



**AAVBC**

AMERICAN ACADEMY OF VALUE BASED CARE

# Morbid Obesity

## Quick Reference Guide

2026

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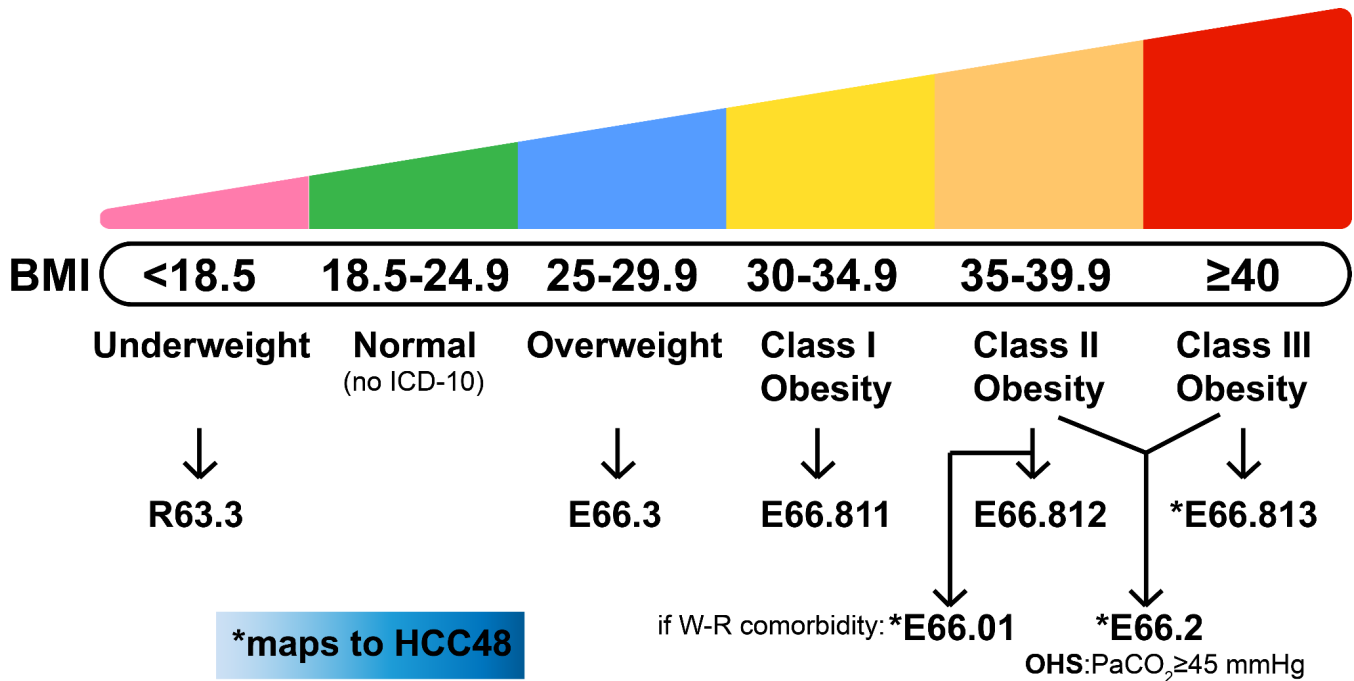
# 1 CLINICAL SNAPSHOT

**Definition:** Morbid obesity, or equivalently **Class III obesity** or **severe obesity**, is defined as a body mass index (BMI)  $\geq 40$  kg/m<sup>2</sup>, or BMI 35–39.9 kg/m<sup>2</sup> with at least one weight-related comorbidity such as **type 2 diabetes, hypertension, or obstructive sleep apnea**.<sup>1–3</sup> It is a chronic, complex, biologically driven disease characterized by excessive adipose tissue accumulation that substantially increases risk of cardiovascular disease, type 2 diabetes, obstructive sleep apnea, osteoarthritis, and certain malignancies.<sup>3</sup> The terms 'Class III obesity,' 'severe obesity', and 'morbid obesity' are **clinically equivalent for coding purposes**: all three **satisfy E66.01** when explicitly documented in the assessment and plan. Notably, **generic 'obesity'** for BMI  $\geq 40$  is an **undercoding error**.

## ICD-10 Codes

(updated effective October 1, 2024):<sup>4</sup> **E66.811** (obesity Class 1, BMI 30.0–34.9), **E66.812** (obesity Class 2, BMI 35.0–39.9), and **E66.813** (obesity Class 3, BMI  $\geq 40$ ) were introduced to more accurately reflect the complexity of obesity in adult and pediatric patients relative to legacy (**but still active**) ICD-10 codes **E66.0** (obesity due to excess calories), **E66.01** (morbid obesity due to excess calories, with one related comorbidity), and **E66.09** (other obesity due to excess calories) which focused primarily on excess calories as the primary cause of (morbid) obesity. Notably, morbid obesity codes E66.813, E66.01, and E66.20 (morbid [severe] obesity with alveolar hypoventilation; **Pickwickian syndrome**) are the **ONLY codes that map to HCC 48**.<sup>5</sup> Supplemental BMI codes (**Z68.41–Z68.45**) document **measured BMI** but are **never diagnostic** and cannot substitute for E66.813/E66.01/E66.20. Physicians or qualified healthcare professionals must **explicitly state** 'morbid obesity,' 'severe obesity,' or 'Class III obesity' in the assessment and plan. Nurse-documented BMI in vitals is insufficient for coding.

**Prevalence and Burden:** Approximately 42% of U.S. adults have obesity (BMI  $\geq 30$ ), with Class III obesity (BMI  $\geq 40$ ) affecting **9.7% of adults** (>22 million individuals).<sup>6</sup> Severe obesity disproportionately affects women, with a prevalence of 11.9% compared to 6.2% in men, and rates and projections indicate the highest burdens of obesity are concentrated among Black and Hispanic populations.<sup>7</sup> Mortality risk rises substantially with increasing obesity severity; in a meta-analysis of 3.9 million never-smokers across 189 prospective studies, the hazard ratio for all-cause mortality was 1.94 (95% CI, 1.87–2.01) for Class II 2 obesity (BMI 35–40) and 2.76 (95% CI, 2.60–2.92) for Class III obesity (BMI  $\geq 40$ ), relative to BMI 22.5–24.9.<sup>8</sup> **Multimorbidity burden is high:** midlife Class III obesity is associated with a cumulative morbidity burden of **10.32 morbidity-years** after age 65, compared with 6.10 morbidity-years for normal BMI (adjusted P0.001).<sup>9</sup> While general obesity rates have not changed significantly over the last decade, severe obesity prevalence has increased by approximately 26% since 2013–2014, rising from 7.7% to 9.7%.<sup>6,7</sup>



### HCC/RAF V28 Mapping

ICD-10 CODES	HCC CATEGOR Y (V28) <sup>5</sup>	RAF WEIGHT (CNA) <sup>10</sup>	ADULT BMI Z CODES (BMI)	DOCUMENTATION REQUIREMENT
<b>E66.813 (obesity, class 3)</b>	HCC 48	0.186	Z68.41(40.0-49.9); Z68.42(45.0-49.0);Z68.43(50.0-59.9);Z68.44(60.0-69.0);Z68.45(≥70)	BMI ≥40; Patients at this BMI meet clinical criteria for morbid obesity; document the diagnostic statement in A&P: 'Class III,' 'severe,' and 'morbid' obesity are clinically equivalent
<b>E66.01 (morbid obesity; excess calories)</b>	HCC 48	0.186	See <b>E66.813</b>	Physician or QHP must document 'morbid obesity,' 'severe obesity,' or 'Class III obesity' in the A&P; Applies when BMI ≥40 OR BMI 35–39.9 with a weight-related comorbidity (T2DM, HTN, OSA, MASLD/MASH, CAD/HF, osteoarthritis); BMI in vitals alone does not satisfy; annual MEAT required

ICD-10 CODES	HCC CATEGORY (V28) <sup>5</sup>	RAF WEIGHT (CNA) <sup>10</sup>	ADULT BMI Z CODES (BMI)	DOCUMENTATION REQUIREMENT
<b>E66.20 (morbid obesity; alveolar hypovent)</b>	HCC 48	0.186	See E66.813	Obesity hypoventilation syndrome ( <b>OHS</b> ); Document daytime hypercapnia PaCO <sub>2</sub> >45 mmHg on awake arterial blood gas plus clinical context (daytime somnolence, morning headache, peripheral edema, SpO <sub>2</sub> <94% on room air); OHS is distinct from OSA (G47.33) and may coexist (dual coding required); if both E66.813 and E66.20, <b>code E66.20</b>
<b>E66.811 (obesity, class 1)</b>	No HCC	—	Z68.30- Z68.34 (30-34.9)	BMI 30.0-34.9; does not satisfy HCC 48; Escalate to E66.01 only when clinical criteria for morbid obesity are met
<b>E66.812 (obesity, class 2)</b>	No HCC	—	Z68.35- Z68.39 (35-39.9)	BMI 35.0-39.9; When a weight-related comorbidity is present (T2DM, HTN, OSA, MASH, CAD, GERD, COPD), document 'morbid obesity with [comorbidity]' and code <b>E66.01 as E66.812 does not map to HCC48 on its own</b>
<b>E66.9 (obesity, unspecified)</b>	No HCC	—	—	<b>AVOID as a default</b> ; Acceptable only when specificity is genuinely not determinable after workup; Replace with E66.01, E66.20, E66.811, E66.812, or E66.813 once the clinical picture is defined

**ABBREVIATIONS:** A&P = assessment and plan; BMI = body mass index; CAD = coronary artery disease; CMS = Centers for Medicare & Medicaid Services; CNA = community non-dual aged; HCC = hierarchical condition category; HF = heart failure; HTN = hypertension; MASH = metabolic dysfunction-associated steatohepatitis; MASLD = metabolic dysfunction-associated steatotic liver disease; MEAT = monitor/evaluate/assess/treat; OHS = obesity hypoventilation syndrome; OSA = obstructive sleep apnea; PaCO<sub>2</sub> = partial pressure of arterial carbon dioxide; QHP = qualified healthcare professional; RAF = risk adjustment factor; T2DM = type 2 diabetes mellitus; V28 = CMS-HCC model version 28

**NOTE:** RAF values represent the Community Non-Dual Eligible Aged (CNA) coefficient from the 2024 CMS-HCC model; values vary across patient populations based on eligibility and care setting

### Risk-Adjusted Care Resources per Patient/Year<sup>5,10</sup>

Risk-adjusted care resource allocation — MA base rate × RAF coefficient for HCC48: 0.186

#### Morbid Obesity (Class III Obesity; Severe Obesity)

~\$1,935

HCC 48 · RAF 0.186



## AAVBC PERSPECTIVE

Healthy weight and BMI targets should be **individualized** using factors beyond chronological age alone, including biological age, lifestyle, diet, family history, and obesity-related comorbidities. Accurate obesity staging and coding are essential to reflect **true disease burden** and guide patient care. Morbid obesity (BMI  $\geq 40$ , or  $\geq 35$  with significant comorbidity) remains under-documented despite eligibility for **HCC 48** risk adjustment through active ICD-10 codes **E66.813**, **E66.01** and **E66.20**. Documentation that clearly identifies BMI class, associated comorbidities (**especially for BMI 35-39.9**), and the assessment and plan creates a clinically meaningful record that follows the patient across care settings.

## 2 RECOGNITION AND DIAGNOSIS

### Medicare Screenings (older adults, at-risk population)

TEST	COVERAGE (MEDICARE PART B)	FREQUENCY	CPT CODES	CLINICAL INDICATION
<b>BMI + waist circumference</b>	Billed within E/M visit	Every primary care encounter; documented at least annually	Z68.xx (BMI code family)	BMI $\geq 30$ = obesity; BMI $\geq 40$ = Class III (morbid); waist $> 40$ in (men)/ $> 35$ in (women) = <b>central adiposity</b> ; <sup>11</sup> Document BMI value AND the clinical diagnostic statement separately
<b>Intensive Behavioral Therapy for Obesity (IBT)</b>	Covered for BMI $\geq 30$	Up to 22 visits in the first yr (wkly $\times 4$ , then every other wk $\times 6$ mo, then every mo if $\geq 3$ kg lost); annually for qualifying patients <sup>12</sup>	G0447 (IBT, 15 min); G0473 (group IBT)	Covered but <b>underused</b> : only 1.2% of eligible PCPs billed G0447 between 2013–2019 despite a mean 2.39 kg weight loss in beneficiaries who received it; <sup>13</sup> Document each visit's counseling content to support billing

TEST	COVERAGE (MEDICARE PART B)	FREQUENCY	CPT CODES	CLINICAL INDICATION
<b>HbA1c + fasting lipid panel + eGFR</b>	Covered when medically necessary	Annually for BMI $\geq 30$ ; every 3 mo if T2DM is actively managed <sup>14,15</sup>	83036 (HbA1c); 80061 (lipid panel); 82565 (creatinine/eGFR)	HbA1c $\geq 5.7\%$ = prediabetes; $\geq 6.5\%$ = T2DM; <sup>14</sup> eGFR 30 mL/min/1.73m <sup>2</sup> requires dose adjustment for GLP-1 receptor agonists <sup>16</sup>
<b>STOP-BANG questionnaire + sleep study referral when positive</b>	Office-based screening, HSAT, polysomnography covered when indicated	At baseline for BMI $\geq 30$ ; reassess when snoring, daytime somnolence, or morning headaches develop <sup>11</sup>	95800/95801 (HSAT); 95810/95811 (in-lab polysomnography)	STOP-BANG $\geq 5$ = <b>high OSA probability</b> → sleep study within 2–4 weeks; <sup>17</sup> Untreated OSA drives cardiovascular, metabolic, and neurocognitive morbidity <sup>18</sup>
<b>Arterial blood gas (daytime, awake, seated)</b>	Covered; order when clinical suspicion of OHS	When BMI $\geq 35$ with daytime somnolence, morning headache, peripheral edema, or SpO <sub>2</sub> $< 94\%$ on room air	82803 (ABG: pH, pCO <sub>2</sub> , pO <sub>2</sub> , HCO <sub>3</sub> )	<b>PaCO<sub>2</sub> <math>\geq 45</math> mmHg</b> awake is required (but not alone sufficient) for OHS diagnosis; also requires confirmed SDB and exclusion of other causes; <sup>19</sup> pH usually compensated; Supports E66.2 application, distinguishes OHS from OSA alone; <sup>19</sup> CPAP is first-line for OHS with severe OSA (AHI $\geq 30$ ); NIV reserved for OHS without severe OSA or CPAP failure <sup>19,20</sup>
<b>PHQ-9 + GAD-7; SARC-F + handgrip strength (<math>\geq 65</math>)</b>	Covered; integrated into annual wellness visit and chronic care management	Annually; repeat PHQ-9/GAD-7 when initiating AOM therapy or post-bariatric; SARC-F + handgrip every 6 months on active weight-loss therapy	96127 (PHQ-9, GAD-7 brief assessment); G0444 (depression screening)	PHQ-9 $\geq 10$ = <b>moderate depression</b> ; GAD-7 $\geq 10$ = <b>moderate anxiety</b> ; <sup>21</sup> depression/anxiety prevalence 38.9% in adults $\geq 65$ with obesity; SARC-F $\geq 4$ OR handgrip $< 27$ kg (men)/ $< 16$ kg (women) = sarcopenia: drives protein + resistance-training priority over caloric restriction in older adults

TEST	COVERAG E (MEDICAR E PART B)	FREQUENCY	CPT CODES	CLINICAL INDICATION
<p><b>ABBREVIATIONS:</b> BMI = body mass index; E/M = evaluation and management; IBT = intensive behavioral therapy; PCP = primary care provider; HbA1c = hemoglobin A1c; eGFR = estimated glomerular filtration rate; T2DM = type 2 diabetes mellitus; GLP-1 = glucagon-like peptide-1; STOP-BANG = Snoring, Tired, Observed apnea, Pressure, BMI, Age, Neck, Gender; HSAT = home sleep apnea test; OSA = obstructive sleep apnea; ABG = arterial blood gas; OHS = obesity hypoventilation syndrome; SpO<sub>2</sub> = peripheral oxygen saturation; PaCO<sub>2</sub> = partial pressure of arterial carbon dioxide; SDB = sleep-disordered breathing; CPAP = continuous positive airway pressure; AHI = apnea-hypnea index; NIV = noninvasive ventilation; PHQ-9 = Patient Health Questionnaire-9; GAD-7 = Generalized Anxiety Disorder-7; SARC-F = sarcopenia screening tool (Strength, Assistance with walking, Rising from a chair, Climbing stairs, Falls); AOM = anti-obesity medication; CPT = Current Procedural Terminology</p>				

## Early Signs in Older Adults

SIGN/SYMPTOM	CLINICAL SIGNIFICANCE <sup>1</sup>
<b>Progressive exertional dyspnea disproportionate to BMI, peripheral edema, morning headache</b>	↑ suspicion for OHS or obesity cardiomyopathy/HFpEF; <sup>19</sup> order awake arterial blood gas (PaCO <sub>2</sub> ≥45 mmHg confirms OHS) and echocardiogram with diastolic parameters; interpret NT-proBNP with BMI adjustment
<b>Witnessed apnea, loud snoring, daytime hypersomnolence (BMI ≥35)</b>	High probability of moderate-to-severe OSA; <b>STOP-BANG ≥5</b> warrants sleep study within 2–4 weeks; <sup>17</sup> If somnolence persists despite CPAP adherence, obtain daytime ABG to evaluate for coexisting OHS <sup>18,19</sup>
<b>Acanthosis nigricans, skin tags, hirsutism</b>	Markers precede T2DM diagnosis; <sup>14,15</sup> check HbA1c, fasting lipids; women with oligomenorrhea or hyperandrogenism→ <b>Rotterdam evaluation</b> for PCOS <sup>22</sup>
<b>New or worsening knee/hip pain limiting gait, ADLs, or sleep</b>	Mechanical load drives osteoarthritis progression; <sup>23</sup> pain: ↓ activity, ↑ weight gain; document functional limitation, refer to physical therapy + assess mobility trajectory before prescribing weight-dependent interventions
<b>Unintentional weight loss, ↓ grip strength, or new falls in older adult with obesity</b>	Red flag for <b>sarcopenic obesity</b> ; <sup>24</sup> muscle loss coexisting with excess adiposity; screen with SARC-F + handgrip dynamometry; prioritize protein >1 g/kg/day + resistance training vs. caloric restriction alone
<b>Rapid central weight gain with proximal weakness, easy bruising, new hypertension or hyperglycemia</b>	Consider secondary causes ( <b>Cushing's syndrome</b> , iatrogenic glucocorticoids, rarely monogenic obesity); <sup>25</sup> obtain 24 hr urinary free cortisol or late-night salivary cortisol; review medications for steroids, antipsychotics, and other weight-promoting agents

SIGN/SYMPTOM	CLINICAL SIGNIFICANCE <sup>1</sup>
<p><b>ABBREVIATIONS:</b> BMI = body mass index; OHS = obesity hypoventilation syndrome; HFpEF = heart failure with preserved ejection fraction; PaCO<sub>2</sub> = partial pressure of arterial carbon dioxide; ABG = arterial blood gas; NT-proBNP = N-terminal pro B-type natriuretic peptide; OSA = obstructive sleep apnea; STOP-BANG = Snoring, Tired, Observed apnea, Pressure, BMI, Age, Neck, Gender; CPAP = continuous positive airway pressure; T2DM = type 2 diabetes mellitus; HbA1c = hemoglobin A1c; PCOS = polycystic ovary syndrome; ADL = activity of daily living; SARC-F = sarcopenia screening tool (Strength, Assistance with walking, Rising from a chair, Climbing stairs, Falls)</p>	

## Risk Factors for Crossing Into Class III Obesity Threshold

FACTOR	RISK SIGNAL <sup>16</sup>	NOTES <sup>16</sup>
<b>Age ≥65 with BMI ≥35</b>	BMI ≥35 raises mortality (HR 1.49 men, HR 1.21 women); functional decline in ADLs/IADLs rises with BMI <sup>26</sup>	Document BMI AND functional status (gait speed, handgrip, ADL independence); goals shift from ↓ BMI to functional preservation
<b>Sarcopenic obesity (concurrent excess adipose + low muscle mass)</b>	Common in older adults with obesity; weight-loss interventions can accelerate <b>muscle loss</b> if not paired with resistance training and high protein	Screen with SARC-F + handgrip at baseline and every 6 months; protein >1 g/kg/day; resistance training 2–3×/week; cap weight loss at 1–2 lbs/week
<b>Antipsychotic use (current or recent)</b>	Olanzapine/clozapine: highest risk (≥7% gain in ~30%); quetiapine/risperidone: intermediate; <sup>27</sup> dysglycemia can occur independently of weight gain	Prefer <b>weight-neutral agents</b> (aripiprazole, ziprasidone, lurasidone) when feasible; If not switchable, consider adjunctive metformin or GLP-1 RA; <sup>28</sup> monitor fasting glucose, HbA1c, lipids; psychiatry coordination before changes
<b>Polypharmacy with weight-promoting medications</b>	Mirtazapine, amitriptyline, quetiapine, olanzapine, insulin, glyburide, prednisone and antipsychotics <b>promote weight gain</b> and blunt response to ILI/AOM therapy	Conduct medication reconciliation at each visit; substitute where feasible (amitriptyline → duloxetine; glyburide → metformin or SGLT-2 inhibitor; review steroid burden) <sup>29</sup>
<b>Food insecurity/SNAP participation/low income</b>	Higher-calorie, lower-nutrient diets; reduced access to fresh produce; correlates with obesity prevalence and weight-loss barriers	Social needs screen; connect to <b>MA-covered meal delivery</b> ; community food resources; SNAP-Ed <b>nutrition counseling</b> ; frame without judgment <sup>30</sup>

FACTOR	RISK SIGNAL <sup>16</sup>	NOTES <sup>16</sup>
<b>Mobility limitation (osteoarthritis, prior stroke, post-surgical)</b>	Reduces exercise capacity; creates a feedback loop of weight gain and further immobility; raises fall and fracture risk	Refer physical therapy; prioritize seated resistance exercises, aquatic therapy; SilverSneakers enrollment for MA members; address pain

**ABBREVIATIONS:** BMI = body mass index; HR = hazard ratio; ADL = activity of daily living; IADL = instrumental activity of daily living; SARC-F = sarcopenia screening tool (Strength, Assistance with walking, Rising from a chair, Climbing stairs, Falls); GLP-1 RA = glucagon-like peptide-1 receptor agonist; HbA1c = hemoglobin A1c; ILI = intensive lifestyle intervention; AOM = anti-obesity medication; SGLT-2 = sodium-glucose cotransporter-2; SNAP = Supplemental Nutrition Assistance Program; SNAP-Ed = SNAP Education; MA = Medicare Advantage

## Diagnostic Thresholds

TEST/MARKER <sup>19,30</sup>	DIAGNOSIS CRITERION <sup>16</sup>	NOTES
<b>BMI <math>\geq 40</math> kg/m<sup>2</sup></b>	Class III/morbid/severe obesity (equivalent) by universal criteria	Diagnose Class III obesity ( <b>E66.813</b> ); initiate ILI + consider AOM and bariatric referral within 6 mo if <5% weight loss
<b>BMI 35-39.9 + <math>\geq 1</math> weight-related comorbidity</b>	Clinical criteria for morbid obesity are met; eligible co-morbidities: T2DM, HTN, OSA, MASH, CAD, HF, osteoarthritis	Diagnose Class II obesity <b>E66.01</b> if explicit comorbidity linkage: 'morbid obesity with [condition]'
<b>BMI 30-34.9 + severe cardiometabolic disease</b>	2016 international consensus and AACE 2025 support <b>bariatric surgery consideration</b> in this range	Diagnose Class I obesity ( <b>E66.811</b> ); Refer to obesity medicine/bariatric center; may still benefit from AOM therapy
<b>PaCO<sub>2</sub> <math>\geq 45</math> mmHg (awake arterial blood gas) with BMI <math>\geq 30</math></b>	Obesity hypoventilation syndrome (OHS)	Diagnose morbid obesity with OHS ( <b>E66.2</b> ); pulmonology referral; nocturnal NIV; <sup>19</sup> urgent bariatric evaluation if severe; diagnose and code coexisting OSA ( <b>G47.33</b> ) separately when present

**ABBREVIATIONS:** BMI = body mass index; ILI = intensive lifestyle intervention; AOM = anti-obesity medication; T2DM = type 2 diabetes mellitus; HTN = hypertension; OSA = obstructive sleep apnea; MASH = metabolic dysfunction-associated steatohepatitis; CAD = coronary artery disease; HF = heart failure; AACE = American Association of Clinical Endocrinology; PaCO<sub>2</sub> = partial pressure of arterial carbon dioxide; OHS = obesity hypoventilation syndrome; NIV = noninvasive ventilation



## CLINICAL PEARL

The most prevalent coding failure across eligible patients is recording BMI  $\geq 40$  in vitals but **failing to state** 'Class III obesity', 'morbid obesity,' 'severe obesity,' in the assessment and plan (all three terms equivalent for **E66.813**). This highlights the fact that **BMI is a screening tool** whereas Class III obesity is a **physician diagnosis**. For BMI 35–39.9, diagnose morbid obesity on the basis of Class II obesity + an explicit comorbidity link (e.g., 'morbid obesity with T2DM') and code **E66.01**. For patients with BMI  $\geq 35$  and daytime hypercapnia PaCO<sub>2</sub>  $\geq 45$  mmHg, use **E66.20** (OHS). Reassess annually and do not use 'history of' language for patients **who currently meet criteria**.

## Common Oversights

OVERSIGHT/SHORTCUT	WHY IT MATTERS — WHAT TO DO INSTEAD <sup>14,19,29-31</sup>
<b>Attributing exertional dyspnea, fatigue, and mobility decline in Medicare patients with BMI <math>\geq 35</math> to 'deconditioning' or 'normal aging'</b>	HFpEF (obesity cardiomyopathy), OHS, and severe OSA frequently missed at this BMI $\geq 35$ and modify treatment plan: GLP-1 RA with HF indication, nocturnal noninvasive ventilation + and tirzepatide for OSA; Assess NT-proBNP levels, echocardiogram with strain, STOP-BANG + polysomnography, and daytime awake arterial blood gas if morning headache or resting SpO <sub>2</sub> $< 94\%$
<b>Treating 'counsel weight loss' as the full plan without staging EOSS, AACE ABCD, or functional status</b>	BMI does not comprehensively reflect <b>disease stage</b> : intensity of intervention (AOM initiation, bariatric referral, frailty-guided de-escalation) <b>requires individualization</b> ; Every obesity-focused visit: document EOSS stage, AACE ABCD complications score; <b>patients <math>\geq 65</math></b> : SARC-F + baseline functional measure (gait speed or grip strength) as well
<b>Counseling 'eat less, move more' while not offering IBT (G0447/G0473) or anti-obesity medication</b>	Lifestyle counseling alone = <b>ineffective</b> ; IBT underutilized despite Medicare coverage (up to 22 visits/year at BMI $\geq 30$ ) → Systematize IBT billing at every qualifying visit, document 5% weight loss threshold review needed to sustain monthly IBT billing past month six; initiate AOM alongside IBT unless contraindicated: AOMs yield <b>5-15%</b> (orlistat, naltrexone-bupropion, phentermine-topiramate) to <b>~20%</b> (semaglutide, tirzepatide) weight loss <sup>11,32</sup>
<b>Not reassessing weight-dependent medications after <math>\geq 5\%</math> weight loss on ILI or AOM</b>	Dosage adjustment required during active weight loss to avoid complications: Insulin and sulfonylureas → hypoglycemia; antihypertensives → orthostasis; CPAP/BiPAP pressures drift out of range; levothyroxine → hyperthyroidism; de-escalate proactively rather than reactively through assessment and dose adjustment
<b>Treating the fatigue and dyspnea of suspected OHS as 'just sleep apnea' without a daytime arterial blood gas</b>	OSA and OHS commonly conflated but <b>clinically distinct</b> : OHS (awake PaCO <sub>2</sub> $\geq 45$ mmHg) = nocturnal noninvasive ventilation, higher mortality risk than OSA alone, <b>not corrected by CPAP</b> ; refer for pulmonology evaluation

OVERSIGHT/SHORTCUT	WHY IT MATTERS – WHAT TO DO INSTEAD <sup>14,19,29-31</sup>
<b>Treating obesity as a resolved or 'historical' problem after bariatric surgery when the patient remains above criterion</b>	Chronic, relapsing-remitting disease: schedule <b>lifelong annual labs</b> (CBC, CMP, iron studies, B12, 25-OH vitamin D, PTH, lipid panel), psychosocial review, and BMI surveillance; monitor <b>bariatric-associated nutritional deficiencies</b> (B12, iron, fat-soluble vitamins, protein), dumping syndrome, postprandial hypoglycemia, and metabolic bone disease

**ABBREVIATIONS:** BMI = body mass index; HFpEF = heart failure with preserved ejection fraction; OHS = obesity hypoventilation syndrome; OSA = obstructive sleep apnea; GLP-1 RA = glucagon-like peptide-1 receptor agonist; HF = heart failure; NT-proBNP = N-terminal pro B-type natriuretic peptide; STOP-BANG = Snoring, Tired, Observed apnea, Pressure, BMI, Age, Neck, Gender; SpO<sub>2</sub> = peripheral capillary oxygen saturation; EOSS = Edmonton Obesity Staging System; AACE ABCD = American Association of Clinical Endocrinology Adiposity-Based Chronic Disease; AOM = anti-obesity medication; SARC-F = sarcopenia screening tool (Strength, Assistance with walking, Rising from a chair, Climbing stairs, Falls); IBT = intensive behavioral therapy; ILI = intensive lifestyle intervention; CPAP = continuous positive airway pressure; BiPAP = bilevel positive airway pressure; PaCO<sub>2</sub> = partial pressure of arterial carbon dioxide; CBC = complete blood count; CMP = comprehensive metabolic panel; PTH = parathyroid hormone

## Key Differentials in Elderly

PRESENTATION	DIFFERENTIAL	KEY TESTS <sup>14,19,29-31</sup>
<b>Rapid central weight gain with moon facies, supraclavicular fat pad, proximal myopathy, purple striae, easy bruising</b>	<b>Cushing's syndrome</b> (endogenous or iatrogenic from chronic glucocorticoid therapy)	Require ≥2 positive tests → endocrinology referral: 24-hour urinary free cortisol OR late-night salivary cortisol; 1 mg overnight dexamethasone test
<b>Modest weight gain (5-10 lbs) with fatigue, cold intolerance, constipation, dry skin, bradycardia</b>	<b>Hypothyroidism</b> (but rarely accounts for BMI ≥40); treat thyroid disease but continue E66.01 when criteria met	TSH; free T4; reflex antibodies if indicated
<b>Premenopausal woman with obesity, hirsutism, acne, menstrual irregularity, acanthosis nigricans</b>	<b>Polycystic ovary syndrome</b> (PCOS, E28.2); frequently co-exists with morbid obesity <sup>22</sup>	<b>Rotterdam criteria</b> (2 of 3: oligo-/anovulation, hyperandrogenism, polycystic ovaries on ultrasound); <sup>22</sup> fasting glucose/insulin; lipid panel; GLP-1 agents can improve metabolic and menstrual profile
<b>Temporal weight gain: antipsychotics, antidepressants, corticosteroids, insulin, or sulfonyleureas</b>	<b>Medication-induced weight gain</b> (olanzapine, quetiapine, mirtazapine, amitriptyline, prednisone, glyburide, gabapentin, antipsychotics)	Medication reconciliation at each encounter; substitute weight-neutral alternatives where clinically possible; document medication contribution in clinical reasoning

PRESENTATION	DIFFERENTIAL	KEY TESTS <sup>14,19,29-31</sup>
<b>Early-childhood-onset severe obesity, hyperphagia, positive family history, syndromic features</b>	Monogenic or syndromic obesity ( <b>MC4R variants</b> most common; leptin deficiency, POMC, Prader-Willi)	Obesity medicine or endocrinology referral for <b>genetic evaluation</b>
<b>ABBREVIATIONS:</b> BMI = body mass index; T2DM = type 2 diabetes mellitus; TSH = thyroid-stimulating hormone; T4 = thyroxine; PCOS = polycystic ovary syndrome; AMH = anti-Müllerian hormone; GLP-1 = glucagon-like peptide-1; MC4R = melanocortin-4 receptor; POMC = pro-opiomelanocortin		

## Comorbidity Screening

CONDITION	PREVALENCE/ ASSOCIATION <sup>11,14,16,30,31</sup>	SCREENING APPROACH <sup>14,19,29-31</sup>
<b>Type 2 diabetes mellitus (E11.x)</b>	Most common bariatric indication in morbid obesity; 5-10% weight loss → ~0.6-1% HbA1c reduction	<b>HbA1c annually;</b> fasting glucose if not diabetic; At BMI 35-39.9 + T2DM, link explicitly in the A&P → E66.01
<b>Hypertension (I10)</b>	89.4% prevalence in adults ≥65 with obesity; 5-10% weight loss → ~3 mmHg systolic reduction	<b>BP every visit;</b> home BP monitoring useful; reassess antihypertensive regimen during active AOM therapy as weight falls
<b>Obstructive sleep apnea (G47.33)/ Obesity hypoventilation syndrome (E66.20)</b>	OSA highly prevalent at BMI ≥35; OHS is clinically distinct and requires awake PaCO <sub>2</sub> ≥45 mmHg on arterial blood gas	<b>STOP-BANG annually;</b> <sup>17</sup> home sleep apnea test or polysomnography if screen positive; awake ABG if daytime hypercapnia suspected; <b>tirzepatide</b> FDA-approved for moderate-to-severe OSA with obesity <sup>32</sup>
<b>MASLD/ MASH (K76.0/ K75.81)</b>	Common in morbid obesity	<b>FIB-4</b> annually; elastography if FIB-4 ≥1.3; hepatology referral for advanced fibrosis; semaglutide FDA-approved for MASH with moderate-to-advanced fibrosis
<b>Heart failure with preserved ejection fraction (I50.3x)</b>	Up to 80% of HFpEF patients are overweight/obese; obesity → plasma volume expansion, concentric LV remodeling, epicardial fat accumulation, pericardial restraint	<b>Echocardiogram</b> with diastolic parameters (e', E/e', LAVI, LVMI); NT-proBNP with BMI-adjusted thresholds (rule-out 50 pg/mL and <b>rule-in ≥220 pg/mL</b> for BMI ≥35); <sup>33</sup> consider H2FPEF or HFA-PEFF scoring; diastolic stress echo if intermediate probability; document HFpEF + obesity code linkage in problem list

CONDITION	PREVALENCE/ ASSOCIATION <sup>11,14,16,30,31</sup>	SCREENING APPROACH <sup>14,19,29-31</sup>
<p><b>ABBREVIATIONS:</b> T2DM = type 2 diabetes mellitus; HbA1c = hemoglobin A1c; BMI = body mass index; A&amp;P = assessment and plan; AOM = anti-obesity medication; BP = blood pressure; OSA = obstructive sleep apnea; OHS = obesity hypoventilation syndrome; PaCO<sub>2</sub> = partial pressure of arterial carbon dioxide; ABG = arterial blood gas; STOP-BANG = Snoring, Tired, Observed apnea, Pressure, BMI, Age, Neck, Gender; MASLD = metabolic dysfunction-associated steatotic liver disease; MASH = metabolic dysfunction-associated steatohepatitis; FIB-4 = fibrosis-4 index; HFpEF = heart failure with preserved ejection fraction; LV = left ventricular; e' = early diastolic mitral annular velocity; E/e' = ratio of early mitral inflow velocity to mitral annular velocity; LAVI = left atrial volume index; LVMI = left ventricular mass index; NT-proBNP = N-terminal pro B-type natriuretic peptide; H2FPEF = Heavy, Hypertensive, Atrial Fibrillation, Pulmonary Hypertension, Elder, Filling Pressure score; HFA-PEFF = Heart Failure Association Pre-test Assessment, Echocardiography and Natriuretic Peptide, Functional Testing, Final Etiology score</p>		

## Obesity Staging – BMI, EOSS, AACE ABCD, Frailty Anchors

STAGING SYSTEM	CRITERIA/ VALUES	CLINICAL USE	DOCUMENTATION CUE
<b>BMI/WHO Class</b> <sup>34</sup>	<b>Class I:</b> 30–34.9; <b>Class II:</b> 35–39.9; <b>Class III:</b> ≥40	Guides ICD-10 selection	Document BMI value AND explicit diagnosis
<b>Edmonton Obesity Staging (EOSS)</b> <sup>35</sup>	<b>Stage 0–4</b> across medical, mental, functional domains	Predicts mortality better than BMI	'Morbid obesity (E66.813; E66.01), EOSS Stage 3.'
<b>AACE ABCD</b> <sup>36</sup>	<b>Stage 0:</b> no complications; <b>1:</b> mild-mod; <b>2:</b> severe	Complication-centric per AACE 2025	'Morbid obesity (E66.813; E66.01)-ABCD Stage 2.'
<b>ACC 2025 HF obesity framework</b> <sup>31</sup>	Obesity + HFpEF phenotype: sodium retention, plasma expansion, pericardial restraint	Guides cardiology comanagement	'Obesity cardiomyopathy-HFpEF (I50.32) + E66.01.'
<b>Pre-bariatric (2019 AACE/ACE/ASMBS)</b> <sup>37</sup>	Pre-op nutritional, metabolic, psychosocial eval; vitamin D, B12, iron, thiamine, protein	87% of plans require supervised weight management; 75% psychosocial	Document each domain explicitly
<b>Clinical Frailty Scale (≥65)</b>	<b>CFS 1</b> (fit) → <b>9</b> (terminally ill); <b>≥5</b> = frail	IFSO 2025: frailty > age for bariatric decisions	'E66.01, CFS 4.'

STAGING SYSTEM	CRITERIA/ VALUES	CLINICAL USE	DOCUMENTATION CUE
<p><b>ABBREVIATIONS:</b> BMI = body mass index; WHO = World Health Organization; EOSS = Edmonton Obesity Staging System; AACE = American Association of Clinical Endocrinology; ABCD = Adiposity-Based Chronic Disease; ACC = American College of Cardiology; HF = heart failure; HFpEF = heart failure with preserved ejection fraction; ACE = American College of Endocrinology; ASMBS = American Society for Metabolic and Bariatric Surgery; CFS = Clinical Frailty Scale; IFSO = International Federation for the Surgery of Obesity</p>			



### RED FLAG

#### Emergency | Call 911

Acute chest pain or pressure; severe shortness of breath **at rest**; altered mental status; signs of **pulmonary embolism** (acute dyspnea, tachycardia, pleuritic chest pain: elevated risk in morbid obesity, bed rest, recent surgery); hemodynamic instability. **Post-bariatric patients:** acute abdominal pain + tachycardia + fever may indicate **anastomotic leak** → emergency surgical evaluation.



### RED FLAG

#### Urgent/Rapid Evaluation

Systolic BP >180 **mmHg** with headache or visual changes; new lower-extremity edema (possible OHS decompensation or HFpEF exacerbation); marked increase in daytime somnolence (evaluate OHS); severe **GI symptoms on AOM therapy** causing dehydration (semaglutide-induced gastroparesis risk); signs of micronutrient deficiency post-bariatric (vitamin B12, thiamine → Wernicke's encephalopathy risk); hypoglycemia on GLP-1 + insulin or sulfonylurea combination.

## 3 MEAT DOCUMENTATION ESSENTIALS

Female patient, 62, presents for annual wellness visit. Vitals: **BMI 41.3**, BP 148/88, HbA1c 7.1%, STOP-BANG 5. Prior notes: 'BMI 40, discussed weight.' No morbid obesity diagnosis in A&P. Patient reports snoring, daytime fatigue. Current meds include mirtazapine (weight-promoting) for depression.

**MONITOR:** "Weight 248 lbs, **BMI 41.3** (up from BMI 40.0 at last annual visit [date]). **BP 148/88** on lisinopril 10 mg. LDL 142, TG 198. **STOP-BANG 5** with snoring/daytime fatigue, no prior sleep study. **PHQ-9 12** on mirtazapine. Reports **~15 lb weight gain** since starting mirtazapine. No prior obesity-focused treatment documented."

**EVALUATE:** "Waist 44 in; acanthosis nigricans present. Lungs clear, **SpO2 96%** RA. Bilateral knee crepitus/pain limiting walking. Mirtazapine likely contributing to weight gain. Barriers include food insecurity, limited mobility, and prior weight stigma. No prior RD or behavioral health referral for weight management."

**ASSESS:** “Class III obesity with T2DM, HTN, probable OSA, and knee OA. Worsening weight trajectory with obesity-related insulin resistance. Moderate depressive symptoms with possible medication-related weight gain. AACE obesity stage 2.”

**TREAT:** “Added **E66.813/Z68.41** to problem list. Started IBT; referred to RD and PT. Ordered home sleep study. Increased lisinopril to 20 mg daily. Psychiatry to consider mirtazapine switch to bupropion/weight-neutral alternative. Counseled on calorie deficit and **5-10% weight loss goal**. Consider GLP-1 RA therapy if inadequate response to lifestyle treatment. Bariatric surgery discussed; deferred. Follow-up in 4 weeks.”

## Clinical Documentation Elements

- **Link clinical relationships:** Explicitly connect morbid obesity to driving comorbidities in the A&P, **especially for BMI 35-39.9 pathway**. Example: 'Morbid obesity (**E66.812, Z68.39** -> **coded as E66.01**) with type 2 diabetes (**E11.9**), hypertension (**I10**), and obstructive sleep apnea (**G47.33**). Addressed at today's visit with 5As counseling, IBT referral, and semaglutide initiation (CVD indication covered by Medicare).'
- **Include current data:** BMI value, waist circumference, weight change since prior visit, HbA1c, BP, STOP-BANG score, SARC-F (adults  $\geq 65$ ), PHQ-9/GAD-7 annually. Update at every reporting year encounter. 'BMI 41.3 kg/m<sup>2</sup>, up from 40.8 last visit 3 months ago. HbA1c 7.1%. BP 148/88. STOP-BANG 5'
- **Specify precisely:** Document using the accepted terms in A&P: 'Class III obesity', 'morbid obesity.' Avoid 'obesity' alone for BMI  $\geq 40$ . Include OHS (**E66.20**) when arterial blood gas confirms daytime hypercapnia. Do NOT use '**history of**' for patients **currently** meeting criteria
- **Document chronicity:** Morbid obesity is a chronic, relapsing disease: Document duration of disease, prior treatment trials (ILI, AOMs, bariatric), response to each, current management phase
- **Associated conditions:** List all weight-related comorbidities with active codes: T2DM (E11.x), HTN (I10), HLD (E78.x), OSA (G47.33), OHS (E66.20), MASH/MASLD (K75.81/K76.0), HFpEF (I50.3x), osteoarthritis (M17.x, M16.x), CKD (N18.x), depression (F32.x), sarcopenic obesity (M62.84 + E66.813)

## Reframing Common Documentation Shortcuts

INSTEAD OF...	DOCUMENT... <sup>4</sup>
'BMI 42, discussed weight loss.'	'Class III obesity ( <b>E66.813</b> ) with BMI=42 ( <b>Z68.41</b> ); 5As counseling; referred IBT (G0447); initiated semaglutide 0.25 mg SC weekly (CVD-indication, established CAD).'
'Obese with diabetes.'	'Class II obesity ( <b>E66.812</b> ) with T2DM ( <b>E11.9</b> ). BMI 37 ( <b>Z68.37</b> ) + comorbidity pathway -> <b>coded as E66.01</b> . HbA1c 7.3%. 5-10% weight-loss target; GLP-1 shared decision.'

INSTEAD OF...	DOCUMENT... <sup>4</sup>
'History of morbid obesity; s/p sleeve gastrectomy.'	'Prior BMI of 41 led to morbid obesity diagnosis ( <b>E66.01</b> ), current BMI 36.2 (Class II obesity) and no weight-related comorbidities ( <b>E66.812</b> ). S/p sleeve gastrectomy (Z98.84). Bariatric labs per protocol. Z87.x only if BMI < <sup>30</sup> and no comorbidities.'
'Overweight, advised lifestyle changes.'	'Class III obesity ( <b>E66.813</b> ), BMI 41.8 ( <b>Z68.41</b> ). Chronic-disease framing. Options reviewed: ILI+IBT (G0447/G0473), AOM, bariatric. Patient elects ILI+IBT; reassess 3 mo.'
'Sleep apnea, on CPAP.'	'OHS ( <b>E66.20</b> ) + OSA ( <b>G47.33</b> ), BMI 44 ( <b>Z68.41</b> ). ABG PaCO <sub>2</sub> 52 mmHg confirms OHS. Nocturnal BiPAP; pulmonology; bariatric evaluation initiated.'

**ABBREVIATIONS:** BMI = body mass index; IBT = intensive behavioral therapy; SC = subcutaneous; CVD = cardiovascular disease; CAD = coronary artery disease; T2DM = type 2 diabetes mellitus; HbA1c = hemoglobin A1c; GLP-1 = glucagon-like peptide-1; s/p = status post; ILI = intensive lifestyle intervention; AOM = anti-obesity medication; OHS = obesity hypoventilation syndrome; OSA = obstructive sleep apnea; ABG = arterial blood gas; PaCO<sub>2</sub> = partial pressure of arterial carbon dioxide; BiPAP = bilevel positive airway pressure



## DOCUMENTATION

Every Class III obesity encounter should state the diagnosis in plain clinical language ('Class III obesity', 'morbid obesity,' or 'severe obesity,') in the A&P, name the ICD-10 code (**E66.813**, **E66.01**, or **E66.20** if OHS),<sup>4</sup> document current BMI and comorbidity linkages, describe the active management plan (ILI, IBT, AOM, bariatric), and reflect shared decision-making including Medicare coverage realities for AOM therapy.

## 4 TREATMENT AND REFERRAL QUICK GUIDE

Modern chronic obesity treatment is a stepwise pathway: **ILI** as the foundation, **AOMs** (GLP-1 and GIP/GLP-1) for inadequate response, and **bariatric/metabolic surgery** when ILI + AOM are insufficient.<sup>11,29,31</sup> In older adults, treatment intensity should be guided by **frailty and function (biological age)**, not chronological age. Medicare Part D does not cover AOMs for obesity alone: coverage exists **only with paired indications** (semaglutide + CVD; tirzepatide + OSA; semaglutide + MASH). Counsel patients on **coverage limits** before initiating AOM. IBT (G0447/G0473) remains underutilized, with only 1.2% of eligible PCPs billed 2013–2019.<sup>13</sup>

## Therapy Escalation Criteria

TRIGGER	ACTION <sup>1,11,19,29,36,37</sup>
<b>Any adult with BMI <math>\geq 30</math> newly engaged in obesity care</b>	Initiate intensive lifestyle intervention (ILI) + 5As counseling as the foundation of treatment; Refer for intensive behavioral therapy (IBT; HCPCS G0447 or G0473); <sup>12</sup> target $\geq 5\%$ weight loss by 3–6 months
<b>&lt;5% weight loss at 3-6 months of structured ILI + IBT</b>	<b>Escalate to AOM: first-line</b> = GLP-1 receptor agonist (semaglutide 2.4 mg weekly SC) or GIP/GLP-1 dual agonist (tirzepatide, highest efficacy for weight reduction); <b>Second-line</b> = liraglutide 3.0 mg SC daily, phentermine-topiramate, naltrexone-bupropion, or orlistat; Reassess response at 12–16 weeks at maximum tolerated dose
<b>BMI <math>\geq 40</math>, OR BMI <math>\geq 35</math> with weight-related comorbidity, with inadequate response to ILI + AOM</b>	Refer to <b>bariatric/metabolic surgery center</b> of excellence; <sup>37</sup> weight loss 25–30% at 12 months; 45% diabetes remission after Roux-en-Y in Medicare <65; <sup>29</sup> patients with BMI 30–34.9 and severe cardiometabolic disease may also qualify per AACE 2025; <sup>1</sup> For adults $\geq 65$ : IFSO 2025 recommends frailty assessment; sleeve gastrectomy preferred: lower reintervention (14.0% vs 21.9%) than bypass in the elderly <sup>38</sup>
<b>Patient not eligible for, or not ready for, bariatric surgery (or needs adjunct to AOM)</b>	Consider endoscopic bariatric therapies (intra-gastric balloon, endoscopic sleeve gastroplasty): 10–13% weight loss at 6 months, <b>less durable than surgery</b> ; ASGE-ESGE 2024 supports primary endoscopic therapies as an intermediate tier <sup>39</sup>
<b>Older adult (<math>\geq 65</math>) with CFS <math>\geq 5</math> (frail), severe sarcopenic obesity, or limited life expectancy</b>	Shift goals from weight reduction to <b>functional preservation</b> , symptom management, and dignity; protein >1 g/kg/day; resistance training; cap weight loss at 1–2 lbs/week; involve geriatrics and palliative care where appropriate; document explicitly as <b>frailty-guided de-escalation</b> , not under-treatment

**ABBREVIATIONS:** BMI = body mass index; ILI = intensive lifestyle intervention; IBT = intensive behavioral therapy; HCPCS = Healthcare Common Procedure Coding System; AOM = anti-obesity medication; GLP-1 = glucagon-like peptide-1; SC = subcutaneous; GIP = glucose-dependent insulintropic polypeptide; AACE = American Association of Clinical Endocrinology; IFSO = International Federation for the Surgery of Obesity; ASGE = American Society for Gastrointestinal Endoscopy; ESGE = European Society of Gastrointestinal Endoscopy; CFS = Clinical Frailty Scale

## AAACE/ACC/AGA/IFSO Aligned Recommendations

CATEGORY	RECOMMENDED AGENTS/ APPROACH	NOTES
<b>First-line behavioral treatment (all adults with BMI ≥30)</b>	ILI + IBT: <b>5As framework (see table below)</b> ; G0447 (individual, 15 min) or G0473 (group, 30 min); up to 22 visits/year Medicare-covered at BMI ≥30	AACE 2025 anchors ILI + IBT as foundational; <sup>1</sup> Mean ILI weight loss –2.39 kg (95% CI –2.86 to –1.93); Only 1.2% of PCPs billed G0447 = large underuse
<b>Pharmacotherapy: first-line (GLP-1/ GIP-GLP-1)</b>	Semaglutide 2.4 mg SC weekly (~15% weight loss at 68 weeks); tirzepatide 5–15 mg SC weekly (~21% at 72 weeks = highest efficacy among AOMs)	AGA 2022 strong recommendation for semaglutide and liraglutide; <sup>40</sup> Medicare Part D coverage via paired indications: CVD (semaglutide), OSA (tirzepatide), MASH with fibrosis (semaglutide); document indication precisely for insurance PA <sup>1</sup>
<b>Pharmacotherapy: second-line AOMs</b>	Liraglutide 3.0 mg SC daily; phentermine-topiramate; naltrexone-bupropion; orlistat	Evidence grades below first-line agents; <sup>1,40</sup> reserve for patients who fail or cannot tolerate GLP-1/ GIP therapy, or where insurance does not cover first-line agents; naltrexone-bupropion contraindicated with chronic opioid therapy
<b>Bariatric/metabolic surgery</b>	Roux-en-Y gastric bypass or sleeve gastrectomy for BMI ≥40 OR BMI ≥35 with comorbidities <b>after failed medical management</b> ; sleeve preferred in elderly (lower reintervention)	CMS LCD L35022 governs Medicare coverage; IFSO 2025: biological age (frailty), not chronological age, guides surgical candidacy in adults ≥65 <sup>38</sup>
<b>Heart failure management in obesity cardiomyopathy</b>	ACC 2025: weight loss is cornerstone therapy in HFpEF; <sup>31</sup> GLP-1 therapy improves HFpEF outcomes; SGLT-2 inhibitors recommended	Relevant to the elderly MA population with high HFpEF prevalence; link morbid obesity + HFpEF explicitly in the problem list; bariatric surgery reduces HF hospitalization

CATEGORY	RECOMMENDED AGENTS/ APPROACH	NOTES
<p><b>ABBREVIATIONS:</b> BMI = body mass index; ILI = intensive lifestyle intervention; IBT = intensive behavioral therapy; AACE = American Association of Clinical Endocrinology; PCP = primary care provider; GLP-1 = glucagon-like peptide-1; GIP = glucose-dependent insulinotropic polypeptide; SC = subcutaneous; AOM = anti-obesity medication; AGA = American Gastroenterological Association; CVD = cardiovascular disease; OSA = obstructive sleep apnea; MASH = metabolic dysfunction-associated steatohepatitis; PA = prior authorization; CMS = Centers for Medicare &amp; Medicaid Services; LCD = local coverage determination; IFSO = International Federation for the Surgery of Obesity; ACC = American College of Cardiology; HFpEF = heart failure with preserved ejection fraction; SGLT-2 = sodium-glucose cotransporter-2; MA = Medicare Advantage; HF = heart failure</p>		

## Non-Pharmacologic Treatment and Lifestyle Modification

INTERVENTION	TARGET/RECOMMENDATION	SUMMARY OF GUIDELINE NOTES <sup>1,29,31,40</sup>
<b>Intensive lifestyle intervention (ILI) + 5As framework</b>	Mean weight loss $-2.39$ kg (95% CI $-2.86$ to $-1.93$ ); weight regain in $>25\%$ at 2 years	Initiate at diagnosis; includes <b><math>\geq 150</math> min/week</b> moderate-intensity aerobic activity; reassess response at 3–6 months; escalate to AOM if $<5\%$ weight loss; <sup>40</sup> 5As framework supports non-judgmental counseling <sup>11</sup>
<b>Intensive behavioral therapy (IBT); G0447/ G0473</b>	Medicare-covered: <b>up to 22 visits/year for BMI <math>\geq 30</math></b> in primary care	Bill IBT systematically at every obesity visit meeting criteria; document weight loss achievement for visit $\geq 3$ ( $\geq 3$ kg loss) to continue monthly billing past 6 months
<b>High-protein diet (<math>&gt;^1</math> g/kg/day)</b>	Preserves lean mass during weight loss in older adults with sarcopenic obesity; protein + resistance training: muscle mass $+2.72\%$ (95% CI 1.23–4.22) <sup>41</sup>	<b>Target <math>&gt;1</math> g/kg/day for adults <math>\geq 65</math></b> ; consult dietitian for individualized plan; address food insecurity and access
<b>Resistance training 2–3x/week</b>	Reduces body fat by $-1.53\%$ (95% CI $-2.91$ to $-0.15$ ) and increases muscle mass by $2.72\%$ (95% CI 1.23–4.22) in sarcopenic obesity <sup>41</sup>	<b>Prioritize over cardiovascular activity in adults <math>\geq 65</math></b> ; <sup>41</sup> Physical therapy referral for frail patients; SilverSneakers for MA members; aquatic therapy for osteoarthritis
<b>Sleep + stress management</b>	Short sleep and chronic stress drive weight gain via cortisol, ghrelin, leptin dysregulation; addresses circadian contributors to obesity <sup>1</sup>	Screen for OSA (STOP-BANG), counsel on sleep hygiene 7–9 h/night, address chronic stressors with behavioral health referral when indicated <sup>17,18</sup>
<p><b>ABBREVIATIONS:</b> ILI = intensive lifestyle intervention; AOM = anti-obesity medication; IBT = intensive behavioral therapy; BMI = body mass index; MA = Medicare Advantage; OSA = obstructive sleep apnea; STOP-BANG = Snoring, Tired, Observed apnea, Pressure, BMI, Age, Neck, Gender</p>		

## Intensive Lifestyle Intervention (ILI) Program

COMPONENT	DETAILS	KEY TARGETS	EVIDENCE/OUTCOMES
<b>Structure Intensity</b>	≥14 sessions in 6 m (initial phase), followed by maintenance phase for up to 24; delivered face-to-face (individual or group), via technology, or hybrid; by trained interventionists (dietitians, psychologists, exercise specialists, nurses)	USPSTF Grade B recommendation for all adults with BMI ≥30; <sup>42</sup> AHA/ACC/TOS <b>Grade I-A</b> for ≥14 sessions over 6 months <sup>43,44</sup>	5–10% weight loss at 6–12 mo (mean –2.4 kg vs. controls at 12–18 mo); higher intensity → greater weight loss
<b>Dietary Modification</b>	Calorie-restricted meal plan to create <b>≥500–750 kcal/day energy deficit</b> ; no single macronutrient composition is superior; adherence = primary driver of success <sup>1</sup>	Women: ~1,200–1,500 kcal/day; Men: ~1,500–1,800 kcal/day; <sup>43,44</sup> ↓ ultraprocessed foods, sugar-sweetened beverages; ↑ fruits, vegetables; portion control; meal replacements may be used	3–8% weight loss with standard caloric restriction; up to 10% with very low-calorie diets (800 kcal/day, <b>requires medical supervision</b> ) <sup>43,44</sup>
<b>Physical Activity</b>	Aerobic exercise prescription with <b>progressive increase</b> in volume/intensity; resistance training to preserve lean mass <sup>1</sup>	Initial: <b>≥150 min/week</b> moderate-intensity aerobic activity (e.g., brisk walking); Maintenance: 200–300 min/week; <sup>1</sup> Resistance training 2–3×/week; <b>reduce sedentary behavior</b>	1–3% weight loss as standalone; primary role is in weight maintenance, cardiometabolic benefit, and lean mass preservation independent of weight loss
<b>Behavioral Therapy</b>	Structured behavior change strategies delivered by multidisciplinary team; <sup>1,11</sup> addresses psychological and environmental barriers to adherence	Self-monitoring (food intake, physical activity, daily weight); goal setting; stimulus control; cognitive restructuring ( <b>CBT</b> ); motivational interviewing; problem solving; stress management; sleep optimization; peer/social support; relapse prevention <sup>1,11</sup>	Early weight loss (≥2.5% in first month) predicts long-term success; <sup>11</sup> frequent self-weighing improves weight loss maintenance; >25% regain ≥2% weight at 2 years after program cessation

COMPONENT	DETAILS	KEY TARGETS	EVIDENCE/OUTCOMES
<b>Maintenance Phase</b>	Continued contact with professionals ( $\geq 1/\text{mo}$ ); sustained behavioral strategies; higher physical activity targets	$\geq 1$ year of continued follow-up; regular personal contact preferred over passive approaches (e.g., newsletters); continued use of portion-controlled foods	Look AHEAD: ~50% of ILI participants <b>maintained <math>\geq 5\%</math> weight loss</b> at 8 years; ~30% maintained $\geq 10\%$ and required fewer cardiometabolic medications <sup>45</sup>
<b>Established Programs</b>	Diabetes Prevention Program ( <b>DPP</b> ): $\geq 16$ sessions over 6 months, 7% weight loss goal; <b>Look AHEAD</b> : ILI for T2D with obesity; commercial programs (e.g., WW, Noom) with varying evidence <sup>38</sup>	DPP covered by Medicare <b>for prediabetes</b> ; Medicaid coverage varies by state; commercial insurance may cover some programs	<b>DPP</b> : 58% reduction in T2D incidence at 3 years, 34% at 10 years; <b>Look AHEAD</b> : $\geq 10\%$ weight loss at 1 year $\rightarrow$ 21% reduced mortality risk (HR 0.79) <sup>45</sup>
<b>Adjunctive Considerations</b>	Address sleep insufficiency, chronic stress, food insecurity, obesity-promoting medications (~40% of patients with obesity take weight-promoting medications) <sup>11</sup>	Screen for social determinants of health; consider switching to weight-neutral or weight-loss-promoting medications; culturally tailor interventions <sup>11</sup>	Culturally tailored interventions may improve engagement and outcomes in diverse populations

**ABBREVIATIONS:** USPSTF = United States Preventive Services Task Force; BMI = body mass index; AHA = American Heart Association; ACC = American College of Cardiology; TOS = The Obesity Society; mo = months; kcal = kilocalories; CBT = cognitive behavioral therapy; ILI = intensive lifestyle intervention; DPP = Diabetes Prevention Program; T2D = type 2 diabetes; WW = WeightWatchers; HR = hazard ratio

## 5As Framework

STEP <sup>46</sup>	ACTION <sup>46</sup>	KEY TASKS <sup>46</sup>
<b>1. ASK</b>	Request permission to discuss weight	Use <b>nonjudgmental</b> , patient-preferred language (e.g., "unhealthy weight," "elevated BMI"); explore readiness for change
<b>2. ASSESS</b>	Evaluate obesity stage, drivers, and complications	Measure BMI, waist circumference; screen for comorbidities (T2D, HTN, OSA, MASH); review weight-promoting medications; assess social determinants of health, psychosocial stressors, food insecurity
<b>3. ADVISE</b>	Inform on health risks and treatment options	Explain benefits of $\geq 5\%$ weight loss ( $\downarrow$ BP $\sim 3$ mmHg, $\downarrow$ HbA1c 0.6–1%); discuss all treatment modalities (ILI, pharmacotherapy, surgery); personalize information to patient's comorbidities

STEP <sup>46</sup>	ACTION <sup>46</sup>	KEY TASKS <sup>46</sup>
<b>4. AGREE</b>	Set collaborative, realistic goals	Use <b>shared decision-making</b> to establish specific, time-based weight and behavioral targets; agree on treatment plan details (diet, activity, medications); set realistic expectations
<b>5. ASSIST/ARRANGE</b>	Provide resources and ensure follow-up	Identify and address barriers; refer to ILI programs (e.g., DPP), dietitians, behavioral health; initiate AOM if indicated; arrange regular follow-up (≥monthly during active treatment)

**ABBREVIATIONS:** BMI = body mass index; T2D = type 2 diabetes; HTN = hypertension; OSA = obstructive sleep apnea; MASH = metabolic dysfunction-associated steatohepatitis; BP = blood pressure; HbA1c = hemoglobin A1c; ILI = intensive lifestyle intervention; DPP = Diabetes Prevention Program; AOM = anti-obesity medication

## Non-Pharmaceutical Prevention Strategies

**Prevention and Risk Reduction** | Preventing morbid obesity should be prioritized to reduce the likelihood of developing **irreversible** obesity-related **chronic diseases** that compromise long-term quality of life. In primary care, key strategies include routine BMI trending, early intervention for progressive weight gain, screening for food insecurity and other social drivers, reviewing weight-promoting medications, and counseling on resistance training with adequate protein intake to preserve muscle mass. Obesity should be framed as a **chronic biologic disease rather than a willpower issue**. For patients with Class I or II obesity, structured intensive lifestyle intervention (ILI) and IBT can help **prevent progression to Class III** obesity while reducing long-term healthcare burden.

## Anti-Obesity Medication Safety and Dose Adjustments

AGENT/CLASS <sup>1*</sup>	INTERACTION/MECHANISM <sup>47</sup>	RISK LEVEL	ADJUSTMENT <sup>1</sup>	MONITORING <sup>1,40</sup>
<b>GLP-1 RAs (semaglutide, liraglutide)/ GIP-GLP-1 RA (tirzepatide) + Insulin</b>	Combined glucose-lowering → hypoglycemia	HIGH	Reduce insulin by 10–20% at GLP-1/GIP initiation; titrate to glucose response	Glucose 4x/day during titration; HbA1c at 12 wk
<b>GLP-1 RAs/ GIP-GLP-1 RA + Sulfonylureas</b>	Additive hypoglycemia risk, especially in elderly	HIGH	Reduce or discontinue SU; substitute glyburide (Beers-inappropriate in ≥65) with metformin or SGLT2i	Glucose monitoring; fall risk reassessment in elderly

AGENT/CLASS <sup>1*</sup>	INTERACTION/ MECHANISM <sup>47</sup>	RISK LEVEL	ADJUSTMENT <sup>1</sup>	MONITORING <sup>1,40</sup>
<b>GLP-1 RAs/ GIP- GLP-1 RA + Oral contraceptives</b>	Delayed gastric emptying → reduced OCP absorption; tirzepatide showed clinically significant changes	HIGH (tirzepatide )/ MODERATE (others)	Switch to <b>non-oral contraception</b> or add barrier method for 4 wk after tirzepatide initiation and each dose escalation; separate OCPs ≥30 min from oral semaglutide	Breakthrough bleeding; pregnancy test if concern
<b>GLP-1 RAs/ GIP- GLP-1 RA + Levothyroxine</b>	Delayed gastric emptying → altered absorption; hypothyroidism reported postmarketing with oral semaglutide	MODERATE	Administer levothyroxine ≥30–60 min before GLP-1 or at different time of day	TSH at 12 wk after GLP-1 initiation or dose change
<b>Naltrexone- bupropion + Seizure-lowering agents (antipsychotics, TCAs, theophylline, systemic steroids)</b>	Bupropion lowers seizure threshold; additive risk with concomitant agents	HIGH	Contraindicated in seizure disorder; Avoid with abrupt alcohol/ benzodiazepine/ barbiturate withdrawal; avoid high-fat meals	Seizure history; concomitant medication review; do not exceed 2 tablets at one time
<b>Phentermine/ topiramate ER: CVD, uncontrolled HTN, hyperthyroidism</b>	Sympathomimetic effects; no CVOT data	HIGH	<b>Avoid</b> in CVD, uncontrolled HTN, untreated hyperthyroidism; caution in ≥65 (cognitive effects, fall risk from topiramate)	BP and HR periodically; serum bicarbonate long-term; monthly pregnancy test in reproductive-age women (topiramate teratogenicity)
<b>Phentermine/ topiramate ER: Renal/hepatic impairment</b>	Topiramate: carbonic anhydrase inhibition → metabolic acidosis, nephrolithiasis	MODERATE	Max dose 7.5/46 mg daily in moderate-severe renal or hepatic impairment; <b>avoid in glaucoma</b> ; taper topiramate to discontinue (seizure risk)	Serum bicarbonate; renal function; electrolytes

AGENT/CLASS <sup>1*</sup>	INTERACTION/ MECHANISM <sup>47</sup>	RISK LEVEL	ADJUSTMENT <sup>1</sup>	MONITORING <sup>1,40</sup>
<b>Orlistat (Xenical/ Alli) + Warfarin</b>	Reduced vitamin K absorption → increased INR	HIGH	Monitor INR closely after orlistat initiation or dose change	INR at 2–4 wk, then periodically
<b>Orlistat + Cyclosporine, levothyroxine, amiodarone, antiepileptics</b>	Fat malabsorption → reduced drug absorption	HIGH	Cyclosporine: take ≥3 hr apart ( <b>do not co- administer</b> ); levothyroxine: take ≥4 hr apart; monitor amiodarone and antiepileptic drug levels	Cyclosporine trough levels; TSH; antiepileptic drug levels; seizure frequency
<b>Orlistat: Fat- soluble vitamins</b>	Reduced absorption of vitamins A, D, E, K	MODERATE	Supplement with multivitamin containing A, D, E, K taken ≥2 hr apart from orlistat or at bedtime	Vitamin D level if symptomatic; clinical assessment

**ABBREVIATIONS:** GLP-1 = glucagon-like peptide-1; GIP = glucose-dependent insulinotropic polypeptide; RA = receptor agonist; HbA1c = hemoglobin A1c; SU = sulfonylurea; SGLT2i = sodium-glucose cotransporter-2 inhibitor; OCP = oral contraceptive pill; TSH = thyroid-stimulating hormone; TCA = tricyclic antidepressant; CVD = cardiovascular disease; HTN = hypertension; CVOT = cardiovascular outcomes trial; BP = blood pressure; HR = heart rate; ER = extended release; INR = international normalized ratio

\*consult FDA labels for the most up-to-date dosage information, contraindications, and drug-drug interactions

## Contraindications to Pharmacological AOM Regimens

AGENT	CONTRAINDICATIONS*	ACTION*
<b>All GLP-1 RAs/ GIP-GLP-1 RA</b>	Personal/family history MTC or MEN2; confirmed pancreatitis on agent	Do not initiate
<b>Naltrexone- bupropion</b>	Chronic opioid use; seizure disorder; anorexia/ bulimia; MAOI within 14 days	Do not initiate
<b>Phentermine/ topiramate ER</b>	Pregnancy; MAOI within 14 days; glaucoma; hyperthyroidism	Do not initiate; monitor with monthly pregnancy test (teratogenic risk)
<b>Orlistat</b>	Chronic malabsorption; cholestasis; cyclosporin co- administration	Discontinue if chronic malabsorption; administer cyclosporin and orlistat ≥3 hr apart, monitoring trough levels

AGENT	CONTRAINDICATIONS*	ACTION*
<p><b>ABBREVIATIONS:</b> GLP-1 = glucagon-like peptide-1; GIP = glucose-dependent insulinotropic polypeptide; RA = receptor agonist; MTC = medullary thyroid carcinoma; MEN2 = multiple endocrine neoplasia type 2; MAOI = monoamine oxidase inhibitor; ER = extended release</p> <p><i>*consult FDA labels for the most up-to-date dosage information, contraindications, and drug-drug interactions</i></p>		

## When to Refer

CRITERION <sup>1,37</sup>	SPECIALIST <sup>1,19</sup>	URGENCY <sup>1,38</sup>
<b>BMI ≥40, OR BMI ≥35 with weight-related comorbidity, with inadequate response to ILI + AOM</b>	Bariatric/metabolic surgery center of excellence	Within 3 mo of meeting criteria; Pre-auth typically requires 6–12 mo supervised medical weight management (87% of plans) and psychosocial evaluation (75%)
<b>Obesity hypoventilation syndrome (E66.20) confirmed by awake ABG PaCO<sub>2</sub> &gt;45 mmHg</b>	Pulmonology ± sleep medicine	Within 2–4 wks; urgent if <b>hypercapnia severe</b> or patient symptomatic; nocturnal NIV indicated; urgent bariatric evaluation if severe
<b>Suspected monogenic or syndromic obesity (early-onset, severe phenotype, positive family history)</b>	Obesity medicine or endocrinology	Within 3 mo; setmelanotide (IMCIVREE) may be indicated for <b>confirmed MC4R pathway defects</b>
<b>Sarcopenic obesity in adult ≥65 with SARC-F ≥4 or significant functional decline</b>	Geriatrics ± physical therapy	Within 4–6 wks; Include SARC-F score, handgrip, CFS, ADL/IADL assessment, and current protein intake with the referral
<b>Refractory obesity despite maximum ILI + AOM + bariatric surgery</b>	Obesity medicine specialist (ABOM-certified)	Within 3 mo; consider bariatric revision review, combination or alternate AOMs, and reassessment for contributing drivers (endocrine, medications, behavioral)
<b>Binge-eating disorder, obesity with eating disorder, or significant psychosocial barriers</b>	Behavioral health with expertise in obesity/eating disorders	Within 4–6 wks; required <b>before</b> bariatric referral completion per most plan psychosocial criteria

**ABBREVIATIONS:** BMI = body mass index; ILI = intensive lifestyle intervention; AOM = anti-obesity medication; ABG = arterial blood gas; PaCO<sub>2</sub> = partial pressure of arterial carbon dioxide; NIV = noninvasive ventilation; MC4R = melanocortin-4 receptor; SARC-F = sarcopenia screening tool; CFS = Clinical Frailty Scale; ADL = activity of daily living; IADL = instrumental activity of daily living; ABOM = American Board of Obesity Medicine

## Follow-Up Timing

STAGE/ CATEGORY <sup>1,37</sup>	FREQUENCY <sup>1,4</sup>	LABS/ASSESSMENTS TO MONITOR <sup>37,48*</sup>
<b>Initial morbid obesity diagnosis visit</b>	Day 0; schedule follow-up within 4–6 wks	BMI, waist circumference, HbA1c, lipid panel, BP, STOP-BANG, PHQ-9, GAD-7, SARC-F (if $\geq 65$ ); EOSS or AACE ABCD stage; active diagnosis (E66.813/E66.01/E66.20); ILI plan with 5As documentation; IBT referral (G0447/G0473); shared decision-making on AOM/bariatric where applicable
<b>ILI + IBT maintenance</b>	Q4 wk x 6 mo; monthly thereafter if $\geq 3$ kg loss achieved; up to 22 visits/yr	Weight trend, BMI change, adherence, barriers, 5As counseling, behavioral strategy update; bill G0447 (individual 15 min) or G0473 (group 30 min)
<b>AOM initiation and titration</b>	Monthly x 3 mo (all agents)	<b>All AOMs:</b> weight, side effects, adherence, dose/titration status. <b>GLP-1 RA/GIP-GLP-1 RA:</b> GI tolerance (nausea, vomiting); adjust insulin $\downarrow$ 10–20% and/or discontinue SU if concurrent; lipase if pancreatitis suspected. <b>Phentermine/topiramate:</b> BP, HR, serum bicarbonate; monthly pregnancy test (reproductive age). <b>Naltrexone-bupropion:</b> BP, HR (especially first 12 wk); mood/suicidality screen. <b>Orlistat:</b> GI tolerance; fat-soluble vitamin supplementation confirmed (A, D, E, K $\geq 2$ hr apart); INR if on warfarin
<b>AOM response assessment</b>	12–16 wk at max tolerated dose; then Q3–4 mo maintenance	<b>All AOMs:</b> % weight loss from baseline: $\geq 5\%$ at 3 mo = <b>continue</b> ; 5% = reassess adherence, switch, or escalate; <b>GLP-1 RA/GIP-GLP-1 RA:</b> HbA1c, lipids Q3–6 mo if T2DM; TSH at 12 wk if on levothyroxine; <b>Phentermine/topiramate:</b> BP, HR, bicarbonate, creatinine Q3 mo; DEXA if prolonged use; <b>Naltrexone-bupropion:</b> BP, HR Q3 mo; hepatic panel if symptoms; <b>Orlistat:</b> vitamin D level if symptomatic; INR if on warfarin
<b>Pre-bariatric optimization</b>	Monthly x 6–12 mo pre-op	Nutritional labs (vitamin D, B12, iron, thiamine, protein), psychosocial evaluation, comorbidity optimization (HbA1c, BP, OSA treatment adherence), supervised weight management documentation, insurance pre-authorization progress
<b>Post-bariatric surveillance</b>	1, 3, 6, and 12 mo post-op; then annually lifelong	Weight trend, BMI, dumping syndrome symptoms, vitamin levels (B12, D, iron, thiamine) per bariatric protocol; continue morbid obesity coding while BMI $\geq 30$ ; medication dose adjustments after absorption changes

STAGE/ CATEGORY <sup>1,37</sup>	FREQUENCY <sup>1,4</sup>	LABS/ASSESSMENTS TO MONITOR <sup>37,48*</sup>
<p><b>ABBREVIATIONS:</b> BMI = body mass index; HbA1c = hemoglobin A1c; BP = blood pressure; STOP-BANG = Snoring, Tired, Observed apnea, Pressure, BMI, Age, Neck, Gender; PHQ-9 = Patient Health Questionnaire-9; GAD-7 = Generalized Anxiety Disorder 7-item scale; SARC-F = sarcopenia screening tool (Strength, Assistance walking, Rise from chair, Climb stairs, Falls); EOSS = Edmonton Obesity Staging System; AACE ABCD = American Association of Clinical Endocrinology Adiposity-Based Chronic Disease; ILI = intensive lifestyle intervention; IBT = intensive behavioral therapy; AOM = anti-obesity medication; GLP-1 = glucagon-like peptide-1; GIP = glucose-dependent insulinotropic polypeptide; RA = receptor agonist; GI = gastrointestinal; SU = sulfonylurea; HR = heart rate; INR = international normalized ratio; T2DM = type 2 diabetes mellitus; TSH = thyroid-stimulating hormone; OSA = obstructive sleep apnea; DEXA = dual-energy X-ray absorptiometry</p> <p><i>*consult FDA labels for the most up-to-date dosage information, contraindications, and drug-drug interactions</i></p>		

## Comorbidity Management

COMORBIDITY <sup>1,31</sup>	APPROACH <sup>1,37,49</sup>	CAUTION <sup>1,50</sup>
<b>Type 2 diabetes mellitus (E11.x)</b>	<b>Metformin first-line;</b> add GLP-1 or GIP/GLP-1 (semaglutide, tirzepatide) to address obesity and T2DM together; 5–10% weight loss → HbA1c reduction ~0.6–1%; bariatric surgery → 45% complete remission at 12 months in Medicare < <sup>65</sup>	<b>Avoid glyburide</b> in older adults: Beers Criteria, deemed inappropriate; <sup>50</sup> monitor for hypoglycemia when combining GLP-1 with insulin or sulfonylurea; reduce insulin 10–20% when initiating GLP-1
<b>Hypertension (I10)</b>	Continue evidence-based antihypertensives (ACE/ARB, thiazide, CCB, beta-blocker per comorbidity); home BP monitoring: 5–10% weight loss → ~3 mmHg systolic reduction	Reassess regimen monthly during active AOM therapy: dose reductions may be required as weight falls; avoid adding weight-promoting agents where alternatives exist
<b>Obstructive sleep apnea (G47.33) and OHS (E66.20)</b>	<b>CPAP</b> for AHI ≥15 or symptomatic OSA; BiPAP or nocturnal NIV for OHS; annual sleep study if persistent symptoms	<b>Do not</b> discontinue PAP therapy prematurely; <b>document</b> objective AHI improvement first
<b>MASLD/MASH (K76.0/K75.81)</b>	FIB-4 + elastography at baseline; hepatology referral for fibrosis F2+; semaglutide FDA-approved for MASH with moderate-to-advanced fibrosis	Document MASH as the specific coverage indication where applicable; avoid hepatotoxic polypharmacy; monitor liver enzymes during AOM therapy when indicated

COMORBIDITY <sup>1,31</sup>	APPROACH <sup>1,37,49</sup>	CAUTION <sup>1,50</sup>
<b>HFpEF (I50.32) + obesity cardiomyopathy</b>	SGLT-2 inhibitor + GLP-1 therapy; loop diuretics carefully titrated; weight loss is cornerstone therapy (ACC 2025); <sup>48</sup> cardiology comanagement	Diuretic adjustment as volume improves on AOM; monitor for symptomatic hypotension when combining SGLT-2 + GLP-1 in an older adult
<b>Depression/ anxiety (F32.x, F33.x, F41.x)</b>	PHQ-9 + GAD-7 annually; behavioral health referral for moderate-severe symptoms; <b>pre-bariatric</b> psychosocial evaluation required	Avoid weight-promoting antidepressants (mirtazapine, amitriptyline) where alternatives exist; monitor for mood changes during rapid weight loss; some patients report <b>improved mood</b> on GLP-1 RA

**ABBREVIATIONS:** T2DM = type 2 diabetes mellitus; GLP-1 = glucagon-like peptide-1; GIP = glucose-dependent insulinotropic polypeptide; HbA1c = hemoglobin A1c; AOM = anti-obesity medication; ACE = angiotensin-converting enzyme; ARB = angiotensin receptor blocker; CCB = calcium channel blocker; BP = blood pressure; OHS = obesity hypoventilation syndrome; CPAP = continuous positive airway pressure; AHI = apnea-hypopnea index; OSA = obstructive sleep apnea; BiPAP = bilevel positive airway pressure; NIV = noninvasive ventilation; PAP = positive airway pressure; MASLD = metabolic dysfunction-associated steatotic liver disease; MASH = metabolic dysfunction-associated steatohepatitis; FIB-4 = fibrosis-4 index; HFpEF = heart failure with preserved ejection fraction; SGLT-2 = sodium-glucose cotransporter-2; ACC = American College of Cardiology; PHQ-9 = Patient Health Questionnaire-9; GAD-7 = Generalized Anxiety Disorder-7; RA = receptor agonist

## Cost-Smart Options for AOMs

BRAND (EST. COST) <sup>29</sup>	ALTERNATIVE (EST. COST) <sup>29</sup>	EST. SAVINGS	COST-SMART TIP
<b>Brand semaglutide injection (Wegovy) ~\$1,350/mo WAC</b>	Alt. brand semaglutide injection (Ozempic; ~\$969-\$1027 WAC), ~\$199-\$499 self-pay via NovoCare Pharmacy	~\$850-\$1,150/mo	Patients with obesity plus T2DM, ASCVD, or CKD may qualify for coverage of Ozempic under labeled metabolic indications
<b>Brand semaglutide tablet 2.4 mg (Wegovy) ~1350/mo WAC</b>	Alt. brand semaglutide tablet (Rybelsus) 3 mg ~1027-1250/mo WAC	\$100-320/mo	Oral semaglutide formulations approved for T2DM → more affordable entry point for patients prioritizing metabolic control alongside modest weight reduction
<b>Brand tirzepatide injections (Zepbound) ~\$1,060/mo WAC</b>	Alt. brand tirzepatide (Mounjaro) ~\$299-\$449 self-pay	~\$600-\$760/mo	For patients with obesity and T2DM, Mounjaro may provide a lower-cost pathway to tirzepatide therapy; broader Medicare Part D coverage

BRAND (EST. COST) <sup>29</sup>	ALTERNATIVE (EST. COST) <sup>29</sup>	EST. SAVINGS	COST-SMART TIP
<b>Brand liraglutide (Victoza)</b> ~\$1,050-1,300/mo	<b>Generic liraglutide</b> (~\$250-\$600 depending on pharmacy and insurance)	~\$450-\$1,000/mo	<b>Generic liraglutide least expensive GLP-1 therapy</b> , particularly when weight reduction is secondary to glycemic management
<b>Naltrexone-bupropion (Contrave) — brand-only</b> ~\$200/mo	<b>Separate generic components</b> (naltrexone 50 mg tab + bupropion SR 150 mg) can be prescribed <b>individually at lower cost</b> ~25-45/mo	~\$175-155/mo	Contraindicated with chronic opioid therapy and uncontrolled seizure disorder (bupropion); separated generic components = <b>off-label use for weight loss</b>
<b>Phentermine/topiramate ER (Qsymia)</b> ~\$170-\$240/mo	<b>Generic phentermine</b> (~\$10/mo) + <b>generic topiramate</b> (~\$10-\$15/mo) prescribed separately ~\$20-\$25/mo	~\$150-\$215/mo	<b>Off-label when generics prescribed separately</b> ; caution in adults ≥65 (cognitive effects, fall risk); renal dose adjustment required; avoid in glaucoma and history of kidney stones
<b>Orlistat Rx 120 mg (Xenical)</b> ~\$515-\$730/mo	Orlistat 60 mg OTC (Alli) ~\$50/mo; generic orlistat 120 mg Rx ~\$280/mo	~\$235-\$680/mo	Alli OTC requires no prescription: low barrier AOM entry point; patients needing Rx-strength 120 mg → <b>generic orlistat</b>
<b>Intensive behavioral therapy (IBT) in primary care: G0447 (individual 15 min), G0473 (group 30 min)</b>	Medicare-covered up to 22 visits/year at BMI ≥30; reimbursement ~\$25-\$27/session; Only 1.2% of PCPs billed 2013-2019	<b>Zero OOP</b> for Medicare beneficiaries in primary care	Systematize IBT billing at every qualifying obesity visit → <b>zero-cost-to-patient</b> obesity intervention
<b>ABBREVIATIONS:</b> WAC = wholesale acquisition cost; T2DM = type 2 diabetes mellitus; ASCVD = atherosclerotic cardiovascular disease; CKD = chronic kidney disease; GLP-1 = glucagon-like peptide-1; SR = sustained release; ER = extended release; OTC = over the counter; Rx = prescription; AOM = anti-obesity medication; IBT = intensive behavioral therapy; BMI = body mass index; PCP = primary care provider; OOP = out of pocket			



## AAVBC PERSPECTIVE

Morbid obesity should be approached within value-based care frameworks as a **chronic, progressive, multifactorial disease** requiring longitudinal management rather than short-term weight reduction alone. Patient education should emphasize **individualized and sustainable weight-loss goals**, reduce stigma, and improve adherence through **personalized regimens** integrating intensive lifestyle intervention (ILI), nutrition optimization, physical activity, and cognitive behavioral therapy (CBT). Even modest sustained weight loss (eg, 5%–15%) may meaningfully improve cardiometabolic risk, mobility, obstructive sleep apnea, glycemic control, and overall healthcare utilization.

Pharmacologic antiobesity medication (AOM) strategies may support patients who do not achieve adequate response through lifestyle intervention alone. Value-conscious approaches include use of formulary-preferred agents (**tablets vs injections**), manufacturer direct-pay programs, and lower-cost alternatives such as **generic liraglutide** when clinically appropriate. Dose selection and escalation should balance efficacy, tolerability, affordability, and **long-term adherence**, as excessively aggressive titration or unaffordable maintenance dosing may reduce persistence and sustainability. Comprehensive documentation of obesity severity, comorbidities, counseling, and follow-up planning supports **continuity of care**, risk adjustment, and value-based quality performance.

## Quality Metrics Tie-In

Value-based care quality metrics continue to shape obesity documentation, screening, and longitudinal management strategies across clinical practice. While the National Committee for Quality Assurance (NCQA) HEDIS **Adult BMI Assessment (ABA) measure was retired in 2020**, obesity-related quality measurement remains embedded within broader preventive care, chronic disease management, and medication adherence frameworks. Weight-related comorbidities (including diabetes, cardiovascular disease, obstructive sleep apnea, and associated medication adherence measures) are important components of obesity-focused quality performance but are not individually listed here.

MEASURE	STANDARD	NOTES
<b>2026 MIPS #128: BMI Screening and Follow Up Plan</b>	<p><b>Denominator:</b> all patients aged 18 on the date of the encounter with at least one qualifying encounter during measurement period</p> <p><b>Numerator:</b> patients with documented BMI during encounter or during previous 12 mo <b>AND</b> when BMI outside of normal range (<math>18.5 \leq \text{patient BMI} &lt; 25</math>) → Follow-up plan established</p> <p><b>Exclusions:</b> Patient refused BMI assessment; medical reason preventing measurement; non-adherence to follow-up plan due to medical illnesses or disabilities</p>	MIPS Value Pathways ( <b>MVP</b> ) reporting only; submitted minimum of once per reporting period; Follow-up plan can include: documentation of education; referral; pharmacological intervention; dietary supplements; exercise counseling; nutrition counseling

**ABBREVIATIONS:** MIPS = Merit-based Incentive Payment System; BMI = body mass index; MVP = MIPS Value Pathways

## 5 CODING REMINDERS AND CASE EXAMPLES

### Documentation Specificity

- Stage/Severity:** Specify BMI class **AND** comorbidity burden **AND** functional stage. For morbid obesity: BMI  $\geq 40$  (**E66.813**) or BMI 35–39.9 + significant comorbidity (**E66.01**). Document EOSS stage 0–4 (**Edmonton**); ACE ABCD Stage 0/1/2; Clinical Frailty Scale where applicable. For OHS, document PaCO<sub>2</sub> and oxygen saturation awake/asleep (**E66.20**)
- Etiology:** Use the most specific code supported by the clinical picture. E66.813 = Class III obesity, BMI  $\geq 40$  (HCC 48, RAF 0.186, CNA segment); E66.812 = Class II obesity, no comorbidity linkage or OHS (E66.812 no HCC application on its own); E66.20 = OHS (HCC 48); E66.9 reserved **ONLY** for incomplete workup. Listing BMI only is the single largest documentation failure
- Current status:** Most recent BMI (calculated in note, not just Z-code), waist circumference, blood pressure, HbA1c, lipid panel, eGFR, and STOP-BANG/sleep study result where applicable. For patients on AOMs: weeks of therapy, % weight loss, tolerability, and comorbidity response (HbA1c, BP). For post-bariatric patients: s/p code (Z98.84), months since procedure, current nutritional status, and any complications

- **Associated conditions:** T2DM (E11.x), HTN (I10), HFpEF (I50.3x), OSA (G47.33), OHS (E66.20 = separate HCC entry), MASH/MASLD (K76.0, K75.81), CKD (N18.x), osteoarthritis (M17.x, M16.x), depression (F32.x/F33.x). Each carries independent clinical and documentation significance: link each explicitly to obesity in the A&P ('HTN, exacerbated by morbid obesity; GLP-1 will support both')
- **Chronicity:** Date of morbid obesity diagnosis; duration of current weight class; prior weight-loss attempts (ILI, AOMs, surgery) and outcomes; trajectory of BMI, comorbidity control, and functional status. Obesity is a chronic, relapsing-remitting disease. **History-of codes (Z87.x) do NOT apply while BMI or comorbidities meet criteria.** Continue E66.813/E66.01 coding **indefinitely** while clinical criteria are met; use s/p bariatric (Z98.84) only when current BMI no longer meets threshold

## Annual Clinical Review and Confirmation

- **Annual review:** Morbid obesity codes (E66.813, E66.01, E66.20) must be reassessed face-to-face or via synchronous audio-video telehealth **each reporting year**. Update BMI, waist circumference, linked comorbidities, EOSS/AACE ABCD stage, treatment phase (ILI + IBT/AOM/bariatric), and functional status
- **Visit modality:** In-person or video telehealth with meaningful evaluation qualifies. Document most recent BMI (calculated, not just Z-code), HbA1c, BP, STOP-BANG where applicable, and review of therapy response (% weight change, tolerability, comorbidity improvement)
- **Clinical context:** Under CMS-HCC V28, E66.813, E66.01, and E66.20 map to **HCC 48** at RAF 0.186 (CNA segment, CMS-HCC V28);<sup>10</sup> Class I and II obesity codes E66.811/.812 **do NOT** carry HCC weight on their own. The goal is accurate clinical complexity representation, not code optimization: E66.9 should be **replaced with a specific subtype** once workup confirms etiology
- **Avoid rollover:** Do not copy last year's obesity note forward without updating BMI, comorbidity control, treatment response (or discontinuation), Medicare AOM coverage pathway, and shared-decision-making conversations. Frailty, food environment, and goals of care shift: **Reassess at each annual visit**

## Good Documentation is Comprehensive Coding

EHR SHORTCUT/RISK	PREFERRED DOCUMENTATION LANGUAGE
Carrying BMI alone into the A&P without a diagnosis statement	'Morbid obesity ( <b>E66.813</b> ), BMI 41.3 kg/m <sup>2</sup> , addressed at today's visit.' Never just 'BMI 41.'; explicit diagnosis in the A&P is the condition for <b>HCC 48</b> eligibility

EHR SHORTCUT/RISK	PREFERRED DOCUMENTATION LANGUAGE
<b>Using 'obesity' or E66.9 when the BMI 35-39.9 + comorbidity pathway is met</b>	'Morbid obesity ( <b>E66.01</b> ) via BMI 35-39.9 with weight-related comorbidity: type 2 diabetes mellitus ( <b>E11.9</b> )'; linkage must be explicit, not inferred
<b>Coding OSA alone without evaluating for daytime hypercapnia</b>	For daytime hypercapnia PaCO <sub>2</sub> ≥45 mmHg: 'Obesity hypoventilation syndrome ( <b>E66.20</b> ), BMI 44; daytime ABG PaCO <sub>2</sub> 52 mmHg. Coexistent OSA (G47.33) on BiPAP.'
<b>'Discussed weight loss' as the management plan</b>	Name the <b>specific active intervention</b> : 'ILI with 5As documented; IBT (G0447) referral; <b>semaglutide</b> 0.25 mg SC weekly titrating to 2.4 mg (CVD indication); bariatric referral criteria reviewed.' 'Discussed' is not documentation of care
<b>Omitting the numeric response during AOM therapy</b>	'AOM response: semaglutide 2.4 mg × 16 weeks → -6.8% weight loss from baseline 258 lb. Continue. Next assessment in 12 weeks.'; numeric response is the evidence of active management
<b>Using 'history of morbid obesity' post-bariatric while BMI criteria still met</b>	'Morbid obesity ( <b>E66.01</b> ), s/p sleeve gastrectomy 2024 ( <b>Z98.84</b> ), current BMI 36.2. Continues to meet morbid obesity criteria. Vitamin B12, D, thiamine monitoring current.'; <b>do not</b> use 'history of' when criteria are still met

**ABBREVIATIONS:** BMI = body mass index; A&P = assessment and plan; HCC = Hierarchical Condition Category; OSA = obstructive sleep apnea; PaCO<sub>2</sub> = partial pressure of arterial carbon dioxide; OHS = obesity hypoventilation syndrome; ABG = arterial blood gas; BiPAP = bilevel positive airway pressure; ILI = intensive lifestyle intervention; IBT = intensive behavioral therapy; SC = subcutaneous; CVD = cardiovascular disease; AOM = anti-obesity medication; s/p = status post

## EHR Workflow Tips

- **Use one obesity MEAT smart phrase:** Pull BMI/date trend, baseline weight, current weight, % weight change, active comorbidities, current treatment plan, referrals, and follow-up timing
- **Add a BMI-based review prompt:** For **BMI ≥40** or **BMI 35-39.9 with obesity-related comorbidity**, prompt: "Review whether obesity diagnosis and comorbidity linkage are clinically supported."
- **Keep the problem list clinically current:** Maintain **E66.01** when morbid obesity remains active; avoid moving to "history of" unless criteria are no longer met
- **Use a focused monitoring order set:** Include HbA1c, lipid panel, CMP/eGFR, and AST/ALT; add STOP-BANG, PHQ-9/GAD-7, FIB-4, or bariatric micronutrient labs only when clinically relevant
- **Build simple referral templates:** Include BMI trend, obesity-related comorbidities, prior lifestyle/AOM/bariatric history, current medications, patient goals, and payer requirements when applicable

## Brief Case Examples

### ✓ SUCCESS — COMPLETE DISEASE STATUS DOCUMENTATION

**SCENARIO: 64-year-old female.** BMI 41.3 kg/m<sup>2</sup>, T2DM (HbA1c 7.1% on metformin), HTN (BP 148/88 on lisinopril), OSA on CPAP (AHI 28, STOP-BANG 6), mild depression (PHQ-9 8 on sertraline). Medicare Advantage member with SilverSneakers benefit. Established CAD documented. Annual wellness visit.

Morbid obesity diagnosed (E66.01): BMI ≥40 pathway met. Chronic, biologically driven disease framing documented. Initiated semaglutide 0.25 mg SC weekly, titrating to 2.4 mg weekly (Medicare Part D coverage via CVD indication — established CAD documented). IBT referral placed (G0447 — 22 visits/year Medicare-covered). 5As counseling documented. SilverSneakers enrollment confirmed. Dietitian referral for individualized high-protein plan. SARC-F 1 — low sarcopenia risk currently. Home BP monitoring continued. Follow-up 4 weeks for semaglutide titration.

→ **HCC 48** (RAF 0.186, CNA segment, CMS-HCC V28). MEAT criteria fully met: morbid obesity explicitly diagnosed with BMI documentation, treatment plan names specific active interventions (semaglutide dose and titration schedule, IBT code, dietitian referral, SilverSneakers), AOM initiated via valid Medicare coverage pathway (CVD indication with documented CAD), chronic-disease framing documented, and sarcopenia screening completed. Annual review complete — codes carry forward with trajectory dat

### ⚠ PITFALL — CORMOBIDTY LINKAGE NOT USED TO CODE BMI 35-39.9 UNDER E66.01

**SCENARIO: 58-year-old male.** BMI 37 kg/m<sup>2</sup>, T2DM (HbA1c 8.2%), HTN (BP 136/84). Follow-up visit for diabetes management. Note reads: "Obesity, class 2 (E66.812). Discussed weight loss. Eat less, exercise more. Follow-up 3 months." Coded **E66.812, E11.9, I10**.

→ **Problems:** Patient has BMI 35–39.9 + T2DM, meeting morbid obesity criteria via the comorbidity-linking pathway, but note codes **E66.812 only**, which does NOT fall under HCC 48. No explicit morbid obesity diagnosis. No weight-related comorbidity linkage documented. No structured treatment plan: "eat less, exercise more" without ILI or IBT is not active management. **HCC 48 lost**. Patient complexity underrepresented; care delivered not documented.

### SCENARIO - CORRECTED

**58-year-old male.** BMI 37 kg/m<sup>2</sup>, T2DM (HbA1c 8.2%, up from 7.4% six months ago), HTN (BP 136/84 on lisinopril). Follow-up visit.

Morbid obesity diagnosed (E66.01) on basis of BMI 35–39.9 + weight-related comorbidity (T2DM) pathway met. Chronic, biologically driven disease framing documented. HbA1c rising; continue metformin 1000 mg BID. Adding semaglutide 0.25 mg SC weekly, titrating to 2.4 mg target (addresses both obesity and T2DM; Medicare Part D coverage pending PA via combined indication). IBT referral placed (G0447 — 22 visits/year Medicare-covered). 5As counseling delivered. Dietitian referral. Realistic expectations discussed (~15% weight loss at target dose). Follow-up 4 weeks for semaglutide titration.

→ **HCC 48 recovered** (RAF 0.186, CNA segment, CMS-HCC V28). E66.01 instead of E66.812: morbid obesity explicitly diagnosed with comorbidity linkage, treatment plan names specific active interventions (semaglutide dose and titration, IBT code, dietitian referral), and chronic-disease framing documented. Revenue impact: ~\$1,935/yr Part C capture recovered. **Accurate representation of clinical complexity**, not documentation gaming.

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