
11.25 mg/69 mg



TOP  
15 mg/92 mg

# Prescription / Supplements

Medication	Type	Short-term / Long-term	Weight Loss	Side Effects	Cost
Phentermine	Appetite Suppressant	Short-term	5%	Stimulant (Heart effects, Insomnia)	\$
Qsymia	Appetite Suppressant & Satiety "Feeling Full"	Short-term AND Long-term	10-15%	Stimulant / Taste change & Numbness, CAT X	\$\$\$\$
Belviq	Satiety "Feeling Full"	Short-term AND Long-term	5%	Minimal - NOT a Stimulant, CAT X	\$\$\$\$

# POEM

(patient-oriented evidence that matters)

- ▶ Clinical Question: Are weight-loss medications effective for the long-term treatment of obesity?
- ▶ Bottom Line:
  - The review of commonly used weight-loss medications reported an average weight loss of 2.5 to 8 kg (5.5 to 17.5 pounds) relative to placebo after 1 year of therapy.
  - Improvements noted in cardiovascular risk factors (lipids, glucose, BP), however no evidence yet that any of these treatments have improved patient-oriented cardiovascular outcomes, including reduced morbidity or mortality. (LOE1a-)

Yanovski SZ, Yanovski JA. Long-term drug treatment for obesity: a systematic and clinical review. JAMA. 2014; 311(1): 74-86.

# Why MEDICAL WEIGHT LOSS?



- ▶ Evaluate Health Risks
- ▶ Adjust Current Medications
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- ▶ Prescription / Supplements
- ▶ **Routine Monitoring**
- ▶ Long-term Relationship

# Routine Monitoring

## Calorie Monitoring

- ▶ Calorie Counts
- ▶ APPS
- ▶ Internet
- ▶ Books
- ▶ Scale



## Activity Monitoring

- ▶ Pedometers
- ▶ APPS
- ▶ Internet
- ▶ Scale



*Success is usually very challenging –  
Because doing great things takes effort!*

# Routine Monitoring

## National Weight Control Registry (NWCR)

- ▶ Age > 18
- ▶ Lost > 30#
- ▶ Maintain >30# loss for 1+ year

### ADVICE FROM PATIENTS:

Low cal, low fat, inc. activity

1. 78% have breakfast
2. 75% weigh themselves once weekly
3. 62% watch TV <10 hours weekly
4. 90% exercise >1hr/day



# Why MEDICAL WEIGHT LOSS?



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- ▶ Routine Monitoring
- ▶ **Long-term Relationship**

# Long-Term Relationship

- ▶ Guess what happens to the resting metabolism when patient's lose weight?
  - KNOW Thy *NEW* NUMBER
  - Energy Balance / Calorie goals
  - Maintenance Exercise (30min / 3x per week)
  - Use a Scale / 5 pound gain cutoff
  - Adjust for Bumps in the Road – “Planning”
    - Don't beat yourself up!



# Why MEDICAL WEIGHT LOSS?

## ▶ INSURANCE COVERAGE

- Screening (Annually)
  - USPSTF Class B Recommendation
  - Part of the Accountable Care Act
- Treatment (Varies by Plan)
  - Medicare was the FIRST to include coverage
  - Sets number of visits, sets weight loss goals
- ▶ Referral for Surgical evaluation, if needed



# Patient Presentation

Will insurance cover the preventive screening visit to discuss obesity issues and goals?

Will they pay for additional appointments should the patient follow-up for a long-term treatment plan?



# Insurance Coverage ~~Is~~ Major Barrier **WAS**

- Physicians who counsel or treat obese patients had to bill for a comorbidity
- Bariatric surgery had similar payment barriers. It's covered by both Medicare and most commercial carriers, but commercial insurers almost always deny coverage on the first go-round.
- A lot of money is at stake: A gastric bypass costs about \$15,000–\$35,000. To avoid payment insurers can cite their bariatric surgery policy statements, which run 14 or more pages long and provide plenty of potential reasons not to pay.
- Insurers limit surgeries to experienced surgeons in "centers of excellence" and to candidates with a body mass index (BMI) of at least 40 kg/m<sup>2</sup>, which is 75–100 lb overweight. Other rules require candidates to first complete a 12-month continuous diet.
- ▶ Medicare and many commercial insurers didn't even cover weight-loss drugs.

# Decision Summary



The USPSTF recommendation for screening for obesity in adults (December 2003) states the following:

- The USPSTF recommends that clinicians screen all adult patients for obesity and offer intensive counseling and behavioral interventions to promote sustained weight loss for obese adults. **Grade: B Recommendation.**

Given the increasing importance of obesity, CMS initiated a national coverage analysis (NCA) in March 2011 to assess the USPSTF Grade B recommendation for Screening for Obesity in Adults.

In 2011, the USPSTF updated its review and issued a draft revision: “The U.S. Preventive Services Task Force (USPSTF) recommends that clinicians screen adults for obesity. Clinicians should offer or refer patients with a body mass index (BMI) greater than 30 kg/m<sup>2</sup> to intensive, multicomponent behavioral interventions (B recommendation).”

# Reaping Rewards for Better Obesity Outcomes



- New payment methodologies are improving reimbursement of obesity treatments.
- Such arrangements as patient-centered medical homes and Accountable Care Organizations reward providers for improved outcomes.
- To control such diseases as diabetes and sleep apnea, physicians first need to get patients to reduce their weight, because extra weight is directly linked to these diseases
- Even modest reductions in weight can significantly lower comorbidities.

# Obesity Screening – ACA



- The Affordable Care Act's major impact on persons with obesity is historic.
- Assuming that 34% of the 170 million adults with employer-based health insurance are obese, 57.8 million adults with obesity will be:
  - protected from losing coverage due to pre-existing conditions
  - have no annual or lifetime caps
  - a right to external, independent review of denied claims,
  - rights in employer wellness programs, and
  - a new benefit, intensive behavioral counseling for obesity.

# Obesity Screening – ACA



- A strong non-discrimination provision based on “benefit-design” appears to provide the legal foundation to expand coverage of drugs for the treatment of obesity and bariatric surgery.
- In short, an estimated 66.6 million Americans with obesity will have new protections, rights and benefits on January 1, 2014.

# Obesity Screenings and Counseling

- All private insurance plans starting in 2014 must cover intensive behavioral counseling for obesity in adults. That's about 56 million people with obesity.
- They will be entitled to intensive behavioral counseling of obesity, and at least one prescription drug for obesity treatment. So one of the current FDA approved drugs for obesity should be available, according to The Downey Obesity Report.
- Screening and counseling for obesity has to be covered with no patient cost-sharing (co-payments, co-insurance or deductibles) by most insurers under the preventive services benefit of the Affordable Care Act, says Susan Pisano, a spokeswoman for America's Health Insurance Plans, the national trade association representing the health insurance industry.
- Medicare is already covering this service.

# Obesity screening & counseling

## How often is it covered?

- Medicare covers intensive counseling to help you lose weight. This counseling may be covered if you get it in a primary care setting (like a doctor's office), where it can be coordinated with your other care and a personalized prevention plan. Talk to your primary care doctor or practitioner to find out more.

## Who's eligible?

- All people with Medicare who have a body mass index (BMI) of 30 or more are covered.

## Your costs in Original Medicare

- You pay nothing for this service if the primary care doctor or other qualified primary care practitioner accepts [assignment](#) .

# New Coverage Under Medicare

- Studies show that intensive counseling of obese patients on diet, exercise, and other issues in multiple sessions over many months can help them lose weight and keep it off, according to a June 2012 report by the US Preventive Services Task Force, which reviews the efficacy of preventive treatments for the federal government.
- The task force recommended that patients with a BMI of 30 kg/m<sup>2</sup> or higher should undergo 12 to 26 intensive therapy sessions a year.
- The new payment only applies to work done by primary care physicians, nurse practitioners, physician assistants, or clinical nurse specialists. This means the practice can't assign the task to a nurse or nurse's aide.

# Decision Memo for Intensive Behavioral Therapy for Obesity (CAG-00423N)

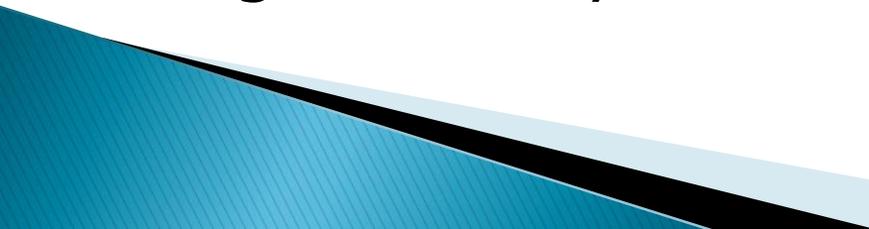


# Decision Summary

- The Centers for Medicare and Medicaid Services (CMS) has determined the following:
- The evidence is adequate to conclude that intensive behavioral therapy for obesity, defined as a body mass index (BMI)  $\geq 30$  kg/m<sup>2</sup>, is reasonable and necessary for the prevention or early detection of illness or disability and is appropriate for individuals entitled to benefits under Part A or enrolled under Part B and is recommended with a grade of A or B by the U.S. Preventive Services Task Force (USPSTF).

# Decision Summary

Intensive behavioral therapy for obesity consists of the following:

- Screening for obesity in adults using measurement of BMI calculated by dividing weight in kilograms by the square of height in meters (expressed in  $\text{kg}/\text{m}^2$ );
  - Dietary (nutritional) assessment; and
  - Intensive behavioral counseling and behavioral therapy to promote sustained weight loss through high intensity interventions on diet and exercise.
- 

# Decision Summary

For Medicare beneficiaries with obesity, who are competent and alert at the time that counseling is provided and whose counseling is furnished by a qualified primary care physician or other primary care practitioner and in a primary care setting, CMS covers:

- One face-to-face visit every week for the first month;
- One face-to-face visit every other week for months 2-6;
- One face-to-face visit every month for months 7-12, if the beneficiary meets the 3kg weight loss requirement as discussed below.

# Decision Summary

- At the six month visit, a reassessment of obesity and a determination of the amount of weight loss must be performed.
- To be eligible for additional face-to-face visits occurring once a month for an additional six months, beneficiaries must have achieved a reduction in weight of at least 3kg over the course of the first six months of intensive therapy.
- This determination must be documented in the physician office records for applicable beneficiaries consistent with usual practice.
- For beneficiaries who do not achieve a weight loss of at least 3kg during the first six months of intensive therapy, a reassessment of their readiness to change and BMI is appropriate after an additional six month period.

# Patient Presentation

How do we code for the preventive obesity screening visit?

If the patient comes back for additional assistance in weight loss follow-up appointments – how are those billed?

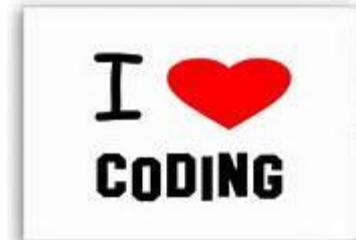
# Obesity Coding

## 278.00 ICD-9-CM – OBESITY, UNSPECIFIED

- Description 278.00 → E66.9 (ICD-10 conversion)

## Similar Codes

- 278.01 Morbid obesity
- 278.02 Overweight
- 278.03 Obesity hypoventilation syndrome



# Obesity Coding

## V85 Body mass index (bmi)

- V85.0 Body Mass Index less than 19, adult
- V85.1 Body Mass Index between 19–24, adult
- V85.2 Body mass index between 25–29, adult
- V85.21 Body Mass Index 25.0–25.9, adult
- V85.22 Body Mass Index 26.0–26.9, adult
- V85.23 Body Mass Index 27.0–27.9, adult
- V85.24 Body Mass Index 28.0–28.9, adult
- V85.25 Body Mass Index 29.0–29.9, adult

## V85.3 Body mass index between 30–39, adult

- V85.30 Body Mass Index 30.0–30.9, adult
- V85.31 Body Mass Index 31.0–31.9, adult
- V85.32 Body Mass Index 32.0–32.9, adult
- V85.33 Body Mass Index 33.0–33.9, adult
- V85.34 Body Mass Index 34.0–34.9, adult
- V85.35 Body Mass Index 35.0–35.9, adult
- V85.36 Body Mass Index 36.0–36.9, adult
- V85.37 Body Mass Index 37.0–37.9, adult
- V85.38 Body Mass Index 38.0–38.9, adult
- V85.39 Body Mass Index 39.0–39.9, adult

## V85.4 Body mass index 40 and over, adult

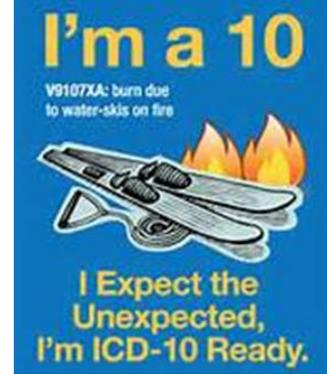
- V85.41 Body Mass Index 40.0–44.9, adult
- V85.42 Body Mass Index 45.0–49.9, adult
- V85.43 Body Mass Index 50.0–59.9, adult
- V85.44 Body Mass Index 60.0–69.9, adult
- V85.45 Body Mass Index 70 and over, adult

## V85.5 Body mass index, pediatric

- V85.51 Body Mass Index, pediatric, less than 5th percentile for age
- V85.52 Body Mass Index, pediatric, 5th percentile to less than 85th percentile for age
- V85.53 Body Mass Index, pediatric, 85th percentile to less than 95th percentile for age
- V85.54 Body Mass Index, pediatric, greater than or equal to 95th percentile for age



# Obesity Coding



## MEDICARE Obesity Counseling

- G0447 : Face-to-face behavioral counseling for obesity, 15 minutes

## OBESITY (Screening, Counseling and Treatment)

- 99420 Administration and interpretation of health risk assessment

## OBESITY (Counseling)

- 99401 Preventive medicine counseling/risk factor reduction, 15 minutes
- 99402 Preventive medicine counseling/risk factor reduction, 30 minutes
- 99403 Preventive medicine counseling/risk factor reduction, 45 minutes
- 99404 Preventive medicine counseling/risk factor reduction, 60 minutes
- 99411 Preventive medicine counseling/risk factor reduction, group, 30 minutes
- 99412 Preventive medicine counseling/risk factor reduction, group, 60 minutes
- 98960 Education and training for patient self-management by a qualified, non-physician health care professional using a standardized curriculum, face-to-face with the patient (could include caregiver/family) each 30 minutes; individual patient

# Obesity Coding



What is the Modifier 33 CPT Description?

- When the primary purpose of the service is the delivery of an evidence-based service in accordance with a U.S. Preventive Service Task Force A or B rating in effect and other preventive services identified in preventive services mandates (legislative or regulatory), the service may be identified by adding 33 to the procedure.

# Obesity Coding

## When do I append modifier 33 to a CPT code?

- Because some preventive services are inherently preventive in nature and have been performed regularly for years, insurance companies already consider them to be a preventive services and do not need modifier 33 appended to them to help them recognize them as preventive. Some well-known, preventive services include immunizations, annual pelvic exams and PAP smears, and screening mammograms. ***Do not apply modifier 33 to inherently preventive services.***
- There are many preventive services that are not easily recognizable but are equally effective. One of these is tobacco-use counseling in pregnant women or aspirin to prevent CVD in men. Apply modifier 33 to preventive services that are approved by the USPSTF and are not inherently preventive.

# Obesity Coding

## How does the proper use of modifier 33 affect reimbursement?

- As part of the Patient Protection and Affordable Care Act (PPACA), healthcare insurance companies are required to pay for some preventive services and many have already deemed such services as immunizations, screenings, well-child examinations, and screening mammograms among others.
- The law requires these preventive services to be paid at 100% of the allowed or contracted rate when performed by a contracted or in-network healthcare provider, leaving the patient with zero financial responsibility.
- **Cost-sharing does not apply.** This wording simply means that a patient's co-insurance, co-payment, and deductible are waived for the applicable services.

# Patient Presentation

## SCREENING OBESITY VISIT:

Preventive Office visit CPT=99396

Modifier - 33

ICD-9 = V77.8 Screening for Obesity, other dx

## OBESITY TREATMENT VISITS:

Office Visit Est 15min CPT=99213

Obesity Counseling CPT=99401

ICD-9 = 278.0x, V85.xx, other dx

# Why MEDICAL WEIGHT LOSS?

## ▶ INSURANCE COVERAGE

- Screening (Annually)
  - USPSTF Class B Recommendation
  - Part of the Accountable Care Act
- Treatment (Varies by Plan)
  - Medicare was the FIRST to include coverage
  - Sets number of visits, sets weight loss goals

## ▶ Referral for Surgical evaluation, if needed



# Patient Presentation

Is our patient a candidate for weight-loss surgery?



# Weight-Loss Surgery

## ▶ Indications

- BMI > 40
- BMI > 35 + 1 comorbid condition
- Previous unsuccessful weight loss attempts

## ▶ Contraindications

- Substance abuse in the last 6 months
- Active psychiatric disease in the last 1 year
- Active bingeing or bulimia
- Non-compliant
- Poor competence

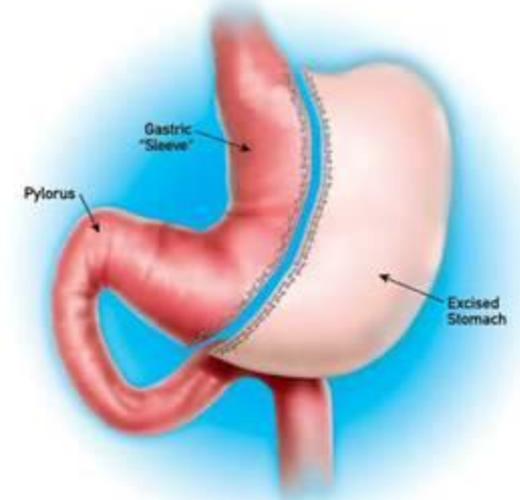
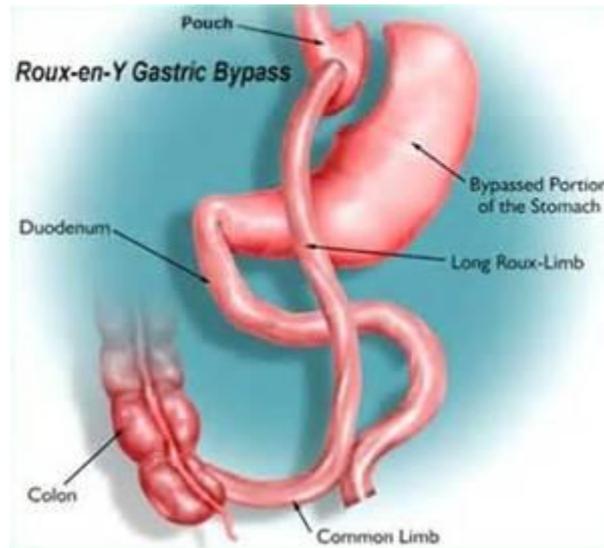
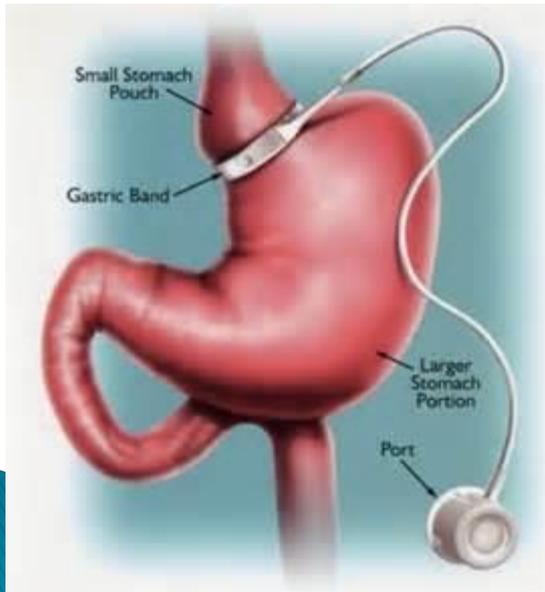
## ▶ Not-Contraindicated

- A1c > 8
- Advanced age
- New cancer diagnosis



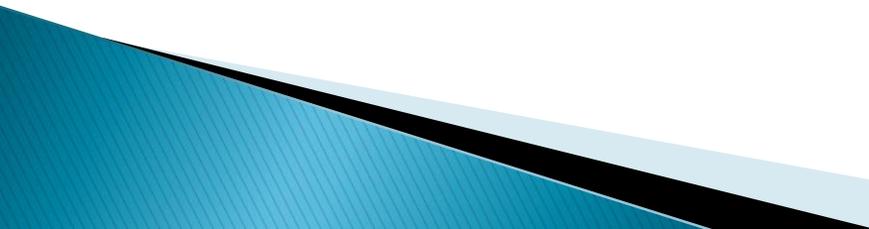
# Weight Loss Surgery

Surgery	Percent of Cases	Weight Loss
Gastric Band	10%	15–25% BWL
Gastric Bypass	37%	34–40% BWL
Sleeve Gastrectomy	53%	25–30% BWL



# Patient Presentation

So now back to our patient –

1. Started 800cal VLCD – later transitioned
  2. Reduced insulin by 50% at first visit
  3. Completely eliminated in week 2
  4. Backed off Actos, then Januvia, then Glucophage–XR systematically
  5. Reduced ACEi dosing with lower BP
  6. Sleep and mood issues improved
  7. Continues to follow–up routinely for weight loss maintenance and counseling.
- 

# Patient 1

- ▶ Weight = 317 pounds
- ▶ BMI = 50
- ▶ Body Fat % – 48.1  
(Goal 23–35)
- ▶ Water % – 40.5  
(Goal 40–60)
- ▶ BMR – 2090 cal

DIABETES (3 meds,  
Insulin) →

- ▶ Weight = 208 (-109#)
- ▶ BMI = 33
- ▶ Body Fat % – 37.7  
Loss of 74 pounds
- ▶ Water % – 46  
(33 pounds)
- ▶ BMR – 1614 cal

\*\*\*OFF MEDS\*\*\*

START (LCD-Mod-Cal)

FINISH (16 months)

# Patient 2

- ▶ Weight = 168 pounds
- ▶ BMI = 33
- ▶ Body Fat % – 35.8  
(Goal 22–34)
- ▶ Water % – 47  
(Goal 40–60)
- ▶ BMR – 1455 cal

High Blood Pressure →

START (Low-Calorie Diet)

- ▶ Weight = 133 (–35#)
- ▶ BMI = 26
- ▶ Body Fat % – 29.7  
Loss of 20.5 pounds
- ▶ Water % – 50  
(12.5 pounds)
- ▶ BMR – 1294 cal

\*\*\*OFF MEDS\*\*\*

FINISH (8 weeks)

# Patient 3

- ▶ Weight = 292.5 pounds
- ▶ BMI = 43
- ▶ Body Fat % – 35.7  
(Goal 11–23)
- ▶ Water % – 45.5  
(Goal 40–60)
- ▶ BMR – 2324 cal

ORTHOPEDIC issues →

START (Appetite  
Suppressant)

- ▶ Weight = 213.5 (–79#)
- ▶ BMI = 32
- ▶ Body Fat % – 27.3  
Loss of 46 pounds
- ▶ Water % – 54  
(17.5 pounds)
- ▶ BMR – 1833 cal

Reduced need for joint  
surgery

FINISH (14 months)

# Patient 4

- ▶ Weight = 159 pounds
- ▶ BMI = 29
- ▶ Body Fat % – 30.6  
(Goal 21–33)
- ▶ Water % – 49.5  
(Goal 40–60)
- ▶ BMR – 1458 cal

STRESS issues →

START (Calorie counting  
plan)

- ▶ Weight = 136.5 (–22.5)
- ▶ BMI = 25
- ▶ Body Fat % – 29.7  
Loss of 12.5 pounds
- ▶ Water % – 51.5  
(8 pounds)
- ▶ BMR – 1361 cal

“Feel more like  
themselves”

FINISH (6 months)

# Patient 5

- ▶ Weight = 258.5 pounds
- ▶ BMI = 41
- ▶ Body Fat % – 42.8  
(Goal 23–35)
- ▶ Water % – 43.5  
(Goal 40–60)
- ▶ BMR – 1889 cal

FAM HX DM, HTN, Chol →

START (LCD–Mod–App  
Supp)

- ▶ Weight = 185 (–73.5#)
- ▶ BMI = 33
- ▶ Body Fat % – 34.6  
Loss of 46.5 pounds
- ▶ Water % – 47.5  
(24.5 pounds)
- ▶ BMR – 1571 cal

\*\*\*REDUCED  
RISK\*\*\*28%BWL

CONT(11 months)

# Patient 6

- ▶ Weight = 263 pounds
- ▶ BMI = 40
- ▶ Body Fat % – 42.4  
(Goal 23–35)
- ▶ Water % – 43.5  
(Goal 40–60)
- ▶ BMR – 1915 cal

PRE-GASTRIC BAND →

START (Pre & Post Surgery,  
Appetite Suppressant)

- ▶ Weight = 198.5 (–64.5)
- ▶ BMI = 31
- ▶ Body Fat % – 34.9  
Loss of 42 pounds
- ▶ Water % – 47.5  
(20 pounds)
- ▶ BMR – 1627 cal

\*\*\*MAINT PROG & RX\*\*\*

CONT (18 months)

# Patient 7

- ▶ Weight = 209.5 pounds
- ▶ BMI = 29
- ▶ BMI Percentile >95<sup>th</sup>
- ▶ Body Fat % – 24.1
- ▶ Water % – 57  
(Goal 40–60)
- ▶ BMR – 2144 cal

ADOLESCENT →

START (Calorie Counting)

- ▶ Weight = 194 (–15.5#)
- ▶ BMI = 27
- ▶ BMI Percentile 90<sup>th</sup>
- ▶ Body Fat % – 19.4  
(down 13)
- ▶ Water % – 62  
(+1 pound)
- ▶ BMR – 2049 cal

\*\*\*Diet/Exercise\*\*\*

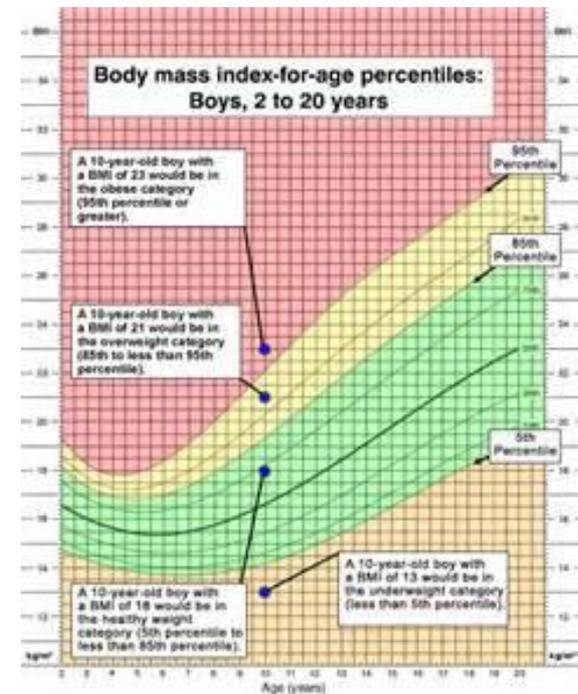
CONT (3 months)



# Pediatric Obesity

- ▶ BMI percentiles – NOT BMI
  - 85<sup>th</sup> to 94<sup>th</sup> percentile → Overweight
  - >95<sup>th</sup> percentile → Obese
  - >99<sup>th</sup> percentile → Severe obesity (youths 10–12)
  - BMI  $\geq$  34 for 14–16 year olds
- ▶ Risk of Obesity at age 35
  - 3–5yo >95<sup>th</sup> percentile – 20%
  - 17–20yo >95<sup>th</sup> percentile – 60%

Guo et. Al. Am J Clin Nutrition 2002; 76: 653–8.



# Pediatric Obesity



- 5** or more fruits & vegetables
- 2** hours or less recreational screen time\*
- 1** hour or more of physical activity
- 0** sugary drinks, more water & low fat milk

\*Keep TV/Computer out of the bedroom. No screen time under the age of 2.



## Diet History

- ▶ Juice
- ▶ Portions
- ▶ Frequency
- ▶ Breakfast
- ▶ Eating out
- ▶ Snacking

# Pediatric Obesity



- 5** or more fruits & vegetables
- 2** hours or less recreational screen time\*
- 1** hour or more of physical activity
- 0** sugary drinks, more water & low fat milk

\*Keep TV/Computer out of the bedroom. No screen time under the age of 2.



## Activity History

- ▶ Television / Screen time
- ▶ Structured activity
- ▶ Unstructured activity

## Family History

- ▶ 1<sup>st</sup> & 2<sup>nd</sup> degree relatives determines <6yo risk

# Pediatric Obesity



Every Day!

- 5** or more fruits & vegetables
- 2** hours or less recreational screen time\*
- 1** hour or more of physical activity
- 0** sugary drinks, more water & low fat milk

\*Keep TV/Computer out of the bedroom. No screen time under the age of 2.



## School History

- ▶ Performance
- ▶ Bullying

## “Red Flags”

- ▶ Enuresis
- ▶ Sleep disturbance
- ▶ Poor School Performance
- ▶ Family support/  
environment

# Pediatric Obesity

## Laboratory Tests for Evaluation of Childhood Overweight & Obesity

Age	Overweight	Obese
<10 years old	Lipids every 2 years	Lipids every 2 years
>10 years old + NO RF	Lipids every 2 years	Lipids every 2 years plus ALT/AST and fasting glucose
>10 years old + RF (HTN, smoking, Fam Hx DM, CVD, stroke)	Lipids every 2 years plus ALT/AST and fasting glucose	Lipids every 2 years plus ALT/AST and fasting glucose

# Pediatric Obesity

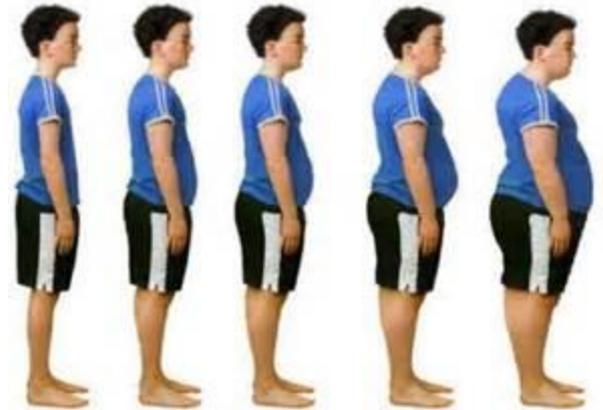
## WEIGHT LOSS GOALS IN KIDS

Weight	Percentile	2-5 yo	6-11 yo	12-18 yo
Healthy	5 <sup>th</sup> - 84 <sup>th</sup>	Maintain	Maintain	Maintain
Overweight, no RF	85 <sup>th</sup> - 94 <sup>th</sup>	Maintain	Maintain	Maintain
Overweight, +RF	85 <sup>th</sup> - 94 <sup>th</sup>	Maintain/ slow gain	Maintain	Maintain / gradual weight loss (1#/mo)
Obesity	>95 <sup>th</sup>	Maintain	Gradual weight loss (1#/mo)	Weight loss (2#/mo)
Severe	>99 <sup>th</sup>	Gradual weight loss (1#/mo)	Weight loss (2#/mo)	Weight loss (2#/week)

# Pediatric Obesity

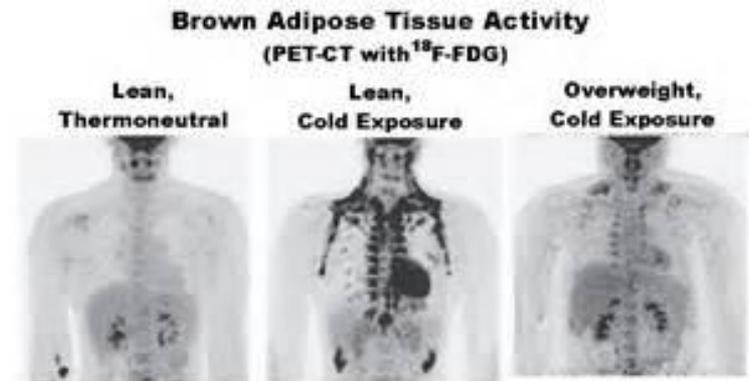
- ▶ Stage 1 – Prevention Plus
- ▶ Stage 2 – Structured Weight Management
- ▶ Stage 3 – Comprehensive/Multidisciplinary
- ▶ Stage 4 – Tertiary Care

\*\*\* Each stage increases frequency of visits and intensity of recommendations and management.



# Future Research???

- ▶ Cardiometabolic–specific labs
  - Leptin
  - Adiponectin
- ▶ Brown–adipose tissue (BAT)
- ▶ Infect–obesity
  - Adenovirus
  - Gut bacteria transfers



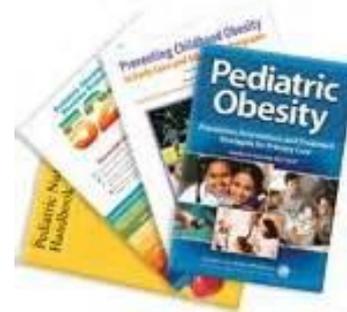
# Resources



- AAFP website, Clinical Guidelines
- Books (AAFP, AAP, ACSM, etc.)
- Research Articles (NEJM, JAMA)
- Membership (ASBP, Obesity Coalition)
- Advanced Training and Certification (ASOM)

## NEW Personal Goals:

- ✓Obesity Screening Appointments
- ✓Corporate Wellness Partners
- ✓Support Group (monthly)
- ✓Exercise Classes



ACSM's  
Resource Manual for  
Guidelines for Exercise Testing  
and Prescription



# Pre-Session Questions

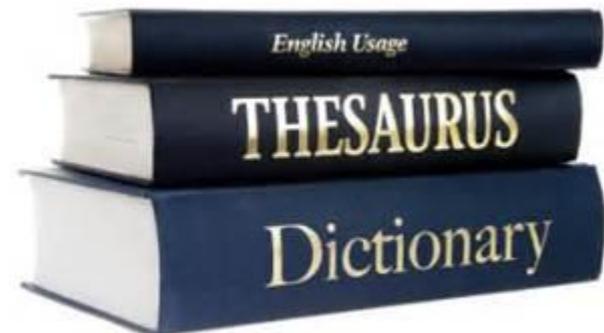


1. Do health care providers have an ‘obesity bias’ greater than, equal to or less than the general population?
2. How many calories does it take for a patient to lose 1 pound?
3. What are the male and female cutoffs for body fat percentage in obesity?
4. How many intensive behavioral sessions does Medicare allow for in the first year of treatment?
5. Describe how modifier –33 from the CPT handbook is useful for obesity billing?

**BONUS:** Which healthcare providers are best suited to help overweight and obese patients in the office?

# References

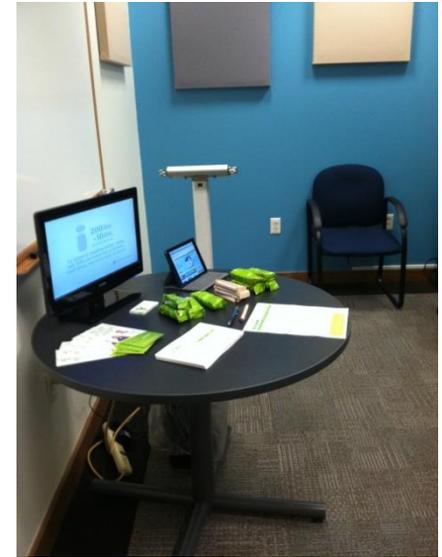
- ▶ American Academy of Family Physicians: [www.aafp.org](http://www.aafp.org)
- ▶ American Society of Bariatric Physicians: [www.asbp.org](http://www.asbp.org)
- ▶ American Heart Association: [www.heart.org](http://www.heart.org)
- ▶ The Center for Medical Weight Loss: [www.cmwl.com](http://www.cmwl.com)
- ▶ Blackburn Course in Obesity Medicine –Harvard, June 2014.
- ▶ ACSM's Guidelines for Exercise Testing and Prescription 9<sup>th</sup> edition
- ▶ Pediatric Obesity – Prevention, Intervention, and Treatment Strategies for Primary Care 2<sup>nd</sup> edition. Hassink, MD, FAAP



# QUESTIONS???



Thank you very much for  
your participation and  
attention!



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SOUTH WINDSOR

