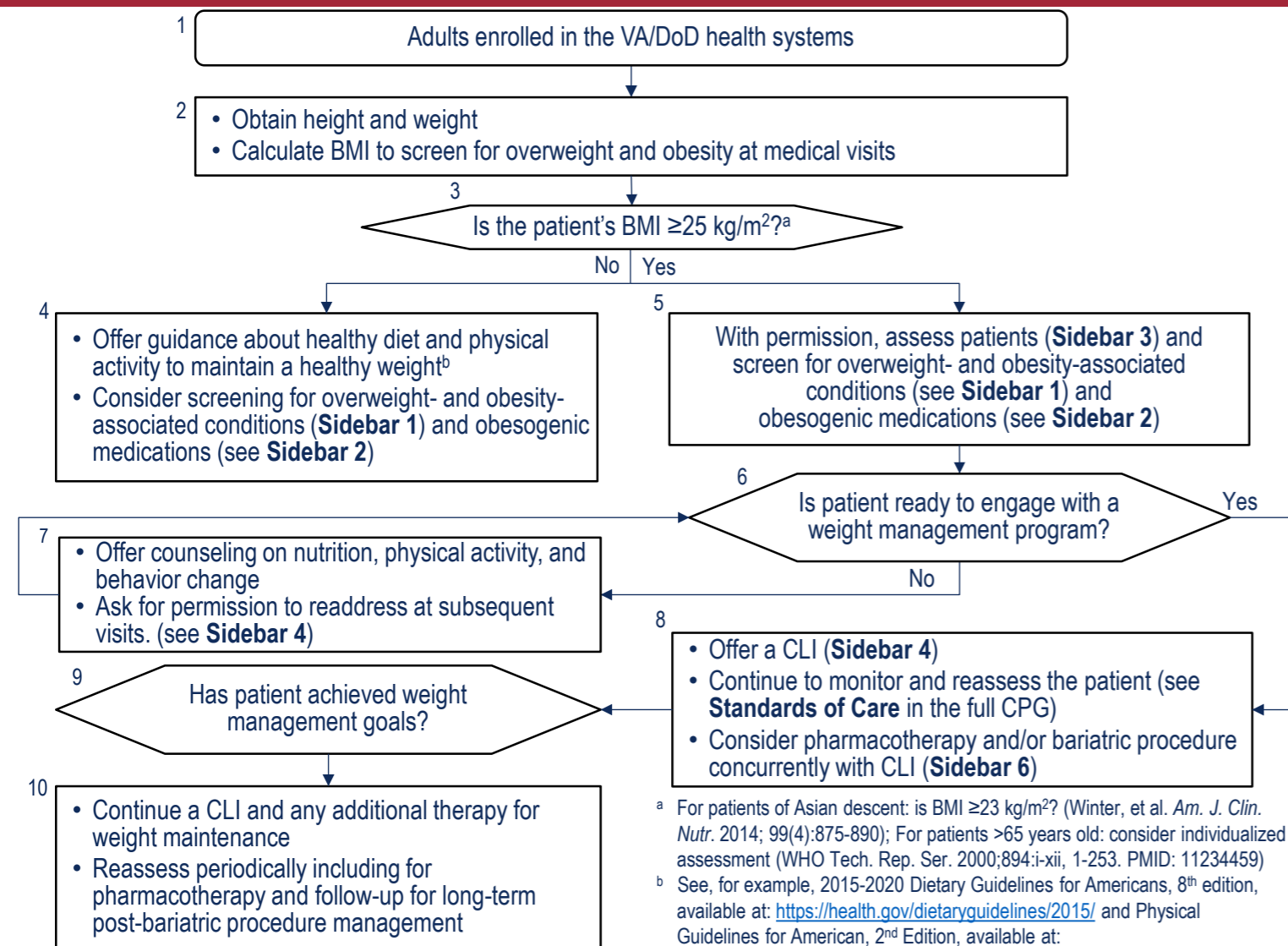


The Management of Adult Overweight and Obesity



Algorithm Module



<sup>a</sup> For patients of Asian descent: is BMI  $\geq 23$  kg/m<sup>2</sup>? (Winter, et al. *Am. J. Clin. Nutr.* 2014; 99(4):875-890); For patients >65 years old: consider individualized assessment (WHO Tech. Rep. Ser. 2000;894:i-xii, 1-253. PMID: 11234459)  
<sup>b</sup> See, for example, 2015-2020 Dietary Guidelines for Americans, 8<sup>th</sup> edition, available at: <https://health.gov/dietaryguidelines/2015/> and Physical Guidelines for American, 2<sup>nd</sup> Edition, available at: <https://health.gov/paguidelines/second-edition/>

Sidebar 1: Common Obesity-Associated Conditions	
<ul style="list-style-type: none"> <li>HTN</li> <li>T2DM and prediabetes</li> <li>Dyslipidemia</li> <li>Metabolic syndrome<sup>a</sup></li> <li>OSA</li> </ul>	<ul style="list-style-type: none"> <li>OA/degenerative joint disease</li> <li>NAFLD</li> <li>GERD</li> <li>Cancer<sup>b</sup></li> </ul>

<sup>a</sup> See National Cholesterol Education Program definition of metabolic syndrome, available at: <https://www.nhlbi.nih.gov/files/docs/guidelines/atglance.pdf>  
<sup>b</sup> Source: Bhaskaran et al. *JAMA*, 2014, 384(9945):775-765. PMID: 29340665

Sidebar 2: Select Medications and their Potential Effects on Weight <sup>a</sup>		
Medication Classes	Medications with Potential for Weight Gain	Medications that may be Weight Neutral or have Potential for Weight Loss
Alpha-blockers	Terazosin	For BPH (e.g., doxazosin, alfuzosin, tamsulosin)
Anti depressants	<ul style="list-style-type: none"> <li>Mirtazapine</li> <li>SSRIs (e.g., paroxetine, sertraline, citalopram<sup>b</sup>, escitalopram<sup>b</sup>, fluoxetine<sup>b</sup>)</li> <li>MAOIs (e.g., phenelzine)</li> <li>TCA (e.g., amitriptyline, clomipramine, doxepin, imipramine, nortriptyline, protriptyline<sup>b</sup>)</li> </ul>	<ul style="list-style-type: none"> <li>Bupropion</li> <li>Desvenlafaxine</li> <li>Venlafaxine</li> </ul>
Antiepileptic drugs or mood stabilizing agents	<ul style="list-style-type: none"> <li>Gabapentin</li> <li>Pregabalin</li> <li>Carbamazepine</li> <li>Divalproex</li> <li>Lithium</li> <li>Valproic acid</li> <li>Vigabatrin</li> </ul>	<ul style="list-style-type: none"> <li>Topiramate</li> <li>Lamotrigine</li> <li>Zonisamide</li> </ul>
Anti psychotics	<ul style="list-style-type: none"> <li>Quetiapine</li> <li>Clozapine</li> <li>Olanzapine</li> <li>Risperidone</li> <li>Thioridazine</li> </ul>	<ul style="list-style-type: none"> <li>Aripiprazole</li> <li>Haloperidol</li> <li>Ziprasidone</li> </ul>
Glucocorticoids	<ul style="list-style-type: none"> <li>Prednisone</li> <li>Hydrocortisone</li> <li>Methyl-prednisolone</li> </ul>	Alternatives for rheumatologic disorders: <ul style="list-style-type: none"> <li>NSAIDs</li> <li>Biologics/DMARDs</li> <li>Nontraditional therapies</li> </ul>

Sidebar 2: Select Medications and their Potential Effects on Weight <sup>a</sup> (cont.)		
Medication Classes	Medications with Potential for Weight Gain	Medications that may be Weight Neutral or have Potential for Weight Loss
Hormonal agents	Progestins (e.g., medroxyprogesterone or megestrol acetate)	For contraception, consider alternative methods (e.g., copper IUD)
Anti hyperglycemic agents	<ul style="list-style-type: none"> <li>Insulin</li> <li>Sulfonylureas (e.g., chlorpropamide, glimepiride, glipizide, glyburide)</li> <li>Meglitinides (e.g., nateglinide, repaglinide)</li> <li>TZDs (e.g., pioglitazone, rosiglitazone)</li> </ul>	<ul style="list-style-type: none"> <li>GLP-1 agonists (e.g., semaglutide, liraglutide, exenatide, dulaglutide, lixisenatide)</li> <li>SGLT2 inhibitors (e.g., empagliflozin, canagliflozin, dapagliflozin, ertugliflozin)</li> <li>Metformin</li> <li>Pramlintide</li> <li>Alpha-glucosidase inhibitors (e.g., acarbose, miglitol)</li> <li>DPP-4 inhibitors (e.g., alogliptin, linagliptin, saxagliptin, sitagliptin)</li> </ul>
Beta-blockers	<ul style="list-style-type: none"> <li>Metoprolol</li> <li>Atenolol</li> <li>Propranolol</li> </ul>	<ul style="list-style-type: none"> <li>Carvedilol</li> <li>Nebivolol</li> </ul> <i>Note:</i> Other alternative classes of antihypertensive medications may be an option depending on the indication (e.g., angina, heart failure, HTN, migraine). Consider calcium channel blockers, ACEIs, ARBs, and thiazide or loop diuretics, as indicated.
Anti histamines	<ul style="list-style-type: none"> <li>Cetirizine</li> <li>Cyproheptadine</li> </ul>	Depending on symptoms, consider ipratropium nasal spray, decongestants, inhalers, and/or nonpharmacologic measures (e.g., nasal irrigation)

<sup>a</sup> The information provided in the table is not to be considered all-inclusive and is a compilation of information from the medical literature (systematic reviews, meta-analyses, subgroup analysis of clinical trials, cohort studies, reviews), some of which may have included differing comparators with variable results based on length of follow-up, baseline weight, patient comorbidities, etc.; medical and pharmacy resources; and select product information (adverse events, post-marketing and case reports).  
<sup>b</sup> Weight gain and weight loss have been reported.

**Sidebar 3: Assessment of Patients with Overweight or Obesity**

- Assess for presence of obesogenic medications (see **Sidebar 2**)
- Consider assessing waist circumference for patients with a BMI of 25 – 29.9 kg/m<sup>2</sup> (see [Standards of Care in the full CPG](#))
- Assess for common overweight and obesity-associated conditions (see **Sidebar 1**)
- Assess for secondary causes of overweight or obesity if physical exam and history warrant, including but not limited to: depression, binge eating disorder, hypothyroidism, hypercortisolism (Cushing’s disease or syndrome), traumatic brain injury, brain tumor, cranial irradiation, hypogonadism, menopause, acromegaly
- Assess the potential benefit of starting pharmacotherapy and/or bariatric procedure
- Assess conditions for which weight loss may not be beneficial (e.g., sarcopenia, active carcinoma, some eating disorders)

**Sidebar 4: Principles and Core Strategies of Motivational Interviewing**

- Respect autonomy and resist directing
- Understand the patient’s motivations
- Listen with empathy
- Empower the patient by building confidence
- Ask **Open-ended** questions to evoke change talk and provide **Affirmations, Reflections, and Summaries (OARS)**
- For more information refer to the guide, “Moving Veterans to MOVE!”<sup>a</sup>

<sup>a</sup> Available at: <https://www.move.va.gov/>

**Sidebar 5: Comprehensive Lifestyle Intervention**

- Defined as an intervention that combines behavioral, dietary, and physical activity components together (see [Recommendations 1, 6, 7, and Standards of Care in the full CPG](#))
- The intervention can be delivered in an individual or group setting, in person, by telephone, or through synchronous video (see [Recommendations 1 & 4 in the full CPG](#))
- Though there is insufficient evidence to recommend a specific number of sessions of comprehensive lifestyle intervention, most CLIs offer at least 12 intervention sessions in the first 12 months of intervention (see [Recommendation 2 in the full CPG](#))

**Abbreviations:** ARB: angiotensin receptor blocker; BMI: body mass index; BPH: benign prostate hyperplasia; CIV: Schedule IV controlled substance; CLI: comprehensive lifestyle intervention; CPG: clinical practice guideline; CrCl: creatinine clearance; DoD: Department of Defense; ER: extended-release; ESRD: end stage renal disease; FDA: Food and Drug Administration; GERD: gastroesophageal reflux disease; GLP-1: glucagon-like peptide-1 receptor; HTN: hypertension; IV: intravenous; kg: kilograms; LFT: liver function test; m: meters; MAOI: monoamine oxidase inhibitor; MEN2: multiple endocrine neoplasia type 2; mg: milligram; mL: milliliter; NAFLD: non-alcoholic fatty liver disease; NSAID: nonsteroidal anti-inflammatory drug; OA: osteoarthritis; OSA: obstructive sleep apnea; OTC: over-the-counter; REMS: Risk Evaluation and Mitigation Strategy; SGLT2: sodium-glucose cotransporter 2; T2DM: type 2 diabetes mellitus; TZD: thiazolidinediones; VA: Department of Veterans Affairs; XR: extended-release

**Sidebar 6: Assessment for Pharmacotherapy and/or Bariatric Procedures**

In addition to CLIs, consider pharmacotherapy and/or bariatric procedures in the following scenarios:

Consider for long-term pharmacotherapy (see [Appendix H in the full CPG](#)):

- Any patient with a BMI ≥30 kg/m<sup>2</sup>
- Patients with a BMI ≥27 kg/m<sup>2</sup> and an obesity-related comorbidity (see [Table H-1 in full CPG](#))
- Individualize choice of medication to patient-specific comorbidities, dosing, administration, and potential for side effects

Consider for bariatric procedures (see [Appendix I in the full CPG](#)):

- Patients with a BMI ≥30 kg/m<sup>2</sup> and T2DM
- Patients with a BMI ≥35 kg/m<sup>2</sup> and an obesity-related comorbidity
- Any patient with a BMI ≥40 kg/m<sup>2</sup>

**Prescribing Information for Chronic Weight Management Medications<sup>a</sup>**

**Phentermine/Topiramate ER (Qsymia®) C-IV [3.75 mg/23 mg; 7.5 mg/46 mg; 11.25 mg/69 mg; 15 mg/92 mg capsules]**

**Dosing:** 3.75 mg/23 mg daily for 14 days; increase to 7.5 mg/46 mg for 12 weeks  
**Goal:** 3% weight loss within 12 weeks. If unsuccessful, increase to 11.25 mg/69 mg for 14 days; increase to 15 mg/92 mg daily for 12 weeks. If 5% baseline weight loss is not achieved, discontinue by slow taper.

**Renal/Hepatic Impairment** (CrCl <50 mL/min or Child-Pugh 7-9):  
 Max dose: 7.5 mg/46 mg daily

**Contraindications:** Pregnancy; REMS; glaucoma; MAOI use during or within 14 days; hyperthyroidism  
**Warnings:** Increased heart rate/mood & sleep disorders; suicidal behavior/ideation; increased creatinine; metabolic acidosis; cognitive impairment; drug abuse; nephrolithiasis; hypokalemia.

- Taper slowly to discontinue (1 dose every other day for ≥1 week) to prevent seizure. Discontinue if glaucoma or myopia develop.

**Naltrexone/Bupropion ER (Contrave®) [8 mg/90 mg tablet]**

- **Dosing: Week 1:** 1 AM tablet; **Week 2:** 1 AM tablet, 1 PM tablet; **Week 3:** 2 AM tablets, 1 PM tablet; **Weeks 4-12:** 2 AM tablets, 2 PM tablets
- **Goal:** 5% weight loss within 12 weeks. Discontinue if unsuccessful.

**Renal Impairment (moderate/severe):**  
 Max dose: 1 tablet twice daily  
 Not recommended for use in patients with ESRD.  
**Hepatic Impairment:** Max dose: 1 tablet in the morning.

**Contraindications:** Opioid use; pregnancy; uncontrolled hypertension; seizure disorder; bulimia & anorexia nervosa; abrupt stop of alcohol; acute opioid withdrawal; MAOI’s  
**Warnings:** Suicidal thinking/behavior [**Boxed Warning**]; seizures; increased heart rate & blood pressure; neuropsychiatric symptoms; hepatotoxicity; may precipitate withdrawal if receiving opioids; adjust hypoglycemic medications to avoid hypoglycemia

**Prescribing Information for Chronic Weight Management Medications<sup>a</sup> (cont.)**

**Orlistat (Xenical®, Alli®) [120 mg; 60 mg (OTC) capsules]**

**Dosing:**

- Xenical®: 120 mg 3 times daily with a fat containing meal (up to 1 hour after meal); omit dose if meal is occasionally missed or contains no fat
- Alli® OTC labeling: 60 mg 3 times daily with a fat containing meal

**Renal/Hepatic Impairment:** No adjustments provided by manufacturer

**Contraindications:** Pregnancy; chronic malabsorption syndrome; cholestasis

**Warnings:** Hepatotoxicity; cholelithiasis; increased urine oxalate and nephrolithiasis; decreased absorption of fat-soluble vitamins, cyclosporine, thyroid hormone, and anticonvulsants; adjust hypoglycemic drugs to avoid hypoglycemia

**Liraglutide (Saxenda®) [6 mg/mL, 3mL injection for subcutaneous use]**

**Dosing:** Initiate 0.6 mg daily for 1 week; increase by 0.6 mg per week to target dose of 3 mg; slow titration may improve tolerability

**Goal:** 4% weight loss within 16 weeks. Discontinue if unsuccessful.  
**Renal Impairment:** Use with caution

**Contraindications:** Pregnancy; Personal or family history of medullary thyroid carcinoma or MEN2 [**Boxed Warning**]

**Warnings:** Thyroid C-cell tumors [**Boxed Warning**]; gallbladder disease; pancreatitis (discontinue); increased heart rate; renal impairment; suicidal behavior/ideation; to reduce the risk for hypoglycemia, decrease concomitant secretagogue (i.e., sulfonylureas) dose (e.g., by 50%) or insulin

<sup>a</sup> In February 2020, the FDA requested the withdrawal of the weight-loss drug lorcaserin (Belviq, Belviq XR) from the U.S. market citing potential risk of cancer outweighs the benefits of use.

**Classification of Overweight and Obesity by BMI<sup>a</sup>**

- 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
- Gender-specific cutoffs for increased waist circumference:
  - Men waist circumference >40 inches (102 centimeters)
  - Women waist circumference >35 inches (88 centimeters)

<sup>a</sup> Disease risk for obesity-associated chronic health conditions is directly correlated with increasing BMI kg/m<sup>2</sup> and waist circumference

**Post-Surgical Schedule for Clinical / Biochemical Monitoring**

	Pre-operative	1 mo.	3 mos.	6 mos.	12 mos.	18 mos.	24 mos.	Continue 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	Xa	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						+/-	+/-
Zinc	X			+/-	+/-		+/-	+/-
Bone mineral density and body composition	X				Xa		Xa	Xa
Vitamin B1			+/-	+/-	+/-	+/-	+/-	+/-

X: Indicate the suggested schedule for laboratory monitoring after bariatric surgery.

Xa: Examinations should be performed after Roux-en-Y gastric bypass.

+/-: Optional

Source: Heber et al. J Clin Endocrinol Metab, 2010, 95 (11): 4823-43

Access to the full guideline and additional resources are available at the following link: <https://www.healthquality.va.gov/guidelines/CD/obesity/>