

VA/DoD Clinical Practice Guideline

Screening and Management of Overweight and Obesity

Version 2.0

GUIDELINE SUMMARY

2014



VA/DoD Evidence Based Practice





**DEPARTMENT OF VETERANS AFFAIRS
DEPARTMENT OF DEFENSE**



**VA/DoD CLINICAL PRACTICE GUIDELINE
FOR
SCREENING AND MANAGEMENT
OF OVERWEIGHT AND OBESITY
GUIDELINE SUMMARY**

Prepared by:

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With support from:

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and

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Full guideline available at:

<http://www.healthquality.va.gov> or <https://www.qmo.amedd.army.mil>

QUALIFYING STATEMENTS

The Department of Veterans Affairs (VA) and The Department of Defense (DoD) guidelines are based upon the best information available at the time of publication. They are designed to provide information and assist decision-making. They are not intended to define a standard of care and should not be construed as one. Neither should they be interpreted as prescribing an exclusive course of management.

Variations in practice will inevitably and appropriately occur when providers take into account the needs of individual patients, available resources, and limitations unique to an institution or type of practice. Every health care professional making use of these guidelines is responsible for evaluating the appropriateness of applying them in the setting of any particular clinical situation.

Version 2.0 – 2014

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INTRODUCTION

KEY ELEMENTS OF WEIGHT LOSS MANAGEMENT

1. Obesity is a chronic disease requiring lifelong commitment to treatment and long-term maintenance
2. Obesity may not be the chief complaint in a patient encounter, yet it requires foremost attention
3. The primary care team plays an integral role in weight management
4. Screening, documentation, and regular assessment are critical to weight management
5. Assessment for obesity-associated chronic health conditions is an essential component of treatment decisions
6. Shared decision-making and assessment of patient motivation are fundamental to weight management
7. Comprehensive lifestyle intervention is central to successful and sustained weight loss
8. Tangible intermediate and long-term weight loss goals are critical to weight loss success
9. Energy deficit should be achieved through decreased caloric intake and increased physical activity
10. Pharmacotherapy and bariatric surgery may be considered as adjuncts to comprehensive lifestyle intervention

EXECUTIVE SUMMARY

Obesity and associated chronic health conditions cause significant morbidity and negatively impact military readiness. Sixty-one to 83% of Department of Defense (DoD) beneficiaries and 78% of Veterans are overweight or obese, and excess weight is estimated to cost at least \$370 per patient per year in additional medical and non-medical costs. Treatment of both overweight and obesity is consistent with the priorities outlined by the leadership of the Department of Veterans Affairs as a part of personalized, proactive Veteran-driven care. Similarly, it is consistent with the DoD's priority for a fit fighting force and embodied in the US Army's Performance Triad of Nutrition, Physical Activity, and Sleep. Moreover, screening, treatment, and follow-up of overweight and obesity can be successfully managed in the primary care setting with an interdisciplinary approach.

Overweight and obesity are typically identified through screening or as a result of presentation for obesity-associated chronic health conditions. Routine screening should include measurement of height and weight to calculate body mass index (BMI) in all patients. Normal adult weight is defined by a BMI of 18.5-24.9 kg/m². Overweight is defined by a BMI between 25.0 and 29.9 kg/m². Obesity is defined by a BMI \geq 30.0 kg/m² and can be sub-classified as Stage 1 (BMI 30.0 to 34.9 kg/m²), Stage 2 (BMI 35.0 to 39.9 kg/m²), or Stage 3 (BMI \geq 40 kg/m²). Measurement of waist circumference may also be useful to predict risk in overweight and obese patients as it is considered a comorbidity equivalent. In these patients, the presence of obesity-associated chronic health conditions should be identified. Normal weight and overweight patients without obesity-associated chronic health conditions may be offered education, information, and counseling about a healthy lifestyle and maintaining or achieving a healthy weight. Comprehensive lifestyle intervention for weight loss should be offered to all obese patients and overweight patients with obesity-associated chronic health conditions.

Comprehensive lifestyle intervention is the foundation of treatment for overweight and obesity and should include at least 12 contacts over a year of an intervention that combines dietary, physical activity and behavioral components. Diet and physical activity together must create an energy deficit of 500–1000 kcal/day for effective weight loss. Adherence to any particular calorie-deficit diet is more important than choice of a specific diet. Physical activity, through short bursts of activity or a single longer episode, typically must accumulate to at least 150 minutes per week. On average, weight loss will occur at the rate of 0.5 to 2 pounds per week, plateauing between three and six months. After a plateau is reached, reassessment for weight maintenance or additional weight loss is required.

A shared decision-making model should be employed to reach a mutual understanding of risks and benefits of treatment, to explore patient priorities, and to determine if a patient is willing to commit to an intervention. For a patient who is unwilling, a motivational intervention should be used and reassessment should be undertaken at least biannually. For a patient who is willing to participate in an intervention, an individualized plan should be formulated, tangible intermediate and long-term weight loss goals must be identified, and frequent reassessment should be arranged.

Continued treatment should be guided by a patient's intermediate weight loss goals. Patients who are meeting goals should continue current treatment until long-term weight loss goals are achieved. For patients not meeting intermediate goals, the treatment plan should be modified to address any barriers to treatment adherence. When no further amelioration of barriers is possible and weight loss has plateaued, adjunctive interventions such as pharmacotherapy or referral for bariatric surgery may be considered in select patients. Patients who do not complete intensive treatment should be offered a motivational intervention and reassessed at least biannually. All patients reaching their long-term goals should be offered a maintenance program, ongoing support, and periodic reassessment.

Weight loss treatment for overweight and obesity can be effectively delivered through an interdisciplinary approach in a primary care setting. Comprehensive lifestyle intervention alone and comprehensive lifestyle intervention with adjunctive pharmacotherapy or bariatric surgery are effective for many. Though providing these interventions will require upfront resources from health-care systems, they have the potential to reduce lifetime medical costs. Through effective management, morbidity from obesity-associated chronic health conditions can be reduced and military readiness improved.

Strength of Recommendation Rating [SR]

Strength of Recommendation (SR)	
A	A strong recommendation that the clinicians provide the intervention to eligible patients. <i>Good evidence was found that the intervention improves important health outcomes and concludes that benefits substantially outweigh harm.</i>
B	A recommendation that clinicians provide (the service) to eligible patients. <i>At least fair evidence was found that the intervention improves health outcomes and concludes that benefits outweigh harm.</i>
C	No recommendation for or against the routine provision of the intervention is made. <i>At least fair evidence was found that the intervention can improve health outcomes, but concludes that the balance of benefits and harms is too close to justify a general recommendation.</i>
D	Recommendation is made against routinely providing the intervention to asymptomatic patients. <i>At least fair evidence was found that the intervention is ineffective or that harms outweigh benefits.</i>
I	The conclusion is that the evidence is insufficient to recommend for or against routinely providing the intervention. <i>Evidence that the intervention is effective is lacking, of poor quality, or conflicting, and the balance of benefits and harms cannot be determined.</i>

In annotations for which there is evidence-based research that supports the recommendations, the Strength of Recommendation [SR] based on the level of evidence is presented in brackets for these recommendations. Recommendations that are not based on evidence were derived by consensus of experts and are followed by the letters [EO]

This Clinical Practice Guideline is based on a systematic review of both clinical and epidemiological evidence. Developed by a panel of multidisciplinary experts, it provides a clear explanation of the logical relationships between various care options and health outcomes while rating both the quality of the evidence and the strength of the recommendations.

The final guideline document represents a synthesis of current scientific knowledge and rational clinical practice on the assessment and treatment of adult patients diagnosed with overweight or obesity. It attempts to be as free as possible of bias toward any theoretical or empirical approach to treatment.

This Guideline is the product of many months of diligent effort and consensus building among knowledgeable individuals from the VA and the DoD. An experienced moderator facilitated the multidisciplinary Working Group. The draft document was discussed in a face-to-face group meeting. The content and validity of each section was thoroughly reviewed in a series of conference calls. The final document is the product of those discussions and has been approved by all members of the Working Group.

These guidelines are not intended to represent TRICARE policy. Further, inclusion of recommendations for specific testing and/or therapeutic interventions within these guidelines does not guarantee coverage of civilian sector care. Additional information on current TRICARE benefits may be found at www.tricare.mil or by contacting your regional TRICARE Managed Care Support Contractor.

ORGANIZATION OF THE GUIDELINE

Algorithm:

The clinical algorithm incorporates the information presented in the guideline in a format that maximally facilitates clinical decision-making. The algorithmic format allows the provider to follow a linear approach to critical information needed at the major decision points in the clinical process. The algorithm includes decisions to be considered and actions to be taken. Standardized symbols are used to display each step in the algorithm and arrows connect the numbered boxes indicating the order in which the steps should be followed.

The guideline is organized around two clinical algorithms:

Algorithm A: Screening and Assessment of Overweight and Obesity in Primary Care.

Algorithm B: Management of Overweight and Obesity.

Annotations

The Annotations are presented in three sections addressing the following components of care:

Section A: Screening and Assessment

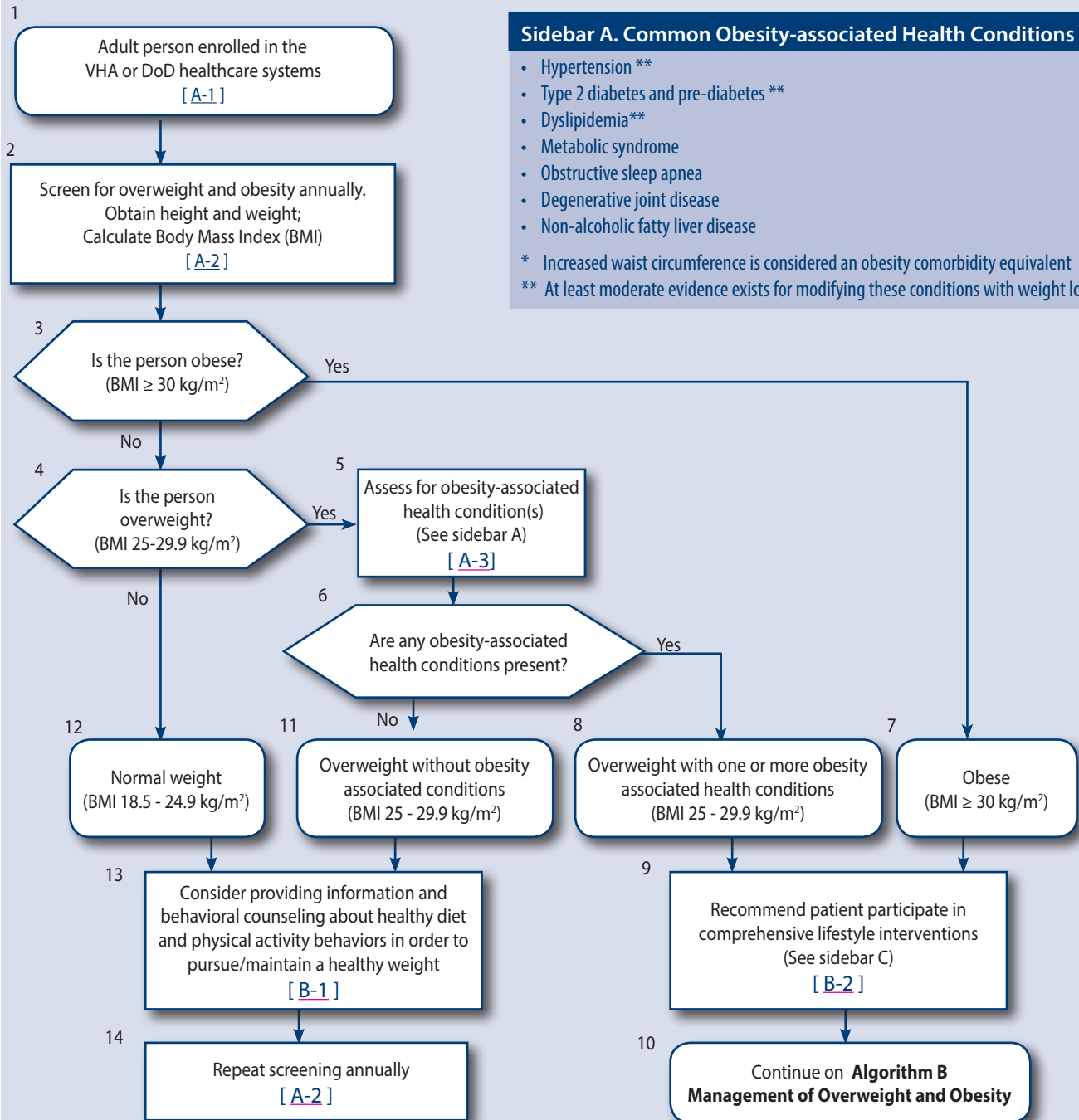
Section B: Management of a Patient Diagnosed with Overweight or Obesity

Section C: Treatment Interventions

Annotations to the algorithm include recommendations. The annotations match the box numbers and letters (e.g., [A]) in the respective algorithms.

ALGORITHM A:

SCREENING AND ASSESSMENT IN PRIMARY CARE



Sidebar A. Common Obesity-associated Health Conditions *

- Hypertension **
- Type 2 diabetes and pre-diabetes **
- Dyslipidemia**
- Metabolic syndrome
- Obstructive sleep apnea
- Degenerative joint disease
- Non-alcoholic fatty liver disease

* Increased waist circumference is considered an obesity comorbidity equivalent

** At least moderate evidence exists for modifying these conditions with weight loss

Sidebar B. Behavioral Counseling

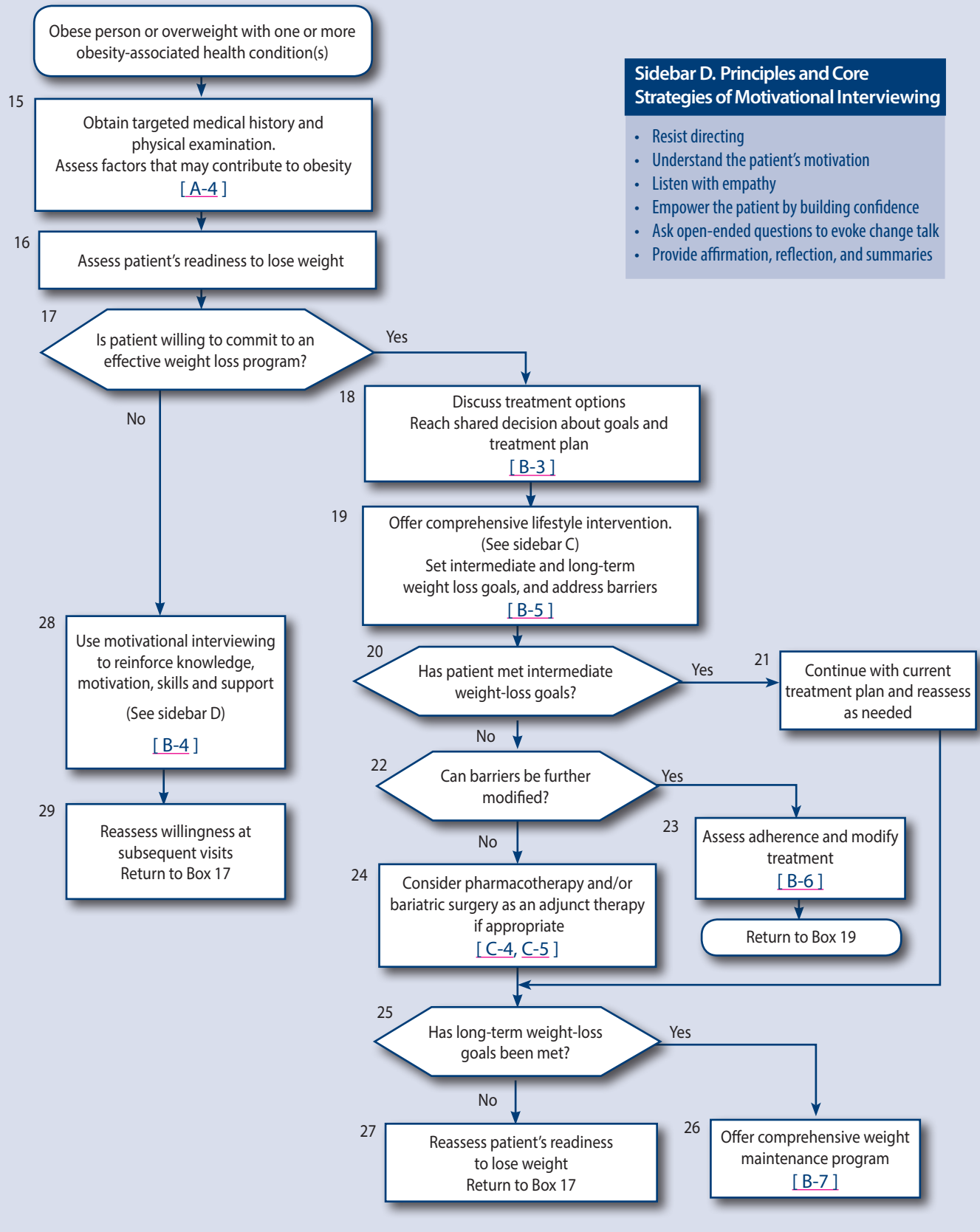
Healthcare staff -delivered activities to assist patients to adopt, change or maintain healthy dietary and physical activity behaviors

Sidebar C. Comprehensive Lifestyle Intervention

Intervention that combines dietary, physical activity, and behavioral components and includes at least 12 intervention sessions over a 12 month period

ALGORITHM B:

MANAGEMENT OF OVERWEIGHT AND OBESITY



Sidebar D. Principles and Core Strategies of Motivational Interviewing

- Resist directing
- Understand the patient's motivation
- Listen with empathy
- Empower the patient by building confidence
- Ask open-ended questions to evoke change talk
- Provide affirmation, reflection, and summaries

SECTION A:

SCREENING AND ASSESSMENT

Annotation A-1 Adult person Enrolled in the VHA or DOD Healthcare Systems

Any adult eligible for care in the Veterans Health Administration (VHA) or the Department of Defense (DoD) healthcare delivery system should be screened and if necessary, treated for overweight or obesity as described in this guideline.

Annotation A-2. Obtain Height and Weight; Calculate Body Mass Index (BMI)

RECOMMENDATIONS

1. Screen adult patients to establish a diagnosis of overweight or obesity by calculating body mass index (BMI), and document the presence of overweight or obesity in the medical record. [B]
2. Screen for overweight and obesity at least annually. [EO]

For BMI calculators and tables see: www.cdc.gov/nccdphp/dnpa/bmi

Annotation A-3. Determine Presence of Obesity-Associated Health Conditions that Increase Risk

RECOMMENDATIONS

3. Assess for the presence of obesity-associated conditions among overweight patients or patients with increased waist circumference. [B]

Annotation A-4. Obtain Medical History, Physical Examination, and Factors Contributing to Obesity

RECOMMENDATIONS

4. Perform a targeted assessment on overweight and obese patients. In addition to the basic medical history and physical examination, assess for factors contributing to obesity. [EO]

Table 1 Classification of Overweight and Obesity by BMI

Classification	BMI (kg/m ²)*
Underweight	< 18.5
Normal	18.5 – 24.9
Overweight	25.0 – 29.9
Obese I	30.0 – 34.9
Obese II	35.0 – 39.9
Obese III	≥ 40.0

* Disease risk for obesity-associated chronic health conditions is directly correlated with increasing BMI and waist circumference (WC)

Disease risk for obesity-associated chronic health conditions is directly correlated with increasing BMI and waist circumference (WC)

Gender-specific cutoffs for increased waist circumference:

- Men waist circumference > 40 inches (102 centimeters)
- Women waist circumference > 35 inches (88 centimeters)

Table 2 Common Obesity-Associated Conditions*

The following conditions are directly influenced by weight:

*Hypertension ***

*Type 2 diabetes and pre-diabetes ***

*Dyslipidemia ***

Metabolic syndrome

Obstructive sleep apnea

Degenerative joint disease

Non-alcoholic fatty liver disease

* Increased waist circumference is considered an obesity comorbidity equivalent

** At least moderate evidence exists for modifying these conditions with weight loss.

Table 3 Diagnosis of Metabolic Syndrome [NCEP ATP-III, 2002]

Three or more of the following risk factors indicate metabolic syndrome:

Abdominal obesity:	- Men* > 40 inches (>102 centimeters) - Women > 35 inches (>88 centimeters)
Triglycerides	≥ 150 mg/dL
HDL cholesterol:	- Men < 40 mg/dL - Women < 50 mg/dL
Blood pressure	≥ 130/85 mmHg
Fasting glucose	≥ 100 mg/dL

* Some men can develop multiple metabolic risk factors when the WC is only marginally increased (e.g., 37-39 in (94-102 cm). Such persons may have a strong genetic contribution to insulin resistance, and should benefit from lifestyle changes (i.e., diet, exercise).

SECTION B:

MANAGEMENT OF OVERWEIGHT AND OBESITY

Annotation B-1. Reinforcement and Lifestyle Education

RECOMMENDATIONS

Normal Weight Patients

5. Consider providing normal weight patients with information and behavioral counseling regarding healthy diet and physical activity behaviors, in order to maintain a healthy weight. [C]

Overweight Patients Without Obesity-Associated Condition(s)

6. Consider providing overweight patients without obesity-associated conditions with information and behavioral counseling regarding healthy diet and physical activity behaviors, in order to pursue a healthy weight. [C]

Annotation B-2. Comprehensive Lifestyle Interventions

RECOMMENDATIONS

Overweight Patients With Obesity-Associated Condition(s) (see Table 4)

7. Offer comprehensive lifestyle intervention to achieve weight loss and to improve blood pressure and/or glucose control in overweight patients. [A]
8. Offer comprehensive lifestyle intervention to overweight patients with dyslipidemia for weight loss and to improve lipid levels. [B]
9. Current evidence is insufficient to recommend for or against offering comprehensive lifestyle intervention for weight loss to overweight patients with degenerative joint disease, non-alcoholic fatty liver disease, and/or obstructive sleep apnea to reduce harms of these conditions. [I]

Obese Patients (See Table 4)

10. Offer obese patients comprehensive lifestyle intervention for weight loss to improve lipid levels, blood pressure, and/or glucose control. [A]
11. Offer obese patients comprehensive lifestyle intervention for weight loss to reduce harms of obstructive sleep apnea. [B]
12. Consider offering obese patients comprehensive lifestyle intervention for weight loss to reduce harms of degenerative joint disease. [C]
13. Current evidence is insufficient to support weight loss through comprehensive lifestyle intervention for reducing harms of non-alcoholic fatty liver disease. [I]

Annotation B-3. Shared Decision-Making

RECOMMENDATIONS

14. Reach a shared understanding with overweight and obese patients about the risks of overweight and obesity, and the benefits of weight management. [EO]
15. Perform an in-depth clinical assessment in order to assess the risks and benefits of different weight management treatments and to develop a weight management plan. [EO]

Table 4 Weight Loss Interventions Based on Risk and BMI (kg/m²)

Patient Classification	Interventions Based on Risk and BMI		
	Level 1	Level 2	Level 3
Overweight BMI ≥ 25 kg/m ² with obesity-associated condition(s) †	Diet, exercise, and behavior modification		
Obese BMI ≥ 30 kg/m ² , or BMI ≥ 27 kg/m ² with obesity-associated condition(s) †	Diet, exercise, and behavior modification	Consider drug therapy	
Obese BMI ≥ 40 kg/m ² , or BMI ≥ 35 kg/m ² with obesity-associated condition(s) †	Diet, exercise, and behavior modification	Consider drug therapy	Consider surgery

† Obesity-associated conditions, see Table 2

General Treatment Principles of Weight Loss

Annotation B-4. Reinforce Knowledge, Motivation, Skills, and Support

RECOMMENDATIONS

16. Use motivational interviewing techniques to evoke patient motivation to accept and participate in weight loss treatments. [EO]
17. Convey the importance of weight loss and maintenance as a lifelong commitment rather than a brief episode of treatment. [EO]

Annotation B-5. Comprehensive Lifestyle Intervention

RECOMMENDATIONS

18. Offer patients at least 12 contacts within 12 months of a comprehensive lifestyle intervention that combines dietary, physical activity and behavioral strategies. [B]
19. Plan a net deficit of 500 to 1,000 kcal/day addressing both diet and physical activity to achieve a weight loss of 0.5 to 2 pounds per week, resulting in a 5-10% reduction in body weight over 6 months. [A]

Annotation B-6. Assess Adherence and Modify Treatment

RECOMMENDATIONS

20. Assess adherence to the weight loss program one-to-two times per month by measuring the patient's weight and providing feedback and ongoing support. [EO]
21. Re-evaluate the treatment plan for patients who have lost an average of less than 0.5 pound per week. [EO]

Annotation B-7. Congratulate and Initiate Maintenance Program

RECOMMENDATIONS

22. Offer patients who have met their weight loss goals a comprehensive maintenance program consisting of behavioral components and ongoing support. [B]

C-1 Behavioral and Lifestyle Approaches

23. Offer comprehensive lifestyle interventions for weight loss, in either individual or group setting. [B]
24. Offer telephone-based comprehensive lifestyle intervention for weight loss, either as an alternative or an adjunct to face-to-face intervention. [B]
25. There is insufficient evidence for or against offering internet-based comprehensive lifestyle intervention for weight loss, as an alternate or adjunct to face-to-face intervention. [I]

C-2 Dietary Approaches

26. Offer any of several diets that produce a caloric deficit and have evidence for weight loss efficacy and safety (e.g., low-carbohydrate, Dietary Approaches to Stop Hypertension (DASH), low-fat). [A]
27. Offer very-low-calorie diets for weight loss, but only for short durations (12-16 weeks) and under close medical supervision. [B]
28. Offer meal replacements to achieve low-calorie or very low-calorie diets. [A]

C-3 Physical Activity Approaches

29. Offer physical activity elements (e.g., home fitness, lifestyle, or structured/supervised physical activities) that can be combined to produce a caloric deficit leading to weight loss. [A]
30. Offer physical activity options that include short intermittent bursts (at least 10 minutes) as well as longer continuous exercise. [A]
31. Offer, as part of a comprehensive lifestyle intervention, moderate-intensity physical activity performed for at least 150 minutes/week to result in weight loss. [A]
32. Offer, as part of comprehensive lifestyle intervention, moderate-intensity physical activity performed for 200-300 minutes per week to prevent weight regain after initial weight loss.[EO]

C-4 Pharmacotherapy

33. Offer pharmacotherapy with the combination phentermine/topiramate extended-release to patients with a body mass index (BMI) ≥ 30 kg/m² and to those with a BMI ≥ 27 kg/m² who also have obesity-associated conditions, as an adjunct to comprehensive lifestyle intervention, when lifestyle interventions alone do not produce the desired weight loss. [A]
34. Offer pharmacotherapy with orlistat or lorcaserin to patients with a body mass index (BMI) ≥ 30 kg/m² and to those with a BMI ≥ 27 kg/m² who also have obesity-associated conditions, as an adjunct to comprehensive lifestyle intervention, when lifestyle interventions alone do not produce the desired weight loss. [B]
35. Offer pharmacotherapy (i.e., orlistat, lorcaserin, combination phentermine/topiramate extended-release) as an adjunct to comprehensive lifestyle intervention, to patients with obesity-associated conditions, for its beneficial effects on type 2 diabetes, hypertension, and/or dyslipidemia. [B]
36. Offer patients who achieve their weight loss goal a program that includes continued use of medication for weight maintenance. [B]

Table 5 Recommended Dosages for Selected Obesity Drug Therapy *

Orlistat -Gastrointestinal Lipase Inhibitor
Usual Dosage Range: 120 mg capsule three times daily
<ul style="list-style-type: none"> • Taken with or within 1 hour of each meal containing fat • Omit dose if a meal is skipped or a meal contains no fat • Must take once daily multivitamin (containing fat soluble vitamins A, D, E and K) at least 2 hours prior to orlistat
Cautions:
<ul style="list-style-type: none"> • Increased gastrointestinal events (adverse effects) when orlistat is taken with diet high in fat (greater than 30% total daily calories from fat) • Contraindicated during pregnancy (FDA category X) and not recommended in breast-feeding mothers
Lorcaserin
Usual Dosage Range: 10 mg tablet two times a day (Maximum 20 mg/day)
<ul style="list-style-type: none"> • Taken with or without food • Consider stopping after 12 weeks if lorcaserin has not been effective in reducing weight more than 5% of initial body weight
Cautions:
<ul style="list-style-type: none"> • Not recommended in severe renal impairment or end stage renal disease • Has not been studied in severe hepatic impairment; use with caution • Contraindicated during pregnancy (FDA category X) and not recommended in breast-feeding mothers
Phentermine/topiramate
Dose Titration: One phentermine 3.75 mg/topiramate 23 mg extended-release capsule each morning for 14 days; then increase to 7.5 mg/46 mg each morning for an additional 12 weeks
<ul style="list-style-type: none"> • If a weight loss of 3% of baseline body weight is not achieved discontinue or increase the dose to 11.25 mg/69 mg each morning for 14 days; then increased to 15 mg/92 mg (maximum dose) each daily • If after 12 weeks on 15 mg/92 mg the patient has not lost at least 5% of baseline body weight, discontinue treatment gradually using every other day weaning over one week thereby decreasing risk of seizure
Cautions:
<ul style="list-style-type: none"> • Dose in patients with renal Impairment should not exceed 7.5 mg/46 mg once daily if creatinine clearance <50 mL/min, and avoid in severe renal disease • The dose in moderate hepatic impairment (Child-Pugh 7-9) should not exceed 7.5 mg/46 mg once daily, and avoid use in severe hepatic impairment • Contraindicated during pregnancy (FDA category X) and not recommended in breast-feeding mothers

*Drug is indicated if the patient's BMI is ≥ 30 kg/m² or ≥ 27 kg/m² in the presence of one or more obesity-associated conditions

Table 6 Drug or Nutrient Interactions with Anti-Obesity Agents *

Orlistat

- May decrease **cyclosporine** whole blood concentrations (possibly resulting in a decrease in the immunosuppressive action of cyclosporine) monitor and adjust as necessary. Take cyclosporine 2 hours before or after orlistat. More frequent monitoring of cyclosporine levels should be considered.
- May decrease absorption of some fat soluble **vitamins (A, D, E, and K)**. Levels of vitamin D and beta-carotene may be low in obese patients compared with non-obese subjects. The supplement should be taken 2 hours before or after orlistat.
- Patients taking **warfarin** should be monitored closely and warfarin dose adjusted accordingly
- Patients taking **levothyroxine** should be monitored for changes in thyroid function
- Efficacy of **anticonvulsant** may be reduced

Lorcaserin

- Serotonin syndrome or neuroleptic malignant syndrome (NMS)-like reactions are theoretically possible
- Extreme caution is advised if lorcaserin is combined with serotonergic or antidopaminergic drugs
- Use with caution in patients with valvular heart disease, bradycardia, congestive heart failure, or those using drugs known to be 5-HT_{2B} agonists
- Potential for cognitive impairment and psychiatric reactions including sedation, euphoria and suicidal thoughts
- Potential risk of hypoglycemia in patients being treated for diabetes
- As a 5-HT_{2C} receptor agonists, use with caution in patients predisposed to priapism or using PDE-5 inhibitors
- Risk for anemia, neutropenia, hyperprolactinemia

Drug Interactions

- Theoretical risk for serotonin syndrome such as with concomitant SSRIs/SNRIs
- Moderate CYP 2D6 inhibitor

Phentermine/topiramate

- Avoid use in glaucoma, hyperthyroidism, or within 14 days following use of a MAOI
- Not recommended in patients with unstable cardiac or cerebrovascular disease
- Potential for cognitive, mood and sleep disorders and topiramaterelated general class warning for suicidal thoughts
- Potential for metabolic acidosis and elevated creatinine
- Potential risk of hypotension, CNS depression, hypokalemia, kidney stones, withdrawal seizures, and hypoglycemia in patients being treated for diabetes

Drug Interactions

- MAOI – phentermine is contraindicated during or within 14-days following administration of a MAOI
- Oral contraceptives – a reduction in contraceptive efficacy is not anticipated but irregular bleeding (spotting) may be more frequent
- Antiepileptic drugs – use with caution

C-5 Bariatric Surgery

37. Offer bariatric surgery, as an adjunct to comprehensive lifestyle intervention, for weight loss in adult patients with a body mass index (BMI) >40 kg/m² or those with BMI 35.0-39.9 kg/m² with one or more obesity-associated conditions. [A]
38. Offer bariatric surgery, as an adjunct to comprehensive lifestyle intervention, to improve some obesity-associated conditions in adult patients with a body mass index (BMI) >35.0 kg/m². [A]
39. Current evidence is insufficient to assess the balance of benefits and harms of offering bariatric surgery as an adjunct to comprehensive lifestyle intervention, for weight loss or to improve some obesity-associated conditions, to patients over age 65 or with a body mass index (BMI) <35 kg/m². [I]
40. Engage all patients who are candidates for bariatric surgery in a general discussion of the benefits and potential risks. If more detailed information is requested by the patient to assist in the decision-making process, a consultation with a bariatric surgical team should occur. [EO]
41. Provide lifelong follow-up after bariatric surgery to monitor adverse effects and complications, dietary restrictions, adherence to weight management behaviors and psychological health. [EO]

Table 7 Schedule for Clinical and Biochemical Monitoring of the Post-Bariatric Surgery Patient

	Preoperative	1 month	3 months	6 months	12 months	18 months	24 months	Annually
Complete blood count	X	X	X	X	X	X	X	X
LFTs	X	X	X	X	X	X	X	X
Glucose	X	X	X	X	X	X	X	X
Creatinine	X	X	X	X	X	X	X	X
Electrolytes	X	X	X	X	X	X	X	X
Iron/ferritin	X			Xa	Xa	Xa	Xa	Xa
Vitamin B12	X			Xa	Xa	Xa	Xa	Xa
Folate	X			Xa	Xa	Xa	Xa	Xa
Calcium	X			Xa	Xa	Xa	X	Xa
Intact PTH	X			Xa	Xa	Xa	Xa	Xa
25-D	X			Xa	Xa	Xa	Xa	Xa
Albumin/prealbumin	X			Xa	Xa	Xa	Xa	Xa
Vitamin A	X						Optional	Optional
Zinc	X			Optional	Optional		Optional	Optional
Bone mineral density and body composition	X				Xa		Xa	Xa
Vitamin B1			Optional	Optional	Optional	Optional	Optional	Optional

X= indicate the suggested schedule for laboratory monitoring after bariatric surgery.; Xa = Examinations should only be performed after Roux-en-Y gastric bypass, biliopancreatic diversion, biliopancreatic diversion with duodenal switch. All of them are considered as suggested for patients submitted to restrictive surgery where frank deficiencies are less common.

Adapted from: Heber et al. Endocrine and Nutritional Management of the Post-Bariatric Surgery Patient: An Endocrine Society Clinical Practice Guideline. *J Clin Endocrinol Metab*, November 2010, 95(11):4823-43

Upper Limit Points for Category of Overweight/Obesity by Height (inches)

	Normal	Overweight	Obese		
BMI (kg/m ²)	25	30	35	40	45
			Stage 1	Stage 2	Stage 3
Height (inches)	Body Weight (pounds)				
58	119	143	167	191	215
59	124	148	173	198	222
60	128	153	179	204	230
61	132	158	185	211	238
62	136	164	191	218	246
63	141	169	197	225	254
64	145	174	204	232	262
65	150	180	210	240	270
66	155	186	216	247	278
67	159	191	223	255	287
68	164	197	230	262	295
69	169	203	236	270	304
70	174	209	243	278	313
71	179	215	250	286	322
72	184	221	258	294	331
73	189	227	265	302	340
74	194	233	272	311	350
75	200	240	279	319	359
76	205	246	287	328	369

Adapted from *Clinical Guidelines on the Identification, Evaluation, and Treatment of Overweight and Obesity in Adults: The Evidence Report*





<http://www.healthquality.va.gov>
<https://www.qmoamedd.army.mil>

