MOUNT CARMEL Health Partners

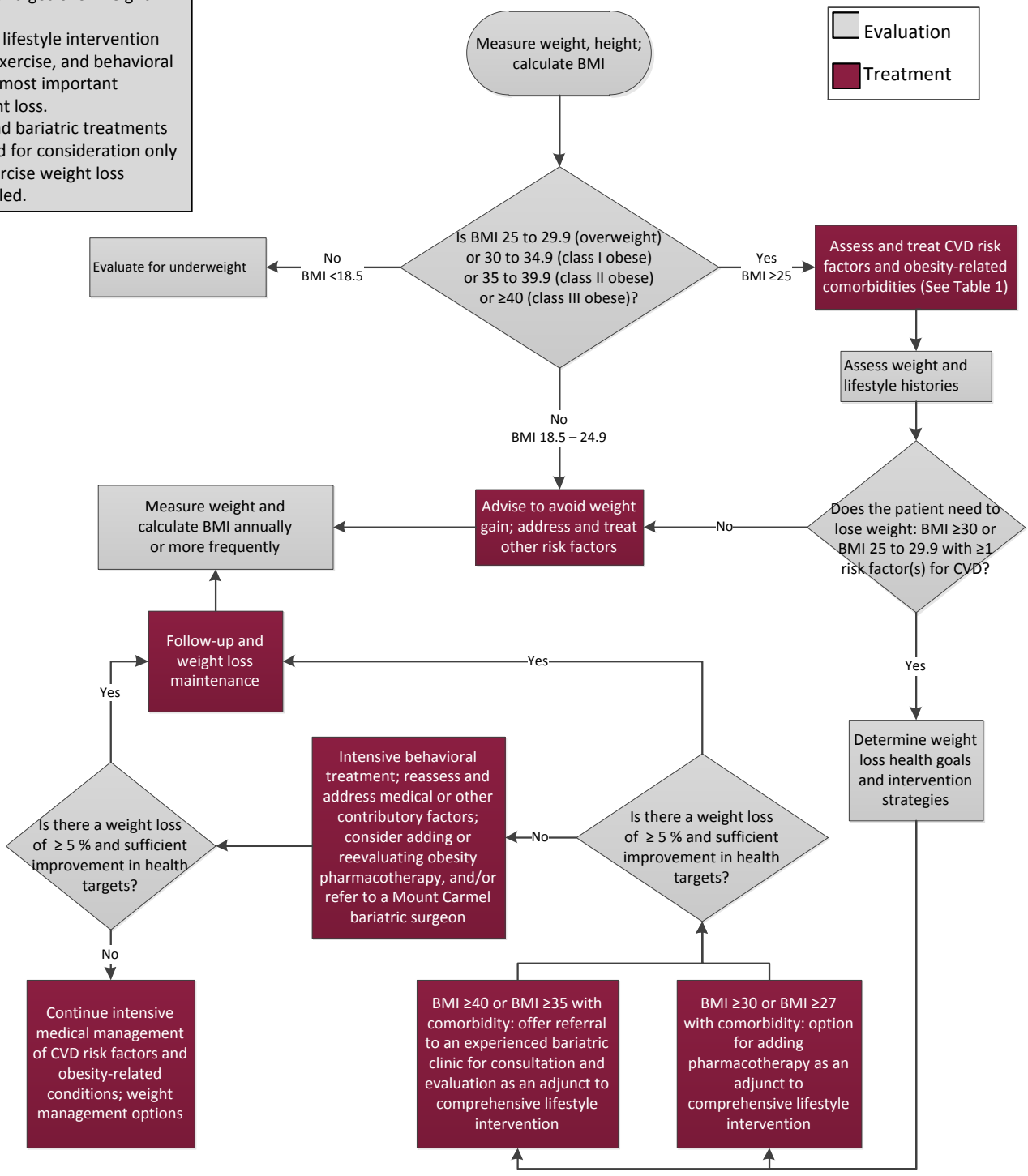
Adult Obesity Clinical Guideline

Quick Guide to Obesity

- 36.5% adults in the U.S. are obese.
- Weight loss in overweight/obese adults is associated with decreased mortality.
- All patients who would benefit from weight loss should receive counseling on lifestyle changes and goals for weight loss.
- A comprehensive lifestyle intervention (combined diet, exercise, and behavioral treatment) is the most important strategy for weight loss.
- Pharmacologic and bariatric treatments are recommended for consideration only after diet and exercise weight loss attempts have failed.

Definition: Obesity refers to abnormal or excessive fat accumulation that may impair health.

Causes: Obesity is the result of an imbalance between calories consumed and calories burned. This is often caused by an increased intake of calorie-dense foods along with limited physical activity.



Adult Obesity Clinical Guideline

Obesity refers to abnormal or excessive fat accumulation that may impair health.

Treatment should begin by making therapeutic lifestyle changes including diet modification, increased physical exercise as well as addressing any obesity related medical conditions detected during screening and evaluation.

Diagnosis:

All adult patients should be screened for being overweight or obese. Measure body mass index (BMI) at each exam.

Underweight	Healthy Weight	Overweight	Class I Obese	Class II Obese	Class III Obese
BMI ≤18.5	BMI between 18.6 and 24.9	BMI between 25 and 29.9	BMI between 30 and 34.9	BMI between 35 and 39.9	BMI ≥40

Evaluation:

- A waist circumference measurement is recommended for patients with a BMI between 25 and 34.9 to provide additional information on risk.
- In patients with a BMI ≥25 and a waist circumference greater than ≥35 inches (88 cm) (women) or ≥40 in (102 cm) (men), an evaluation to determine the etiology of obesity and to estimate cardio metabolic and other risk is suggested.
- Assess patients for cardiovascular disease risk factors (see Table 1) and other obesity-related medical conditions such as sleep apnea and type 2 diabetes mellitus.
- The evaluation should include a history and physical examination along with clinical and laboratory assessments including blood pressure, fasting blood glucose, fasting lipid panel, TSH, and liver enzymes.
- Intensive management of any CVD or obesity-related medical conditions should begin immediately.

Treatment:

- It is important to set goals when discussing a weight loss program with a patient. An initial weight loss goal of 5 to 7 percent of body weight is realistic for most individuals within a six month period.
- The initial management of individuals who would benefit from weight loss is lifestyle intervention through a combination of diet, exercise, and behavior modification.
- Many types of diets produce modest weight loss. Options include low-calorie, low-fat, low-carbohydrate, and low glycemic index diets. Dietary adherence is an important predictor of weight loss, irrespective of the type of diet.
- Dietary counseling with a dietitian appears to facilitate weight loss, particularly during the first year of a weight loss program.
- For some patients who are unable to achieve weight loss goals with lifestyle intervention alone, adjunctive therapies (pharmacologic therapy or bariatric surgery) are an option.
- For individuals with a BMI ≥30 or a BMI of 27 to 29.9 with comorbidities and have failed to achieve weight loss goals through diet and exercise alone, pharmacologic therapy should be added to lifestyle intervention.
- For individuals with a BMI >40 who have failed diet, exercise, and drug therapy, bariatric surgery is suggested. Individuals with a BMI >35 with comorbidities may also be candidates for bariatric surgery , assuming the anticipated benefits outweigh the potential risks or side effects of the procedure.

Follow-up:

- A repeat BMI measurement and follow-up related to weight loss and/or weight maintenance should take place at least annually.
- Adhere to clinical guidelines related to follow-up for any other obesity-related medical conditions.

Table 1: Cardiovascular Disease Risk Factors

Modifiable:	**Non–Modifiable:**
Hypertension	Advanced age
Tobacco use	Gender
Diabetes	Family history of CVD
Physical inactivity	
Unhealthy diet	
High cholesterol	
Overweight and obesity	

Table 2: Drugs available as adjuncts to diet and exercise for the treatment of obesity

Generic name *(Brand Name)*	Usual dosing (adults)	US DEA Schedule	Adverse effects/precautions
Pancreatic lipase inhibitor approved for long term use (12 months— 2 years)			
Orlistat *(Xenical, Alli)*	120 mg three times daily with fat containing meals. A reduced dose of 60mg is an option for patients who do not tolerate 120mg.	Not a controlled substance	Cramps, flatulence, fecal incontinence, oily spotting, absorption of fat-soluble vitamins may be reduced. Rarely reported: severe liver injury, oxalate-kidney injury. Contraindicated during pregnancy. Advise patients to take multivitamins at bedtime. Warfarin dose reduction may be required.
Serotinin-2C receptor agonist approved for long term use (12 months—2 years)			
Lorcaserin *(Belviq)*	10mg twice daily; re-evaluate after 12 weeks. If 5% weight loss has not been achieved after 12 weeks, alternative drug therapies can be considered.	C-IV	Headache, dizziness, dry mouth, constipation (non-diabetic patients). Hypoglycemia, headache, back pain, cough (diabetic patients). Avoid in patients with severe hepatic or renal insufficiency (CrCl <30 mL/min). Preferably avoid use with other serotoninergic agents (including most antidepressants triptan anti-migraine medications 5HT3-antagonsist antiemetics, tramadol, dextromethorphan and some muscle relaxants) due to risk of serotonin toxicity. Neuropsychiatric side effects and valvulopathy were not significantly increased in clinical trials, but few long term safety data are available. Contraindicated with ergot derivatives (e.g., ergomatine) and during pregnancy. May cause psychic dependence and/or euphoria at higher than recommended doses. Possible increase in cancer risk based on murine model data.
Combination of phentermine/topiramate approved for long term use (12 months—2 years)			
Phentermine/ topiramate *(Qsymia)*	Initial: 3.74 mg phentermine/23 mg topiramate once daily in the morning for 14 days. Then titrate based upon response: 7.5 mg phentermine/46 mg topiramate daily for 12 weeks, then 11.25 mg phentermine/69 mg topirimate daily for 14 days. Maximum dose: 15 mg phentermine/92 mg topiramate daily: re-evaluate after 12 weeks. If 5% weight loss has not been achieved after 12 weeks, alternative drug therapies can be considered.	C-IV (due to phentermine component)	Dry mouth, taste disturbance, constipation, paresthesia, depression, anxiety, elevated heart rate, cognitive disturbances, insomnia (higher dose). Abuse potential due to phentermine component. Topiramate is teratogenic (increased risk of oral cleft defects, T1); negative pregnancy test prior to and during treatment and two forms of contraception necessary for women of child bearing potential. Actions of topiramate component include inhibition of carbonic anhydrase; rarely metabolic acidosis and kidney stones may result from renal bicarbonate loss. Maximum dose with moderate hepatic or renal impairment (CrCl <50 mL/min) 7.5 mg phentermine/46 mg topiramate daily. Upon discontinuation, tapering of dose over at least one week using every other day dosing is recommended. Contraindicated during pregnancy, hyperthyroidism, glaucoma, patients taking MAO inhibitors.
Combination of buproprion /naltrexone (indefinite duration)			
Buproprion/ naltrexone *(Contrave)*	Week 1: One tablet (8mg naltrexone/90mg bupropion) once daily. Week 2: Once table twice daily. Week 3: Two tablets in the morning and one tablet in the evening. Week 4: Two tablets twice daily. Maximum daily dose: Four tablets (32 mg naltrexone/360 mg bupropion); re-evaluate after 12 weeks. If 5% weight loss has not been achieved after 12 weeks, alternative drug therapies can be considered.	Not a controlled substance	Nausea, constipation, headache, vomiting, dizziness, insomnia, dry mouth. Transient increase in blood pressure (1 to 2 mmHg on average) during initial 12 weeks of treatment; heart rate may also be increased. Contraindicated in patients with uncontrolled hypertension, seizure disorder, eating disorder, use of other bupropion-containing products, chronic opioid use, use within 14 days of MAO inhibitors, pregnancy or breastfeeding. *Not a first-line pharmacologic therapy. A trial showed the active treatment group experienced more adverse cardiovascular events. The trial was terminated early, cardiovascular safety remains unknown.
GLP-1 agonist approved for long term use (12 months—2 years)			
Liraglutide *(Saxenda)*	Initial: 0.6 mg subcutaneously daily. Increase at weekly intervals (1.2, 1.8, 2.4 mg) until the recommended dose of 3 mg daily; reevaluate after 16 weeks. If 4% weight loss has not been achieved after 16 weeks, alternative drug therapies can be considered.	Not a controlled substance	Nausea, vomiting, diarrhea, constipation, anorexia, headache, fatigue, increased lipase, increased heart rate. Rarely reported: pancreatitis, gallbladder disease, renal impairment, suicidal thoughts. Monitor blood glucose in diabetic patients and adjust co-administered sulfonylureas and other anti-diabetic medications as needed to prevent potentially serious hypoglycemia. Causes a modest delay of gastric emptying. Safety data in renal and hepatic impairment are lacking, use with caution or avoid use. Possible increase in thyroid cancer risk based on murine model data. Contraindicated in pregnancy and in patients with a personal or family history of medullary thyroid cancer or multiple neoplasia 2A or 2B.

(continued on next page…)

Table 2: Drugs available as adjuncts to diet and exercise for the treatment of obesity *(continued..)*

Generic name *(Brand Name)*	Usual dosing (adults)	US DEA Schedule	Adverse effects/precautions
Noradrenergic sympathomimetic drugs approved for short term use (12 weeks or less)			
Benzphetamine *(Didrex, Regimex)*	Initial: 25mg once daily: may titrate up to 25 mg or 50 mg one to three times daily. Maximum dose: 50 mg three times daily.	C-III	Applies to all sympathomimetic agents; due to their side effects and potential for abuse, we suggest **not** prescribing sympathomimetics for weight loss. If prescribed, limit to short term (≤ 12 weeks) use. Adverse effects include increase in heart rate, blood pressure, insomnia, dry mouth, constipation, nervousness. Abuse potential due to amphetamine-like effects. May counteract effect of blood pressure medications. Avoid in patients with heart disease, poorly controlled hypertension, pulmonary hypertension or history of addiction or drug abuse. Contraindicated in patients with a history of CVD, hyperthyroidism, MAO inhibitor therapy, agitated states, pregnancy or breastfeeding.
Diethylpropion *(Depletite, Durad, Radtue, Tenuate, Tenuate Dospan)*	Immediate release: 25 mg three times daily before meals. Extended release: 75 mg every morning.	C-IV	
Phentermine *(Adipex-P, Atti-Plex P, Atti-Plex P Spansule, Fastin, Lomaira, Pro-Fast, Suprenza, Tara-8)*	Immediate release: 15 to 37.5 mg daily or divided twice daily. Orally disintegrating tablets (ODT): 15 to 37.5 mg once daily in the morning.	C-IV	
Phendimetrazine *(Bock-Arate, Bontril PDM, Bontril SR, Melfiat 105 Unicelles, Prelu-2, Rapdone, Stabec-1)*	Immediate release: 17.5 to 35 mg two or three times daily, one hour before meals. Maximum dose: 70 mg three time daily. Sustained release: 105 mg daily in the morning	C-III	

Table 3: Body Mass Index with ICD Codes

A full BMI index can be viewed at https://www.mountcarmelhealthpartners.com/pdfs/bmi-chart.pdf.

	Underweight	Normal Range						Overweight				
BMI	<19	19	20	21	22	23	24	25	26	27	28	29
ICD-10	Z68.1	Z68.1	Z68.20	Z68.21	Z68.22	Z68.23	Z68.24	Z68.25	Z68.26	Z68.27	Z68.28	Z68.29

Obese										
BMI	30	31	32	33	34	35	36	37	38	39
ICD-10	Z68.30	Z68.31	Z68.32	Z68.33	Z68.34	Z68.35	Z68.36	Z68.37	Z68.38	Z68.39

Extreme Obesity																				
BMI	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59
ICD-10	Z68.41					Z68.42					Z68.43									

Extreme Obesity												
BMI	60	61	62	63	64	65	66	67	68	69	70	>70
ICD-10	Z68.44										Z68.45	

Table 4: Institute of Medicine Weight Gain Recommendations for Pregnancy

Pregnancy Weight Category	Body Mass Index	Recommended Range of Total Weight (lb)	Recommended Rates of Weight Gain* in the Second and Third Trimesters (lb) (Mean Range [lb/wk])
Underweight	Less than 18.5	28-40	1 (1-1.3)
Normal Weight	18.5-24.9	25-35	1 (0.8-1)
Overweight	25-29.9	15-25	0.6 (0.5-0.7)
Obese (includes all classes)	30 and greater	11-20	0.5 (0.4-0.6)

*Calculations assume a 1.1-4.4 lb. weight gain in the first trimester.

General Nutrition Advice for Patients

Total calories of weight loss program should be broken down by the percentage of macronutrient intake as recommended by United States dietary guidelines:

- 45 to 65 percent from carbohydrates
- 10 to 35 percent from protein
- 20 to 35 percent from fat
- < 10 percent from added sugars
- < 10 percent from saturated fats
- < 2,300 mg of sodium per day

Patients should consume 5 or more servings of fruits and/or vegetables daily.

Trans fats and saturated fat consumption should be kept at a minimum. Monounsaturated and polyunsaturated fats are better choices.

Patients should be encouraged to eat whole grains rather than refined grains as they are good source of fiber and have a lower glycemic index.

The consumption of soft drinks and other sweetened beverages should be discouraged.

Alcohol should only be consumed in moderation (up to 1 drink per day for women and up to 2 drinks per day for men).

*If the patient struggles with dietary modification, consider dietitian referral.

Types of Weight Loss Diets

Low-Calorie: The goal of a low-calorie diet is to create an energy deficit by providing fewer calories than an individual's body needs so that the body has to draw upon the energy stored in body fat. Foods are prepared using low-calorie cooking methods.

Low-Fat: This type of diet is also low-calorie with the added benefit of controlling cholesterol. A low-fat diet should contain more foods from plant sources, lean meats, and non-fat/low-fat dairy products.

Low-Carbohydrate: This diet strategy is more effective for short-term weight loss but is probably not realistic for long-term weight loss goals.

Low-Glycemic Index: This type of diet promotes eating good carbohydrates — generally whole grains, fruits, non-starchy vegetables, and beans rather than refined carbohydrates. Good carbohydrates do not affect blood sugars as much as the refined carbohydrates, making individuals feel full longer which aids in weight loss.

Physical Activity/Exercise

All adults should avoid inactivity.

All adults should do at least 150 minutes per week of moderate intensity or 75 minutes per week of vigorous intensity aerobic physical activity.

Aerobic activity should be performed in episode of at least 10 minutes and spread throughout the week.

All adults should also include muscle-strengthening activities that involve all major muscle groups on two or more days per week.

MOUNT CARMEL
Health Partners

References

1. AHA/ACC/TOS Guideline for the Management of Overweight and Obesity in Adults. 2013.
2. UpToDate. Overweight and Obesity: Evaluation and Treatment Algorithm. 2017. Retrieved from: www.uptodate.com.
3. Obesity and Overweight. World Health Organization. 2016. Retrieved from: www.who.intl.
4. 2015-2020 dietary Guidelines. Retrieved from https://health.gov/dietaryguidelines/2015/recousrces/2015-2020 Dietary Guideline.pdf.
5. Sharfstein, J.M., Psaty, B.M. Evaluation of the Cardiovascular Risk of Naltrexane-Bupropion: A Study Interrupted. SOJAMA, 2016 Mar 315(10); 984-6.
6. Ogden, C.l., Carroll, M.D., Fryar, C.D., Flegal, K.M., Prevalance of obesity among adults and youth: United States, 201-2014, NCHS data brief, no 2019. Hyattsville, MD: National Center Health Statistics, 2015.
7. UpToDate. Obesity in adults: Prevalence, screening, and evaluation. 2017. Retrieved from www.uptodate.com
8. UpToDate. Obesity in adults: Drug therapy. 2017. Retrieved from www.uptodate.com