

Obesity Management Workbook



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The information contained in this presentation was obtained from multiple sources. It is the responsibility of the user to update themselves on current medical concepts and treatments as well as the current medical practices in the states where they practice as a healthcare professional.

Tips for Primary Care Providers

- Contraindications to obesity treatment
 - Pregnancy or lactating women
 - Anorexia nervosa
 - Terminal illness
- Medical and psychiatric issues need stabilization prior to starting a weight loss program
- Individuals with gallstones or osteoporosis may have their conditions worsened with weight loss therapy

Bray, G.A. & Bouchard, C. (2004). Handbook of Obesity: Clinical Applications (2nd ed.) New York: Marcel Dekker, Inc.

- Patients must be ready and motivated to lose weight or else they will not be successful
- There are over 30,000 diets that have copyrights.....only 2% of individuals can follow a diet
- Develop both long term and short term weight loss goals
 - Examples:
 - Long term goal (5 years) = 50 lbs
 - 10 lbs per year or 0.75 lbs per month (That's do-able!!!!)
 - Short term goal (1 year) = 12 lbs
 - 1 lb per month
- In order to maintain weight loss success, make changes to your weight loss regimen at the six month mark

Tips for Talking About Weight Control

- 1. Address your patient's chief health concerns or complaints first, independent of weight.** Patients do not want health care professionals to place blame or attribute all of their health problems to weight.
- 2. Open the discussion.** Open the conversation by finding out if your patient is willing to talk about weight, or expressing your concerns about how his or her weight affects health. Next, you might ask your patient to describe his or her weight. Here are some sample discussion openers:

"Mr. Lopez, could we talk about your weight? What are your thoughts about your weight right now?"

"Mrs. Brown, I'm concerned about your weight because I think it is causing health problems for you. What do you think about your weight?"

Be sensitive to cultural differences that your patients may bring to the discussion regarding weight, food preferences, social norms and practices, and related issues. Patients may be more open when they feel respected.

- 3. Decide if your patient is ready to control weight.** Ask more questions to assess a patient's readiness to control weight. Some sample questions are below.

"What are your goals concerning your weight?"

"What changes are you willing to make to your eating and physical activity habits right now?"

"What kind of help would you like from me regarding your weight?"

A patient who is not yet ready to attempt weight control may still benefit from a discussion about healthy eating and regular physical activity, even if he or she is not ready to make behavioral changes. A talk focusing on the ways weight may affect health may also be appropriate because it may help bring weight loss to the forefront of your patient's mind. You can reassess the patient's readiness to control weight at the next office visit. A patient who is ready to control weight will benefit from setting a weight-loss goal, receiving advice about healthy eating and regular physical activity, and follow-up.

- 4. Set a weight goal.** A 5 to 10 percent reduction in body weight over 6 months is a sensible weight-loss goal. One-half to 2 pounds per week is a safe rate of weight loss. A goal of maintaining current weight and preventing weight gain may be appropriate for some patients.

It may be beneficial to focus on improving other diet- and exercise-related risk factors too. Some patients may lose weight very slowly, which can be discouraging. Improving risk factors such as cholesterol levels may motivate patients, especially if changes are achieved in the face of slow weight loss.

National Institutes of Health: Weight-Control Information Network (WIN). Tips for Talking about Weight Control. Retrieved June 8, 2009 from <http://www.win.niddk.nih.gov/index.htm>.

Tips for Talking About Weight Control

- 5. Prescribe healthy eating and physical activity behaviors.** Give your patient concrete actions to take to meet his or her weight goal over the next 6 months. Write a prescription for healthier eating and increased physical activity (see sample prescription). You can also direct your patients to print WIN's online resources about weight, healthy eating, and physical activity.

Another option is to refer patients to a weight-loss program, a registered dietitian who specializes in weight control, or a certified fitness professional. The American Dietetic Association (www.eatright.org) offers referrals to registered dietitians throughout the United States, and the American College of Sports Medicine (www.acsm.org) offers a search engine for certified fitness professionals. In addition, the online WIN document *Choosing a Safe and Successful Weight-loss Program* can help your patients during this process. This publication offers a list of questions patients may ask their health care providers before deciding on a weight-loss plan, as well as various tips on what to look for in such programs.

Some patients may benefit from a weight-loss medication or obesity surgery. The fact sheets *Prescription Medications for the Treatment of Obesity* and *Bariatric Surgery for Severe Obesity* from WIN offer more information about these two treatments. Also, note that some people try herbal treatments to improve their health. Ask your patients if they are taking herbal supplements and provide advice on the use of these products. For more information, contact the National Center for Complementary and Alternative Medicine, which serves as a resource on herbs for professionals and the public (www.nccam.nih.gov).

- 6. Follow up.** When you see your patient again, note progress made on behavior changes, such as walking at least 5 days a week. If your patient has made healthy behavior changes, offer praise to boost self-esteem and keep him or her motivated. Likewise, discuss setbacks to help your patient overcome challenges and be more successful. Set a new weight goal with your patient. This may be for weight loss or prevention of weight gain. Discuss eating and physical activity habits to change or maintain to meet the new weight goal.

National Institutes of Health: Weight-Control Information Network (WIN). Tips for Talking about Weight Control. Retrieved June 8, 2009 from <http://www.win.niddk.nih.gov/index.htm>.

Calculations

Formula Name	Description	Formula
<p>Stored Body Fat</p>	<p>The number of calories in a pound. The average amount of fat lost in one pound is normally 75% while the other 25% is lean tissue.</p>	<p>One pound of stored body fat = 3500 calories</p> <p>Thus, deleting 500 calories from your daily diet will produce a 1 pound weight loss / week. In addition, the calorie restriction may be through diet alone or a combination of calorie restriction through dietary intake as well as burning more calories through exercise.</p> <p>NOTE: The American College of Sports Medicine (ACSM) recommends that women should take in at least 1200 calories per day and men take in at least 1800 calories per day.</p>
<p>Basal Metabolic Rate (Ideal estimation; however, most use the Resting Metabolic Rate (RMR) due to the requirements for this testing as seen under the "NOTE" under description.</p> <p>Harris J.A. & Benedict F.G. (1919) A biometric study of basal metabolism in man. Washington, DC: Carnegie Institute of Washington, Publication no 279.</p> <p>Benedict, F.G. (1928). Basal metabolism data on normal men and women (series II) with some considerations on the use of prediction standards. <i>Am J Physiol</i>, 85:607-620.</p> <p>Roza, A.M. & Shizgal, H.M. (1984). The Harris Benedict equation reevaluated: Energy requirements and body cell mass. <i>Am J Clin Nutr</i>, 40, 168-182.</p>	<p>This formula estimates how many calories are burned within 24 hrs while doing nothing. This the amount of energy required to keep your heart beating, lungs breathing, and maintain your body temperature. It utilizes height, weight, age, and gender in its calculation.</p> <p>NOTE: Should be taken after waking up after 8 hours of sleep; 12 hours of fasting; and, being in a reclining position. Usually performed in a sleep center.</p> <p>Activity Level Examples:</p> <p><u>Sedentary:</u> Little / no exercise / desk job <u>L. Active:</u> Light exercise / sports 1-3 days/ week <u>M. Active:</u> Moderate exercise / sports 3-5 days / week <u>V. Active:</u> Hard exercise / sports 6-7 days / week <u>E. Active:</u> Hard daily exercise or sports & physical job</p>	<p>Harris Benedict Equation for BMR:</p> <ul style="list-style-type: none"> Men: $(13.75 \times w) + (5 \times h) - (6.76 \times a) + 66$ Women: $(9.56 \times w) + (1.85 \times h) - (4.68 \times a) + 655$ <p>w = weight in kg h = height in cm a = age in years</p> <ul style="list-style-type: none"> Men: $(6.23 + W) + (12.7 \times H) - (6.8 \times A) + 66$ Women: $(4.35 \times W) + (4.7 \times H) - (4.7 \times A) + 655$ <p>W = weight in pounds H = height in inches A = age in years</p> <ul style="list-style-type: none"> Activity Multiplier <ul style="list-style-type: none"> Multiply the end BMR product with one of the activity levels appropriate for each person <ul style="list-style-type: none"> Sedentary = multiply by 1.2 Lightly active = multiply by 1.375 Moderately active = multiply by 1.55 Very active = multiply by 1.725 Extremely active = multiply by 1.9
<p>Resting Metabolic Rate</p> <p>Mifflin, M.D. St. Jeor, S.T., Hill, L.A., Scott, B.J., Dougherty, S.A., & Koh, Y.O. (1990). A new predictive equation for resting energy expenditure in healthy individuals. <i>Am J Clin Nutr</i>, 51, 241-247.</p>	<p>General formula to estimate calorie needs in individuals based on their Resting Metabolic Rate (RMR). This the amount of energy required to keep your heart beating, lungs breathing, and maintain your body temperature. It utilizes height, weight, age, and gender in its calculation. The RMR has fewer restrictions.</p> <p>NOTE: Does not require obtaining the RMR after sleeping 8 hours.</p>	<p>Mifflin Equation for RMR:</p> <ul style="list-style-type: none"> Men: $(10 \times w) + (6.25 \times h) - (5 \times a) + 5$ Women: $(10 \times w) + (6.25 \times h) + (5 \times a) - 161$ <p>w = weight in kg h = height in cm a = age in years</p>

Office Environment

Physical Environment

1. Accessibility
 - Doorway
 - Stairs
 - Chairs
 - Restrooms

2. Equipment
 - Blood pressure cuffs
 - Gowns
 - Examining room tables
 - Weight scales
 - Step stools

3. Educational materials
 - BMI
 - Behavioral change
 - Nutrition
 - Exercise
 - Medications
 - Surgery
 - Disease states

Patient/HCP Relationship

- What type of relationship do you have with your patient? Bray (2004) discusses the “Patient Power / Interest” and the “Provider Power / Interest” as seen in the table below.

		Provider Power / Interest	
		High	Low
Patient Power / Interest	High	Mutuality “Work as partners”	Consumerism “What ever you want”
	Low	Paternalism “Do what I say”	Dysfunctional “Don’t ask: Don’t tell”

Adapted from Bray, G.A. (2004)

For more information see:

Bray, G.A. (2004). Office management of obesity. Philadelphia, PA: Saunders. (pages 129 & 135)

Eckel, R.H. (2008). Nonsurgical management of obesity in adults. *The New England Journal of Medicine*, 358(18), 1941-1950.

National Task Force on the Prevention and Treatment of Obesity. (2002). Medical care for obese patients: Advice for health care professionals. *American Family Physician*, 65(1), 81-88.

Motivation

- Motivation is a key factor in a patient attempting to lose weight. Without motivation the patient is not really ready to begin this part of their weight loss journey.
- Look at the history of previous weight loss attempts.
 1. Has the individual attempted to lose weight in the past?
 - a. What methods has he/she tried, i.e., diet, exercise, medication, behavioral therapy, surgery?
 2. What issues did they have in the past while attempting to lose weight, i.e., maintenance, not being able to stick to a diet regimen, etc.,?
 3. Does the individual have a support system in place, i.e., family, friends, church, co-workers, etc.?
 4. Do they have the time to put into their weight loss regimen?

Subjective History

- History of:
 - Hypertension
 - Coronary artery disease
 - Peripheral arterial disease
 - Type 1 or 2 Diabetes Mellitus
 - Sleep apnea
 - Gynecologic abnormalities
 - Stress incontinence
 - Gallstones
 - Cancer
 - Cigarette smoking
 - Hyperlipidemia
 - Osteoarthritis
 - Impaired fasting glucose
 - Metabolic syndrome
 - Post menopause
 - Patterns of food intake / Eating disorders
 - Psychological conditions
 - Physical inactivity
 - Age
 - Men \geq 45 years
 - Women \geq 55 years
 - Family history
 - Hypertension
 - Coronary artery disease
 - Diabetes Mellitus
- Check medication usage:
 - Psychiatric / Neurologics
 - Antidepressants
 - Mood stabilizers
 - Antiepileptics
 - Antihypertensives
 - Steroid hormones
 - Antidiabetics
 - Antihistamines
 - HIV protease inhibitors

For more information:

National Institutes of Health, National Heart, Lung, and Blood Institute. *Clinical guidelines on the identification, evaluation, and treatment of overweight and obesity in adults--the evidence report*

Physical Exam Evaluation

Physical Examination	Evaluation																																						
<p>General</p> <ul style="list-style-type: none"> Appearance: <ul style="list-style-type: none"> Adult Overweight or Obese Pediatric Overweight or Obese Vital Signs <ul style="list-style-type: none"> Height, weight, BMI (as above) Waist circumference Blood pressure 	<table border="1"> <thead> <tr> <th>Weight Category</th> <th>BMI (kg Class per m²)</th> <th>Waist Circumference Men: ≤ 40 in Women: ≤ 35 in</th> <th>Waist Circumference Men: ≥ 40 in Women: ≥ 35 in</th> </tr> </thead> <tbody> <tr> <td>Underweight</td> <td>< 18.5</td> <td>Low</td> <td>-----</td> </tr> <tr> <td>Normal</td> <td>18.5 – 24.9</td> <td>-----</td> <td>-----</td> </tr> <tr> <td>Overweight</td> <td>25 – 29.9</td> <td>Increased</td> <td>High</td> </tr> <tr> <td>Obesity: Class I</td> <td>30 – 34.9</td> <td>High</td> <td>Very high</td> </tr> <tr> <td>Obesity: Class II</td> <td>35 – 39.9</td> <td>Very high</td> <td>Very high</td> </tr> <tr> <td>Obesity: Class III</td> <td>≥ 40</td> <td>Extremely high</td> <td>Extremely high</td> </tr> </tbody> </table> <table border="1"> <thead> <tr> <th>Weight Category</th> <th>BMI (percentile)</th> </tr> </thead> <tbody> <tr> <td>Underweight</td> <td>< 5 %</td> </tr> <tr> <td>Normal</td> <td>5 – 84 %</td> </tr> <tr> <td>Overweight</td> <td>85 – 94 %</td> </tr> <tr> <td>Obesity</td> <td>≥ 95 %</td> </tr> </tbody> </table>	Weight Category	BMI (kg Class per m ²)	Waist Circumference Men: ≤ 40 in Women: ≤ 35 in	Waist Circumference Men: ≥ 40 in Women: ≥ 35 in	Underweight	< 18.5	Low	-----	Normal	18.5 – 24.9	-----	-----	Overweight	25 – 29.9	Increased	High	Obesity: Class I	30 – 34.9	High	Very high	Obesity: Class II	35 – 39.9	Very high	Very high	Obesity: Class III	≥ 40	Extremely high	Extremely high	Weight Category	BMI (percentile)	Underweight	< 5 %	Normal	5 – 84 %	Overweight	85 – 94 %	Obesity	≥ 95 %
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<p>HEENT / Neck:</p> <ul style="list-style-type: none"> Temporary loss of vision, double vision or blurred vision Funduscopy: Papilledema Loss of balance Short, thick neck, neck circumference: men > 17 inches & women > 16 inches Enlarged uvula / tonsillar hypertrophy Lower face abnormalities, e.g., receding chin, underbite, 	<p>Consider TIA, cerebrovascular disease</p> <p>Consider increased intracranial pressure</p> <p>Consider TIA, cerebrovascular disease</p> <p>Consider sleep apnea (Pickwickian Syndrome)</p> <p>Consider sleep apnea</p> <p>Consider sleep apnea</p>																																						
<p>Cardiovascular / Peripheral Vascular:</p> <ul style="list-style-type: none"> Elevated blood pressure, murmurs Varicose veins Absent / diminished arterial pulses, bruits Lower extremity edema 	<p>Consider hypertension, coronary artery disease, congestive heart failure</p> <p>Consider venous insufficiency</p> <p>Consider peripheral arterial disease</p> <p>Consider sleep apnea, congestive heart failure, increased intra-abdominal pressure</p>																																						
<p>Pulmonary:</p> <ul style="list-style-type: none"> Hypoventilation 	<p>Consider sleep apnea, right heart failure</p>																																						
<p>Abdomen / Pelvic / Rectal:</p> <ul style="list-style-type: none"> Apple versus pear shaped Right upper quadrant tenderness to palpation Prostate nodules / mass / + hemoccult Bruits 	<p>Consider cholelithiasis</p> <p>Consider prostate cancer and/or colon cancer</p> <p>Consider aneurysm / atherosclerosis</p>																																						
<p>Musculoskeletal:</p> <ul style="list-style-type: none"> Bony enlargement of joints, range of motion limitations, crepitus, tenderness with motion 	<p>Consider osteoarthritis</p>																																						
<p>Neurological / Psychological:</p> <ul style="list-style-type: none"> Numbness, tingling of extremity(ies) Loss of memory 	<p>Consider TIA, cerebrovascular disease</p> <p>Consider TIA, cerebrovascular disease, depression</p>																																						
<p>Skin:</p> <ul style="list-style-type: none"> Hair loss, poor nail growth, dry, scaly, atrophic skin & dependent rubor Acanthosis nigricans Chronic skin infections Hirsutism Thickened skin 	<p>Consider peripheral arterial disease</p> <p>Consider diabetes mellitus; high insulin levels</p> <p>Consider peripheral arterial disease, venous insufficiency</p> <p>Consider polycystic ovary syndrome</p> <p>Consider Cushing's syndrome</p>																																						

Diagnostic Testing

Diagnosis	Test	Monitor
Obesity (Routine testing*)	<ol style="list-style-type: none"> 1. CBC 2. Fasting blood glucose and/or 2-hr postprandial glucose 3. Triglycerides, LDL, HDL 4. Chemistry panel 5. Thyroid profile 6. Urinalysis 7. Electrocardiogram 	<ol style="list-style-type: none"> 1. Anemia 2. Diabetes Mellitus 3. Hyperlipidemia 4. Renal or liver disease 5. Hypothyroidism 6. Renal disease, diabetes mellitus 7. Cardiac disease, e.g., MI
Overweight / Obesity	<ol style="list-style-type: none"> 1. Body Mass Index 2. Waist circumference 	<ol style="list-style-type: none"> 1. See physical examination page 2. Same as above
Cholelithiasis / Gallbladder disease	<ol style="list-style-type: none"> 1. Ultrasound 	<ol style="list-style-type: none"> 1. Gallstones
Cushing's Syndrome	<ol style="list-style-type: none"> 1. 24-hr urine for free cortisol 2. Dexamethasone suppression test 	<ol style="list-style-type: none"> 1. Urine cortisol levels (> 150 µg/24 hr is abnormal) 2. Serum cortisol levels (< 5 normal suppression)
Diabetes Mellitus	<ol style="list-style-type: none"> 1. Fasting blood glucose and/or 2-hr postprandial glucose 2. HgbA1c / Glycomark 	<ol style="list-style-type: none"> 1. Diabetes Mellitus 2. Uncontrolled Diabetes Mellitus
Fatty Liver (nonalcoholic steatohepatitis)	<ol style="list-style-type: none"> 1. Liver function tests 2. Ultrasound 	<ol style="list-style-type: none"> 1. Liver disease 2. Same as above
Hypothyroidism	<ol style="list-style-type: none"> 1. Thyroid function tests 	<ol style="list-style-type: none"> 1. Thyroid function
Insulinoma	<ol style="list-style-type: none"> 1. Serum insulin 2. Serum C-peptide 	<ol style="list-style-type: none"> 1. Serum insulin levels (normal ≤ 25 µU/mL) fasting 2. C-peptide levels (Adults ≤ 60 ≤ 4.0 ng/mL) (Female > 60 1.4 – 5.5 ng/mL) (Male > 60 1.5 – 5.0 ng/mL)
Polycystic Ovarian Syndrome	<ol style="list-style-type: none"> 1. LH:FSH ratio 2. Ultrasound 	<ol style="list-style-type: none"> 1. Increased > 2.5-3.0 (50% women with PCOS) 2. Polycystic ovaries
Sleep apnea	<ol style="list-style-type: none"> 1. CBC 2. Pulmonary Function Tests 3. Electrocardiogram 	<ol style="list-style-type: none"> 1. Polycythemia 2. Reduced lung volume 3. Right heart strain

***NOTE:** Order only the necessary tests that you need. The routine obesity panel listed above has been obtained from various books, documents, and articles. Some only suggest thyroid, lipids and fasting glucose. Use your discretion when ordering tests. Remember, each patient has a unique history and you need to order tests appropriate for that history.

Bray, G. (2004). Office management of obesity. Philadelphia: Saunders.

Bray, G.A. & Bouchard, C. (eds.) (2004). Handbook of obesity: Clinical applications (2nd ed.). New York: Marcel Dekker, Inc.

Chernecky, C.C. & Berger, B.J. (2001). Laboratory tests and diagnostic procedures (3rd ed.). Philadelphia: Saunders.

Eckel, R.H. (2008). Nonsurgical management of obesity in adults. *The New England Journal of Medicine*, 258, 1941-1950.

Weight Loss Regimens

Regimen	Evidence Statement* / Journal Article	Evidence Category	References
Exercise	Physical activity, e.g., aerobic exercise, in overweight and obese adults results in modest weight loss independent of the effect of caloric reduction through diet. (p. 45)	A	NHBLI <i>Clinical Guidelines on the Identification, Evaluation, and Treatment of Overweight and Obesity in Adults: The Evidence Report</i> (NIH Publication No. 98-4083, September 1998).
	Fifteen RCTs were reviewed by Wing et al. "In most studies, exercise does not significantly increase initial weight loss over and above that obtained with diet alone. However, in almost all studies the diet plus exercise group lost somewhat more weight than the diet alone condition."	A	Wing, R.R. (1999). Physical activity in the treatment of adulthood overweight and obesity: Current evidence and research issues. <i>Med Sci Sports Exerc</i> , 31(11), S547-S552.
	Sixteen RCTs were reviewed by Catenacci & Wyatt "Substantial weight loss can be achieved with physical activity alone when the appropriate volume of exercise is prescribed and energy intake is held constant but for many overweight and obese individuals this strategy is not sufficient as the volume of exercise required is difficult to achieve and sustain."	N/A	Catenacci, V.A. & Wyatt, H.R. (2007). The role of physical activity in producing and maintaining weight loss. <i>Nature Clinical Practice: Endocrinology and Metabolism</i> , 3(7), 518-529.
Diet	"Low calorie diets (LCD) can reduce total body weight by an average of 8 percent over 3 to 12 months." (p. 42) "Very low calorie diets (VLCD) produce greater initial weight loss than LCDs. However, the long term (> 1 yr) weight loss is not different from that of the LCD." (p. 43) "Although lower-fat diets without targeted caloric reduction help promote weight loss by producing a reduced caloric intake, lower-fat diets coupled with total caloric reduction produce greater weight loss than lower-fat diets alone." (p. 43)	A A A	NHBLI <i>Clinical Guidelines on the Identification, Evaluation, and Treatment of Overweight and Obesity in Adults: The Evidence Report</i> (NIH Publication No. 98-4083, September 1998).
	Scientific review of most popular diets by Institute of Medicine: "All popular diets, as well as diets recommended by governmental and nongovernmental organizations, results in weight loss." "However, it is important to note that weight loss is not the same as weight maintenance." (p. 2S)	N/A	Freedman, M.R., King, J. & Kennedy, E. (2001). Popular diets: A scientific review. <i>Obesity Research</i> , 9, (Suppl. 1), 1S-40S.
	Four popular diets (Atkins, Ornish, Weight Watchers and Zone): "No single diet produced satisfactory adherence rates and the progressively decreasing mean adherence scores were practically identical among the four diets." (p. 50). Note: Each diet produced weight loss; however, adherence was an issue.	N/A	Dansinger, M.L., Gleason, J.A., Griffith, J.L., Selker, H.P., & Schaefer, E.J. (2005). Comparison of the Atkins, Ornish, Weight Watchers, and Zone diets for weight loss and heart disease risk reduction. <i>JAMA</i> , 293, 43-53.
Diet and Exercise	"The combination of a reduced calorie diet and increased physical activity produces greater weight loss than diet alone or physical activity alone." (p. 47)	A	NHBLI <i>Clinical Guidelines on the Identification, Evaluation, and Treatment of Overweight and Obesity in Adults: The Evidence Report</i> (NIH Publication No. 98-4083, September 1998).
	Systematic review: "Programs including both diet and exercise produce greater weight loss than diet alone in obese and overweight individuals soon after the intervention period and after 1 year of follow-up." (p. 1171)	N/A	Curioini, C.C. & Lourenco, P.M. (2005). Long-term weight loss after diet and exercise: A systematic review. <i>International Journal of Obesity</i> , 29, 1168-1174.

Weight Loss Regimens (Continued)

Regimen	Evidence Statement*	Evidence Category	References / Journal Article
Behavior Therapy Goal: Alter eating and activity habits of the overweight or obese patient.	<p>"No one behavioral therapy appeared superior to any other in its effect on weight loss; rather, multimodal strategies appeared to work best and those interventions with the greatest intensity appeared to be associated with the greatest weight loss." (p. 50)</p>	A	NHBLI <i>Clinical Guidelines on the Identification, Evaluation, and Treatment of Overweight and Obesity in Adults: The Evidence Report</i> (NIH Publication No. 98-4083, September 1998).
	<p>Meta-analysis on 36 RCTs using psychological interventions : Using either behavioral or cognitive-behavioral therapy in addition to dieting and physical activity enhances weight loss. (p. 4).</p>	N/A	Shaw, K., O'Rourke, P., Del Mar, C., & Kenardy, J. (2005). Psychological interventions for overweight and obesity (Review). <i>Cochrane Database of Systematic Reviews</i> , 2, Art. No. CD003818.
Pharmacotherapy	<p>"Pharmacotherapy, which has generally been studied along with lifestyle modification including diet and physical activity, using dexfenfluramine, Sibutramine, orlistat, or phentermine/fenfluramine, results in weight loss in obese adults when used for 6 months to 1 year." (p. 53)</p>	B	NHBLI <i>Clinical Guidelines on the Identification, Evaluation, and Treatment of Overweight and Obesity in Adults: The Evidence Report</i> (NIH Publication No. 98-4083, September 1998).
	<p>Meta-analysis of pharmacologic treatment: "Sibutramine, orlistat, phentermine, probably diethylpropion, probably fluoxetine, bupropion, and topiramate promote weight loss for at least 6 months when given along with recommendations for diet (and possibly other behavioral and exercise interventions). The amount of extra weight loss attributable to these medications is modest (< 5 kg at 1 year) but still may be clinically significant." (p. 542)</p>	N/A	Li, Z., Maglione, M., Tu, W., Mojica, W., Arterburn, D., Shugarman, L.R., Hilton, L., Suttrop, M., Solomon, V., Shekelle, P.G., & Morton, S.C. (2005). Meta-analysis: Pharmacologic treatment of obesity. <i>Ann Intern Med</i> , 142, 532-546.
Bariatric Surgery	<p>"Surgical interventions in adults with a BMI of equal to or greater than 40 or a BMI equal to or greater than 35 with comorbid conditions result in substantial weight loss." (p. 54)</p>	B	NHBLI <i>Clinical Guidelines on the Identification, Evaluation, and Treatment of Overweight and Obesity in Adults: The Evidence Report</i> (NIH Publication No. 98-4083, September 1998).
	<p>Meta-analysis on the surgical treatment for obesity Roux-en-Y Gastric Bypass, Vertical Banded Gastroplasty, Adjustable Gastric Band, and Biliopancreatic Diversion with Duodenal Switch: "Surgical treatment for obesity in severely obese individuals (BMI ≥ 40 kg/m²) results in greater weight loss than does medical treatment. For patients with BMIs between 35 and 39 kg/m², data strongly support the superiority of surgical therapy. However, the data cannot be considered conclusive in the absence of a study with a concurrent comparison group." (p. 556)</p>	N/A	Maggard, M.A., Shugarman, L.R., Suttrop, M., Maglione, M., Sugarman, H.J., Livingston, E.H., Nguyen, N.T., Li, Z., Mojica, W.A., Hilton, L., Rhodes, S., Morton, S.C., & Shekelle, P.G. (2005). Meta-analysis: Surgical treatment of obesity. <i>Ann Intern Med</i> , 142, 547-559.
OTC Herbals	<p>Note: The National Heart Blood Lung Institute guidelines mention herbal remedies and supplements, but state "These treatments did not fulfill the <i>a priori</i> inclusion criteria." (p. 55)</p>	N/A	NHBLI <i>Clinical Guidelines on the Identification, Evaluation, and Treatment of Overweight and Obesity in Adults: The Evidence Report</i> (NIH Publication No. 98-4083, September 1998).
	<p>Systematic review of complementary therapies for reducing body weight. See journal articles for specifics.</p>	N/A	Pittler, M.H., & Ernst, E. (2005). Complementary therapies for reducing body weight: A systematic review. <i>International Journal of Obesity</i> , 29, 1030-1038. Saper, R.B., Eisenberg, D.M., & Phillips, R.S. (2004). Common dietary supplements for weight loss. <i>American Family Physician</i> , 70(9), 1731-1738.

Pharmacotherapy

Generic Name	Food & Drug Administration Approval for Weight Loss	Drug Type	Common Side Effects
Sibutramine	Yes; long term (up to 1 year) for adults	Appetite suppressant	Increased blood pressure and heart rate
Phentermine	Yes; short term (up to 12 weeks) for adults	Appetite suppressant	Increased blood pressure and heart rate, sleeplessness, nervousness
Diethylpropion	Yes; short term (up to 12 weeks) for adults	Appetite suppressant	Dizziness, headache, sleeplessness, nervousness
Phendimetrazine	Yes; short term (up to 12 weeks) for adults	Appetite suppressant	Sleeplessness, nervousness
Orlistat	Yes; long term (up to 1 year) for adults and children age 12 and older	Lipase Inhibitor	Gastrointestinal issues (cramping, diarrhea, oily spotting)
Bupropion	No	Depression Treatment	Dry mouth, insomnia
Topiramate	No	Seizure Treatment	Numbness of skin, change in taste
Zonisamide	No	Seizure Treatment	Drowsiness, dry mouth, dizziness, headache, nausea
Metformin	No	Diabetes Treatment	Weakness, dizziness, metallic taste, nausea

Adapted from Prescription Medications for the Treatment of Obesity. NIDDK: Weight-Control Information Network (WIN). Retrieved June 8, 2009 from <http://www.win.niddk.nih.gov/publications/prescription.htm#fdameds>.

Bariatric Surgery

Pre-Op Checklist

- Lab tests
- EKG
- Chest X-ray
- Upper GI series
- Gallbladder ultrasound
- Pulmonary Function Test
- Stress Test
- Echocardiogram
- Sleep study
- CPAP titration
- Endoscopy

Consultations

- Surgical
- Nutritional Assessment
- Medical Evaluation
- Psychological Evaluation
- Pulmonary Consultation
- Endocrine Consultation
- Medical Clearance for Surgery
- Surgical Pre-Op

Laparoscopic Gastric Banding

Post Op Care

- Surgical follow-up 1 month
 - oral intake, food tolerance, wound healing
 - determination of restriction with noninflated band
- Bi-monthly follow-up with nutritionist
 - assessment of weight loss
 - need for band adjustment
- Weight-loss goal: 1 to 2 kg/wk
- Band adjustment by palpation or fluoroscopy with saline

Effectiveness

- 50-60% excess weight loss at 3-year follow up
- Resolution of Type II diabetes in 66%
- Resolution of hypertension in 55%
- Resolution or improvement of GERD in 90%

Roux-en-Y Gastric Bypass “RNY”

The Gold Standard for Bariatrics

Post Op Care

- Early and frequent ambulation
- Selective gastrograffin swallow POD#1
- Surgical follow-up at 1, 6, and 12 weeks
 - Monitor for post operative complications
 - Initiation of diet and exercise program
- Medical follow-up every 3 months for 18 months, then yearly
 - Monitor resolution of co-morbidities and medication changes
 - Nutrition and exercise monitoring
 - Lab work: Iron, vitamin B₁₂

Effectiveness

- Loss of 65-85% excess body weight at 12- 18 months postoperatively
- Excess weight loss 58% at 5 years and 49% at 14 years
- BMI decrease from 44 to 29 kg/m² in patients followed for an average of 5.5 years
- 85% reduction in type II diabetes
- 69% reduction in hypertension

Bilio-pancreatic Diversion with Duodenal Switch “BPD-DS”

Post Op Care

- Surgical follow-up in 2 weeks to evaluate for diarrhea and dehydration
- Replacement of fat-soluble vitamins is mandatory
- Subsequent monthly visits for six months
 - Highest risk of dehydration, poor protein intake, and metabolic complications
- Weight loss tapers off after 12 to 18 months
- Lifelong follow-up to assess fat-soluble vitamin deficiencies, protein levels, liver function tests, and metabolic stability

Effectiveness

- Protein malnutrition
- Diarrhea, Diarrhea, Diarrhea & dehydration
- Perianal irritation
- Hemorrhoids
- Malabsorption of fat-soluble vitamins
- Intestinal bacterial overgrowth
- Hypocalcemia
- Hyperparathyroid
- Wernicke’s encephalopathy

Questions regarding Weight Loss Programs

- **Before You Sign Up For Any Weight Loss Program** Some people lose weight on their own; others like the support of a structured program. Overweight people who are successful at losing weight, and keeping it off, can reduce their risk factors for heart disease. If you decide to join any kind of weight control program, here are some questions to ask before you join.
- **Does the program provide counseling to help you change your eating activity, and personal habits?**
The program should teach you how to change permanently those eating habits and lifestyle factors, such as lack of physical activity that have contributed to weight gain.
- **Is the staff made up of a variety of qualified counselors and health professionals such as nutritionists, registered dietitians, doctors, nurses, psychologists, and exercise physiologists?**
You need to be evaluated by a physician if you have any health problems, are currently taking any medicine, or plan on taking any medicine, or plan to lose more than 15 to 20 pounds. If your weight control plan uses a very low-calorie diet (a special liquid formula that replaces all food for 1 to 4 months), an exam and follow up visits by a doctor are also needed.
- **Is training available on how to deal with times when you may feel stressed and slip back to old habits?**
The program should provide long-term strategies to deal with weight problems you may have in the future. These strategies might include things like setting up a support system and establishing a physical activity routine.
- **Is attention paid to keeping the weight off? How long is this phase?**
Choose a program that teaches skills and techniques to make permanent changes in eating habits and levels of physical activity to prevent weight gain.
- **Are food choices flexible and suitable? Are weight goals set by the client and the health professional?**
The program should consider your food likes and dislikes and your lifestyle when your weight loss goals are planned.
- There are other questions you can ask about how well a program works. Because many programs don't gather this information, you may not get answers. But it's still important to ask them:
- **What percentage of people complete the program?**
- **What is the average weight loss among people who finish the program?**
- **What percentage of people have problems or side effects? What are they?**
- **Are there fees or costs for additional items, such as dietary supplements?**

Remember, quick weight loss methods don't provide lasting results. Weight loss methods that rely on diet aids like drinks, prepackaged foods, or diet pills don't work in the long run. Whether you lose weight on your own or with a group, remember that the most important changes are long term. No matter how much weight you have to lose, modest goals and a slow course will increase your chances of both losing the weight and keeping it off.

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- **Evaluation of the Major Commercial Weight Loss Programs**
 - <http://www.annals.org/cgi/reprint/142/1/56.pdf>
- **National Heart Lung Blood Institute (Clinical Guidelines)**
 - http://www.nhlbi.nih.gov/guidelines/obesity/ob_home.htm
 - <http://hp2010.nhlbihin.net/obgdpalm.htm>
- **Clinical Guidelines on the Identification, Evaluation, and Treatment of Overweight and Obesity in Adults: The Evidence Report .** Download a free copy at:
http://www.nhlbi.nih.gov/guidelines/obesity/ob_gdlns.htm
- **Shape Up America.** Founded in 1994 by Surgeon General C. Everett Koop, Shape Up America! is a 501(c)3 not-for-profit organization committed to raising awareness of obesity as a health issue and to providing responsible information on healthy weight management. Go to website: www.shapeup.org.
- **The Practical Guide: Identification, Evaluation, and Treatment of Overweight and Obesity in Adults.** Download a free copy at:
http://www.nhlbi.nih.gov/guidelines/obesity/prctgd_b.pdf
- **Assessment and Management of Adult Obesity.** Download a free copy at:
<http://www.ama-assn.org/ama/pub/physician-resources/public-health/general-resources-health-care-professionals/roadmaps-clinical-practice-series/assessment-management-adult-obesity.shtml>
- **CDC Overweight and Obesity Resources.** Go to website at:
<http://www.cdc.gov/nccdphp/dnpa/obesity/resources.htm>
- **Prevention and Treatment of Childhood Overweight and Obesity.** Go to website at:
<http://www.aap.org/obesity/index.html>
- **“What works for obesity?”** Published by BMJ with funding from the United Health Foundation. Go to the following website and look under “resources”:
<http://www.unitedhealthfoundation.org/>
- **NIH: Weight Loss / Dieting Webpage:** <http://health.nih.gov/topic/WeightLossDieting>