Weight Management

A Quick Reference Guide for VA Clinicians (2019)

VA

U.S. Department of Veterans Affairs

Veterans Health Administration

PBM Academic Detailing Service

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Body Mass Index (BMI) classifications

Classification	BMI (kg/m²)
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

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

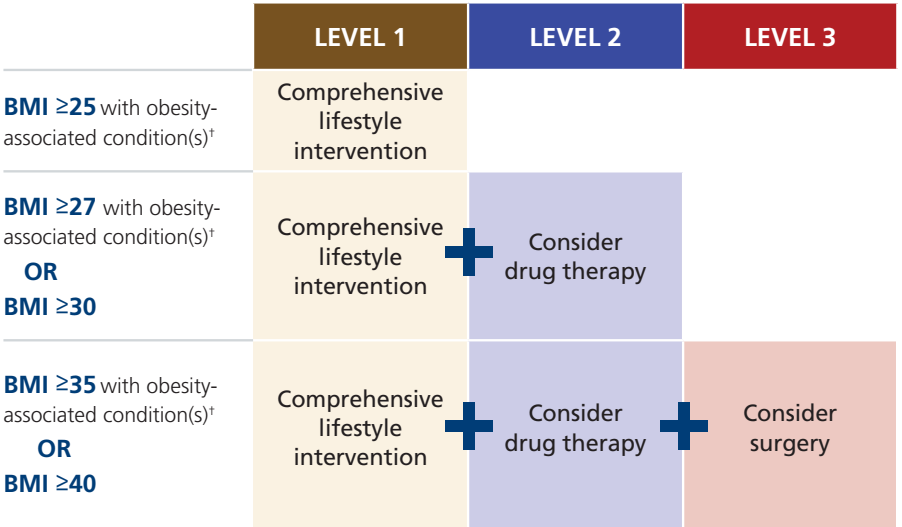
Gender-specific cutoffs for increased waist circumference:

- **Men:** >40 inches (102 centimeters)
- **Women:** >35 inches (88 centimeters)

Specific medications associated with weight gain[1,2,4,5]

Drug class	Medication
Anticonvulsants	Carbamazepine, valproic acid, pregabalin, gabapentin
Antidepressants	Amitriptyline, mirtazapine, paroxetine
Antipsychotics	Clozapine, olanzapine, quetiapine, risperidone, thioridazine
Antidiabetic agents	• Insulin • **Meglitinides:** nateglinide, repaglinide • **Sulfonylureas:** chlorpropamide, glimepiride, glipizide • **Thiazolidinediones:** pioglitazone, rosiglitazone
Beta-blockers	Atenolol, metoprolol, propranolol
Glucocorticoids	Prednisone
Contraceptives	Medroxyprogesterone acetate depot injection
Mood stabilizers	Lithium

Weight loss interventions based on risk and BMI (kg/m^2)[6]



†Obesity-associated conditions: see table at right

Common obesity-associated conditions*

The following conditions are directly influenced by weight:

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

*Increased waist circumference is considered an obesity comorbidity equivalent;
**At least moderate evidence exists for modifying these conditions with weight loss[6,7,8]

Examples of aerobic physical activities and intensities[9]

Moderate intensity

- Walking briskly (three miles per hour or faster, but not race-walking)
- Water aerobics
- Bicycling slower than 10 miles per hour
- Tennis (doubles)
- Ballroom dancing
- General gardening

Vigorous intensity

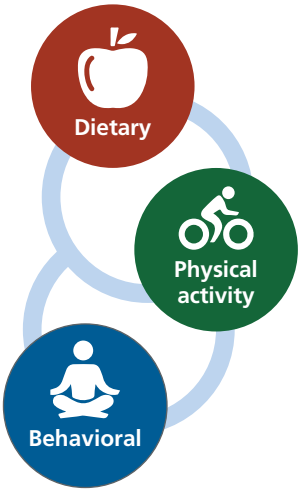
- Racewalking, jogging, or running
- Swimming laps
- Tennis (singles)
- Aerobic dancing
- Bicycling 10 miles per hour or faster
- Jumping rope
- Heavy gardening (continuous digging or hoeing, with heart rate increase)
- Hiking uphill or with a heavy backpack

Healthy diet[6]

A healthy diet is one of the three pillars of comprehensive lifestyle intervention.

- Dietary restrictions and physical activity should result in a total calorie deficit of 500 to 1,000 kcal/day to achieve weight loss of one to two pounds/week for the first 12 to 16 weeks.
- From the standpoint of creating a calorie deficit, the choice of a specific diet is less important; rather it is the attainment of caloric deficit that is the key to weight loss.[10]
- Any nutritionally balanced diet can be recommended (see examples in table below).

Diet approach	Content (% of total calories)		
	Fat	Carbohydrates	Protein
Very low carbohydrates (high-fat)	55-65	<20 (<100g)	25-30
Low carbohydrates (moderate-fat)	20-30	30-40	25-30
Moderate-fat, balanced nutrient reduction (low-calorie)	20-30	55-60	15-20
Low-fat	11-19	>65	10-20



Pharmacotherapy's place in therapy*

- **Weight Management Medications (WMM) should be offered 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, or when comprehensive lifestyle intervention alone does not produce the desired weight loss.
- WMM can be initiated anytime during participation in a clinically supported weight management program.
- If sufficient weight loss is not achieved after 12-16 weeks of pharmacotherapy or significant weight regain occurs, the WMM should be discontinued (See individual *Criteria for Use* for details). A trial of a different WMM may be warranted provided the patient is compliant with comprehensive lifestyle interventions.

*Refer to PBM criteria for use.

Common to all the criteria for use of WMM are the following:**

Exclusion criteria

1. Pregnancy
2. The patient is taking another weight loss medication concurrently.

Inclusion criteria

- The patient is participating in a clinically supported **weight management program** that targets all three aspects of weight management (i.e., diet, physical activity, behavioral changes).
- The patient's **medication regimen has been reviewed** to identify and discontinue medications associated with weight gain when clinically safe and appropriate.

+

The patient's BMI is ≥30 kg/m² **OR** The patient's BMI is **≥27 kg/m²** with at least ***one* weight-related comorbidity** such as hypertension, type 2 diabetes mellitus, dyslipidemia, metabolic syndrome, obstructive sleep apnea, or degenerative joint disease (osteoarthritis).

**Each WMM CFU has additional exclusion and inclusion criteria pertaining to its particular safety profile.

General considerations in selection of pharmacotherapy

Weight management medication	REMS*	Controlled substance schedule	Boxed warning	Route of administration	Administration
Phentermine/ topiramate ER (Qsymia®)	Yes**	CIV	No	Oral	Once daily (initial dose titration)
Naltrexone/ bupropion ER (Contrave®)	No	None	Yes (suicidal thoughts/ behaviors)	Oral	Titration to twice daily
Lorcaserin (Belviq®) **Lorcaserin ER (Belviq XR®)**	No	CIV	No	Oral	Twice daily **XR:** Once daily
Orlistat (Xenical®, Alli®)	No	None	No	Oral	Three times daily
Liraglutide (Saxenda®)	No	None	Yes (thyroid C-cell tumors)	Injection (**SC**)	Once daily (initial dose titration)

Criteria for use of the individual agents for chronic weight management are available in VA PBM Criteria for Use. VA Formulary information at: www.pbm.va.gov/apps/VANationalFormulary **ER:** extended-release; **SC:** subcutaneous; **XR:** extended release

***REMS:** Risk Evaluation and Mitigation Strategy; ****REMS:** Phentermine/topiramate ER—to prevent unintended exposure during pregnancy, as topiramate is associated with oral clefts in newborns exposed during the first trimester; requirements for provider and pharmacy certification

Medication information for chronic weight management medications[10,11,12]

Phentermine/topiramate ER (Qsymia®)

Dosing	Dose adjustments (if applicable)	Monitoring	Common side effects[11]	Contraindications[11]	Warnings
• 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 • If a weight loss of 3% of baseline body weight is not achieved after 12 weeks, then increase the dose to 11.25 mg/69 mg each morning for 14 days; then increase to 15 mg/92 mg (maximum dose) daily – **If after 12 weeks the patient has not lost at least 5% of baseline body weight, discontinue by gradually tapering (taking a dose every other day for ≥1 week before stopping to avoid precipitating a seizure), as it is unlikely that the patient will achieve and sustain clinically meaningful weight loss with continued treatment**	**Dose in renal impairment:** • Moderate-severe renal impairment (CrCl <50 mL/min): should not exceed 7.5 mg/46 mg once daily **Dose in hepatic impairment:** • Moderate hepatic impairment (Child-Pugh score 7-9) should not exceed 7.5 mg/46 mg once daily	• Weight • Blood pressure (orthostatic) and/or signs/symptoms of hypotension • Resting heart rate • Serum bicarbonate, especially if patient is taking another carbonic anhydrase inhibitor • Serum potassium, especially if patient is taking another carbonic anhydrase inhibitor • Glucose and/or signs/symptoms of hypoglycemia in patients with diabetes • Mood (depression) and sleep disorders • Pregnancy tests in women of reproductive age	• Increased heart rate • Paresthesia • Dizziness • Dysgeusia • Headache • Insomnia • Decreased serum bicarbonate • Xerostomia • Constipation • Upper respiratory tract infection • Naso-pharyngitis	• Pregnancy • Glaucoma • Hyperthyroidism • MAOI use during or within 14 days	• Metabolic acidosis • Cognitive impairment • Elevated heart rate • Nephrolithiasis • Hypokalemia • Mood and sleep disorders • Depression or suicidal ideation • Increased creatinine • Adjust hypoglycemic medications to avoid hypoglycemia

Naltrexone/bupropion ER (Contrave®)

Dosing	Dose adjustments (if applicable)	Monitoring	Common side effects[11]	Contraindications[11]	Warnings
• Naltrexone 8 mg/bupropion 90 mg tablet dose escalation schedule: **Morning** **Evening** **Week 1:** 1 tablet None **Week 2:** 1 tablet 1 tablet **Week 3:** 2 tablets 1 tablet **Week ≥4:** 2 tablets 2 tablets • Maintenance dose: Naltrexone 16 mg/bupropion 180 mg (2 tablets) twice a day • Discontinue if 5% weight loss is not achieved by week 12 as it is unlikely that a meaningful weight loss will be achieved and sustained with continued treatment	**Dose in renal impairment:** • Moderate or severe renal impairment: maximum recommended daily dose is one tablet each morning and evening • Not recommended for use in patients with end-stage renal disease **Dose in hepatic impairment:** • Maximum recommended daily dose of naltrexone/bupropion is one tablet in the morning	• Weight • Pregnancy tests in women of child-bearing potential as deemed necessary • Glucose and/or signs/symptoms of hypoglycemia in patients with diabetes (as adjustment in a patient's diabetes medication may be needed to avoid hypoglycemia) • Blood pressure and/or signs/symptoms of hyper- or hypotension • Heart rate • Signs and symptoms of depression, suicidal thought or behavior, cognitive impairment, or changes in mood	• Headache • Sleep disorder • Nausea • Constipation • Diarrhea • Vomiting • Dizziness • Xerostomia	• Opioid use (agonists or partial agonists) • Pregnancy • Uncontrolled hypertension • Seizure disorder • Bulimia or anorexia nervosa • Abrupt discontinuation of alcohol • Acute opioid withdrawal • Concomitant MAOI use or initiation in patients receiving linezolid or IV methylene blue	• Suicidal thinking/behavior [U.S. Boxed Warning] • Neuropsychiatric symptoms • May precipitate acute opioid withdrawal in patients receiving opioids • Seizures • Increase blood pressure, heart rate • Hepatotoxicity • Adjust hypoglycemic medications to avoid hypoglycemia

Medication information for chronic weight management medications[10,11,12]

Lorcaserin (Belviq®) / Lorcaserin ER (Belviq XR®)

Dosing	Dose adjustments (if applicable)	Monitoring	Common side effects[11]	Contraindications[11]	Warnings
• 10 mg by mouth twice a day; extended-release is dosed 20 mg once daily • Discontinue if 3% weight loss is not achieved by week 12 as it is unlikely that a meaningful weight loss will be achieved and sustained with continued treatment	**Dose in renal impairment:** • Should be used with caution in patients with moderate renal impairment • Use is not recommended in patients with severe renal impairment or end stage renal disease **Dose in hepatic impairment:** • Not studied in patients with severe hepatic impairment and should be used with caution in such patients	• Weight • Pregnancy tests in women of child-bearing potential as deemed necessary • Glucose and/or signs/symptoms of hypoglycemia in patients with diabetes (as adjustment in a patient's diabetes medication may be needed to avoid hypoglycemia) • Blood pressure (orthostatic) and/or signs/symptoms of hypotension • Signs and symptoms of valvulopathy • Signs and symptoms of depression, suicidal thoughts or behaviors, cognitive impairment, or changes in mood	• Headache • Dizziness • Fatigue • Nausea • Xerostomia • Hypoglycemia • Abnormal lymphocytes • Back pain • Upper respiratory tract infection • Nasopharyngitis	• Pregnancy	• Central nervous system depression • Use with other drugs that affect serotonin or block dopamine • Suicidal behavior and ideation • Hepatic impairment • Priapism • Bradycardia • Hematological effects (e.g., leucopenia) • Elevated prolactin • Existing valvular heart disease • Adjust hypoglycemic medications to avoid hypoglycemia • Cognitive impairment

Orlistat (Xenical®, Alli®)

Dosing	Dose adjustments (if applicable)	Monitoring	Common side effects[11]	Contraindications[11]	Warnings
• **Xenical®:** 120 mg 3 times daily with each main meal containing fat (during or up to one hour after the meal); omit dose if meal is occasionally missed or contains no fat • **Alli®:** ***OTC labeling:*** 60 mg 3 times daily with each main meal containing fat	• There are no dosage adjustments provided in the manufacturer's labeling	• Weight • Blood pressure (orthostatic) and/or signs/symptoms of hypotension • Glucose and/or signs/symptoms of hypoglycemia in patients with diabetes • Liver function tests if signs or symptoms of hepatic dysfunction	• Gastrointestinal effects (e.g., oily rectal leakage, abdominal distress/pain, flatulence with discharge, bowel urgency, steatorrhea) —typically frequency decreases over time • Headache • Fatigue • Anxiety • Menstrual disease • Neuromuscular and skeletal pain	• Pregnancy • Chronic malabsorption syndrome • Cholestasis	• Increased urinary oxalate and nephrolithiasis • Hepatotoxicity • Cholelithiasis • Interference with absorption of fat-soluble vitamins, cyclosporine, thyroid hormone, and anti-convulsants • Adjust hypoglycemic medications to avoid hypoglycemia

Liraglutide (Saxenda®)

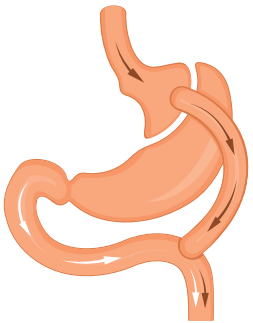
Dosing	Dose adjustments (if applicable)	Monitoring	Common side effects[11]	Contraindications[11]	Warnings
• **Initiate dose titration with 0.6 mg** injected subcutaneously daily for one week; increase the daily dose by 0.6 mg per week until reaching the target dose of 3 mg. Slow titration rate to every other week if the patient does not tolerate weekly dose escalation • **Discontinue if 4% weight loss is not achieved by week 16** as it is unlikely that a meaningful weight loss will be achieved and sustained with continued treatment	**In patients on secretagogues (such as sulfonylureas):** • Consider reducing the dose of the secretagogue by 50% to reduce the risk of hypoglycemia and monitor blood glucose when initiating liraglutide **Dose in renal impairment:** • Use with caution in renal impairment	• Weight • Blood pressure (orthostatic) and/or signs/symptoms of hypotension • Resting heart rate • Glucose and/or signs/symptoms of hypoglycemia • Mood (symptoms of depression) and sleep disorders	• Increased heart rate • Headache • Hypoglycemia • Nausea • Diarrhea • Constipation • Vomiting • Dyspepsia • Abdominal pain • Fatigue	• Pregnancy • Personal or family history of medullary thyroid carcinoma [U.S. Boxed Warning] or multiple endocrine neoplasia type 2 (MEN2)	• Injection site reactions • Hypersensitivity reactions; use caution in patients with history of reaction to glucagon-like peptide-1 receptor agonists • Pancreatitis • Acute cholelithiasis and cholecystitis • Tachycardia • Acute renal failure and chronic renal failure exacerbation • Suicidal behavior and ideation • Adjust hypoglycemic medications to avoid hypoglycemia

Common drug interactions

Weight management medication	Interacting medication
Phentermine/topiramate ER	• Monoamine oxidase inhibitors (discontinue ≥14 days before initiating phentermine/topiramate) • Sympathomimetic amines • Concurrent phentermine or topiramate
Naltrexone/bupropion ER	• Monoamine oxidase inhibitors (discontinue ≥14 days before initiating naltrexone/bupropion) • Opioid therapy • Concurrent bupropion or naltrexone
Lorcaserin **Lorcaserin ER**	• SSRIs/SNRIs/tricyclic antidepressants/St. John's Wort, dextromethorphan, tramadol, linezolid, and other drugs that modulate serotonin (risk for serotonin syndrome) • Monoamine oxidase inhibitors (discontinue >14 days before initiating lorcaserin)
Orlistat	• Antiepileptics (decreased effect) • Cyclosporine (decreased effect) • Levothyroxine (decreased effect) • Warfarin (enhanced effect)
Liraglutide	• Sulfonylureas and other hypoglycemic agents (hypoglycemia)

SSRI: selective serotonin reuptake inhibitor; **SNRI:** serotonin norephinepherine reuptake inhibitor

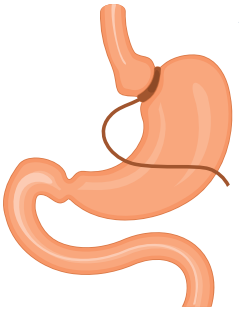
Most common bariatric procedures[6,10,13,14,15,16]



Roux-en-Y Gastric Bypass **(RYGB)**

Roux-en-Y Gastric Bypass[6,14,15,16]

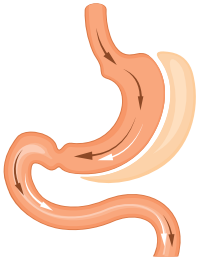
- **Involves creation of 30 ml gastric pouch which empties into a roux limb of jejunum.** A variable distance downstream from this anastomosis, another anastomosis is created with the biliary limb to form a common channel which travels to the cecum.
- **Provides a restrictive component,** in that early satiety is produced with a small volume of food, with over-distention of the pouch resulting in nausea and vomiting, thus prompting dietary compliance.
- **Provides for a mal-absorptive component,** which is directly related to the length of the "common channel" of small intestine traveling to the cecum.
- Stimulates release of incretins and satiety gut peptides.
- Associated with iron deficient anemia, calcium, B12, folate, micronutrient vitamin and mineral deficiencies without appropriate supplementation. **Supplements are taken life-long following these procedures.**



Adjustable
Gastric Band **(AGB)**

Adjustable Gastric Banding[6,14]

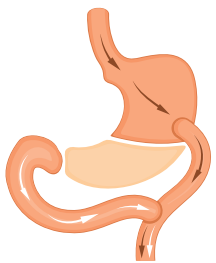
- **A silastic inflatable band is placed around the cardia of the stomach.** A reservoir port placed under the skin is subsequently injected with saline to expand or desufflate the band to create more or less restriction to food postoperatively.
- The adjustable gastric band may be considered a **reversible** form of the previously popular vertical banded gastroplasty.
- **Multiple post-operative band adjustments are often required.** The gastric band is a purely restrictive operation as there is no malabsorptive component.



Vertical Sleeve Gastrectomy **(VSG)**

Sleeve Gastrectomy[6,14,17]

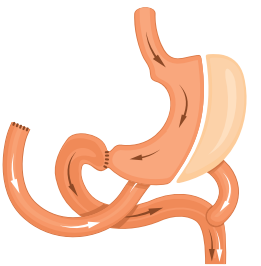
- Partial gastrectomy that can be performed laparoscopically in which most of the stomach is removed without bypassing the intestines (a type of restrictive operation).
- May provide further benefit through its effects on gut hormones (e.g., reduction in ghrelin) and is generally a safer procedure than Roux-en-Y gastric bypass.



Biliopancreatic Diversion **(BPD)**

Biliopancreatic Diversion or Duodenal Switch[14]

- The duodenal switch procedure is similar to the biliopancreatic diversion except that the duodenum is capped and is bypassed along with the small bowel. Rather than create a pouch, the gastric remnant is a sleeve along the lesser curve and about four times the size of the gastric bypass pouch. Involves a partial gastrectomy that results in a 400 mL gastric pouch.
- The major advantage of these operations is that weight loss results irrespective of a patient's eating habits.
- It retains the pylorus, minimizing problems related to dumping syndrome and marginal ulcer.



Biliopancreatic Diversion With a Duodenal Siwtch **(BPD-DS)**

Important post-surgical considerations[6]

1. Suicide risk

Suicide risk appears to be increased following bariatric surgery; increase vigilance for suicidal ideation and other risk factors for suicide (e.g., alcohol and other substance use disorder).

2. Nutritional Concerns

All patients should be followed and monitored routinely by an experienced team to detect nutritional deficiencies.

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This reference guide was created to be used as a tool for VA providers and is available to use from the Academic Detailing SharePoint. These are general recommendations only; specific clinical decisions should be made by treating provider based on an individual patient's clinical conditions.

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PharmacyAcademicDetailingService@va.gov

VA PBM Academic Detailing Service SharePoint Site:
https://vaww.portal2.va.gov/sites/ad

Revised October 2019

IB 10-1159 P96921